STUDY OF THE HAZARDOUS MATERIALS MANAGEMENT COMMITTEE ON CHEMICAL, TOXIC AND LOW-LEVEL RADIOACTIVE WASTES

Bulletin No. 88-1

(SUPPLEMENTAL REPORT)

LEGISLATIVE COMMISSION
OF THE
LEGISLATIVE COUNSEL BUREAU
STATE OF NEVADA

JUNE 1988

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RESOLUTION

LEGISLATIVE COMMISSION RESOLUTION - Creating a subcommittee to conduct an interim study of the history, rules and procedures for the transportation, handling, storage, emergency response and disposal of hazardous materials (chemical, toxic and low-level radioactive waste).

WHEREAS, Continuing progress in technology and the resulting increases in manufacturing activity have given rise to larger quantities of hazardous materials; and

WHEREAS, Human health, public safety and the environment are threatened when hazardous materials are not managed in a sound, responsible manner; and

WHEREAS, Knowledge and technology necessary to mitigate adverse effects on health, safety and the environment from the lack of proper management of hazardous materials is available but not uniformly applied; and

WHEREAS, The problem of managing hazardous materials, including transportation, packaging, storage - long and short-term, disposal and long-term perpetual care of hazardous waste, has become a matter of concern to the entire State of Nevada; and

WHEREAS, The recent proposal to offload low-level radioactive waste in the City of Las Vegas for transport to the Beatty waste disposal facility illustrates that procedures used in handling hazardous materials in this state may not be adequate; now therefore, be it

RESOLVED, By the LEGISLATIVE COMMISSION OF THE STATE OF NEVADA that an interim subcommittee is hereby appointed and directed to conduct an interim study of the history, rules and procedures for the transportation, handling, storage, emergency response and disposal of hazardous materials (chemical, toxic and low-level radioactive waste) and other matters relating to the management of hazardous materials and wastes generated by those materials; and be it further

RESOLVED, That the LEGISLATIVE COMMISSION OF THE STATE OF NEVADA select a chairman and vice-chairman of the interim subcommittee entitled "hazardous materials management committee on chemical, toxic and low-level radioactive wastes"; and be it further

RESOLVED, That the subcommittee report the results of the study and any recommendations to the legislative commission.

Adopted 9/13/85.

REPORT OF THE LEGISLATIVE COMMISSION

TO THE MEMBERS OF THE 65TH SESSION OF THE NEVADA LEGISLATURE:

This report is submitted, in compliance with the legislative commission's directive, as a supplement to Legislative Counsel Bureau Bulletin No. 87-4 entitled Study Of The Hazardous Materials Management Committee On Chemical, Toxic And Low-Level Radioactive Wastes. The original report was prepared by a three-member panel consisting of the following legislators:

Assemblyman James W. Schofield, Chairman
Senator Lawrence E. Jacobsen, Vice Chairman
Assemblyman Joseph E. Dini, Jr.

In addition to the committee's recommendations, Legislative Counsel Bureau Bulletin No. 87-4 included copies of essential documents relating to hazardous materials management which were not readily available elsewhere. These materials were of great assistance to members of the legislature as we considered hazardous materials issues during the 1987 session.

Since Legislative Counsel Bureau Bulletin No. 87-4 was prepared in August 1986, a great deal has happened in the field of hazardous materials management. In particular, the 1987 legislature enacted a number of important measures addressing critical issues associated with transportation, routing, permits and inspection, emergency response, and funding for hazardous materials programs.

In view of these changes, the commission felt that an update of Legislative Counsel Bureau Bulletin No. 87-4 was needed. Accordingly, Assemblyman James W. Schofield was directed to prepare this supplement. We trust that the materials that are assembled here will be useful to members of the legislature as they prepare to consider hazardous materials issues in the 1989 session.

This report is transmitted to the members of the 65th session of the Nevada legislature for their consideration and appropriate action.

Respectfully submitted,

Legislative Commission
Legislative Counsel Bureau
State of Nevada

Carson City, Nevada
March 1988

* *

LEGISLATIVE COMMISSION

Senator Lawrence E. Jacobsen, Chairman
Senator Sue Wagner, Vice Chairman

Senator James I. Gibson
Senator Nicholas J. Horn
Senator Ann O'Connell
Senator John M. Vergiels

Assemblyman Louis W. Bergevin
Assemblyman Joseph E. Dini, Jr.
Assemblyman John B. DuBois
Assemblyman Robert M. Sader
Assemblyman James W. Schofield
Assemblyman Danny L. Thompson

SUMMARY OF RECOMMENDATIONS

The committee adopted the following recommendations:

1. Support funding to the public service commission of Nevada (PSCN) to hire additional staff to work on hazardous materials issues.

2. Amend the prenotification requirement of Nevada Revised Statutes (NRS) 706.441, "Permit required unless exempted; duties and liabilities of carrier; revocation of certificate and permit for noncompliance," to state the Nevada highway patrol division (NHP), department of motor vehicles and public safety (DMV&PS), is to be notified in addition to the PSCN, prior to transporting radioactive wastes through Nevada. The NHP is also to be notified prior to transporting hazardous materials through Nevada. (BDR 40-199)

3. Enact a resolution encouraging the DMV&PS and the PSCN to enter into a Memorandum of Agreement with the Federal Government in which the Federal Government would agree to notify Nevada when hazardous materials enter the state. (BDR 198)

4. Require carriers transporting hazardous materials to obtain an annual or temporary license or permit prior to transporting such materials in Nevada. Further, the penalties for violations should be specified as follows:

   Up to $10,000 for civil penalties; and

   Up to $25,000 for criminal penalties.

   (BDR 40-199)

5. Require Nevada's department of transportation (NDOT) to conduct a risk analysis to determine the safest intrastate routes to transport hazardous materials. (BDR 40-197)

6. Require the NDOT to work with the county regional transportation commissions in determining an intrastate routing system. (BDR 40-197)

7. Require the NDOT to designate and coordinate an intrastate routing plan. (Route could be printed in the State of Nevada Hazardous Materials Operation Plan. (BDR 40-197)

8. Require the NDOT to work with regional, interstate organizations to develop interstate routing plans. (BDR 40-197)

9. Enact a resolution urging the State of Nevada to work with regional, interstate organizations on issues regarding the transportation of hazardous materials. (BDR 192)

10. Require the State of Nevada to impose a permit fee on hazardous materials being shipped across Nevada. The amount of the permit fee should be determined by the 1987 legislature. (BDR 40-199)

11. Provide funding to increase hazardous material training and equipment resources in Nevada. (BDR 40-199)

12. Enact a resolution urging the State of Nevada to work with the Federal Government and with Western regional organizations to establish a Western regional training center located at Stewart, Nevada. (BDR 193)

13. Enact a resolution encouraging the Federal Government to set strict requirements regarding driver training, placarding and tracking technologies. (BDR 194)

14. Require that all spills or incidents involving hazardous materials be reported immediately. (BDR 40-196)

15. Require the division of emergency management, department of the military, to establish and provide one telephone number to call if an accident occurs. (BDR 40-196)

16. Require the division of emergency management, department of the military, to implement a uniform hazardous material and waste spill notification and reporting procedure. (BDR 40-196)

17. Define "hazardous materials" in the Nevada Revised Statutes using the same definition adopted by the United States Department of Transportation in the Code of Federal Regulations. (BDR 0-195)

18. Identify the hazardous waste inventories in Nevada and include this information in the committee's report to the legislative commission.

REPORT TO THE 65TH SESSION OF THE NEVADA LEGISLATURE BY THE LEGISLATIVE COMMISSION'S HAZARDOUS MATERIALS MANAGEMENT COMMITTEE ON CHEMICAL, TOXIC AND LOW-LEVEL RADIOACTIVE WASTES

I. INTRODUCTION

On September 13, 1985, the legislative commission appointed a hazardous materials management committee to study chemical, toxic and low-level radioactive wastes in Nevada.

The committee held a total of three meetings. The first meeting was held in Carson City, Nevada. Topics included an overview of Nevada's hazardous and low-level radioactive waste programs, the State of Nevada Hazardous Materials Operations Support Plan, the emerging role of the public service commission of Nevada (PSCN) and an overview of related transportation problems and regulations. The second meeting was held in Las Vegas, Nevada, and focused on federal programs in the state, an overview of local government concerns and the emergency management program in southern Nevada. At the third meeting, which was held in Carson City, the committee conducted a work session and compiled its recommendations.

II. DISCUSSION OF FINDINGS AND RECOMMENDATIONS

A. TRANSPORTATION

1. Public Service Commission of Nevada (PSCN)

a. Additional Staff

The committee heard testimony from the PSCN regarding its emerging role in regulating the transportation of hazardous materials by railroad. On November 26, 1985, the PSCN adopted General Order No. 52 which expands the scope of the agency's jurisdiction to regulate hazardous materials. The PSCN's goal in adopting this regulation is to establish consistent statewide procedures for loading and temporarily storing hazardous materials and radioactive wastes.

Based on the PSCN's additional responsibilities in regulating the transportation of hazardous materials, the committee supports increased funding to the PSCN to hire additional staff to work on hazardous materials issues.

b. Prenotification Requirement

The committee heard testimony regarding the prenotification requirement of Nevada Revised Statutes (NRS) 706.441, "Permit required unless exempted; duties and liabilities of carrier; revocation of certificate and permit for noncompliance."

Present law requires that only the PSCN be notified before a person transports radioactive wastes through Nevada. However, the Nevada highway patrol division (NHP), department of motor vehicles and public safety (DMV&PS), is also notified of all shipments which are made during regular working hours. In addition, the NHP is exclusively notified of all shipments entering the state after 5 p.m., Monday through Friday, and during weekend hours.

In order to clarify this situation, the committee approved a recommendation that NRS 706.441 be amended to state that the NHP and the PSCN be notified before radioactive waste is transported through Nevada. The committee also recommends that the NHP is to be notified prior to the transportation of hazardous materials through Nevada.

Testimony before the committee indicated that the Federal Government would not agree to prenotification of shipments classified under national security. The committee recommends enacting a resolution encouraging the DMV&PS and the PSCN to enter into a Memorandum of Agreement with the Federal Government in which the Federal Government would agree to notify Nevada when hazardous materials enter the state.

2. Department of Motor Vehicles and Public Safety (DMV&PS)

The committee considered a recommendation to require the DMV&PS to coordinate the transportation and enforcement of hazardous materials within Nevada. Based upon NRS 706.173, "Prenotification of commission and department concerning safety and transportation of hazardous materials," the committee felt this issue was being addressed. Accordingly, no action was taken by the committee.

3. License or Permit to Transport

The committee received a great deal of testimony regarding safety precautions in the transportation of hazardous and

radioactive materials. An issue of special concern to the committee is knowledge of the composition of materials being transported through Nevada. If an accident or spill occurs, the first responders must know how to safely and effectively contain the incident. Also important is knowing in advance when these materials will be moving across the state.

For these reasons, the committee recommends that carriers transporting hazardous materials be required to obtain an annual or temporary license or permit prior to transporting such materials in Nevada. Testimony from the NHP indicated that administration of a permit program could most effectively be handled by the DMV&PS. It is the committee's intent to establish stringent sanctions for violators. Therefore, the committee recommends the penalties for violations be specified as follows:

Up to $10,000 for civil penalties; and

Up to $25,000 for criminal penalties.

4. Routing

An issue raised by several local government representatives is the importance of determining the safest transportation routes for hazardous and radioactive materials. With the exception of Clark County, Nevada, carriers currently may use any road or highway in Nevada to transport hazardous or low-level radioactive materials. By establishing a routing system, state and local officials can more effectively monitor shipments of hazardous materials in Nevada. The public's health and safety is thereby better protected from hazardous material spills or accidents.

Based on these concerns, the committee recommends that Nevada's department of transportation (NDOT) conduct a risk analysis to determine the safest intrastate routes to transport hazardous materials. In establishing routing schemes, the committee recommends that the NDOT work with county regional transportation commissions. Once the risk analysis is completed, the committee recommends that the NDOT designate and coordinate an intrastate routing plan.

The committee suggests that this plan be printed in the State of Nevada Hazardous Materials Operations Support Plan. Further, the committee recommends that the department of transportation work with regional interstate organizations to develop interstate routing plans.

5. Interstate Organizations

The transportation of hazardous and low-level radioactive materials is an issue which affects all states. Citing the

importance of working with other states, the committee recommends enacting a resolution urging the NDOT to work with regional, interstate organizations on issues relating to the transportation of hazardous materials. Organizations identified include (but are not limited to):

The National Association of Regulatory Utility Commissioners' Committee on Electricity, Subcommittee on Nuclear Waste Disposal;

The National Association of Regulatory Utility Commissioners' Committee on Transportation;

The Rocky Mountain Low-Level Radioactive Waste Board;

The Western Governors Association; and

The Western Interstate Energy Board.

6. Fees

The committee heard testimony regarding the rising costs of monitoring the transportation of hazardous materials. Also discussed was the amount of money required for cleanup after a spill or hazardous materials incident. Citing the need for additional training and equipment resources, the committee recommends imposing a permit fee on hazardous materials being shipped across Nevada. The committee further recommends that the amount of the permit fee be determined by the 1987 legislature.

B. TRAINING AND EQUIPMENT

Representatives from the division of emergency management of the department of the military and personnel from fire departments testifying before the committee strongly recommended the adoption of a training program in Nevada for first responders to a hazardous materials incident. Testimony indicated that some responders had received a limited amount of training. Due to the danger involved in responding to a hazardous materials incident, it was the overwhelming consensus of those testifying that a formal training program be implemented in Nevada. Of particular concern are the many volunteer fire personnel, mainly in the rural areas, who have had little or no experience dealing with hazardous materials.

The committee therefore recommends that funding be provided to increase hazardous materials training and equipment resources in Nevada. The equipment and training are to be funded through the transportation user fees also recommended by the committee. It is the committee's intent to provide

necessary equipment and training for volunteer fire department and ambulance service personnel who will be the first responders to a hazardous materials incident in the rural areas.

Regarding training facilities, testimony before the committee indicated that an Eastern training center is located in Maryland. Presently, there are facilities at Stewart, Nevada, which could be utilized for a Western training center. Such a center would be an invaluable training resource for Nevada and the other Western States as well as make better use of the existing facilities at Stewart. The committee recommends enacting a resolution urging the State of Nevada to work with the Federal Government and with Western regional organizations to establish a Western regional training center at Stewart, Nevada.

In testimony to the committee, it was recommended to establish minimum training standards for the State of Nevada, identify local training resources and inform certain Nevada residents of any available training programs. The committee determined that these concerns are being addressed in the State of Nevada Hazardous Materials Operations Support Plan. Accordingly, no action was taken on these recommendations.

A recommendation was made to the committee to require the State of Nevada to set strict requirements regarding driver training, placarding, and tracking technologies. The committee believes this area is presently subject to regulation by the Federal Government. However, believing these concerns to be important to the safety and well-being of the residents of Nevada, the committee recommends enacting a resolution encouraging the Federal Government to set strict requirements regarding driver training, placarding and tracking technologies. Further, the committee believes it is a carrier's responsibility to train its drivers. Without a certificate of training from the carrier, the committee does not believe that a permit to transport hazardous materials across Nevada should be issued.

C. CENTRALIZED STATEWIDE DATA AND INFORMATION SYSTEM

The committee heard testimony in favor of creating a centralized statewide information system and developing a statewide computer link. It was determined that these issues currently are being addressed by the division of emergency management, department of the military. Therefore, the committee recommends that no further action be taken on these two proposals.

D. SPILL NOTIFICATION AND CLEANUP

1. Reporting

The importance of promptly reporting a hazardous material spill was conveyed to the committee by representatives of the Washoe District Health Department. Testimony indicated that efficient response to a hazardous material spill greatly reduces the danger to the public's health and safety. Containment of the spill and cleanup are also accomplished more efficiently if the proper authorities are quickly notified after an accident.

Based on these considerations, the committee recommends requiring that all incidents or spills of hazardous materials be reported immediately. It is suggested that this requirement be included in the State of Nevada Hazardous Materials Operations Support Plan that is being prepared by the division of emergency management. The committee also recommends that the division of emergency management establish and provide one telephone number to call if a hazardous materials incident occurs.

Further, the committee recommends that the division of emergency management be required to implement a uniform hazardous material and waste spill notification and reporting procedure. It is the committee's intent that the carrier, or his representative, be responsible for reporting a hazardous material incident.

2. Funding

A recommendation was made to create a state "superfund" to provide cleanup resources for local governments if spills should occur. Representatives of the division of emergency management and personnel from various fire departments testified regarding the high costs of cleaning up after a hazardous materials spill. It was suggested to the committee that this fund be operated in the same manner as Nevada's "fire suppression fund."

The committee favors the concept of a "superfund" or "contingency fund" and suggests that the 1987 legislature consider means to appropriate money for such a program. The committee believes that one agency should be responsible for allocating money from this "superfund." That agency also should be responsible for recovering funds from liable parties and returning those resources to the contingency fund.

3. Cleanup

The committee heard testimony regarding regional, intrastate cleanup teams to assist in rural areas. Presently, there

are three such teams in Nevada located in Carson City, Clark and Washoe counties. A representative of the division of environmental protection, state department of conservation and natural resources, testified that his office recommended to the division of emergency management that contractors in the three regions noted above should be available to identify the hazardous materials and cleanup required after an incident. Further, the division of environmental protection recommended that the regional teams train rural Nevadans only in regard to first response operations.

Based on the foregoing, the committee supports regional intrastate cleanup teams designed to assist in rural portions of Nevada. Further, the committee believes this issue should be addressed in both the Hazardous Waste Management Plan and the State of Nevada Hazardous Materials Operations Support Plan.

E. DEFINING HAZARDOUS MATERIALS

Testimony was presented to the committee regarding the confusion of defining "hazardous materials." At the committee's request, its legal counsel compiled an extensive listing of federal and state definitions of hazardous materials and wastes. This listing is attached as Appendix A.

After considering testimony regarding definitions, the committee recommends defining hazardous materials in the Nevada Revised Statutes in the same manner as the United States Department of Transportation (USDOT) defines them in the Code of Federal Regulations (CFR). In 49 CFR 171.8, "hazardous material" is defined as:

> Substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce and which has been so designated.

A list of the material designated as hazardous by the USDOT is contained in the table for 49 CFR 172.

F. LIABILITY INSURANCE

A recommendation was made to develop a state liability program for hazardous materials and wastes and low-level radioactive wastes. This program would provide insurance coverage to local entities in the event of a hazardous material or radioactive spill or accident. The committee discussed the problem of local governments obtaining general liability insurance. The committee was advised that the legislative commission directed the research division of the legislative counsel bureau to compile comprehensive information concerning the issue of liability insurance in preparation for the 1987 legislative session.

In response to the committee's request, the risk management division, department of administration, investigated the possibility of establishing an insurance pool for local governments to obtain general liability insurance. It is the opinion of the risk management division that "the state could not afford to take on the unlimited liability for cleanup and compensation for damages due to a hazardous waste [spill]." However, a limited program which includes contributions from private landfill operations and "caps" on claims was suggested as one possibility. The complete text of the findings of the risk management division is attached as Appendix B.

G. HEALTH AND EDUCATION

The committee considered testimony regarding funding to counties for additional staff at district health departments to work on hazardous materials issues. A representative of the division of environmental protection, state department of conservation and natural resources, testified that the Hazardous Waste Management Plan addresses this subject as it relates to hazardous wastes. The committee took no further action on this issue.

A recommendation was made requesting state and local governments to work together to educate the public regarding hazardous materials and wastes. The committee noted that national organizations will also be developing programs for schools, service clubs and other groups. For more information regarding education programs, see Plan For A Public Information Program - Nuclear Waste Project Office, May 1985 (Appendix C) and The Public Involvement Manual, January 1981 (Appendix D).

H. HAZARDOUS WASTE INVENTORIES IN NEVADA

Discussion regarding the hazardous waste inventory in Nevada was heard by the committee. It was requested that this information be supplied to the committee and be included in the final report to the legislative commission. Attached as Appendix E is a copy of the "Nevada Hazardous Waste Report - 1985" which lists the hazardous waste inventory in Nevada for 1985.

I. STATE OF NEVADA HAZARDOUS MATERIALS OPERATIONS SUPPORT PLAN

The State of Nevada hazardous materials committee and the division of emergency management worked together to prepare the State of Nevada Hazardous Materials Operations Support Plan. The final draft of the plan was completed in June 1986. The plan is comprised of the following:

1. A statewide telephone directory listing federal and state agencies, private industries and volunteer organizations responsible for or interested in hazardous materials response;

2. An explanation of the basic plan, including its purpose and scope;

3. A listing of all participating federal and state agencies and private organizations within Nevada;

4. A discussion of preparation resources and training considerations and programs; and

5. A detailed outline of response support procedures. Categories included are:

   a. Chemical/pesticides/poisons;

   b. Explosives/flammables;

   c. Oil spills; and

   d. Radiological.

Also addressed are cleanup and disposal procedures.

The committee heard testimony regarding several issues discussed in the State of Nevada Hazardous Materials Operations Support Plan, including first responders critiquing their actions and the need to identify the responsible local government representative if a spill should occur. Because the plan addresses both of these points, the committee took no further action. Attached as Appendix F is a copy of the State of Nevada Hazardous Materials Operations Support Plan.

J. HAZARDOUS WASTE MANAGEMENT PLAN

The division of environmental protection is preparing a state Hazardous Waste Management Plan. Representatives of the division of environmental protection testified that this plan should be completed by August 1986. Further, testimony regarding the comprehensive nature of the plan was considered by the committee.

Specific recommendations made to the committee included:

1. Development of a comprehensive hazardous materials plan;

2. Permitting the establishment of an organic liquid disposal site;

3. Allowing hazardous waste treatment and disposal facilities to be built in Nevada and to accept out-of-state wastes;

4. Hiring additional analysis, enforcement and inspection personnel; and

5. Urging the state and local governments to coordinate the improvements of existing hazardous materials facilities.

Because testimony indicated that the Hazardous Waste Management Plan will be addressing these concerns, the committee took no further action on these proposals. Attached as Appendix G is a letter from the program director of the waste management section of the division of environmental protection outlining how the plan was formulated and the areas to be addressed in the plan.

III. APPENDICES

APPENDIX A

BILLS AND RESOLUTIONS REGARDING HAZARDOUS MATERIALS ENACTED BY THE NEVADA LEGISLATURE IN 1987

S.B. 400 (chapter 253)

Senate Bill 400 provides that money collected from civil penalties for trafficking in controlled substances is to be used, in part, to pay for the costs of disposing of any hazardous waste created in connection with the drug offense. Currently, only actual court costs and costs of prosecution may be paid from these funds.

A.B. 47 (chapter 650)

Assembly Bill 47 requires that Nevada's department of transportation, after consultation with local elected officials, develop and enforce a plan for the routing of shipments of radioactive materials and high-level radioactive waste in this state. It further directs the state's department of transportation to cooperate with the United States Department of Transportation, interstate regional transportation commissions and states contiguous to Nevada in developing plans for the interstate routing of shipments of these radioactive materials and waste.

The bill also grants the department of transportation the authority to adopt the regulations necessary to carry out its provisions.

A.B. 349 (chapter 631)

Assembly Bill 349 relates to permits which the state environmental commission in the state department of conservation and natural resources grants for the operation of a facility for the treatment, storage or disposal of hazardous waste. The bill provides that such a permit may not be granted or renewed unless it is consistent with the regulations of the commission and with the state plan for management of hazardous waste developed pursuant to NRS 459.485. The measure specifies, however, that its provisions do not apply to a permit granted or under review before July 1, 1987.

The bill also specifies circumstances under which a claimant may file directly against an insurer, guarantor, surety or other person who provides evidence of financial responsibility for the owner or operator of such a facility. In addition, it repeals NRS 459.495 which restricted the regulation of generation of hazardous waste.

In general, the bill brings Nevada law into compliance with recently enacted federal law applying to the operation of waste disposal facilities.

A.B. 352 (chapter 725)

Assembly Bill 352 authorizes the Nevada highway patrol division in the department of motor vehicles and public safety to regulate vehicles transporting hazardous materials through an annual permit and vehicle inspection program.

The measure also provides for a repository of information which is administered by a commission established by the governor pursuant to federal law. The commission is authorized to utilize money from a contingency fund also established by this act for training and equipping state and local personnel to respond to incidents or accidents involving hazardous materials. The measure further provides that the commission shall conduct a study for the development of a statewide radio communication system to be utilized by state and local emergency responders.

The bill specifies that money from the contingency fund may also be used to respond to and clean up spills or accidents involving hazardous material. Furthermore, it establishes the liability for spills and accidents and provides a mechanism for state agencies and local governments to recover their costs associated with responding to and cleaning up the spills or accidents.

The measure contains appropriations of $219,939 for fiscal year 1987-1988, and $607,244 for FY 1988-1989, from the state highway fund to the Nevada highway patrol division to implement the provisions of the law.

A.B. 719 (chapter 724)

Assembly Bill 719 imposes a state surcharge of $2 per cubic foot on radioactive waste received at Nevada's regional facility at Beatty. The following appropriations are also made from the revenue generated by the surcharge:

1. The sum of $250,000 to the state fire marshal in the state fire marshal division of the department of commerce for establishment of a training center at the Stewart Complex near Carson City, Nevada, to train personnel in the proper handling of emergencies related to hazardous materials.

2. The sum of $100,000 to be used by the Nevada highway patrol division of the department of motor vehicles and public safety in the performance of its statutory duties concerning the transportation of hazardous materials.

3. The sum of $200,000 to the commission established by the governor pursuant to federal Public Law 99-499 in order to finance a study of the development of a statewide radio communications system for use in emergencies related to transportation of hazardous materials in the state.

The measure provides that the surcharge and appropriations become effective upon approval of the surcharge by the Rocky Mountain Low-Level Radioactive Waste Board.

A.J.R. 2 (File No. 35)
Assembly Joint Resolution No. 2 urges Congress to establish a western regional training center at the Stewart Complex near Carson City, Nevada, in order to train people who respond to emergencies, particularly those involving hazardous materials. The resolution also directs the division of emergency management in the state department of the military to cooperate with the Federal Government and western regional organizations in establishing the center.

A.J.R. 3 (File No. 117)
Assembly Joint Resolution No. 3 urges Congress to establish strict requirements for training the drivers who transport hazardous materials and for tracking shipments of hazardous materials. The resolution highlights the significance of these activities to the public's safety and points out the Federal Government's jurisdictional responsibilities in these areas.

A.J.R. 5 (File No. 97)
Assembly Joint Resolution No. 5 urges Congress to require that each federal agency which transports hazardous materials through Nevada enter into a written agreement with the state department of motor vehicles and public safety and the public service commission of Nevada. This agreement is to specify the procedure for notifying the state agencies of each intended entry of hazardous materials into the state. The resolution also declares that the agreement should set forth any exceptions to the general policy of advance notification.

A.C.R. 77 (File No. 159)
Assembly Concurrent Resolution No. 77 urges the division of environmental protection of the state department of conservation and natural resources to expedite the review of the program for the development in Lincoln County of a facility for the thermal destruction of hazardous waste.

Senate Bill No. 400--Committee on Human Resources and Facilities

CHAPTER..253

AN ACT relating to controlled substances; requiring the use of a civil penalty for trafficking in controlled substances to pay the costs of disposal of hazardous waste in connection with the violation for which the penalty was imposed; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 453.5532 is hereby amended to read as follows:

453.5532 1. Any money collected as a civil penalty pursuant to NRS 453.5531 [, after deducting the actual cost of prosecution and court costs,] *must be used to pay the actual cost of prosecution, court costs and costs incurred for the disposal of any hazardous waste pursuant to NRS 459.400 to 459.600, inclusive, in connection with the violation for which the penalty was imposed. Any amount remaining from the penalty* must be deposited with the state treasurer for credit to the state general fund.

2. The money deposited in the state general fund pursuant to subsection 1 must be accounted for separately. One-half of the money must be used only for the enforcement of chapter 453 of NRS and the other half must be used for rehabilitation of persons who are addicted to controlled substances.

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Assembly Bill No. 47--Assemblymen Schofield and Dini

CHAPTER...650

AN ACT relating to hazardous materials; requiring the department of transportation to develop a plan for routing shipments of certain materials and waste in this state and cooperate with the Federal Government, regional organizations and other states in developing a plan for interstate shipments; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 459 of NRS is hereby amended by adding thereto a new section to read as follows:

1. The department of transportation shall:

(a) Conduct an analysis of the risks involved in the transportation of controlled quantities of radioactive materials and high-level radioactive waste within this state;

(b) Consult with each regional transportation commission and the governing body of the largest city in each county which does not have a regional transportation commission to determine the safest routes for the transportation of controlled quantities of radioactive materials and high-level radioactive waste; and

(c) Develop and enforce a plan for the routing of shipments of controlled quantities of radioactive materials and high-level radioactive waste in this state.

2. The department of transportation shall cooperate with the United States Department of Transportation, interstate regional transportation commissions and states contiguous to Nevada to develop plans for the interstate routing of shipments of controlled quantities of radioactive materials and high-level radioactive waste.

3. The department of transportation may:

(a) Adopt regulations necessary to carry out the provisions of this section.

(b) Cooperate with federal, state and local governmental agencies that regulate other hazardous materials.

4. As used in this section, unless the context otherwise requires:

(a) "Controlled quantity" has the meaning ascribed to "highway route controlled quantity" in 49 C.F.R. § 173.403(l);

(b) "High-level radioactive waste" has the meaning ascribed to that term in 10 C.F.R. § 60.2; and

(c) "Radioactive material" has the meaning ascribed to that term in 49 C.F.R. § 173.403(y),

as those sections existed on January 1, 1987.

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Assembly Bill No. 349--Assemblymen Schofield and Dini

CHAPTER....631

AN ACT relating to hazardous waste; restricting the issuance and renewal of permits for facilities for the treatment, storage or disposal of hazardous waste; permitting the assertion of certain claims; removing restrictions on the regulation of the generation of hazardous waste; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 459.520 is hereby amended to read as follows:

459.520 1. The commission shall adopt regulations for the granting, renewal, modification, suspension, revocation and denial of permits.

2. If the local government within whose territory a facility for the treatment, storage or disposal of hazardous waste is to be located requires that a special use permit or other authorization be obtained for such a facility or activity, the application to the department for a permit to operate such a facility must show that local authorization has been obtained.

3. Permits may contain terms and conditions which the department considers necessary and which conform to the provisions of regulations adopted by the commission.

4. Permits may be issued for any period *of* not more than 5 years.

5. A permit may not be granted or renewed if the director determines that granting or renewing the permit is inconsistent with any regulation of the commission relating to hazardous waste or with the plan for management of hazardous waste developed pursuant to NRS 459.485. The provisions of this subsection do not apply to a permit granted or under review before July 1, 1987.

6. The department may suspend or revoke a permit pursuant to the commission's regulations if the holder of the permit fails or refuses to comply with the terms of the permit or a regulation of the commission relating to hazardous waste.

Sec. 2. NRS 459.525 is hereby amended to read as follows:

459.525 1. The commission shall adopt regulations requiring that the owner or operator of any facility for the treatment, storage or disposal of hazardous waste show his financial responsibility for the undertaking by providing:

(a) Evidence that he has a policy of liability insurance in an amount which the department has determined is necessary for the protection of human health, public safety and the environment;

(b) Evidence of security, in a form and amount which the department deems necessary, to ensure that at the time of any abandonment, cessation or

interruption of the service provided by the facility, and thereafter, all appropriate measures will be taken to prevent damage to human health, public safety and the environment; and

(c) Any other evidence of financial responsibility which the commission finds necessary for those purposes.

2. Requirements established pursuant to this section may not exceed those requirements for financial responsibility established pursuant to the Resource Conservation and Recovery Act of 1976, 42 U.S.C. §§ 6901 et seq.

3. Any claim arising from conduct for which evidence of financial responsibility is required may be asserted directly against the insurer, guarantor, surety or other person providing such evidence if the owner or operator:

(a) Has filed a petition in bankruptcy, or is the object of an involuntary petition;

(b) Cannot respond in damages in the event a judgment is entered against him; or

(c) Is not subject to the personal jurisdiction of any court of this or any other state, or of the United States, or cannot, with due diligence, be served with process.

4. If a claim is asserted directly against a person providing evidence of financial responsibility, that person may assert any right or defense which:

(a) He might have asserted in any action against him by the owner or operator; or

(b) The owner or operator might have asserted, had the claim been made against him.

Sec. 3. NRS 459.495 is hereby repealed.

Assembly Bill No. 352--Assemblymen Schofield and Dini

CHAPTER...725

AN ACT relating to hazardous materials; authorizing the Nevada highway patrol to regulate vehicles transporting hazardous materials; establishing a repository for information concerning hazardous materials; requiring that certain notification be given before certain hazardous materials are transported in this state; creating a contingency fund for hazardous materials; authorizing a commission established by the governor under certain federal laws to use money in the contingency fund for hazardous materials for training and equipping state and local personnel to respond to accidents involving hazardous materials; requiring that commission to conduct a study for the development of a statewide system of radio communication for use in emergencies in this state; establishing liability for spills of or accidents involving hazardous materials; providing penalties; making an appropriation; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 459 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 to 19, inclusive, of this act.

Sec. 2. *As used in sections 2 to 19, inclusive, of this act, unless the context otherwise requires:*

1. "Department" means the department of motor vehicles and public safety.

2. "Director" means the director of the department of motor vehicles and public safety.

3. "Division" means the Nevada highway patrol division of the department of motor vehicles and public safety.

4. "Hazardous material" means any material or combination of materials, including solids, semisolids, liquids or contained gases, which:

(a) Is identified as hazardous by the regulating agency as a result of studies undertaken to identify hazardous materials or wastes; and

(b) Because of its quantity or concentration or its physical, chemical, radioactive or infectious characteristics may:

(1) Cause or significantly contribute to an increase in mortality or serious irreversible or incapacitating illness; or

(2) Pose a substantial hazard or potential hazard to human health, public safety or the environment when it is given improper treatment, storage, transportation, disposal or other management,

including toxins, corrosives, flammable materials, irritants, strong sensitizers and materials which generate pressure by decomposition, heat or otherwise.

Sec. 3. *1. Every person who transports hazardous materials in a motor vehicle upon the highways of this state shall, pursuant to regulations of the department:*

(a) Obtain from the division a permit for each motor vehicle used to transport the hazardous materials.

(b) Submit each motor vehicle for an inspection pursuant to the regulations of the department as to the safety of the vehicle to transport hazardous materials.

2. The permit or a legible copy of the permit must be carried in the driver's compartment of the motor vehicle at all times while the vehicle is used to transport hazardous materials. The permit must be presented upon demand to any peace officer or other person authorized to enforce the laws of this state.

Sec. 4. *1. The director shall adopt regulations providing for the:*

(a) Granting, renewal, modification, suspension, revocation and denial of permits for motor vehicles which transport hazardous materials.

(b) Inspection of motor vehicles which transport hazardous materials on the highways of this state.

(c) Identification and listing of hazardous materials.

2. The regulations adopted pursuant to subsection 1 must include provisions for fees to pay the cost of inspection, issuing a permit and other regulation. All such fees adopted must be set to approximate the cost of providing the service for which the fee is charged. Except as otherwise provided in subsection 3, money received by the division from the fees must be deposited with the state treasurer for credit to the state highway fund. The interest and income earned on the money in the account, after deducting any applicable charges, must be credited to the account. Money in the account must only be used for carrying out the provisions of sections 2 to 8, inclusive, of this act.

3. The division shall deposit 20 percent of the money collected from fees imposed pursuant to this section with the state treasurer for credit to the contingency fund for hazardous materials.

4. The division shall issue an identifying device to each motor vehicle transporting hazardous materials upon receipt of the appropriate application and fee and the satisfactory completion of the inspection for safety.

Sec. 5. *1. The repository for information concerning hazardous materials in Nevada is hereby created within the division.*

2. The commission established by the governor pursuant to Public Law 99-499 shall coordinate the collection of information for the repository and may adopt regulations for that purpose which are consistent with all applicable laws and with any regulations adopted by the director regarding the management and operation of the repository.

3. Every state and local governmental agency concerned with the generation, transportation, shipment, storage or disposal of hazardous materials shall submit to the division pursuant to the regulations of the department and the commission such information it collects regarding hazardous materials as required by the commission.

4. The division shall collect, maintain and arrange all information submitted to it concerning hazardous materials.

5. The division may, in a manner consistent with applicable laws and regulations:

(a) Disseminate any information which is contained in the repository to any other governmental agency concerned with the storage, packaging, disposal or transportation of hazardous materials; and

(b) Enter into cooperative agreements with federal and state repositories to facilitate exchanges of such information.

Sec. 6. (Deleted by amendment.)

Sec. 7. *1. Every person who generates, packages, transports, ships, stores or disposes of, or has any responsibility for, any hazardous material in this state shall, pursuant to the regulations of the department, report to the division, within 10 days and on forms supplied by the division, designated accidents or incidents involving the hazardous material.*

2. Any person who violates the provisions of subsection 1 is guilty of a misdemeanor.

Sec. 8. *1. The director is responsible for administering the provisions of sections 2 to 8, inclusive, of this act, and may adopt regulations for that purpose.*

2. The director shall adopt regulations:

(a) For the security of the repository for information concerning hazardous materials in Nevada so that it is adequately protected from fire, theft, loss, destruction, other hazards and unauthorized access.

(b) Prescribing the manner in which information concerning hazardous materials is submitted to the division by state and local governmental agencies.

Sec. 9. *1. Any person who transports controlled quantities of radioactive material shall notify the division not less than 4 hours nor more than 48 hours before he begins to transport that material in this state.*

2. Any person who transports high-level radioactive waste shall notify the governor or his designee not less than 4 hours before he begins to transport that waste in this state.

3. Information submitted to the division and the governor or his designee pursuant to subsections 1 and 2, unless otherwise required to be kept confidential, must be made available to other state and local governmental agencies concerned with hazardous materials whose operations or responsibilities involve a need for that information.

4. As used in this section, unless the context otherwise requires:

(a) "Controlled quantity" has the meaning ascribed to "highway route controlled quantity" in 49 C.F.R. § 173.403(l);

(b) "High-level radioactive waste" has the meaning ascribed to that term in 10 C.F.R. § 60.2; and

(c) "Radioactive material" has the meaning ascribed to that term in 49 C.F.R. § 173.403(y),

as those sections existed on January 1, 1987.

Sec. 10. *1. The contingency fund for hazardous materials is hereby created as a trust fund.*

2. The commission established by the governor pursuant to Public Law 99-499 shall administer the contingency fund for hazardous materials, and the money in the fund may be expended only for:

(a) Carrying out the provisions of sections 10 to 17, inclusive, of this act.

(b) Carrying out the provisions of Public Law 99-499; and

(c) Training and equipping state and local personnel to respond to accidents and incidents involving hazardous materials.

3. All money received by the commission from any source must be deposited with the state treasurer to the credit of the contingency fund for hazardous materials. The interest and income earned on the money in the contingency fund, after deducting any applicable charges, must be credited to the account.

4. All claims against the contingency fund for hazardous materials must be paid as other claims against the state are paid.

Sec. 11. *The commission established by the governor pursuant to Public Law 99-499 may:*

1. Adopt regulations for the purpose of enforcing its responsibilities pursuant to Public Law 99-499.

2. Accept gifts and grants of money and other revenues for the purpose of enforcing its responsibilities pursuant to Public Law 99-499.

Sec. 12. *1. The commission established by the governor pursuant to Public Law 99-499 shall conduct a study for the development of a statewide system of radio communication for use by political subdivisions and state and local entities for emergency management in responding to an emergency.*

2. The study must:

(a) Identify existing deficiencies in radio communications between political subdivisions and state and local entities for emergency management.

(b) Propose a system of radio communication that will satisfy the needs of those political subdivisions and entities for 10 years after the completion of the study.

(c) Meet the requirements established by the Federal Communications Commission pursuant to 47 U.S.C. §§ 154 to 332, inclusive, as those sections existed on January 1, 198[illegible].

3. The commission shall consult with political subdivisions and state and local entities for emergency management during the study.

Sec. 13. *Any person who possessed or had in his care any hazardous material involved in a spill or accident requiring the cleaning and decontamination of the affected area is responsible for that cleaning and decontamination.*

Sec. 14. *If the person responsible for hazardous material involved in a spill or accident does not act promptly and appropriately to clean and decontaminate the affected area, and if his inaction presents an imminent and substantial hazard to human health, public safety, any property or the environment, money from the contingency fund for hazardous materials may be expended to pay the costs of:*

1. Responding to a spill of or an accident involving hazardous material;

2. Coordinating the efforts of state, local and federal agencies responding to a spill of or an accident involving hazardous material;

3. Managing the cleaning and decontamination of an area for the disposal of hazardous material or the site of a spill of or an accident involving hazardous material; or

4. Removing or contracting for the removal of hazardous material which presents an imminent danger to human health, public safety or the environment.

Sec. 15. *1. Any state agency accruing expenses for the cleaning and decontamination of the area affected by a spill of an accident involving hazardous material may present an itemized accounting of those expenses with a demand for reimbursement of those expenses to the person responsible for the hazardous material. Payment of the reimbursement must be made within 60 days after the person receives notice from the agency of the amount due. The agency shall impose an administrative penalty of 5 percent of the amount of the reimbursement for each day the amount remains unpaid after the date the payment for reimbursement is due.*

2. At the request of the state agency, and at any time after the payment for reimbursement is due, the attorney general shall initiate recovery by legal action of the amount of any unpaid reimbursement and penalty.

Sec. 16. *Any reimbursement and penalty recovered by the attorney general from a person responsible for hazardous material involved in a spill or accident must be deposited with the state treasurer for credit to the contingency fund for hazardous materials.*

Sec. 17. *Any county or city in this state may adopt an ordinance authorizing its legal representative to initiate recovery by legal action from the person responsible for any hazardous material involved in a spill or accident of the amount of any costs incurred by the county or city for the*

cleaning and decontamination of an area affected by the spill of or accident involving hazardous material.

Sec. 18. *Any person who:*

1. Transports a hazardous material in a motor vehicle without a valid permit;

2. Transports a hazardous material in a motor vehicle that has not been inspected pursuant to the regulations of the department;

3. Fails to carry the permit or a copy of the permit in the driver's compartment of the motor vehicle;

4. Transports a hazardous material in a motor vehicle under an expired permit; or

5. Violates any of the terms or conditions of a permit issued by the division,

is guilty of a misdemeanor.

Sec. 19. *Any person who:*

1. Allows the use of a permit or identifying device issued by the division by a person not entitled thereto;

2. Uses a permit or identifying device to which he is not entitled;

3. Alters, forges or counterfeits a permit or identifying device issued by the division;

4. Uses a permit or identifying device which has been altered, forged or counterfeited;

5. Submits false information on an application or other form used to obtain a permit to transport hazardous materials in a motor vehicle;

6. Transports a hazardous material in a motor vehicle under a permit which has been suspended or revoked; or

7. Transports a hazardous material in a motor vehicle which failed to pass the required inspection for safety,

is guilty of a gross misdemeanor.

Sec. 20. NRS 459.490 is hereby amended to read as follows:

459.490 Regulations adopted by the commission pursuant to NRS 459.485 must be based upon studies, guidelines and regulations of the Federal Government and must:

1. Set out mechanisms for determining whether any waste is hazardous;

2. Govern combinations of wastes which are not compatible and may not be stored, treated or disposed of together;

3. Govern generation, storage, treatment and disposal of hazardous waste;

4. Govern operation and maintenance of facilities for the treatment, storage and disposal of hazardous waste, including the qualifications and requirements for ownership, continuity of operation, closure and care after closing;

5. Provide standards for location, design and construction of facilities for treatment, storage and disposal of hazardous waste;

6. [Govern] *Except as otherwise provided in sections 2 to 19, inclusive, of this act, govern* the transportation, packing and labeling of hazardous waste in a manner consistent with regulations issued by the United States Department of Transportation relating to hazardous waste;

7. Provide procedures and requirements for the use of a manifest for each shipment of hazardous waste. The procedures and requirements must be applied equally to those persons who transport hazardous waste generated by others and those who transport hazardous waste which they have generated themselves; and

8. Take into account climatic and geologic variations and other factors relevant to the management of hazardous waste.

Sec. 21. NRS 459.500 is hereby amended to read as follows:

459.500 1. [Regulations] *Except as otherwise provided in sections 2 to 19, inclusive, of this act, regulations* of the commission must provide for safety in packaging, handling, [transport] *transportation*, and disposal of hazardous waste, including safety of vehicles and drivers, and may provide for the licensing and other necessary regulation of generators , [and transporters,] including shippers, brokers and carriers, both intrastate and interstate, who [transport that waste or cause it] *cause that waste* to be transported into or through Nevada or for disposal in Nevada.

2. The regulations may include provisions for:

(a) Fees to pay the cost of inspection and other regulation; and

(b) Administrative penalties of not more than $2,500 per violation or $10,000 per shipment for violations by persons licensed by the department, and the criminal prosecution of violations of its regulations by persons who are not licensed by the department.

3. Designated employees of the department, the public service commission of Nevada and the Nevada highway patrol shall enforce the regulations of the commission relating to the transport and handling of hazardous waste, as they affect the safety of drivers and vehicles and the leakage or spill of that waste from packages.

Sec. 22. NRS 481.023 is hereby amended to read as follows:

481.023 Except as otherwise provided therein, the department shall execute, administer and enforce, and perform the functions and duties provided in:

1. Title 43 of NRS relating to vehicles.

2. Chapter 706 of NRS relating to licensing of motor vehicle carriers and the use of public highways by those carriers.

3. Chapter 366 of NRS relating to imposition and collection of taxes on special fuels used for motor vehicles.

4. Chapter 233F of NRS relating to the state communications system.

5. Chapter 453 of NRS relating to controlled substances and chapter 454 of NRS relating to dangerous drugs.

6. Chapter 459 of NRS relating to the transportation of hazardous materials.

Sec. 23. NRS 481.180 is hereby amended to read as follows:

481.180 The duties of the personnel of the Nevada highway patrol are:

1. To police the public highways of this state, and to enforce and to aid in enforcing thereon all the traffic laws of the State of Nevada. They have the powers of peace officers:

(a) When enforcing traffic laws; and

(b) With respect to all other laws of this state when:

(1) In the apprehension or pursuit of an offender or suspected offender;

(2) Making arrests for crimes committed in their presence or upon or adjacent to the highways of this state; or

(3) Making arrests pursuant to a warrant in the officer's possession or communicated to him.

2. To investigate accidents on all primary and secondary highways within the State of Nevada resulting in personal injury, property damage or death, and to gather evidence to prosecute any person guilty of any violation of the law contributing to the happening of such an accident.

3. To enforce the provisions of chapters 365, 366, 408, 482, 483, 484, 485, 486, 487 and 706 of NRS.

4. To maintain the central repository for Nevada records of criminal history and to carry out the provisions of chapter 179A of NRS.

5. To enforce the provisions of laws and regulations relating to motor carriers, the safety of their vehicles and equipment and their transportation of hazardous materials and other cargo.

6. *To maintain the repository for information concerning hazardous materials in Nevada and to carry out its duties pursuant to chapter 459 of NRS concerning the transportation of hazardous materials.*

7. To perform such other duties in connection with those specified in this section, as may be imposed by the director.

Sec. 24. NRS 484.779 is hereby amended to read as follows:

484.779 1. Except as *otherwise* provided in subsection 3, a local authority may adopt, by ordinance, regulations with respect to highways under its jurisdiction within the reasonable exercise of the police power:

(a) Regulating or prohibiting processions or assemblages on the highways.

(b) Designating particular highways as one-way highways and requiring that all vehicles thereon be moved in one specific direction.

(c) Designating any highway as a through highway, requiring that all vehicles stop before entering or crossing the highway, or designating any intersection as a stop or a yield intersection and requiring all vehicles to stop or yield at one or more entrances to the intersection.

(d) Designating truck and bicycle routes.

(e) Adopting such other traffic regulations related to specific highways as are expressly authorized by this chapter.

2. An ordinance relating to traffic control enacted under this section is not effective until official traffic-control devices giving notice of those local traffic regulations are posted upon or at the entrances to the highway or part thereof affected as may be most appropriate.

3. An ordinance enacted under this section is not effective with respect to:

(a) Highways constructed and maintained by the department of transportation under the authority granted by chapter 408 of NRS; or

(b) Alternative routes for the transport of radioactive, chemical or other hazardous materials which are governed by regulations of the United States Department of Transportation,

until the ordinance has been approved by the board of directors of the department of transportation.

4. As used in this section, "hazardous material" has the meaning ascribed to it in section 2 of this act.

Sec. 25. Chapter 706 of NRS is hereby amended by adding thereto a new section to read as follows:

"Hazardous material" has the meaning ascribed to it in section 2 of this act.

Sec. 26. NRS 706.011 is hereby amended to read as follows:

706.011 As used in NRS 706.016 to 706.791, inclusive, *unless the context otherwise requires,* the words and terms defined in NRS 706.016 to 706.146, inclusive, *and section 25 of this act,* have the meanings ascribed to them in those sections . [, unless the context otherwise requires.]

Sec. 27. NRS 706.173 is hereby amended to read as follows:

706.173 The commission [and] *or* the department may, by regulation applicable to *all motor vehicles transporting hazardous materials and to* common, contract and private motor carriers of passengers and property, adopt standards for:

1. Safety for drivers and vehicles; and

2. The transportation of hazardous materials [, including] *and* hazardous waste as defined in NRS 459.430.

Sec. 28. NRS 706.441 is hereby amended to read as follows:

706.441 1. No common, contract or private motor carrier of property may transport radioactive waste upon the highways of this state unless he obtains from the commission a permit specifically allowing him to transport radioactive waste. An interstate common or contract carrier must register with the commission the certificate issued to him by the Interstate Commerce Commission when he applies for such a permit.

2. The commission shall issue a permit to a carrier allowing him to transport radioactive waste if the carrier:

(a) Registers his certificate issued by the Interstate Commerce Commission and complies with the regulations of the commission respecting the registration of interstate carriers; or

(b) Demonstrates to the satisfaction of the commission that he complies and will continue to comply with all laws and regulations of this state and the Federal Government respecting the handling and transport of radioactive waste and the safety of drivers and vehicles.

3. A carrier of radioactive waste shall reject any package containing the waste which is tendered to him for transport in this state if the package is leaking or spilling its contents, or does not bear a shipping label or is not accompanied by a bill of lading or other shipping document in a form prescribed by the regulations of the state board of health. A carrier who accepts the waste for transport in this state is liable for any package in his custody which leaks or spills its contents, does not bear the required shipping label or is not accompanied by the required shipping documents, unless, in the case of a leak or spill of the waste and by way of affirmative defense, the carrier proves that he did not and could not know of the leak when he accepted the package for transport.

4. [A carrier of radioactive waste must notify the commission not less than 4 nor more than 48 hours before he begins to transport the waste in this state.

5.] A carrier need not obtain the permit required by this section if he has been exempted from licensing by the health division of the department of human resources because he transports only radioactive waste the possession of which has been exempted from licensure pursuant to the regulations of the state board of health.

[6.] *5.* The commission may revoke a certificate issued pursuant to this chapter, and shall revoke a permit to transport radioactive waste issued pursuant to this section, or in the case of a carrier whose certificate is issued by the Interstate Commerce Commission it may file a complaint with that commission, if it finds that, while transporting radioactive waste, the carrier has failed to comply with any laws or regulations of this state or the Federal Government respecting the handling or transport of radioactive waste and the safety of drivers or vehicles.

Sec. 29. 1. There is hereby appropriated from the state highway fund to the Nevada highway patrol division of the department of motor vehicles and public safety for costs related to the performance of its statutory duties relating to the transportation of hazardous materials:

For the fiscal year 1987-88 ..... $219,939
For the fiscal year 1988-89 607,244

2. Any balance of the sums appropriated by subsection 1 remaining at the end of the respective fiscal years must not be committed for expenditure after June 30 and reverts to the state highway fund as soon as all payments of money committed have been made.

Sec. 30. 1. This section and sections 1, 2, 4, 5, 8 to 17, inclusive, and 20, 21 and 22, 24 to 29, inclusive, of this act, become effective on July 1, 1987.

2. Section 23 of this act becomes effective at 12:01 a.m. on July 1, 1987.

3. Section 7 of this act becomes effective on July 1, 1988.

4. Sections 3, 18 and 19 become effective on January 1, 1989.

19 87

Assembly Bill No. 719--Assemblymen Schofield and Dini

CHAPTER..724

AN ACT relating to hazardous materials; imposing a state surcharge for waste received at Nevada's regional facility in Beatty; making appropriations, and providing other matters properly relating thereto.

WHEREAS, There is a serious need to train properly persons who respond to emergencies, particularly in situations involving hazardous materials; and

WHEREAS, A regional center exists in the eastern United States to provide that training, but no such facility exists in the West; and

WHEREAS, The facilities of the former Indian school in Stewart, Nevada, are presently vacant and should be used to benefit the people of this state; and

WHEREAS, The Rocky Mountain Low-level Radioactive Waste Compact, enacted into law in 1983 by the Nevada Legislature, authorizes the imposition of a state surcharge per unit of waste received at Nevada's regional facility in Beatty; now, therefore,

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 459 of NRS is hereby amended by adding thereto a new section to read as follows:

There is hereby imposed a state surcharge of $2 per cubic foot of radioactive waste received at Nevada's regional facility in Beatty. This state surcharge must be collected at the same time and in the manner provided for the compact surcharge collected pursuant to Article 5 of the Rocky Mountain Low-level Radioactive Waste Compact. Any money collected pursuant to this section which is not otherwise distributed by specific legislative appropriation must be deposited with the state treasurer for credit to the trust fund for the care of sites for the disposal of radioactive waste created pursuant to NRS 459.231.

Sec. 2. 1. There is hereby appropriated to the state fire marshal from the surcharges authorized pursuant to Article 5 of the Rocky Mountain Low-level Radioactive Waste Compact the sum of $250,000 for the establishment of a training center for handling emergencies relating to hazardous materials at the state-owned portion of the facility at Stewart, Nevada.

2. The state fire marshal shall coordinate the training program with other agencies in the state which are responsible for responding to emergencies.

Sec. 3. 1. There is hereby appropriated from the surcharges authorized pursuant to Article 5 of the Rocky Mountain Low-level Radioactive Waste Compact to the state highway fund created pursuant to NRS 408.235 for the

costs incurred by the Nevada highway patrol division of the department of motor vehicles and public safety the sum of $100,000 for costs related to the performance of its statutory duties concerning the transportation of hazardous materials.

2. Any remaining balance of the appropriation made by subsection 1 must not be committed for expenditure after June 30, 1989, and reverts to the trust fund for the care of sites for the disposal of radioactive waste as soon as all payments of money committed have been made.

Sec. 4. 1. There is hereby appropriated to the commission established by the governor pursuant to Public Law 99-499 from the surcharges authorized pursuant to Article 5 of the Rocky Mountain Low-level Radioactive Waste Compact the sum of $200,000 for a study concerning the development of a statewide system of radio communications for use in emergencies related to the transportation of hazardous materials in this state.

2. Any remaining balance of the appropriation made by subsection 1 must not be committed for expenditure after June 30, 1989, and reverts to the trust fund for the care of sites for the disposal of radioactive waste as soon as all payments of money committed have been made.

Sec. 5. The director of the department of human resources shall seek the approval of the Rocky Mountain low-level radioactive waste board for the state surcharge imposed pursuant to section 1 of this act.

Sec. 6. 1. This section and section 5 of this act become effective on July 1, 1987.

2. Sections 1 through 4, inclusive, of this act, become effective on the date the director of the department of human resources reports to the governor that the Rocky Mountain low-level radioactive waste board has approved the state surcharge fixed pursuant to section 1 of this act.

19 87

Assembly Joint Resolution No. 2--Assemblymen Schofield and Dini

FILE NUMBER. 35...

ASSEMBLY JOINT RESOLUTION--Urging the Congress of the United States to establish a center at Stewart, Nevada, for the training of persons who respond to emergencies, particularly those involving hazardous materials.

WHEREAS, There is a serious need to train properly persons who respond to emergencies, particularly in situations involving hazardous materials; and

WHEREAS, A regional center exists in the eastern United States to provide that training, but no such facility exists in the west; and

WHEREAS, The facilities of the former Indian school in Stewart, Nevada, are presently vacant and should be used to benefit the people of this area; now, therefore, be it

RESOLVED BY THE ASSEMBLY AND SENATE OF THE STATE OF NEVADA, JOINTLY, That the Legislature of the State of Nevada hereby urges the Congress of the United States to establish a western regional training center at Stewart, Nevada, to train persons who respond to emergencies, particularly those involving hazardous materials; and be it further

RESOLVED, That the Division of Emergency Management of Nevada's Department of the Military is directed to cooperate with the Federal Government and western regional organizations in establishing such a center; and be it further

RESOLVED, That copies of this resolution be transmitted by the Chief Clerk of the Assembly to the Vice President of the United States as presiding officer of the Senate, the Speaker of the House of Representatives, the members of the Nevada Congressional Delegation and the Division of Emergency Management of Nevada's Department of the Military; and be it further

RESOLVED, That this resolution becomes effective upon passage and approval.

19 87

Assembly Joint Resolution No. 3--Assemblymen Schofield and Dini

FILE NUMBER..117

ASSEMBLY JOINT RESOLUTION--Urging the Congress of the United States to establish strict standards for training drivers who transport hazardous materials and for tracking shipments of hazardous materials.

WHEREAS, The safety of shipments of hazardous materials over the highways of this nation is crucial to all persons who live and work along those routes; and

WHEREAS, Effective means of ensuring public safety should include properly training any person who drives a motor vehicle carrying hazardous materials and developing methods and techniques for tracking shipments of hazardous materials; and

WHEREAS, The Federal Government has exclusive jurisdiction over all hazardous materials which are moved in interstate commerce; now, therefore, be it

RESOLVED BY THE ASSEMBLY AND SENATE OF THE STATE OF NEVADA, JOINTLY, That the Legislature of the State of Nevada hereby urges the Congress of the United States to establish strict requirements for training the drivers of motor vehicles which carry hazardous materials and for tracking shipments of hazardous materials; and be it further

RESOLVED, That copies of this resolution be transmitted by the Chief Clerk of the Assembly to the Vice President of the United States as presiding officer of the Senate, the Speaker of the House of Representatives and the members of the Nevada Congressional Delegation; and be it further

RESOLVED, That this resolution becomes effective upon passage and approval.

19 87

Assembly Joint Resolution No. 5--Assemblymen Schofield and Dini

FILE NUMBER 97...

ASSEMBLY JOINT RESOLUTION--Urging the Congress of the United States to require an agreement for the notification of the State of Nevada of the intended entry of hazardous materials into this state.

WHEREAS, The transportation of hazardous materials creates situations which greatly increase the danger that any related accident may cause serious harm to persons and property; and

WHEREAS, State and local governmental agencies are primarily responsible for responding to any such accident; and

WHEREAS, Advance notification that a shipment of hazardous materials will be entering the state would enable the proper agencies for law enforcement and public safety to prepare to respond to any accident involving that shipment; now, therefore, be it

RESOLVED BY THE ASSEMBLY AND THE SENATE OF THE STATE OF NEVADA, JOINTLY, That the Legislature of the State of Nevada urges the Congress of the United States to require each federal agency which transports hazardous materials through this state to enter into a written agreement with Nevada's Department of Motor Vehicles and Public Safety and the Public Service Commission of Nevada regarding the procedure for notification of the Department of Motor Vehicles and Public Safety and the Public Service Commission of Nevada by the federal agency of each intended entry of hazardous materials into this state; and be it further

RESOLVED, That each such agreement must set forth any exceptions to the general policy that advance notice of each such shipment must be given; and be it further

RESOLVED, That copies of this resolution be transmitted by the Chief Clerk of the Assembly to the Vice President of the United States as presiding officer of the Senate, the Speaker of the House of Representatives and the members of the Nevada Congressional Delegation; and be it further

RESOLVED, That this resolution becomes effective upon passage and approval.

19 87

Assembly Concurrent Resolution No. 77--Committee on Natural Resources, Agriculture and Mining

FILE NUMBER....159

ASSEMBLY CONCURRENT RESOLUTION--Urging the division of Environmental Protection of the State Department of Conservation and Natural Resources to expedite the review of the program for the development in Lincoln County of a facility for the thermal destruction of hazardous waste.

WHEREAS, There is a serious need to develop alternative means of disposing of hazardous waste generated both inside and outside of this state; and

WHEREAS, The review and study of the establishment of a facility for the thermal destruction of hazardous waste can serve to demonstrate concern for the protection of the health and safety of the people of Nevada and reveal the potential economic advantages of this alternate method of disposal; and

WHEREAS, Lincoln County, Nevada, is uniquely situated for the construction of a facility for the thermal destruction of hazardous waste because of its geographic location and sparse population; now, therefore, be it

RESOLVED BY THE ASSEMBLY OF THE STATE OF NEVADA, THE SENATE CONCURRING, That the legislature urges the Division of Environmental Protection of the State Department of Conservation and Natural Resources to expedite the review of a program for the development of a facility for the thermal destruction of hazardous waste in Lincoln County; and be it further

RESOLVED, That the Chief Clerk of the Assembly shall prepare and transmit a copy of this resolution to the Administrator of the Division of Environmental Protection of the State Department of Conservation and Natural Resources.

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APPENDIX B

BILLS REGARDING HAZARDOUS MATERIALS CONSIDERED BUT NOT PASSED BY THE NEVADA LEGISLATURE IN 1987

The following bills pertaining to hazardous materials were considered but not enacted by the 1987 session of the Nevada legislature.

- Assembly Bill 304 which would have limited the liability of persons who voluntarily advise or assist in mitigating the effect of an actual or threatened release of hazardous materials.

- Assembly Bill 305 which would have required the reporting of spills and accidents involving hazardous materials.

- Assembly Bill 653 which would have required the health division, department of human resources, to publish the results of certain tests it conducts.

- Assembly Bill 682 which would have required part of the proceeds from the state surcharge on low-level radioactive waste disposed of at the state-owned area for disposal to be distributed to the county in which the area is located.

- Assembly Bill 777 which would have authorized the establishment of a facility in Lincoln County, Nevada, for the thermal destruction of hazardous waste.

APPENDIX C

DEFINITIONS OF HAZARDOUS AND RADIOACTIVE WASTES AND MATERIALS

STATE AND FEDERAL STATUTES AND REGULATIONS DEFINING HAZARDOUS SUBSTANCES, HAZARDOUS MATERIALS, RADIOACTIVE WASTES AND HAZARDOUS WASTES

RADIOACTIVE WASTE OR MATERIAL

FEDERAL STATUTES

Nuclear Waste Policy Act

42 U.S.C. 1010 (12) -- "high-level radioactive waste" defined:
(A) Highly radioactive material resulting from reprocessing of spent nuclear fuel, including liquid waste directly produced in reprocessing, and any solid material derived from those liquid wastes that contain fission products in sufficient concentration; and

(B) Other highly radioactive material that the NRC, consistent with existing law, determines by rule as requiring permanent isolation. (See 10 C.F.R. 60.2 below).

42 U.S.C. 10101 (16) -- "low-level radioactive waste" defined:
(A) Is not high-level radioactive waste, spent nuclear fuel, transuranic waste or byproduct material as defined in 42 U.S.C. 2014(e)(2); and

(B) The NRC, consistent with existing law, classified as low-level radioactive waste. (See 10 C.F.R. 61.55 below).

Low-Level Radioactive Waste Policy Act

42 U.S.C. 2021b(9) -- "low-level radioactive waste" defined:
(A) Is not high-level radioactive waste, spent nuclear fuel or byproduct material as defined in 42 U.S.C. 2014 (e)(2); and

(B) The NRC, consistent with existing law and in accordance with paragraph (A), classifies as low-level radioactive waste. (See 10 C.F.R. 61.55 below).

42 U.S.C. 2021c:
Sets forth a state's responsibility for disposing of low-level radioactive waste consisting of or containing class A, B or C radioactive waste. (See 10 C.F.R. 61.55 below).

Atomic Energy Act

42 U.S.C. 2014(e)(2) -- "byproduct material" defined:
The tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its souce material content.

FEDERAL REGULATIONS

NRC

10 C.F.R. 60.2 -- "high-level radioactive waste" defined:

(1) Irradiated reactor fuel;

(2) Liquid wastes resulting from the operation of the 1st cycle solvent extraction system, or the equivalent, and the concentrated wastes from subsequent extraction cycles, or the equivalent, in a facility for reprocessing irradiated reactor fuel; and

(3) Solids into which such wastes have been converted.

10 C.F.R. 61.55 -- Waste classifications for low-level radioactive waste. (See attachment A).

10 C.F.R. 61.56 -- Waste characteristics for low-level radioactive waste. (See attachment A).

STATE STATUTES

Rocky Mountain Low-Level Radioactive Waste Compact

NRS 459.007, Article 2, § 6 -- "low-level waste" or "waste" defined:

> ... radioactive waste, other than:
> (1) Waste generated as a result of defense activities of the Federal Government or federal research and development activities;
> (2) High-level waste such as irradiated reactor fuel, liquid waste from, reprocecessing irradiated reactor fuel, or solids into which any such liquid waste has been converted;
> (3) Waste material containing transuranic elements with contamination levels greater than 10 nanocuries per gram of waste material;
> (4) By-product material as defined in section 11 e. (2) of the Atomic Energy Act of 1954, as amended on November 8, 1978; or [42 U.S.C. 2014(e)(2)]
> (5) Wastes from mining, milling, smelting, or similar processing of ores and mineral-bearing material primarily for minerals other than radium; ....

State Control of Radiation (administered by health division).

NRS 459.010, § 1 -- "by-product material" defined:

> (a) Any radioactive material, except special nuclear material, yielded in or made radioactive by exposure to the radiation incident to the process of producing or making use of special nuclear material; and

(b) The tailings or wastes produced by the extraction or concentration or uranium or thorium from any ore which is processed primarily for the extraction of the uranium or thorium.

NRS 459.010, § 4 -- "ionizing radiation" defined:

... gamma rays and X-rays, alpha and beta particles, high-speed electrons, neutrons, protons and other nuclear particles, but not sound or radio waves, or visible, infrared or ultraviolet light.

NRS 459.010, § 6 -- "source material" defined:

(a) Uranium, thorium or any other material which the governor declares by order to be source material after the Nuclear Regulatory Commission or any successor thereto has determined that material to be source material.

(b) Any ore containing one or more of the materials enumerated in paragraph (a) in such concentration as the governor declares by order to be source material after the Nuclear Regulatory Commission or any successor thereto has determined the material in the concentration to be source material.

NRS 459.010, § 7 -- "special nuclear material" defined:

(a) Plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235 and any other material which the governor declares by order to be special nuclear material after the Nuclear Regulatory Commission or any successor thereto has determined such material to be special nuclear material, but does not include source material.

(b) Any material artificially enriched by any of the materials enumerated in paragraph (a), but does not include source material.

ASSEMBLY BILL 47 (chapter 650) -- "high-level radioactive waste" and "radioactive material" defined:

* * * (a) "Controlled quantity" has the meaning ascribed to "highway route controlled quantity" in 49 C.F.R. §173.403(l);

(b) "High-level radioactive waste" has the meaning ascribed to that term in 10 C.F.R. § 60.2; and

(c) "Radioactive material" has the meaning ascribed to that term in 49 C.F.R. § 173.403(y),

as those sections existed on January 1, 1987.

STATE REGULATIONS

State Board of Health - Licensing
NAC 459.076 -- "Radioactive material" defined:
Any solid, liquid or gaseous material which emits radiation spontaneously.

NAC 459.182 to 459.192, inclusive:
Exemptions from licensing requirements.

State Board of Health - Disposal of radioactive material
NAC 459.8055 -- "waste" defined:
Same as meaning ascribed to it in § 6 of Article 2 of Rocky Mountain Low-Level Radioactive Waste Compact in NRS 459.007.

NAC 459.8265 to 459.829, inclusive:
Classification of radioactive wastes.
Adoption by reference of 49 C.F.R. 171 to 177, inclusive and 10 C.F.R. 71.

HAZARDOUS SUBSTANCES

FEDERAL STATUTES

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) -- "Superfund" legislation.
42 U.S.C. 9601(14) -- "hazardous substance" defined:
(A) Any substance designated pursuant to 33 U.S.C. 1321(b)(2)(A); (B) any element, compound, mixture, solution or substance designated pursuant to 42 U.S.C. 9602; (C) any hazardous waste having the characteristics identified under or listed pursuant to 42 U.S.C. 6291; (D) any toxic pollutant listed under 33 U.S.C. 1317(a); (E) any hazardous air pollutant listed under 42 U.S.C. 7412; and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator (of EPA) has taken action pursuant to 15 U.S.C. 2606. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated under subparagraphs (A) to (F), inclusive, of this paragraph, natural gas, natural gas liquids, liquified natural gas or synthetic gas usable for fuel (or mixture of natural gas and such synthetic gas).

42 U.S.C. 9602:
Administrator of EPA required to adopt regulations defining hazardous substances. (See 40 C.F.R. 302.4 below).

Water Pollution Control Act
33 U.S.C. 1317(a):
Administrator of EPA required to adopt list of toxic pollutants. (See 40 C.F.R. 129.4 below).

33 U.S.C. 1321(b)(2)(A):
Administrator of EPA required to adopt regulations designating hazardous substances, excluding oil. (See 40 C.F.R. 116.4 below).

Air Pollution Control

42 U.S.C. 7412(a) -- "hazardous air pollutant" defined:
An air pollutant to which no ambient air quality standard is applicable and which in the judgment of the Administrator of the EPA causes, or contributes to air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.

42 U.S.C. 7412(b):
Administrator of EPA required to adopt list of hazardous air pollutants for which he intends to establish emission standards. (See 40 C.F.R. 61.01 to 61.247, inclusive, below).

Toxic Substances Act

15 U.S.C. 2505(f) -- "imminently hazardous chemical substance or mixture" defined:
A chemical substance or mixture which presents an imminent and unreasonable risk of serious or widespread injury to health or the environment. Such a risk is considered imminent if it is shown that the manufacturing processing, distribution in commerce, use or disposal of the substance or mixture, or any combination thereof, is likely to result in such injury before a final rule under 15 U.S.C. 2605 can protect against such risk.

FEDERAL REGULATIONS

EPA

40 C.F.R. 61.01 to 61.247, inclusive -- emission standards for the following hazardous air pollutants:
Radon, emissions from underground uranium mines, beryllium, mercury, vinyl chloride, radionuclide emissions from facilities, benzene, phosphorus, asbestos and equipment leaks involving volatile hazardous air pollutants.

40 C.F.R. 116.4 -- (under the Water Pollution Control Act):
Extensive listing of hazardous substances in Tables 116.4A and 116.4B.

40 C.F.R. 129.4 -- Toxic pollutants:
Aldrin/Dieldrin, DDT, Endrin, Toxaphene, Benzidine, and Polychlorinated Biphenyls.

40 C.F.R. 302.3 -- "hazardous substance defined (under CERCLA and Water Pollution Control Act):
Any substance designated pursuant to 40 C.F.R. 302.

40 C.F.R. 302.4:
Extensive listing of hazardous substances in Table 302.4.

DOT
49 C.F.R. 171.8 -- "hazardous substance" defined (under Hazardous Materials Transportation Act):
A material, and its mixtures or solutions, that is identified by the letter "E" in Column 1 of the table to 49 C.F.R. 172. 101 when offered for transportation in one package, or in one transport vehicle if not packaged, and when the quantity of the material exceeds or equals the reportable quantity (RQ) indicated in that table. This definition does not apply to petroleum products that are lubricants or fuels or to a mixture or solution containing a material identified by "E" in

Column 1 of that table if it is a concentration less than that shown in the following table based on the RQ specified for the materials in Column 2 of the table to 49 C.F.R. 172. 101:

		Concentration by Weight	
RQ pounds	RQ kilograms	Percent	PPM
5,000	2,270	10	100,000
1,000	454	2	20,000
100	45.4	0.2	2,000
10	4.54	.02	200
1	0.45	.002	20

49.C.F.R 171.8:
Hazardous substances as defined in CERCLA and substances listed by EPA under the Water Pollution Control Act, Air Pollution Control Act and Solid Waste Disposal Act (See RECRA below) are included under Hazardous Materials Transportation Act.

STATE STATUTES

Water Pollution Control (administered by division of environmental protection).
NRS 445.143 -- "contaminant" defined:

... any physical, chemical, biological or radiological substance or matter which is added to water.

NRS 445.178 -- "pollutant" defined:

1. Means dredged soil, waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials,

heat, wrecked or discarded equipment, rock sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.

2. Does not mean water, gas or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well is used either for facilitating production or for disposal purposes and if the department determines that such injection or disposal will not result in the degradation of ground or surface water resources.

3. Does not mean water, gas or other material injected into a well or used to stimulate a reservoir or geothermal resources if the department determines that the injection or stimulation will not result in the degradation of ground or surface water resources.

STATE REGULATIONS

Environmental Commission - Water Pollution

NAC 445.099 -- "pollutant" defined:
Same as definition in NRS 445.178.

NAC 445.108 -- "toxic material" defined:
Any material on list developed by Administrator of EPA pursuant to Water Pollution Control Act. (See 40 C.F.R. 129.4 and 40 C.F.R. 116.4).

Environmental Commission -- Air Pollution

NAC 445.436 -- "air contaminant" defined:
Any substance discharged into the air except water vapor and water drops.

NAC 445.437 -- "air pollution" defined:
Presence in the outdoor atmosphere of one or more air contaminants, or any combination thereof, in a quantity and duration that tends to:

1. Injure human health or welfare, animal, plants or other property;
2. Limit visibility or interfere with scenic, esthetic and historic values of the state; or
3. Interfere with the enjoyment of life or property.

NAC 445.717 -- "toxic or hazardous air contaminant" defined:

1. If listed in the "Threshold Limit Values for Chemical Substances in the Work Environment 1983-1984" and the allowable concentration is based on the toxicity of the substance; or

2. The director determines that it causes or contributes to air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness, unless a federal standard for the quality of ambient air, standard for quality of ambient air adopted by the commission, performance standard for new source of a pollutant under 40 C.F.R. Part 60 or national standard for emission of hazardous air pollutant under 40 C.F.R. Part 61 applies. (Note: Environmental Commission has adopted by reference 40 C.F.R. Part 60 and Part 61.)

Division of Health
Adopted by reference 49 C.F.R. 172, including the table to 49 C.F.R. 172.101 listing hazardous substances.

DMV & PS
Adopted by reference 49 C.F.R. 172, including the table to 49 C.F.R. 172.101 listing hazardous substances. (See NAC 706.377).

HAZARDOUS MATERIAL

FEDERAL REGULATIONS

DOT
49 C.F.R. 171.8 -- "hazardous material" defined (under Hazardous Material Transportation Act):

> Substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce and which has been so designated.

STATE STATUTES

Motor Carriers (administered by PSC & DMV & PS).
NRS 706.173 -- regulation of hazardous materials:

> ...the commission or the department may, by regulation applicable to all motor vehicles transporting hazardous materials and to common, contract and private motor carriers of passengers and property, adopt standards for:
> 1. Safety for drivers and vehicles; and
> 2. The transportation of hazardous materials and hazardous waste as defined in NRS 459.430.

ASSEMBLY BILL 352 (chapter 725), section 2, "Hazardous material" defined:

> * * * any material or combination of materials, including solids, semisolids, liquids or contained gases, which:
> (a) Is identified as hazardous by the regulating agency as a result of studies undertaken to identify hazardous materials or wastes; and
> (b) Because of its quantity or concentration or its physical, chemical, radioactive or infectious characteristics may:
> (1) Cause or significantly contribute to an increase in mortality or serious irreversible or incapacitating illness; or
> (2) Pose a substantial hazard or potential hazard to human health, public safety or the environment when it is given improper treatment, storage, transportation, disposal or other management, including toxins, corrosives, flammable materials, irritants, strong sensitizers and materials which generate pressure by decomposition, heat or otherwise.

STATE REGULATIONS

PSC - Railroads
NAC 705.310 -- "hazardous material" defined:

> Low specific activity material as defined in 49 C.F.R. 173.403(n) and radioactive material as defined in 49 C.F.R. 173.403(y) and:
> 1. Class A explosives - 49 C.F.R. 173.53;
> 2. Class B explosives - 49 C.F.R. 173.88;
> 3. Poison A - 49 C.F.R. 173.26; and
> 4. Flammable solids - 49 C.F.R. 173.50,
>
> which is subject to the requirements for placarding in table 1 of 49 C.F.R. 172.504.

NAC 705.380:
Adoption by reference of 49 C.F.R. Part 172.

HAZARDOUS WASTE

FEDERAL STATUTES

Resource Conservation and Recovery Act (RCRA) - Solid Waste Disposal
42 U.S.C. 6903(5) -- "hazardous waste" defined:

A solid waste, or combination of solid wastes, which because of its quantity, concentration or physical, chemical or infectious characteristic may:

(A) Cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible, illness; or

(B) Pose a substantial present or potential hazard to human health or the environment when properly treated, stored, transported, disposed of or otherwise managed.

42 U.S.C. 6921:
Administrator of EPA authorized to set criteria for identifying hazardous waste. (See 40 C.F.R. 261 below).

FEDERAL REGULATIONS

DOT

49 C.F.R. 171.8 -- "hazardous waste" defined (under Hazardous Materials Transportation Act):

Any material subject to the hazardous waste manifest requirement of the EPA specified in 40 C.F.R. Part 262.

EPA

40 C.F.R. 261.3 -- "hazardous waste" defined (under RECRA) (See Attachment B).

40 C.F.R. 261.4 -- exclusions (under RECRA) (See Attachment B).

40 C.F.R. 261.31:
Extensive list of hazardous wastes from non-specific sources (under RECRA).

40 C.F.R. 261.32:
Extensive list of hazardous wastes from specific sources (under RECRA).

40 C.F.R. 261.33:
Extensive list of commercial chemical products, off-specification commercial chemical products, container residues and spill residues which become hazardous wastes when discarded.

40 C.F.R. 302.3 -- "hazardous waste" defined (under CERCLA and Water Pollution Control Act):
Same meaning as provided in 40 C.F.R. 261.3 (See Attachment B).

STATE STATUTES

Disposal of Hazardous Waste (administered by department of conservation and natural resources).

NRS 459.430 -- "hazardous waste" defined:

... any waste or combination of wastes, including solids, semisolids, liquids or contained gases, which:
1. Because of its quantity or concentration or its physical, chemical or infectious characteristics may:
(a) Cause or significantly contribute to an increase in mortality or serious irreversible or incapacitating illness; or
(b) Pose a substantial hazard or potential hazard to human health, public safety or the environment when it is given improper treatment, storage, transportation, disposal or other management.
2. Is identified as hazardous by the department as a result of studies undertaken for the purpose of identifying hazardous wastes.
The term includes, among other wastes, toxins, corrosives, flammable materials, irritants, strong sensitizers and materials which generate pressure by decomposition, heat or otherwise.

STATE REGULATIONS

Environmental Commission -- Solid Waste Disposal

NAC 444.580 -- "hazardous waste" defined:

Those wastes that can cause injury, disease or property damage, including explosives, pathological wastes, radioactive materials and chemicals.

Environmental Commission -- Hazardous Waste Disposal

NAC 444.8565 -- "hazardous waste" defined:

Same meaning as provided in NRS 459.430. The term includes any:
1. Hazardous waste or constituent of hazardous waste subject to regulation under 40 C.F.R. Part 261;
2. Mixture of wastes identified in 40 C.F.R. 261.31 et seq.; and
3. Commercial chemical product, if one or more of its active ingredients are identified in 40 C.F.R. 261.31 et seq.
The term does not include waste containing polychlorinated biphenyl.

shall be disposed of at the disposal site.

(b) Facility operation and disposal site closure for land disposal facilities other than near-surface (reserved).

§ 61.53 Environmental monitoring.

(a) At the time a license application is submitted, the applicant shall have conducted a preoperational monitoring program to provide basic environmental data on the disposal site characteristics. The applicant shall obtain information about the ecology, meteorology, climate, hydrology, geology, geochemistry, and seismology of the disposal site. For those characteristics that are subject to seasonal variation, data must cover at least a twelve month period.

(b) The licensee must have plans for taking corrective measures if migration of radionuclides would indicate that the performance objectives of Subpart C may not be met.

(c) During the land disposal facility site construction and operation, the licensee shall maintain a monitoring program. Measurements and observations must be made and recorded to provide data to evaluate the potential health and environmental impacts during both the construction and the operation of the facility and to enable the evaluation of long-term effects and the need for mitigative measures. The monitoring system must be capable of providing early warning of releases of radionuclides from the disposal site before they leave the site boundary.

(d) After the disposal site is closed, the licensee responsible for post-operational surveillance of the disposal site shall maintain a monitoring system based on the operating history and the closure and stabilization of the disposal site. The monitoring system must be capable of providing early warning of releases of radionuclides from the disposal site before they leave the site boundary.

§ 61.54 Alternative requirements for design and operations.

The Commission may, upon request or on its own initiative, authorize provisions other than those set forth in §§ 61.51 through 61.53 for the segregation and disposal of waste and for the design and operation of a land disposal facility on a specific basis, if it finds reasonable assurance of compliance with the performance objectives of Subpart C of this part.

§ 61.55 Waste classification.

(a) Classification of waste for near surface disposal.

(1) *Considerations.* Determination of the classification of radioactive waste involves two considerations. First, consideration must be given to the concentration of long-lived radionuclides (and their shorter-lived precursors) whose potential hazard will persist long after such precautions as institutional controls, improved waste form, and deeper disposal have ceased to be effective. These precautions delay the time when long-lived radionuclides could cause exposures. In addition, the magnitude of the potential dose is limited by the concentration and availability of the radionuclide at the time of exposure. Second, consideration must be given to the concentration of shorter-lived radionuclides for which requirements on institutional controls, waste form, and disposal methods are effective.

(2) *Classes of waste.* (i) Class A waste is waste that is usually segregated from other waste classes at the disposal site. The physical form and characteristics of Class A waste must meet the minimum requirements set forth in § 61.56(a). If Class A waste also meets the stability requirements set forth in § 61.56(b), it is not necessary to segregate the waste for disposal.

(ii) Class B waste is waste that must meet more rigorous requirements on waste form to ensure stability after disposal. The physical form and characteristics of Class B waste must meet both the minimum and stability requirements set forth in § 61.56.

(iii) Class C waste is waste that not only must meet more rigorous requirements on waste form to ensure stability but also requires additional measures at the disposal facility to protect against inadvertent intrusion. The physical form and characteristics of Class C waste must meet both the

minimum and stability requirements set forth in § 61.56.

(iv) Waste that is not generally acceptable for near-surface disposal is waste for which waste form and disposal methods must be different, and in general more stringent, than those specified for Class C waste. In the absence of specific requirements in this part, proposals for disposal of this waste may be submitted to the Commission for approval, pursuant to § 61.58 of this part.

(3) Classification determined by long-lived radionuclides. If radioactive waste contains only radionuclides listed in Table 1, classification shall be determined as follows:

(i) If the concentration does not exceed 0.1 times the value in Table 1, the waste is Class A.

(ii) If the concentration exceeds 0.1 times the value in Table 1 but does not exceed the value in Table 1, the waste is Class C.

(iii) If the concentration exceeds the value in Table 1, the waste is not generally acceptable for near-surface disposal.

(iv) For wastes containing mixtures of radionuclides listed in Table 1, the total concentration shall be determined by the sum of fractions rule described in paragraph (a)(7) of this section.

TABLE 1

Radionuclide	Concentration curies per cubic meter
C-14	8
C-14 in activated metal	80
Ni-59 in activated metal	220
Nb-94 in activated metal	0.2
Tc-99	3
I-129	0.08
Alpha emitting transuranic nuclides with half-life greater than five years	[1] 100
Pu-241	[1] 3,500
Cm-242	[1] 20,000

[1] Units are nanocuries per gram.

(4) Classification determined by short-lived radionuclides. If radioactive waste does not contain any of the radionuclides listed in Table 1, classification shall be determined based on the concentrations shown in Table 2. However, as specified in paragraph (a)(6) of this section, if radioactive waste does not contain any nuclides listed in either Table 1 or 2, it is Class A.

(i) If the concentration does not exceed the value in Column 1, the waste is Class A.

(ii) If the concentration exceeds the value in Column 1, but does not exceed the value in Column 2, the waste is Class B.

(iii) If the concentration exceeds the value in Column 2, but does not exceed the value in Column 3, the waste is Class C.

(iv) If the concentration exceeds the value in Column 3, the waste is not generally acceptable for near-surface disposal.

(v) For wastes containing mixtures of the nuclides listed in Table 2, the total concentration shall be determined by the sum of fractions rule described in paragraph (a)(7) of this section.

TABLE 2

Radionuclide	Concentration, curies per cubic meter		
	Col. 1	Col. 2	Col. 3
Total of all nuclides with less than 5 year half life	700	[1]	[1]
H-3	40	[1]	[1]
Co-60	700	[1]	[1]
Ni-63	3.5	70	700
Ni-63 in activated metal	35	700	7000
Sr-90	0.04	150	7000
Cs-137	1	44	4600

[1] There are no limits established for these radionuclides in Class B or C wastes. Practical considerations such as the effects of external radiation and internal heat generation on transportation, handling, and disposal will limit the concentrations for these wastes. These wastes shall be Class B unless the concentrations of other nuclides in Table 2 determine the waste to be Class C independent of these nuclides.

(5) Classification determined by both long- and short-lived radionuclides. If radioactive waste contains a mixture of radionuclides, some of which are listed in Table 1, and some of which are listed in Table 2, classification shall be determined as follows:

(i) If the concentration of a nuclide listed in Table 1 does not exceed 0.1 times the value listed in Table 1, the class shall be that determined by the concentration of nuclides listed in Table 2.

(ii) If the concentration of a nuclide listed in Table 1 exceeds 0.1 times the value listed in Table 1 but does not exceed the value in Table 1, the waste shall be Class C, provided the concentration of nuclides listed in Table 2 does not exceed the value shown in Column 3 of Table 2.

(6) Classification of wastes with radionuclides other than those listed in Tables 1 and 2. If radioactive waste does not contain any nuclides listed in either Table 1 or 2, it is Class A.

(7) The sum of the fractions rule for mixtures of radionuclides. For determining classification for waste that contains a mixture of radionuclides, it is necessary to determine the sum of fractions by dividing each nuclide's concentration by the appropriate limit and adding the resulting values. The appropriate limits must all be taken from the same column of the same table. The sum of the fractions for the column must be less than 1.0 if the waste class is to be determined by that column. Example: A waste contains Sr-90 in a concentration of 50 Ci/m³ and Cs-137 in a concentration of 22 Ci/m³. Since the concentrations both exceed the values in Column 1, Table 2, they must be compared to Column 2 values. For Sr-90 fraction 50/150=0.33; for Cs-137 fraction, 22/44=0.5; the sum of the fractions=0.83. Since the sum is less than 1.0, the waste is Class B.

(8) *Determination of concentrations in wastes.* The concentration of a radionuclide may be determined by indirect methods such as use of scaling factors which relate the inferred concentration of one radionuclide to another that is measured, or radionuclide material accountability, if there is reasonable assurance that the indirect methods can be correlated with actual measurements. The concentration of a radionuclide may be averaged over the volume of the waste, or weight of the waste if the units are expressed as nanocuries per gram.

§ 61.56 Waste characteristics.

(a) The following requirements are minimum requirements for all classes of waste and are intended to facilitate handling at the disposal site and provide protection of health and safety of personnel at the disposal site.

(1) Waste must not be packaged for disposal in cardboard or fiberboard boxes.

(2) Liquid waste must be solidified or packaged in sufficient absorbent material to absorb twice the volume of the liquid.

(3) Solid waste containing liquid shall contain as little free standing and noncorrosive liquid as is reasonably achievable, but in no case shall the liquid exceed 1% of the volume.

(4) Waste must not be readily capable of detonation or of explosive decomposition or reaction at normal pressures and temperatures, or of explosive reaction with water.

(5) Waste must not contain, or be capable of generating, quantities of toxic gases, vapors, or fumes harmful to persons transporting, handling, or disposing of the waste. This does not apply to radioactive gaseous waste packaged in accordance with paragraph (a)(7) of this section.

(6) Waste must not be pyrophoric. Pyrophoric materials contained in waste shall be treated, prepared, and packaged to be nonflammable.

(7) Waste in a gaseous form must be packaged at a pressure that does not exceed 1.5 atmospheres at 20°C. Total activity must not exceed 100 curies per container.

(8) Waste containing hazardous, biological, pathogenic, or infectious material must be treated to reduce to the maximum extent practicable the potential hazard from the non-radiological materials.

(b) The requirements in this section are intended to provide stability of the waste. Stability is intended to ensure that the waste does not structurally degrade and affect overall stability of the site through slumping, collapse, or other failure of the disposal unit and thereby lead to water infiltration. Stability is also a factor in limiting exposure to an inadvertent intruder, since it provides a recognizable and nondispersible waste.

(1) Waste must have structural stability. A structurally stable waste form will generally maintain its physical dimensions and its form, under the expected disposal conditions such as weight of overburden and compaction equipment, the presence of moisture,

and microbial activity, and internal factors such as radiation effects and chemical changes. Structural stability can be provided by the waste form itself, processing the waste to a stable form, or placing the waste in a disposal container or structure that provides stability after disposal.

(2) Notwithstanding the provisions in § 61.56(a) (2) and (3), liquid wastes, or wastes containing liquid, must be converted into a form that contains as little free standing and noncorrosive liquid as is reasonably achievable, but in no case shall the liquid exceed 1% of the volume of the waste when the waste is in a disposal container designed to ensure stability, or 0.5% of the volume of the waste for waste processed to a stable form.

(3) Void spaces within the waste and between the waste and its package must be reduced to the extent practicable.

§ 61.57 Labeling.

Each package of waste must be clearly labeled to identify whether it is Class A waste, Class B waste, or class C waste, in accordance with § 61.55.

§ 61.58 Alternative requirements for waste classification and characteristics.

The Commission may, upon request or on its own initiative, authorize other provisions for the classification and characteristics of waste on a specific basis, if, after evaluation, of the specific characteristics of the waste, disposal site, and method of disposal, it finds reasonable assurance of compliance with the performance objectives in Subpart C of this part.

§ 61.59 Institutional requirements.

(a) *Land ownership.* Disposal of radioactive waste received from other persons may be permitted only on land owned in fee by the Federal or a State government.

(b) *Institutional control.* The land owner or custodial agency shall carry out an institutional control program to physically control access to the disposal site following transfer of control of the disposal site from the disposal site operator. The institutional control program must also include, but not be limited to, carrying out an environmental monitoring program at the disposal site, periodic surveillance, minor custodial care, and other requirements as determined by the Commission; and administration of funds to cover the costs for these activities. The period of institutional controls will be determined by the Commission, but institutional controls may not be relied upon for more than 100 years following transfer of control of the disposal site to the owner.

Subpart E—Financial Assurances

§ 61.61 Applicant qualifications and assurances.

Each applicant shall show that it either possesses the necessary funds or has reasonable assurance of obtaining the necessary funds, or by a combination of the two, to cover the estimated costs of conducting all licensed activities over the planned operating life of the project, including costs of construction and disposal.

§ 61.62 Funding for disposal site closure and stabilization.

(a) The applicant shall provide assurance that sufficient funds will be available to carry out disposal site closure and stabilization, including: (1) Decontamination or dismantlement of land disposal facility structures; and (2) closure and stabilization of the disposal site so that following transfer of the disposal site to the site owner, the need for ongoing active maintenance is eliminated to the extent practicable and only minor custodial care, surveillance, and monitoring are required. These assurances shall be based on Commission-approved cost estimates reflecting the Commission-approved plan for disposal site closure and stabilization. The applicant's cost estimates must take into account total capital costs that would be incurred if an independent contractor were hired to perform the closure and stabilization work.

(b) In order to avoid unnecessary duplication and expense, the Commission will accept financial sureties that have been consolidated with earmarked financial or surety arrangements established to meet requirements of other

uct, provided the materials are not being reclaimed; or

(ii) Used or reused as effective substitutes for commercial products; or

(iii) Returned to the original process from which they are generated, without first being reclaimed. The material must be returned as a substitute for raw material feedstock, and the process must use raw materials as principal feedstocks.

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1)(i)–(iii) of this section):

(i) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(ii) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(iii) Materials accumulated speculatively; or

(iv) Materials listed in paragraph (d)(1) of this section.

(f) *Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation.* Respondents in actions to enforce regulations implementing Subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

[50 FR 664, Jan. 4, 1985]

EFFECTIVE DATE NOTE: At 50 FR 664, Jan. 4, 1985, § 261.2 was revised, effective July 5, 1985 (except for paragraph (e) which was effective December 20, 1984). For the convenience of the user, the superseded text is set out below:

§ 261.2 Definition of solid waste.

(a) A solid waste is any garbage, refuse, sludge or any other waste material which is not excluded under § 261.4(a).

(b) An "other waste material" is any solid, liquid, semi-solid or contained gaseous material, resulting from industrial, commercial, mining or agricultural operations, or from community activities which:

(1) Is discarded or is being accumulated, stored or physically, chemically or biologically treated prior to being discarded; or

(2) Has served its original intended use and sometimes is discarded; or

(3) Is a manufacturing or mining by-product and sometimes is discarded.

(c) A material is "discarded" if it is abandoned (and not used, re-used, reclaimed or recycled) by being:

(1) Disposed of; or

(2) Burned or incinerated, except where the material is being burned as a fuel for the purpose of recovering usable energy; or

(3) Physically, chemically, or biologically treated (other than burned or incinerated) in lieu of or prior to being disposed of.

(d) A material is "disposed of" if it is discharged, deposited, injected, dumped, spilled, leaked or placed into or on any land or water so that such material or any constituent thereof may enter the environment or be emitted into the air or discharged into ground or surface waters.

(e) A "manufacturing or mining by-product" is a material that is not one of the primary products of a particular manufacturing or mining operation, is a secondary and incidental product of the particular operation and would not be solely and separately manufactured or mined by the particular manufacturing or mining operation. The term does not include an intermediate manufacturing or mining product which results from one of the steps in a manufacturing or mining process and is typically processed through the next step of the process within a short time.

§ 261.3 Definition of hazardous waste.

(a) A solid waste, as defined in § 261.2, is a hazardous waste if:

(1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and

(2) It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in Subpart C.

(ii) It is listed in Subpart D and has not been excluded from the lists in Subpart D under §§ 260.20 and 260.22 of this chapter.

(iii) It is a mixture of a solid waste and a hazardous waste that is listed in Subpart D solely because it exhibits one or more of the characteristics of hazardous waste identified in Subpart C, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in Subpart C.

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in Subpart D and has not been excluded from this paragraph under §§ 260.20 and 260.22 of this chapter; however, the following mixtures of solid wastes and hazardous wastes listed in Subpart D are not hazardous wastes (except by application of paragraph (a)(2) (i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and:

(A) One or more of the following spent solvents listed in § 261.31—carbon tetrachloride, tetrachloroethylene, trichoroethylene—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million; or

(B) One or more of the following spent solvents listed in § 261.31—methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million; or

(C) One of the following wastes listed in § 261.32—heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050); or

(D) A discarded commercial chemical product, or chemical intermediate listed in § 261.33, arising from *de minimis* losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subparagraph, "*de minimis*" losses include those from normal material handling operations (e.g. spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in Subpart D, provided that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pre-treatment system, or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

(b) A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in Subpart D, when the waste first meets the listing description set forth in Subpart D.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in Subpart D is first added to the solid waste.

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in Subpart C.

(c) Unless and until it meets the criteria of paragraph (d):

(1) A hazardous waste will remain a hazardous waste.

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste: (A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332).

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in Subpart C.

(2) In the case of a waste which is a listed waste under Subpart D, contains a waste listed under Subpart D or is derived from a waste listed in Subpart D, it also has been excluded from paragraph (c) under §§ 260.20 and 260.22 of this chapter.

[45 FR 33119, May 19, 1980, as amended at 46 FR 56582, Nov. 11, 1981; 50 FR 14219, Apr. 11, 1985]

EFFECTIVE DATE NOTE: At 50 FR 664, Jan. 4, 1985, and corrected at 50 FR 14219, Apr. 11, 1985, § 261.3(c)(2) was revised, effective July 5, 1985. For the convenience of the user, the superseded text is set out below:

§ 261.3 Definition of hazardous waste.

* * * * * * *

(c) * * *

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust or leachate (but not including precipitation run-off) is a hazardous waste.

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste: (A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC codes 331 and 332).

* * * * * * *

§ 261.4 Exclusions.

(a) *Materials which are not solid wastes.* The following materials are not solid wastes for the purpose of this part:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under Section 402 of the Clean Water Act, as amended.

[*Comment:* This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.]

(3) Irrigation return flows.

(4) Source, special nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 *et seq.*

(5) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(6) Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor

recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in § 261.1(c) of this chapter.

(7) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in § 261.1(c) of this chapter.

(b) *Solid wastes which are not hazardous wastes.* The following solid wastes are not hazardous wastes:

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (*e.g.*, refuse-derived fuel), or reused. "Household waste" means any waste material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manures.

(3) Mining overburden returned to the mine site.

(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy.

(6)(i) Wastes which fail the test for the characteristic of EP toxicity because chromium is present or are listed in Subpart D due to the presence of chromium, which do not fail the test for the characteristic of EP toxicity for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the text for any other characteristic, if it is shown by a waste generator or by waste generators that:

(A) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(B) The waste is generated from an industrial process which uses trivalent chromium exlcusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(C) The waste is typically and frequently managed in non-oxidizing environments.

(ii) Specific wastes which meet the standard in paragraphs (b)(6)(i)(A), (B) and (C) (so long as they do not fail the test for the charactristic of EP toxicity, and do not fail the test for any other characteristic) are:

(A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/crome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(F) Wastewater treatment sludes generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome-

tan/retan/wet finish; and through-the-blue.

(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(H) Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process.

(7) Solid waste from the extraction, beneficiation and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore.

(8) Cement kiln dust waste.

(9) Solid waste which consists of discarded wood or wood products which fails the test for the characteristic of EP toxicity and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

(c) Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under Parts 262 through 265, 270, 271 and 124 of this chapter or to the notification requirements of Section 3010 of RCRA until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(d) *Samples.* (1) Except as provided in paragraph (d)(2) of this section, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this part or Parts 262 through 267 or Part 270 or Part 124 of this chapter or to the notification requirements of Section 3010 of RCRA, when:

(i) The sample is being transported to a laboratory for the purpose of testing; or

(ii) The sample is being transported back to the sample collector after testing; or

(iii) The sample is being stored by the sample collector before transport to a laboratory for testing; or

(iv) The sample is being stored in a laboratory before testing; or

(v) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(vi) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraphs (d)(1) (i) and (ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(ii) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(*1*) The sample collector's name, mailing address, and telephone number;

(*2*) The laboratory's name, mailing address, and telephone number;

(*3*) The quantity of the sample;

(*4*) The date of shipment; and

(*5*) A description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

[45 FR 33119, May 19, 1980, as amended at 45 FR 72037, Oct. 30, 1980; 45 FR 76620, Nov. 19, 1980; 45 FR 78531, Nov. 25, 1980; 46 FR 50287, Dec. 4, 1980; 46 FR 27476, May 20, 1981; 46 FR 47429, Sept. 25, 1981; 48 FR

14268, Apr. 1, 1983; 48 FR 30115, June 30, 1983; 49 FR 44988, Nov. 13, 1984; 50 FR 665, Jan. 4, 1985; 50 FR 14219, Apr. 11, 1985]

EFFECTIVE DATE NOTE: At 50 FR 665, Jan. 4, 1985, as corrected at 50 FR 14219, Apr. 11, 1985, § 261.4(a) (6) and (7) were added, effective July 5, 1985.

§ 261.5 Special requirements for hazardous waste generated by small quantity generators.

(a) A generator is a small quantity generator in a calendar month if he generates less than 1000 kilograms of hazardous waste in that month.

(b) Except for those wastes identified in paragraphs (e) and (f) of this section, a small quantity generator's hazardous wastes are not subject to regulation under Parts 262 through 265 and Parts 270 and 124 of this chapter, and the notification requirements of Section 3010 of RCRA, provided the generator complies with the requirements of paragraph (g) of this section.

(c) Hazardous waste that is recycled and that is excluded from regulation under §§ 261.6 (a)(2)(iii) and (v), (a)(3), or 266.36 is not included in the quantity determinations of this section and is not subject to any requirements of this section. Hazardous waste that is subject to the requirements of § 261.6 (b) and (c) and Subparts C, D, and F of Part 266 is included in the quantity determination of this section and is subject to the requirements of this section.

(d) In determining the quantity of hazardous waste he generates, a generator need not include:

(1) His hazardous waste when it is removed from on-site storage; or

(2) Hazardous waste produced by on-site treatment of his hazardous waste.

(e) If a small quantity generator generates acutely hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acutely hazardous waste are subject to regulation under Parts 262 through 265 and Parts 270 and 124 of this chapter, and the notification requirements of Section 3010 of RCRA:

(1) A total of one kilogram of acute hazardous wastes listed in §§ 261.31, 261.32, or 261.33(e).

(2) A total of 100 kilograms of any residue or contaminated soil, waste or other debris resulting from the clean-up of a spill, into or on any land or water, of any acute hazardous wastes listed in §§ 261.31, 261.32, or 261.33(e).

(f) A small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 1000 kilograms of his hazardous waste, or his acutely hazardous wastes in quantities greater than set forth in paragraph (e)(1) or (e)(2) of this section, all of those accumulated wastes for which the accumulation limit was exceeded are subject to regulation under Parts 262 through 265 and Parts 270 and 124 of this chapter, and the notification requirements of Section 3010 of RCRA. The time period of § 262.34 for accumulation of wastes on-site begins for a small quantity generator when the accumulated wastes exceed the applicable exclusion level.

(g) In order for hazardous waste generated by a small quantity generator to be excluded from full regulation under this section, the generator must:

(1) Comply with § 262.11 of this chapter;

(2) If he stores his hazardous waste on-site, store it in compliance with the requirements of paragraph (f) of this section; and

(3) Either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment or disposal facility, either of which is:

(i) Permitted under Part 270 of this chapter;

(ii) In interim status under Parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under Part 271 of this chapter;

(iv) Permitted, licensed or registered by a State to manage municipal or industrial solid waste; or

(v) A facility which:

(A) Beneficially uses or re-uses, or legitimately recycles or reclaims his waste; or

(B) Treats his waste prior to beneficial use or re-use, or legitimate recycling or reclamation.

(h) Hazardous waste subject to the reduced requirements of this section may be mixed with non-hazardous

APPENDIX D

MEMBERS OF THE STATE EMERGENCY RESPONSE COMMISSION

EMERGENCY RESPONSE COMMISSION MEMBERS

	ADDRESS	TELEPHONE
James L. Bagwell	Sheriff Humboldt Co. Sheriff's Dept. 25 W. 5th St. Winnemucca, NV 89445	623-6419
Larry W. Bennett	One East First St. Suite 905 Reno, NV 89501	356-5316 (H) 329-2492 (O)
Robert Broadbent Co-chairman	Director of Aviation McCarran Int'l. Airport P. O. Box 11005 Las Vegas, NV 89111	739-5211
Daryl E. Capurro	3311 Montecito Dr. Sparks, NV 89431	358-6892 (H) 331-6884 (O)
Marvin Carr	Chief Central Lyon Co. Fire Dept. 18 Highway, 95A North Yerington, NV 89447	463-3341
Eric Cooper	Undersheriff Las Vegas Metropolitan Police Dept. 400 Stewart Ave. Las Vegas, NV 89101	799-3438
Lew Dodgion	Administrator Environmental Protection 201 S. Fall St. Carson City, NV 89710	885-4670
James E. Goff	Chief Henderson Police Dept. 243 Water St. Henderson, NV 89015	565-8993

	ADDRESS	TELEPHONE
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Tom Huddleston	State Fire Marshall State Fire Marshall Div. 1928 N. Carson St. Suite 208 Carson City, NV 89710	885-4290
Honorable Lawrence E. Jacobsen	Nevada State Senator P. O. Box 367 Minden, NV 89423	782-2334
James Licklider	Acting Director Emergency Management Div. 2525 S. Carson St. Carson City, NV 89710	885-4240
Paul McGowan	Chief Nevada Highway Patrol 555 Wright Way Carson City, NV 89711	885-5310
James D. Merlino	Captain Nye County Sheriff's Dept. Box 378 Mercury, NV 89023	295-6600
James Miller	Sheriff Elko County Sheriff's Dept. 636 Court St. Elko, NV 89801	738-3421
Otto Ravenholt, M.D.	Health Officer Clark County Health Dept. 625 Shadow Lane Las Vegas, NV 89106	385-1291

	ADDRESS	TELEPHONE
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Honorable James W. Schofield	Nevada State Assemblyman 1740 Howard Ave. Las Vegas, NV 89104	735-6751 (H) 386-6276 (O)
Rex Shelburne	Chief Las Vegas Fire Dept. 500 N. Casino Center Las Vegas, NV 89101	383-2888
Dr. Mark Small	Supervisor of Environmental Quality Timet P. O. Box 2128 Henderson, NV 89015	564-2544
Vince Swinney	Sheriff Washoe County Sheriff's Dept. P. O. Box 2915 Reno, NV 89505	328-3010
Wayne Teglia Co-chairman	Director Department of Motor Vehicles 555 Wright Way Carson City, NV 89711	885-5375
CONTACTS: Las Vegas	Roy Clason Administrative Assistant to the Director of Aviation McCarran Int'l. Airport P. O. Box 11005 Las Vegas, NV 89111	739-5211
Carson City	Jacque Hollingsworth Assistant to the Director of the Department of Motor Vehicles 555 Wright Way Carson City, NV 89711	885-5380

APPENDIX E

MIXTURE CODES (40 CODE OF FEDERAL REGULATIONS)

§ 261.33 Discarded commercial chemical products, off-specification species, container residues and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

• • • • •

(f) • • •

Hazardous waste No.	Substance
.	.
U242	Pentachlorophenol
.	.
U242	Phenol, pentachloro-
U212	Phenol, 2,3,4,6-tetrachloro-
U212	Phenol, 2,4,5-trichloro-
U230	Phenol, 2,4,6-trichloro-
.	.
U231	Propionic acid, 2-(2,4,5-trichlorophenoxy)-
.	.
U233	Silvex.
.	.
U232	2,4,5-T.
.	.
U212	2,3,4,6-Tetrachlorophenol.
.	.
U230	2,4,5-Trichlorophenol.
U231	2,4,6-Trichlorophenol.
U230	2,4,5-Trichlorophenoxyacetic acid.
.	.

TABLE I—MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF EP TOXICITY

EPA hazardous waste number	Contaminant	Maximum concentration (milligrams per liter)
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium	5.0
D008	Lead	5.0
D009	Mercury	0.2
D010	Selenium	1.0
D011	Silver	5.0
D012	Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano-naphthalene.	0.02
D013	Lindane (1,2,3,4,5,6-hexa- chlorocyclohexane, gamma isomer.	0.4
D014	Methoxychlor (1,1,1-Trichloro-2,2-bis [p-methoxyphenyl]ethane).	10.0
D015	Toxaphene ($C_{10}H_{10}Cl_8$, Technical chlorinated camphene, 67–69 percent chlorine).	0.5
D016	2,4-D, (2,4-Dichlorophenoxyacetic acid).	10.0
D017	2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid).	1.0

§ 261.31 Hazardous wastes from non-specific sources.

The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)*
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum	(T)
F007	Spent cyanide plating bath solutions from electroplating operations	(R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R, T)
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
F024	Wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. [This listing does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in § 261.32.].	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.).	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.	(T)

*(H,T) should be used to specify mixtures containing ignitable and toxic constituents.

[46 FR 4617, Jan. 16, 1981, as amended at 46 FR 27477, May 20, 1981; 49 FR 5312, Feb. 10, 1984; 49 FR 37070, Sept. 21, 1984; 50 FR 665, Jan. 4, 1985; 50 FR 2000, Jan. 14, 1985; 50 FR 53319, Dec. 31, 1985; 51 FR 2702, Jan. 21, 1986; 51 FR 6541, Feb. 25, 1986]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F007	Spent cyanide plating bath solutions from electroplating operations..... (except for precious metals electroplating spent cyanide plating bath solutions).	(R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process. (except for precious metals electroplating plating bath sludges).	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.(except for precious metals electroplating spent stripping and cleaning bath solutions).	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.(except for precious metals heat-treating quenching bath sludges).	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.(except for precious metals heat treating spent cyanide solutions from salt bath pot clearing).	(R, T)
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process. (except for precious metals heat treating quenching wastewater treatment sludges).	(T)

§ 261.32 Hazardous wastes from specific sources.

The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Wood preservation: K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
Inorganic pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments	(T)
K008	Oven residue from the production of chrome oxide green pigments	(T)
Organic chemicals:		

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tails from the production of methy ethyl pyridines	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production	(R, T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)
K083	Distillation bottoms from aniline production	(T)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
Inorganic chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(T)
K035	Wastewater treatment sludges generated in the production of creosote	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K037	Wastewater treatment sludges from the production of disulfoton	(T)
K038	Wastewater from the washing and stripping of phorate production	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)
K040	Wastewater treatment sludge from the production of phorate	(T)
K041	Wastewater treatment sludge from the production of toxaphene	(T)
K098	Untreated process wastewater from the production of toxaphene	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D	(T)
K099	Untreated wastewater from the production of 2,4-D	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	(T)
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	(C, T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
K045	Spent carbon from the treatment of wastewater containing explosives	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations	(R)
Petroleum refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
K049	Slop oil emulsion solids from the petroleum refining industry	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry	(T)
K051	API separator sludge from the petroleum refining industry	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry	(T)
Iron and steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C,T)
Secondary lead:		
K069	Emission control dust/sludge from secondary lead smelting	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink formulation: K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations	(T)
K087	Decanter tank tar sludge from coking operations	(T)

[46 FR 4618, Jan. 16, 1981, as amended at 46 FR 27476-27477, May 20, 1981; 49 FR 37070, Sept. 21, 1984; 50 FR 42942, Oct. 23, 1985; 51 FR 5330, Feb. 13, 1986; 51 FR 19322, May 28, 1986; 51 FR 33612, Sept. 22, 1986; 51 FR 37729, Oct. 24, 1986]

Hazardous waste No.	Chemical abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P066	16752-77-5	Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-alpha-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P010	7778-39-4	Arsenic acid
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122-09-8	Benzeneethanamine, alpha,alpha-dimethyl-
P014	108-98-5	Benzenethiol
P001	[1] 81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, and salts
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium dust
P016	542-88-1	Bis(chloromethyl) ether
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine
P021	592-01-8	Calcium cyanide
P022	75-15-0	Carbon bisulfide
P022	75-15-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P029	544-92-3	Copper cyanide

Hazardous waste No.	Substance
P030	Cyanides (soluble cyanide salts), not elsewhere specified
P031	Cyanogen
P033	Cyanogen chloride
P036	Dichlorophenylarsine
P037	Dieldrin
P038	Diethylarsine
P039	O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate
P041	Diethyl-p-nitrophenyl phosphate
P040	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	Diisopropyl fluorophosphate
P044	Dimethoate
P045	3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino)carbonyl] oxime
P071	O,O-Dimethyl O-p-nitrophenyl phosphorothioate
P082	Dimethylnitrosamine
P046	alpha, alpha-Dimethylphenethylamine
P047	4,6-Dinitro-o-cresol and salts
P034	4,6-Dinitro-o-cyclohexylphenol
P048	2,4-Dinitrophenol
P020	Dinoseb
P085	Diphosphoramide, octamethyl-
P039	Disulfoton
P049	2,4-Dithiobiuret
P109	Dithiopyrophosphoric acid, tetraethyl ester
P050	Endosulfan
P088	Endothall
P051	Endrin
P042	Epinephrine
P046	Ethanamine, 1,1-dimethyl-2-phenyl-
P084	Ethenamine, N-methyl-N-nitroso-
P101	Ethyl cyanide
P054	Ethyleneimine
P097	Famphur
P056	Fluorine
P057	Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
P065	Fulminic acid, mercury(II) salt (R,T)
P059	Heptachlor
P051	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene
P037	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,exo-1,4:5,8-dimethanonaphthalene
P060	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, endo-dimethanonaphthalene
P004	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,exo-dimethanonaphthalene
P060	Hexachlorohexahydro-exo,exo-dimethanonaphthalene
P062	Hexaethyl tetraphosphate
P116	Hydrazinecarbothioamide
P068	Hydrazine, methyl-
P063	Hydrocyanic acid
P063	Hydrogen cyanide
P096	Hydrogen phosphide
P064	Isocyanic acid, methyl ester
P007	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	Mercury, (acetato-O)phenyl-
P065	Mercury fulminate (R,T)
P016	Methane, oxybis(chloro-
P112	Methane, tetranitro- (R)
P118	Methanethiol, trichloro-
P059	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066	Methomyl
P067	2-Methylaziridine

Hazardous waste No	Substance
P068	Methyl hydrazine
P064	Methyl isocyanate
P069	2-Methyllactonitrile
P071	Methyl parathion
P072	alpha-Naphthylthiourea
P073	Nickel carbonyl
P074	Nickel cyanide
P074	Nickel(II) cyanide
P073	Nickel tetracarbonyl
P075	Nicotine and salts
P076	Nitric oxide
P077	p-Nitroaniline
P078	Nitrogen dioxide
P076	Nitrogen(II) oxide
P078	Nitrogen(IV) oxide
P081	Nitroglycerine (R)
P082	N-Nitrosodimethylamine
P084	N-Nitrosomethylvinylamine
P050	5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite
P085	Octamethylpyrophosphoramide
P087	Osmium oxide
P087	Osmium tetroxide
P088	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	Parathion
P034	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	Phenol, 2,4-dinitro-
P047	Phenol, 2,4-dinitro-6-methyl-
P020	Phenol, 2,4-dinitro-6-(1-methylpropyl)-
P009	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P036	Phenyl dichloroarsine
P092	Phenylmercuric acetate
P093	N-Phenylthiourea
P094	Phorate
P095	Phosgene
P096	Phosphine
P041	Phosphonic acid, diethyl p-nitrophenyl ester
P044	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl]ester
P043	Phosphorofluoric acid, bis(1-methylethyl)-ester
P094	Phosphorothioic acid, O,O-diethyl S-(ethylthio)methyl ester
P089	Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester
P040	Phosphorothioic acid, O,O-diethyl O- pyrazinyl ester
P097	Phosphorothioic acid, O,O-dimethyl O-[p-((dimethylamino)-sulfonyl)phenyl]ester
P110	Plumbane, tetraethyl-
P098	Potassium cyanide
P099	Potassium silver cyanide
P070	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	Propanenitrile
P027	Propanenitrile, 3-chloro-
P069	Propanenitrile, 2-hydroxy-2-methyl-
P081	1,2,3-Propanetriol, trinitrate- (R)
P017	2-Propanone, 1-bromo-
P102	Propargyl alcohol
P003	2-Propenal
P005	2-Propen-1-ol
P067	1,2-Propylenimine
P102	2-Propyn-1-ol
P008	4-Pyridinamine
P075	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
P111	Pyrophosphoric acid, tetraethyl ester
P103	Selenourea
P104	Silver cyanide
P105	Sodium azide

Waste No.	Substance
P106	Sodium cyanide
P107	Strontium sulfide
P108	Strychnidin-10-one, and salts
P018	Strychnidin-10-one, 2,3-dimethoxy-
P108	Strychnine and salts
P115	Sulfuric acid, thallium(I) salt
P109	Tetraethyldithiopyrophosphate
P110	Tetraethyl lead
P111	Tetraethylpyrophosphate
P112	Tetranitromethane (R)
P062	Tetraphosphonic acid, hexaethyl ester
P113	Thallic oxide
P113	Thallium(III) oxide
P114	Thallium(I) selenite
P115	Thallium(I) sulfate
P045	Thiofanox
P049	Thioimidodicarbonic diamide
P014	Thiophenol
P116	Thiosemicarbazide
P026	Thiourea, (2-chlorophenyl)-
P072	Thiourea, 1-naphthalenyl-
P093	Thiourea, phenyl-
P123	Toxaphene
P118	Trichloromethanethiol
P119	Vanadic acid, ammonium salt
P120	Vanadium pentoxide
P120	Vanadium(V) oxide
P001	Warfarin, when present at concentrations greater than 0.3%
P121	Zinc cyanide
P122	Zinc phosphide (R,T)
P122	Zinc phosphide, when present at concentrations greater than 10%

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in § 261.5 (a) and (f).

[*Comment:* For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Substance
U001	Acetaldehyde (I)
U034	Acetaldehyde, trichloro-
U187	Acetamide, N-(4-ethoxyphenyl)-
U005	Acetamide, N-9H-fluoren-2-yl-
U112	Acetic acid, ethyl ester (I)
U144	Acetic acid, lead salt
U214	Acetic acid, thallium(I) salt
U002	Acetone (I)
U003	Acetonitrile (I,T)
U248	3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts, when present at concentrations of 0.3% or less
U004	Acetophenone
U005	2-Acetylaminofluorene
U006	Acetyl chloride (C,R,T)
U007	Acrylamide
U008	Acrylic acid (I)
U009	Acrylonitrile
U150	Alanine, 3-[p-bis(2-chloroethyl)amino] phenyl-, L-
U011	Amitrole
U012	Aniline (I,T)
U014	Auramine
U015	Azaserine
U010	Azirino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[[(aminocarbonyl) oxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-,
U157	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	Benz[c]acridine
U016	3,4-Benzacridine
U017	Benzal chloride
U018	Benz[a]anthracene
U018	1,2-Benzanthracene
U094	1,2-Benzanthracene, 7,12-dimethyl-
U012	Benzenamine (I,T)
U014	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-
U049	Benzenamine, 4-chloro-2-methyl-
U093	Benzenamine, N,N'-dimethyl-4-phenylazo-
U158	Benzenamine, 4,4'-methylenebis(2-chloro-
U222	Benzenamine, 2-methyl-, hydrochloride
U181	Benzenamine, 2-methyl-5-nitro
U019	Benzene (I,T)
U038	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester
U030	Benzene, 1-bromo-4-phenoxy-
U037	Benzene, chloro-
U190	1,2-Benzenedicarboxylic acid anhydride
U028	1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester
U069	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	1,2-Benzenedicarboxylic acid, diethyl ester
U102	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	1,2-Benzenedicarboxylic acid, di-n-octyl ester
U070	Benzene, 1,2-dichloro-
U071	Benzene, 1,3-dichloro-
U072	Benzene, 1,4-dichloro-
U017	Benzene, (dichloromethyl)-
U223	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	Benzene, dimethyl-(I,T)
U201	1,3-Benzenediol
U127	Benzene, hexachloro-
U056	Benzene, hexahydro- (I)
U188	Benzene, hydroxy-
U220	Benzene, methyl-
U105	Benzene, 1-methyl-1-2,4-dinitro-
U106	Benzene, 1-methyl-2,6-dinitro-
U203	Benzene, 1,2-methylenedioxy-4-allyl-
U141	Benzene, 1,2-methylenedioxy-4-propenyl-
U090	Benzene, 1,2-methylenedioxy-4-propyl-
U055	Benzene, (1-methylethyl)- (I)
U169	Benzene, nitro- (I,T)
U183	Benzene, pentachloro-
U185	Benzene, pentachloro-nitro-
U020	Benzenesulfonic acid chloride (C,R)
U020	Benzenesulfonyl chloride (C,R)
U207	Benzene, 1,2,4,5-tetrachloro-
U023	Benzene, (trichloromethyl)-(C,R,T)

Hazardous Waste No.	Substance
0234	Benzene, 1,3,5-trinitro- (R,T)
U021	Benzidine
U202	1,2-Benzisothiazolin-3-one, 1,1-dioxide
U120	Benzo(j,k)fluorene
U022	Benzo(a)pyrene
U022	3,4-Benzopyrene
U197	p-Benzoquinone
U023	Benzotrichloride (C,R,T)
U050	1,2-Benzphenanthrene
U085	2,2'-Bioxirane (I,T)
U021	(1,1'-Biphenyl)-4,4'-diamine
U073	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-
U091	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-
U095	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-
U024	Bis(2-chloroethoxy) methane
U027	Bis(2-chloroisopropyl) ether
U244	Bis(dimethylthiocarbamoyl) disulfide
U028	Bis(2-ethylhexyl) phthalate
U246	Bromine cyanide
U225	Bromoform
U030	4-Bromophenyl phenyl ether
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	1-Butanamine, N-butyl-N-nitroso-
U035	Butanoic acid, 4-[Bis(2-chloroethyl)amino] benzene-
U031	1-Butanol (I)
U159	2-Butanone (I,T)
U160	2-Butanone peroxide (R,T)
U053	2-Butenal
U074	2-Butene, 1,4-dichloro- (I,T)
U031	n-Butyl alchohol (I)
U136	Cacodylic acid
U032	Calcium chromate
U238	Carbamic acid, ethyl ester
U178	Carbamic acid, methylnitroso-, ethyl ester
U176	Carbamide, N-ethyl-N-nitroso-
U177	Carbamide, N-methyl-N-nitroso-
U219	Carbamide, thio-
U097	Carbamoyl chloride, dimethyl-
U215	Carbonic acid, dithallium(I) salt
U156	Carbonochloridic acid, methyl ester (I,T)
U033	Carbon oxyfluoride (R,T)
U211	Carbon tetrachloride
U033	Carbonyl fluoride (R,T)
U034	Chloral
U035	Chlorambucil
U036	Chlordane, technical
U026	Chlornaphazine
U037	Chlorobenzene
U039	4-Chloro-m-cresol
U041	1-Chloro-2,3-epoxypropane
U042	2-Chloroethyl vinyl ether
U044	Chloroform
U046	Chloromethyl methyl ether
U047	beta-Chloronaphthalene
U048	o-Chlorophenol
U049	4-Chloro-o-toluidine, hydrochloride
U032	Chromic acid, calcium salt
U050	Chrysene
U051	Creosote
U052	Cresols
U052	Cresylic acid
U053	Crotonaldehyde
U055	Cumene (I)
U246	Cyanogen bromide
U197	1,4-Cyclohexadienedione
U056	Cyclohexane (I)
U057	Cyclohexanone (I)
U130	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexa- chloro-
U058	Cyclophosphamide
U240	2,4-D, salts and esters
U059	Daunomycin

Hazardous Waste No	Substance
U060	DDD
U061	DDT
U142	Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one
U062	Diallate
U133	Diamine (R,T)
U221	Diaminotoluene
U063	Dibenz[a,h]anthracene
U063	1,2:5,6-Dibenzanthracene
U064	1,2:7,8-Dibenzopyrene
U064	Dibenz[a,i]pyrene
U066	1,2-Dibromo-3-chloropropane
U069	Dibutyl phthalate
U062	S-(2,3-Dichloroallyl) diisopropylthiocarbamate
U070	o-Dichloroben ene
U071	m-Dichlorobenzene
U072	p-Dichlorobenzene
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene (I,T)
U075	Dichlorodifluoromethane
U192	3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide
U060	Dichloro diphenyl dichloroethane
U061	Dichloro diphenyl trichloroethane
U078	1,1-Dichloroethylene
U079	1,2-Dichloroethylene
U025	Dichloroethyl ether
U081	2,4-Dichlorophenol
U082	2,6-Dichlorophenol
U240	2,4-Dichlorophenoxyacetic acid, salts and esters
U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U085	1,2:3,4-Diepoxybutane (I,T)
U108	1,4-Diethylene dioxide
U086	N,N-Diethylhydrazine
U087	O,O-Diethyl-S-methyl-dithiophosphate
U088	Diethyl phthalate
U089	Diethylstilbestrol
U148	1,2-Dihydro-3,6-pyradizinedione
U090	Dihydrosafrole
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine (I)
U093	Dimethylaminoazobenzene
U094	7,12-Dimethylbenz[a]anthracene
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U101	2,4-Dimethylphenol
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U105	2,4-Dinitrotoluene
U106	2,6-Dinitrotoluene
U107	Di-n-octyl phthalate
U108	1,4-Dioxane
U109	1,2- Diphenylhydrazine
U110	Dipropylamine (I)
U111	Di-N-propylnitrosamine
U001	Ethanal (I)
U174	Ethanamine, N-ethyl-N-nitroso-
U067	Ethane, 1,2-dibromo-
U076	Ethane, 1,1-dichloro-
U077	Ethane, 1,2-dichloro-
U114	1,2-Ethanediylbiscarbamodithioic acid
U131	Ethane, 1,1,1,2,2,2-hexachloro-
U024	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U003	Ethanenitrile (I, T)
U117	Ethane,1,1'-oxybis- (I)
U025	Ethane, 1,1'-oxybis[2-chloro-
U184	Ethane, pentachloro-

Hazardous Waste No.	Substance
U179	N-Nitrosopiperidine
U180	N-Nitrosopyrrolidine
U181	5-Nitro-o-toluidine
U193	1,3-Oxathiolane, 2,2-dioxide
U058	2H-1,3,2-Oxazaphosphorine, 2-[bis(2-chloroethyl)amino]tetrahydro-, oxide 2-
U115	Oxirane (I,T)
U041	Oxirane, 2-(chloromethyl)-
U182	Paraldehyde
U183	Pentachlorobenzene
U184	Pentachloroethane
U185	Pentachloronitrobenzene
See F027	Pentachlorophenol
U186	1,3-Pentadiene (I)
U187	Phenacetin
U188	Phenol
U048	Phenol, 2-chloro-
U039	Phenol, 4-chloro-3-methyl-
U081	Phenol, 2,4-dichloro-
U082	Phenol, 2,6-dichloro-
U101	Phenol, 2,4-dimethyl-
U170	Phenol, 4-nitro-
See F027	Phenol, pentachloro-
Do	Phenol, 2,3,4,6-tetrachloro-
Do	Phenol, 2,4,5-trichloro-
Do	Phenol, 2,4,6-trichloro-
U137	1,10-(1,2-phenylene)pyrene
U145	Phosphoric acid, Lead salt
U087	Phosphorodithioic acid, 0,0-diethyl-, S-methyl-ester
U189	Phosphorous sulfide (R)
U190	Phthalic anhydride
U191	2-Picoline
U192	Pronamide
U194	1-Propanamine (I,T)
U110	1-Propanamine, N-propyl- (I)
U066	Propane, 1,2-dibromo-3-chloro-
U149	Propanedinitrile
U171	Propane, 2-nitro- (I)
U027	Propane, 2,2'-oxybis[2-chloro-
U193	1,3-Propane sultone
U235	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U126	1-Propanol, 2,3-epoxy-
U140	1-Propanol, 2-methyl- (I,T)
U002	2-Propanone (I)
U007	2-Propenamide
U084	Propene, 1,3-dichloro-
U243	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	2-Propenenitrile
U152	2-Propenenitrile, 2-methyl- (I,T)
U008	2-Propenoic acid (I)
U113	2-Propenoic acid, ethyl ester (I)
U118	2-Propenoic acid, 2-methyl-, ethyl ester
U162	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
See F027	Propionic acid, 2-(2,4,5-trichlorophenoxy)-
U194	1-Propylamine (I,T)
U083	Propylene dichloride
U196	Pyridine
U155	Pyridine, 2-[(2-(dimethylamino)-2-thenylamino]-
U179	Pyridine, hexahydro-N-nitroso-
U191	Pyridine, 2-methyl-
U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	Pyrrole, tetrahydro-N-nitroso-
U200	Reserpine
U201	Resorcinol
U202	Saccharin and salts
U203	Safrole
U204	Selenious acid
U204	Selenium dioxide
U205	Selenium disulfide (R,T)

Hazardous Waste No.	Substance
U015	L-Serine, diazoacetate (ester)
See F027	Silvex
U089	4,4'-Stilbenediol, alpha,alpha'-diethyl-
U206	Streptozotocin
U135	Sulfur hydride
U103	Sulfuric acid, dimethyl ester
U189	Sulfur phosphide (R)
U205	Sulfur selenide (R,T)
See F027	2,4,5-T
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethylene
See F027	2,3,4,6-Tetrachlorophenol
U213	Tetrahydrofuran (I)
U214	Thallium(I) acetate
U215	Thallium(I) carbonate
U216	Thallium(I) chloride
U217	Thallium(I) nitrate
U218	Thioacetamide
U153	Thiomethanol (I,T)
U219	Thiourea
U244	Thiram
U220	Toluene
U221	Toluenediamine
U223	Toluene diisocyanate (R,T)
U222	O-Toluidine hydrochloride
U011	1H-1,2,4-Triazol-3-amine
U228	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethene
U228	Trichloroethylene
U121	Trichloromonofluoromethane
See F027	2,4,5-Trichlorophenol
Do	2,4,6-Trichlorophenol
Do	2,4,5-Trichlorophenoxyacetic acid
U234	sym-Trinitrobenzene (R,T)
U182	1,3,5-Trioxane, 2,4,5-trimethyl-
U235	Tris(2,3-dibromopropyl) phosphate
U236	Trypan blue
U237	Uracil, 5[bis(2-chloromethyl)amino]-
U237	Uracil mustard
U043	Vinyl chloride
U248	Warfarin, when present at concentrations of 0.3% or less
U239	Xylene (I)
U200	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxy-benzoyl)oxy]-, methyl ester
U249	Zinc phosphide, when present at concentrations of 10% or less.

Hazardous Waste No.	Substance
U208	Ethane, 1,1,1,2-tetrachloro-
U209	Ethane, 1,1,2,2-tetrachloro-
U218	Ethanethioamide
U247	Ethane, 1,1,1,-trichloro-2,2-bis(p-methoxyphenyl).
U227	Ethane, 1,1,2-trichloro-
U043	Ethene, chloro-
U042	Ethene, 2-chloroethoxy-
U078	Ethene, 1,1-dichloro-
U079	Ethene, trans-1,2-dichloro-
U210	Ethene, 1,1,2,2-tetrachloro-
U173	Ethanol, 2,2'-(nitrosoimino)bis-
U004	Ethanone, 1-phenyl-
U006	Ethanoyl chloride (C,R,T)
U112	Ethyl acetate (I)
U113	Ethyl acrylate (I)
U238	Ethyl carbamate (urethan)
U038	Ethyl 4,4'-dichlorobenzilate
U114	Ethylenebis(dithiocarbamic acid)
U067	Etylene dibromide
U077	Ethylene dichloride
U115	Ethlene oxide (I,T)
U116	Ethylene thiourea
U117	Ethyl ether (I)
U076	Ethylidene dichloride
U118	Ethylmethacrylate
U119	Ethyl methanesulfonate
U139	Ferric dextran
U120	Fluoranthene
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan (I)
U125	2-Furancarboxaldehyde (I)
U147	2,5-Furandione
U213	Furan, tetrahydro- (I)
U125	Furfural (I)
U124	Furfuran (I)
U206	D-Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-
U126	Glycidylaldehyde
U163	Guanidine, N-nitroso-N-methyl-N'nitro-
U127	Hexachlorobenzene
U128	Hexachlorobutadiene
U129	Hexachlorocyclohexane (gamma isomer)
U130	Hexachlorocyclopentadiene
U131	Hexachloroethane
U132	Hexachlorophene
U243	Hexachloropropene
U133	Hydrazine (R,T)
U086	Hydrazine, 1,2-diethyl-
U098	Hydrazine, 1,1-dimethyl-
U099	Hydrazine, 1,2-dimethyl-
U109	Hydrazine, 1,2-diphenyl-
U134	Hydrofluoric acid (C,T)
U134	Hydrogen fluoride (C,T)
U135	Hydrogen sulfide
U096	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U136	Hydroxydimethylarsine oxide
U116	2-Imidazolidinethione
U137	Indeno[1,2,3-cd]pyrene
U139	Iron dextran
U140	Isobutyl alcohol (I,T)
U141	Isosafrole
U142	Kepone
U143	Lasiocarpine
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
U129	Lindane
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
U150	Melphalan
U151	Mercury
U152	Methacrylonitrile (I,T)
U092	Methanamine, N-methyl- (I)
U029	Methane, bromo-
U045	Methane, chloro- (I,T)
U046	Methane, chloromethoxy-
U068	Methane, dibromo-
U080	Methane, dichloro-
U075	Methane, dichlorodifluoro-
U138	Methane, iodo-
U119	Methanesulfonic acid, ethyl ester
U211	Methane, tetrachloro-
U121	Methane, trichlorofluoro-
U153	Methanethiol (I,T)
U225	Methane, tribromo-
U044	Methane, trichloro-
U121	Methane, trichlorofluoro-
U123	Methanoic acid (C,T)
U036	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-
U154	Methanol (I)
U155	Methapyrilene
U247	Methoxychlor.
U154	Methyl alcohol (I)
U029	Methyl bromide
U186	1-Methylbutadiene (I)
U045	Methyl chloride (I,T)
U156	Methyl chlorocarbonate (I,T)
U226	Methylchloroform
U157	3-Methylcholanthrene
U158	4,4'-Methylenebis(2-chloroaniline)
U132	2,2'-Methylenebis(3,4,6-trichlorophenol)
U068	Methylene bromide
U080	Methylene chloride
U122	Methylene oxide
U159	Methyl ethyl ketone (I,T)
U160	Methyl ethyl ketone peroxide (R,T)
U138	Methyl iodide
U161	Methyl isobutyl ketone (I)
U162	Methyl methacrylate (I,T)
U163	N-Methyl-N'-nitro-N-nitrosoguanidine
U161	4-Methyl-2-pentanone (I)
U164	Methylthiouracil
U010	Mitomycin C
U059	5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxyl]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-
U165	Naphthalene
U047	Naphthalene, 2-chloro-
U166	1,4-Naphthalenedione
U236	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'diyl)]-bis (azo)bis(5-amino-4-hydroxy)-,tetrasodium salt
U166	1,4,Naphthaquinone
U167	1-Naphthylamine
U168	2-Naphthylamine
U167	alpha-Naphthylamine
U168	beta-Naphthylamine
U026	2-Naphthylamine, N,N'-bis(2-chloromethyl)-
U169	Nitrobenzene (I,T)
U170	p-Nitrophenol
U171	2-Nitropropane (I)
U172	N-Nitrosodi-n-butylamine
U173	N-Nitrosodiethanolamine
U174	N-Nitrosodiethylamine
U111	N-Nitroso-N-propylamine
U176	N-Nitroso-N-ethylurea
U177	N-Nitroso-N-methylurea
U178	N-Nitroso-N-methylurethane

APPENDIX F

NEVADA HAZARDOUS WASTE REPORT - 1986

NEVADA HAZARDOUS WASTE REPORT

1986

Units of Measure: All quantities are reported in tons (2,000 lbs/ton). Waste quantities are reported by volume using density, if known, or the weight of water (8.34 lbs/gallon).

Mixtures: All mixtures of more than one waste code are reported using the following mixture codes:

D wastes ..... DOMX

F wastes ..... FOMX

P wastes ..... POMX

K wastes ..... KOMX

U wastes ..... UOMX

Multiple waste types ..... MOMX

(i.e., mixtures of D & F or P & K)

Handling codes for Treatment, Storage and Disposal Methods:

Treatment:

T01 Tank

T02 Surface Impoundment

T03 Incinerator

T04 Other

Storage:

S01 Container

S02 Tank

S03 Waste Pile

S04 Surface Impoundment

S05 Other

Disposal:

D79 Injection Well

D80 Landfill

D81 Land Application

D82 Ocean Disposal

D83 Surface Impoundment

D84 Other

On-site/Off-site Quantities: Waste quantities which were reported as having been treated, stored or disposed of at the site of generation are considered On-site quantities. Waste quantities which were reported as having been treated, stored or disposed of at a location other than the site of generation are considered Off-site quantities.

Total number of regulated generators: 47

Total number of regulated TSD facilities: 3

Total quantity of hazardous waste generated: 1603.85

American Bank Stationary
NVD 054 465 620

American Buildings Company
NVD 089 924 658

AMSELCO Exploration Lab
NVT 330 010 265

Bally Engineered Structures
NVD 980 883 714

Bendix HVS
NVD 981 439 896

Bendix HVSD
NVD 047 886 791

Bently Nevada Airport Road
NVT 330 010 190

Bently Nevada Science Park
NVD 980 887 319

Bently Nevada Water Street
NVD 009 169 970

Caesars Tahoe
NVD 098 864 010

Cal Nev Pipeline Company
NVD 990 764 961

Crumrine MFG Jewelers
NVF 999 000 486

Dynasty Manufacturing
NVD 980 892 756

Earth Science Consultants
NVD 980 885 628

EG&G Energy Measurements
NVD 097 868 731

Fallon Naval Air Station
NV9 170 022 173

Globe Turbocharger Specialties
NVD 122 665 169

GTE Government Systems
NVT 000 612 176

Hamilton Company
NVD 008 477 820

Harding Lawson Associates
NVD 067 799 098

Harrahs Automotive Restoration
NVD 981 639 701

Hawthorne Army Ammunition Plant
NV1 210 090 006

Hoyt Heater Company
NVD 009 155 631

International Game Technology
NVD 065 020 216

Kennametal Inc
NVD 004 512 430

Kerr McGee Chemical Corporation
NVD 008 290 330

Lift Engineering
NVD 056 804 487

Mallory Electric
NVD 071 541 171

McDermitt Mine
NVD 067 813 006

NCR Corporation
NVD 980 889 190

Nellis AFB
NV7 570 024 110

Nevada Military Department (USPFO)
NV2 211 890 015

Nevada Power Company
NVD 006 970 891

Occidental Minerals
NVD 000 626 473

REECO (NTS)
NV3 890 090 001

Reno Hilton Hotel
NVD 021 981 097

Richdel Garden America
NVD 053 407 094

Rocky Mountain Bank Note
NVD 007 096 761

Safety Kleen Corporation
NVT 330 010 203

Sierra Manufacturing
NVD 085 286 037

Southern California Edison Mohave
NVD 000 630 970

Steiner Cleaners
NVD 062 080 205

US Postal Center
NV7 180 090 014

Wells Manufacturing
NVD 981 425 945

Stauffer Chemical Company
NVD 062 081 500

Tru Fit Products Corporation
NVT 330 011 214

Washoe Co School District
NVD 100 049 469

I. HAZARDOUS WASTE GENERATION

Hazardous Waste generated by EPA Hazardous Waste Number.

Waste #	Quantity	Waste #	Quantity
D001	409.14	P106	0.01
D002	42.12		
D003	56.83	U002	1.03
D004	0.31		
D006	103.34	U048	0.82
D007	628.25	U052	3.95
D008	14.80	U080	2.56
D009	3.68	U088	0.01
D011	0.37	U134	8.34
DOMX	57.20	U145	0.48
		U159	2.67
F001	33.58	U162	0.23
F002	55.64	U196	0.12
F003	3.03	U210	0.18
F004	0.35	U220	29.02
F006	52.37	U226	1.90
FOMX	22.21	U228	6.74
		UOMX	20.57
P100	0.12	MOMX	41.89

TOTAL TONS = 1603.85

II. DISPOSITION OF GENERATED HAZARDOUS WASTES

A. In-state storage, treatment or disposal. Hazardous wastes generated in-state and treated or disposed of at in-state facilities or that were in storage in-state at the close of the reporting year. (See list on page 8 for key to code numbers).

Storage:		Treatment:		Disposal:	
S01	21.35 Tons	T01	Tons	D79	Tons
S02	Tons	T02	Tons	D80	11,197.48 Tons
S03	Tons	T03	Tons	D81	Tons
S04	Tons	T04	44.94 Tons	D82	Tons
S05	Tons			D83	Tons
				D84	Tons
Total	21.35 Tons		44.94 Tons		11,197.48 Tons

B. Hazardous waste shipped to out-of-state facillities by individual state.

STATE	Quantity
AZ	5.58
CA	714.39
UT	29.19
TX	4.32
OR	68.77
OH	15.72
WA	0.04

REGULATED TREATMENT, STORAGE AND DISPOSAL FACILITIES

ID NUMBER	FACILITY	HANDLING METHODS			CODE #
		S01	T04	D80	
NU1 210 090 006	HWAAP		X		01
NU7 570 024 110	Nellis AFB	X	X		01
NUT 330 010 000	US Ecology Inc.			X	02

Codes:

01: On-site facility (all wastes reported as treated, stored, or disposed of was generated on-site).

02: Off-site facility (no wastes reported as treated, stored, or disposed of were generated on-site).

03: On-site/Off-site facility (wastes reported as treated, stored or disposed of were generated either on-site or off-site).

III. Hazardous Waste from all sources that was reported as being treated, stored, or disposed of in Nevada, by handling method.

HANDLING METHOD		TOTAL QUANTITY REPORTED	
Storage:			
S01	Container (barrel, drum, etc.)	21.35	Tons
S02	Tank		
S03	Waste Pile		
S04	Surface Impoundment		
S05	Other		
Treatment:			
T01	Tank		
T02	Surface Impoundment		
T03	Incinerator		
T04	Other (Use for thermal, biological, chemical, or physical treatment not occurring in tanks, surface impoundments, or incinerators)	44.94	
Disposal:			
D79	Injection Well		
D80	Landfill	11,197.48	
D81	Land Application		
D82	Ocean Disposal		
D83	Surface Impoundment		
D84	Other		

WASTE TREATMENT, STORAGE, AND DISPOSAL

FACILITY DETAIL BY HANDLING METHOD

Handling Method: Container Storage

Handling CODE: S01

Hazardous Waste Number	On-site Quantities	Off-site Quantities
D001	14.84	
D002	2.32	
DOMX	23.20	
F001	.004	
F003	.001	
P006	.004	
P012	.005	
P106	.006	
U044	.001	
U088	.007	
U122	.001	
U249	.0015	
MOMX	12.07	

WASTE TREATMENT, STORAGE, AND DISPOSAL

FACILITY DETAIL BY HANDLING METHOD

Handling Method: Thermal Treatment

Handling CODE: T04

Hazardous Waste Number	On-site Quantities	Off-site Quantities
D001	0.52	
D003	44.42	

WASTE TREATMENT, STORAGE, AND DISPOSAL

FACILITY DETAIL BY HANDLING METHOD

Handling Method: Landfill

Handling CODE: D80

Hazardous Waste Number	On-site Quantities	Off-site Quantities
D001		11.48
D002		144.29
D004		367.84
D006		167.84
D007		2023.07
D008		962.1
D009		3.2
D010		1.17
DOMX		2262.18
F002		77.86
F003		11.95
F006		1944.25
FOMX		22.27
K061		354.65
K062		526.07
P024		1.4
P054		5.39
P089		0.23
P120		8.91
P123		5.31
POMX		42.22

WASTE TREATMENT, STORAGE, AND DISPOSAL

FACILITY DETAIL BY HANDLING METHOD

Handling Method: Landfill

Handling CODE: D80

Hazardous Waste Number	On-site Quantities	Off-site Quantities
U028		1535.16
U036		5.87
U061		0.23
U066		8.91
U080		0.93
U151		73.69
U158		9.62
U196		2.11
U226		0.23
UOMX		161.23
MOMX		324.53

APPENDIX G

MATRIX OF STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL AND RADIOACTIVE AND NONRADIOACTIVE WASTES) REVISED, SEPTEMBER 9, 1987

The relationship between state and federal statutes and regulations is complex. This complexity is a direct consequence of the intricacies of the problem which they are designed to address.

The following tables are a convenient summary of these statutes and regulations. They are designed to assist those who want to find the relevant law on particular subjects relating to hazardous materials, hazardous waste, and radioactive materials and waste.

STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL RADIOACTIVE AND NONRADIOACTIVE WASTES)

R E V I S E D

	HAZARDOUS MATERIALS	HAZARDOUS WASTE	RADIOACTIVE MATERIALS AND WASTE
Classifications	Hazardous Materials Table: 49 CFR 172.101* Defined: Assembly Bill 352 (chapter 725), sec. 2	Defined: NRS 459.430 Types Subject to Regulation: NRS 459.465	Classification of Radioactive Waste: NAC 459.8265 Defined: Assembly Bill 352 (chapter 725), section 9
Handling/Packaging	Shipper's Responsibility: 49 CFR 173.22* Packaging: 49 CFR 173.50-173.1200* Quantities, Container Requirements, Dose Rate: NRS 459.221 Marking: 1. Shippers: 49 CFR 172.300* 2. Manufacturers: 49 CFR 178* Placarding: 49 CFR 172.500-172.558* Labeling: 1. Shippers: 49 CFR 172.400, 49 CFR 172.430* 2. Type: 49 CFR 172.101 (Hazardous Materials Table)* Shipping Papers: 49 CFR 172.202-172.203* NRS 459.221 Manifest: 40 CFR 262.20 NRS 459.590	Handling and Packaging Regulations: NRS 459.500 Generators of Hazardous Waste: NAC 444.8635 Identification Number Required: NAC 444.8640 Packaging, Labeling, Marking and Placarding: NAC 444.8645	Enforcement of Handling and Packaging- DMV&PS, NHP, PSCN: NRS 459.250 Licensee's Responsibilities: 1. Radioactive Materials: NAC 459.314 2. Radioactive Waste: NAC 459.910(A)(2) Packaging of Radioactive Waste: NAC 459.830, NAC 459.900(2) Contents, Restrictions in Packaging: NAC 459.830, NAC 459.8305 Labeling of Containers: NAC 459.825 Required Procedures for Transfer: NAC 459.8235 Shipping Manifest Requirements: NAC 459.823, NAC 459.824, NAC 459.8245

STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL RADIOACTIVE AND NONRADIOACTIVE WASTES)

R E V I S E D

	HAZARDOUS MATERIALS	HAZARDOUS WASTE	RADIOACTIVE MATERIALS AND WASTE
Handling/Packaging (cont'd)	Carrier Responsibilities: 1. Rail: 49 CFR 174* 2. Aircraft: 49 CFR 175* 3. Vessels: 49 CFR 176* 4. Highway: 49 CFR 177* Container Manufacturer Responsibilities: 49 CFR 172, 178, 179*		
Transportation/Routing	Department of Transportation Regulations: NAC 706.377-706.395 Motor Carriers: 1. Safety Requirements: 49 CFR 390-96* 2. Parking and Driving Regulations: 49 CFR 397 3. Operation of Motor Vehicle: 49 CFR 392, 397 4. Vehicle Requirements: 49 CFR 393, 396* 5. Railway Cars: 49 CFR 179* State Permit: Assembly Bill 352 (chapter 725), sections 3 and 4	Regulations: NRS 459.500 Unlawful Transportation: NRS 459.590 Manifest Required: NAC 444.8650-444.444.860 Transporter's Requirements: NAC 444.8705-444.8725 Importers and Exporters: NAC 444.8727	State Permit to Transport: NRS 706.441 Shipping Violations: NRS 459.221 Alternate Routing: 1. NDOT: NRS 408.125(4) 2. Local Authorities: NRS 484.779(3)(b) Enforcement (DMV&PS, NHP, PSCN): NRS 459.250

STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL RADIOACTIVE AND NONRADIOACTIVE WASTES)

R E V I S E D

	HAZARDOUS MATERIALS	HAZARDOUS WASTE	RADIOACTIVE MATERIALS AND WASTE
Transportation/Routing (cont'd)	Alternate Routing: 1. NDOT: NRS 408.125(4) 2. Local Authorities: NRS 484.779(3)(b)		USDOT: 1. Highway Carriers: 49 CFR 350-399 2. Rail Carriers: 49 CFR 200-268 NRC: 10 CFR 71, 73, 75 FAA - Air Carriers: 14 CFR 121, 135 USCG - Water Carriers: 46 CFR 146-148, 33 CFR 126 Investigation Required If Waste Not Received: NAC 459.8255 Analysis and Plan: A.B. 47 (chapter 650), sec. 1 48-Hour Notice Required: NRS 706.441
Prenotification	Clark County Ordinance No. 960 (1986) Las Vegas Municipal Code Ch. 9.36 (1986) City of North Las Vegas Resolution 1362 (1985) Prenotification: Assembly Bill 352 (chapter 725), section 9	Clark County Ordinance No. 960 (1986) Las Vegas Municipal Code Ch. 9.36 (1986) City of North Las Vegas Resolution 1362 (1985)	NRC: Defines Circumstances: 10 CFR 71.5a, 73.27 Railroads Must Obtain Permit to Transport Radioactive Materials: PSCN G.O. 52 (1986) Clark County Ordinance No. 960 (1986) Las Vegas Municipal Code Ch. 9.36 (1986) City of North Las Vegas Resolution 1362 (1985)

STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL RADIOACTIVE AND NONRADIOACTIVE WASTES)

R E V I S E D

	HAZARDOUS MATERIALS	HAZARDOUS WASTE	RADIOACTIVE MATERIALS AND WASTE
Inspection	Assembly Bill 352 (chapter 725), section 4	Inspection by State Environmental Commission, State Department of Conservation and Natural Resources: NRS 459.560 Inspection by Facility Operator: NAC 444.8885, NAC 444.9090	Inspection by DMV&PS, NHP, PSCN (transportation and handling): NRS 459.250 Inspection by health division, department of human resources (private or public property): NRS 459.050(1) Findings Confidential: NRS 459.050(3) Agreement With Federal Government: NRS 459.090 Inspections: NAC 459.920
Storage/Disposal		Definition "Storage": NRS 459.450 Definition "Disposal": NRS 459.425 State Environment Commission Regulations: 1. Solid Waste Disposal: NAC 444.570-444.758 2. Hazardous Waste Disposal: NAC 444.8500-NAC 444.9335 Regulations: NRS 459.500	Permits Prohibited-Certain Cases: NRS 445.224 Unlawful to Discharge into Water: NRS 445.254 Permit to Discharge Required: NRS 445.287 License to Use Disposal Area: NRS 459.221 Fees: NRS 459.211 Trust Fund-Care of Sites: NRS 459.235

STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL RADIOACTIVE AND NONRADIOACTIVE WASTES)

R E V I S E D

	HAZARDOUS MATERIALS	HAZARDOUS WASTE	RADIOACTIVE MATERIALS AND WASTE
Storage/Disposal (cont'd)		Agreement to Provide State Land: NRS 459.505 Fees: NRS 459.510 Permit Required: NRS 459.515, NAC 444.8730 Operators of Facilities: NAC 444.8850-444.8930 Regulations Governing Permits: NRS 459.520 Financial Responsibility Required of Owner: NRS 459.525 Acts Constituting Health Hazard: NRS 459.565 Order to Prevent Health Hazard: NRS 459.570 Underground Disposal: NRS 445.287 Duties of Operator Upon Receipt of Waste: NAC 444.8960-444.8965, NAC 444.8985 Protecting Ground Water: NAC 444.8995-444.9000 Closing a Facility: NAC 444.9005-444.9055 Liability Insurance: NAC 444.9060	Duties of Disposal Site Operator: NAC 459.826 Radioactive Materials: 1. Storage Rooms Must Have Warning Labels: NAC 459.342 2. Areas of High Radiation Must Be Posted: NAC 459.346 3. Containers Must Be Labeled: NAC 459.350 4. Storage Must Be Secure: NAC 459.356 5. Disposal Limitations: NAC 459.360 Surcharge: A.B. 719 (chapter 724), section 1 Disposal of wastes from manufacture of controlled substances: S.B. 400 (chapter 253), section 1

STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL RADIOACTIVE AND NONRADIOACTIVE WASTES)

R E V I S E D

	HAZARDOUS MATERIALS	HAZARDOUS WASTE	RADIOACTIVE MATERIALS AND WASTE
Storage/Disposal (cont'd)		Bankruptcy: NAC 444.9065 Containers: NAC 444.9075-444.9110 Tanks: NAC 444.9115-444.9135 Treatment & Management of Waste in Soil: NAC 444.9210 Open Burning & Incineration: NAC 444.9290-444.9295 Polychlorinated Biphenyl: NAC 444.940-444.9555	
Records	Repository for Information: A.B. 352 (chapter 725), sections 5, 8	Requirement for Licensees: NRS 459.550 Operating Record: NAC 444.8970-444.8980 Documents of Financial Assurance: NAC 444.9070	Records to be Kept by One Acquiring, Possessing or Using: NRS 459.060 Licensing and Registration: NRS 459.201 Records of Disposal Required: NAC 459.364(3)(b), NAC 459.826(2), NAC 459.8235(2)(g), NAC 459.824(5), NAC 459.8245(8)
Emergency Management/Cleanup		Cost of Cleaning, Hazardous Waste Fund: NRS 459.530, 459.535 Emergency Coordinator: NAC 444.8935-444.8955	Emergency Regulations: NRS 459.120 Private Carrier - Duty to Notify: 49 CFR 171.15-17, 174.45, 175.45, 176.48, 394.3 and 394.9

STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL RADIOACTIVE AND NONRADIOACTIVE WASTES)

R E V I S E D

	HAZARDOUS MATERIALS	HAZARDOUS WASTE	RADIOACTIVE MATERIALS AND WASTE
Emergency Management/Cleanup	Reports of Accidents: Assembly Bill 352 (chapter 725), section 7 Contingency Fund: A.B. 352 (chapter 725), section 10 System of Radio Communication: A.B. 352 (chapter 725), section 12 Person Responsible to Clean Up: A.B. 352 (chapter 725), section 13 Expenditures from Contingency Fund: A.B. 352 (chapter 725), sections 14, 15, 16 Cities and Counties May Sue: A.B. 352 (chapter 725), section 17	Report of Fires, Contamination, Closures: NAC 444.8980	Private Shipper - Duty to Inform Carrier: 49 CFR 172.202-.203 Carriers' Responsibility to Cleanup: 49 U.S.C. 1, et seq. USDOT - In Emergency, Duty to Give Information and Advice: P.L. 93-633, § 109(d)(2)
Enforcement/Penalties	Illegal Transport: A.B. 352 (chapter 725), section 18 Other Violations: A.B. 352 (chapter 725), section 19	Delegate Enforcement (State Department of Conservation and Natural Resources): NRS 459.480 Subpena Power: NRS 459.575 Injunctive Relief: NRS 459.580 Civil Penalties; Damages: NRS 459.585 False Statements; Tampering: NRS 459.595 Operating Without Permit: NRS 459.600 Fees, Penalties; Transportation: NRS 459.500	Hearing for License Suspension: NRS 459.100 Disciplinary Action: NRS 459.105 Deposit of Fines: NRS 459.235 Enforcement (DMV&PS, NHP, PSCN): NRS 459.250 Impounding: NRS 459.260 Injunctive Relief: NRS 459.270 Violations Concerning Shipping: 1. Penalties: NRS 459.221

STATE AND FEDERAL STATUTES AND REGULATIONS REGARDING HAZARDOUS MATERIALS (INCLUDING LOW-LEVEL RADIOACTIVE AND NONRADIOACTIVE WASTES)

R E V I S E D

	HAZARDOUS MATERIALS	HAZARDOUS WASTE	RADIOACTIVE MATERIALS AND WASTE
Enforcement Penalities		Fees, Penalties; Use of Disposal Area: NRS 459.510 Suspend, Revoke Land Use Permit: NRS 459.520	2. Delinquent Fees: NRS 459.211 3. Removal by Employee: NRS 459.280 4. Misdemeanor Penalty: NRS 459.290 5. Suspension of License: NAC 459.885 Insurance for Damages: 42 U.S.C 2014 and 2210 (Price-Anderson Act)
Regulatory Agency		State Conservation and Natural Resources: NRS 459.470, 459.475 General Requirements: NRS 459.490 Limitation on Regulation: NRS 459.495 Local Regulation: NRS 459.480, 459.520	Health Division: NRS 459.020, NRS 459.030
Federal Government/Preemption			Agreement with State: NRS 459.080

REGULATIONS REGARDING HAZARDOUS CHEMICAL AND TOXIC WASTES AND LOW-LEVEL RADIOACTIVE WASTES

CFR	Code of Federal Regulations
DMV&PS	Department of Motor Vehicles and Public Safety
FAA	Federal Aviation Administration
NAC	Nevada Administrative Code
NDOT	Nevada Department of Transportation
NHP	Nevada Highway Patrol
NRC	United States Nuclear Regulatory Commission
NRS	Nevada Revised Statutes
PL	Public Law
USC	United States Code
USCG	United States Coast Guard
USDOT	United States Department of Transportation

*DMV&PS adopted 49 CFR 170-178
DMV&PS adopted 49 CFR 390-397
Division of Health Adopted 49 CFR 100-177

APPENDIX H

"HAZARDOUS WASTE MANAGEMENT PLAN - STATE OF NEVADA,"
ADOPTED BY THE STATE ENVIRONMENTAL COMMISSION
JULY 9, 1987

HAZARDOUS WASTE MANAGEMENT PLAN

STATE OF NEVADA

Richard H. Bryan, Governor

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Roland D. Westergard, P.E., Director

DIVISION OF ENVIRONMENTAL PROTECTION

Lewis H. Dodgion, P.E., Administrator

WASTE MANAGEMENT SECTION

Verne Rosse, P.E., Program Director
Douglas J. Martin, Project Leader

Adopted by the State Environmental Commission July 9, 1987

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LIST OF TABLES

I. INTRODUCTION

This plan is submitted to the Governor by the State Environmental Commission, in accordance with Nevada Revised Statutes (NRS) 459.475 and 459.485 and the hazardous waste facility moratorium of August 14, 1985.

In the Directive for the Moratorium, Governor Bryan recognized that:

- The State of Nevada, through the Department of Conservation and Natural Resources, has regulatory responsibilities for the safety and protection of the environment, as well as programmatic responsibilities for hazardous waste management in Nevada;

- The management of hazardous waste has become an increasingly serious problem throughout this nation and within the State of Nevada;

- The improper treatment, storage and disposal of hazardous wastes pose a severe environmental and public health threat to the people of the State of Nevada; and

- The State of Nevada does not currently have a long-range plan for managing hazardous wastes.

Therefore, the Department of Conservation and Natural Resources was directed to prepare a hazardous waste management plan and to have such a plan adopted by the State Environmental Commission. The directive ordered the Department to establish adequate safeguards, regulations and procedures prior to commitments to receive, handle, store and dispose of additional hazardous waste from out of state and that a one-year moratorium be imposed on the acceptance of applications for hazardous waste facilities.

A. SCOPE AND PURPOSE

The primary purpose of this plan is to address the proper management of hazardous waste in the State. This necessitates an understanding of what hazardous waste is and where it comes from. Hazardous waste as used in this plan is limited in its application and has the meaning ascribed to it in Nevada Revised Statute (NRS) 459.430 which includes toxins, corrosives, flammable materials and reactive materials. Hazardous waste does not include wastes excluded by NRS 459.460 which identifies that radioactive by product material subject to regulation by the State Health Department, special nuclear material subject to regulation by the Nuclear Regulatory Commission and pollutants and discharges subject to regulation under the State Water Pollution Control Law. These wastes are exempt from regulation under the hazardous waste program. Additionally, NRS 459.465 identifies that mining wastes, coal and other fossil fuel combustion wastes, cement kiln dust and oil, gas and geothermal well wastes are all exempt from regulation until such time as they are no longer exempt under the federal hazardous waste law, the Resource Conservation and Recovery Act (RCRA).

The Environmental Commission has adopted regulations which identify hazardous waste as those wastes which are defined by federal regulation and waste polychlorinated biphenyls (PCB). As such, the Division of Environmental Protection considers a waste to be hazardous, if it meets any of the following criteria:

1. Ignitable - wastes which pose a fire threat by having a flash point of less than 140°F. Examples: paint thinners, solvents.

2. Corrosive - waste acids and bases. Examples: sulfuric acid, sodium hydroxide (caustic soda).

3. Reactive - wastes that tend to react spontaneously with air or water, wastes which generate toxic gases or wastes which are explosive. Examples: cyanide, TNT.

4. Extraction Procedure (EP) Toxic - wastes which contain toxic concentrations of certain leachable toxic metals and/or pesticides. Examples: spent chrome plating solutions, leaded gasoline bulk tank storage sludges.

5. EPA Listed Waste - wastes from specific waste streams which contain known toxic, reactive, corrosive or ignitable materials. Examples: spent cyanide plating bath solutions, waste creosote.

6. PCB Waste - wastes identified by EPA under the Toxic Substances Control Act (TSCA) as containing polychlorinated biphenyls. Examples: public utility transformer oil removed from service when such oil contains greater than 50 parts per million PCB.

Wastes that are presently excluded from regulation as hazardous waste are:

- Wastes that pass through a sewer system to a publicly owned treatment plant;
- NPDES permitted point source discharges of industrial wastewater regulated under Section 402 of the Clean Water Act, as amended;
- Certain trivalent chromium wastes, including chrome trimmings and shavings, buffing dust, sewer screenings and wastewater treatment

sludges generated by various subcategories of the leather tanning and finishing industry, that fail the EP toxicity test for chromium, but do not fail any other EP toxicity tests and do not fail the tests for any other characteristics;

- Irrigation return flows;
- Solid agricultural wastes returned to the soils as fertilizer (such as crop residuals or manure);
- Household wastes or materials derived from household wastes (e.g., refuse-derived fuel);
- Source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.;
- In situ mining wastes that are not removed from the ground as part of the extraction process;
- Solid waste from extraction, beneficiation and processing of ores and minerals, including coal;
- Mining overburden returned to the mine site;
- Drilling fluids, produced wastes, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy;
- Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from fossil fuel combustion;

- Wastes produced by small quantity generators (generators generating less than 100* kilograms in a month) where no more than 1 kilogram per month of acutely hazardous waste was produced; and

- Certain recycled wastes (that is, wastes that are being beneficially used or reused, or legitimately recycled or reclaimed.)

* Limit lowered from 1,000 kilogram (2,200 pounds) to 100 kilograms (220 pounds), effective September 22, 1986.

B. STATE ENVIRONMENTAL COMMISSION

Members of the State Environmental Commission are appointed by the Governor and are charged with setting policy through the adoption of plans and regulations regarding the air, water and land resources of the State. The current members of the Commission are listed in Table 1-1.

C. ADOPTION PROCEDURES

This plan has been finalized based upon a series of ten (10) public workshops conducted throughout the State during the months of April and May, 1986. At these workshops, input was received from the public regarding the siting of commercial hazardous waste management facilities. A summation of the locations and attendance of these workshops is provided in Table 1-2.

Adoption of the plan is based upon the formal hearing procedures of the Environmental Commission which includes a 30 day public notice period prior to hearings and formal hearings subject to the open meeting laws.

Table 1-1. State Environmental Commission

Melvin Close, Chairman Las Vegas	Peter Morros State Engineer, Division of Water Resources Carson City
Thomas Ballow Director, Department of Agriculture Reno	Richard Reyburn Director, Department of Minerals Carson City
William Bentley, M. D. Las Vegas	Lowell Smith State Forester, Division of Forestry Carson City
Marla Griswold Wells	Fred Wright Sparks
William Molini, Vice Chairman Director, Department of Wildlife Reno	Harold Ober Las Vegas

Table 1-2. Hazardous Waste Workshop Summary

Location	Date	Attendance
Las Vegas	April 02, 1986	13
Caliente	April 03, 1986	78
Tonopah	April 14, 1986	15
Ely	April 15, 1986	37
Elko	April 16, 1986	30
Winnemucca	April 17, 1986	7
Fallon	April 28, 1986	6
Carson City	April 29, 1986	12
Reno	April 30, 1986	47
Yerington	May 06, 1986	44

D. PUBLIC INPUT AND WORKSHOP SUMMARY

Input received from the series of ten (10) workshops identified many questions and concerns from a broad spectrum of interests in Nevada. Two of the hearings were conducted in communities (Ely and Caliente) where the establishment of proposed incinerator facilities was suspended by the moratorium. The large turn-out at these two meetings reflected the local interest generated by the possibility of siting a hazardous waste management facility in their communities. Economic development interests in these communities stressed the positive benefits of allowing hazardous waste management facilities in the State. The benefits mentioned in the workshops included in Caliente:

1. Means to expand and stabilize their weak economic condition; and

2. Diversification of the economy.

And in Ely, economic development interests identified the benefits as:

1. Attracting new industry; and

2. Diversifying the County and the State.

In Ely, the County Economic Diversification Council and the Industrial Park Review board recommended that hazardous waste treatment facilities be allowed throughout the State and that these facilities be allowed to accept wastes from out of state generators. The economic interests expressed at these two meetings generally reflect the economic interests found elsewhere in the State.

Other interests were expressed during the workshops requesting the protection of public health and the environment. Spokespersons from interests groups, including the League of Women Voters, Citizens Alert of Nevada and the Lyon County Environmental Guardians, as well as individuals, questioned the need for hazardous waste management facilities in Nevada, and expressed opposition to the siting of facilities which import hazardous waste into the State. Specific comments addressed concern over the proposed siting of a high level nuclear waste dump, and existing low level radioactive and hazardous waste dumps in Nevada. These comments reflect the image of Nevada as the Nation's dumping ground. The commentors pointed out that this negative image would only be perpetuated by siting additional facilities in Nevada.

To summarize comments received during the workshops, there was a split of opinion between economic interests wishing unlimited hazardous waste facility development statewide and citizen awareness group opinion that the management of hazardous waste should be limited to that which is generated within the State. Comments received during the Ely hearing from a resident of White Pine County expressed that the people in Ely value their environment, health and their safety, and he felt that most of the people of White Pine County do not want hazardous waste in the area and that they value the clean air.

Based in part by concerns expressed in the Statewide workshops, this plan was developed with the interest of protecting the environment and the public health from the real and potential threats associated with the generation, transportation and management of hazardous wastes. The workshops conducted also identified a localized concern for economic

development and stability. While being sensitive to this concern, the plan does not encourage the development of unlimited hazardous waste management facilities. Other agencies in the State are responsible for the diversification of Nevada's economy. The legislative mandate of the Division and the Environmental Commission is the protection of public health and the environment. Economic development authorities and agencies must be willing to recognize that certain industries may cause irreparable damage in the State and that industries that have a hard time locating in stringently regulated states such as California may not be the best type of industry to encourage to come to Nevada. To this end the Division has and will provide for reviews of proposed economic endeavors as requested by the State Commission on Economic Development.

II. CURRENT GENERATION AND MANAGEMENT

A. BACKGROUND

Some wastes, because of their inherent characteristics, are considered hazardous. The producers or generators of hazardous waste can be subdivided into the following categories:

- Large generator: greater than 1,000 kilograms/month (2,200 pounds/month);
- Small quantity generator: 100 to 1,000 kilograms/month (220 - 2,200 pounds/month);
- Non-regulated generator: less than 100 kilograms/month (220 pounds);
- Waste polychlorinated biphenyls (PCB).

B. LARGE GENERATORS

For the purposes of this plan, any person who generates 1,000 kilograms or more of hazardous waste per month or who accumulates more than 1,000 of hazardous waste is considered a large generator. Large generators have been regulated under Nevada hazardous waste regulation since 1982, and the Federal Resource Conservation and Recovery Act (RCRA), since it was enacted in 1976. RCRA regulations include requirements that large generators report on their activities. Therefore, more data is currently available about large quantity generators than about small or non-regulated generators.

1. Source of Data

Large generators (and the facilities that treat, store or dispose of hazardous waste) are required to report annually, to the Division on their handling activity. Annual report data for 1985 was the source of information for this section on large generators.

Because of the complexity of the hazardous waste regulations, all aspects of the program are not clearly understood by the regulated community. There are errors in the reported information. The obvious ones have been detected and corrected, but some will remain. For example, some generators track their wastes by volume in the manifest system, and then for the annual report, they estimate the weight of the waste. Other generators reported wastes which are non-hazardous. Some generators reported hazardous waste which was treated in a wastewater treatment unit and then discharged to a public treatment works; others did not.

On-site verification of annual report data has been completed by means of generator inspections.

2. Location of Generators

According to the annual reports, 92,626 tons of hazardous waste were produced by the 47 large generators in Nevada during 1985.

Production of hazardous waste was not distributed uniformly throughout the State. In fact, one generator produced 98% of the total waste generated in the State. That waste stream is managed

on-site and plans are underway to modify that company's production process, and by January of 1987, that waste stream should be eliminated. With the elimination of that waste stream, the total waste generated by large generators will be reduced to approximately 2,000 tons.

3. Types of Hazardous Waste

Wastes that can be treated or disposed by similar methods can be grouped together as shown in Table 2-1. Of the hazardous waste generated in Nevada in 1985, 98% were waste corrosives which can be treated simply by adjusting the pH to a neutral value. As mentioned in the above section, 91,000 tons of waste corrosive was generated and managed on-site by one generator. By removing this single large source, the remaining waste can be broken down as shown in Table 2-2.

Table 2-1. Hazardous Waste Groups

A. Inorganic Waste

1. Aqueous solutions containing cyanide
2. Other inorganics

B. Heavy Metal Waste

1. Acid solutions with heavy metals
2. Alkaline solutions with heavy metals
3. Oil sludge with heavy metals
4. Heavy metal sludge
5. Electroplating sludge
6. Paint and pigment sludge
7. Other

C. Halogenated Organic Waste

1. Halogenated solvents with heavy metals
2. Halogenated solvents with other metals
3. Halogenated solvents
4. Unspecified halogenated organics
5. Organic liquids containing halogens or halogens and metals
6. Aqueous solutions containing halogenated residue
7. Degreasing sludge
8. Other halogenated organics

D. Non-Halogenated Organic Waste

1. Non-halogenated solvents with heavy metals
2. Non-halogenated solvents with other metals
3. Non-halogenated solvents
4. Unspecified solvents
5. Non-halogenated organic liquids with heavy metals
6. Non-halogenated still bottoms
7. Other

E. Pesticide Wastes

F. Other Wastes

Table 2-2. Waste by Industry Group

Group	SIC*	Total Waste in Tons **	Percent
Furniture	25	235	3.1
Printing	27	119	1.6
Chemicals	28	219	3.0
Petroleum	29	22	0.3
Metals	33-34	1610	22.0
Machinery	35-36	1277	17.5
Utilities	N/A	470	6.4
Auto Repair	55+75	734	10
Other	N/A	2625	36
		7311	100

* Standard Industrial Classification Code.
** Figure includes non-regulated sewered waste and small generator waste.

4. Location of Hazardous Waste Management Activity

Hazardous wastes generated in Nevada in 1985 were treated or disposed either on the generation site in Nevada, at another location in Nevada, or at a site located in another State. Table 2-3 indicates where the wastes produced in Nevada were treated or disposed.

Table 2-3. Location of Waste Management Activity

Location	Quantity (tons)	Percent
On-site	91,107	98.0
Off-site in Nevada	1,200	1.3
Out of State	676	0.7

a. On-site Management in Nevada

During 1985, 98% of all hazardous waste were managed on-site. That is, generators accepted the responsibility for managing most of their own wastes at their own facilities.

On-site management of hazardous waste in 1985 consisted of treatment, storage and thermal treatment of waste explosives and treatment of corrosives.

The use of on-site management is expected to continue into the future. There are several factors that make this an attractive option to generators. On-site management is under the control of the generator and is more cost effective over

the long run. Some on-site management methods, such as recycling and source reduction are environmentally preferred and are secure from regulatory changes. The number and types of facilities are identified in Table 2-4.

b. On-site management includes many activities directly under the control of the generator. Many of the on-site management activities require no formal permit such as the installation of the elementary neutralization unit that Stauffer Chemical Company has installed. Other examples of an on-site management include solvent reclaiming and raw product substitution. On-site management that reduces the amount or degree of hazard or hazardous waste generated is preferable to shipping the waste off-site. In many cases cost savings may occur from on-site activities.

Table 2-4. Regulated Treatment, Storage and Disposal Facilities

Facility/I.D. #	Handling Methods				Code #
	S01	T02	T04	D80	
Fallon NAS B17 NV0170090013			X		01
Hawthorne PLT NV121009006	X		X		01
Hawthorne NB NV5210090010			X		01
Montrose NVD008237489		X			01
Nellis AF Range NV5570024112			X		01
Nellis AFB NV7570024110			X		01
Stauffer NVD062081500		X			01
US Ecology NVT330010000				X	02

Codes:

01 - On-site facility (all wastes reported as treated, stored, or disposed of was generated on-site).

02 - Off-site facility (no wastes reported as treated, stored, or disposed of were generated on-site).

Handling Methods:

S01 - Storage in containers.
T02 - Treatment in surface impoundments.
T04 - Other treatment (i.e., thermal treatment).
D80 - Disposal in a landfill.

c. Off-site Management

Two percent of hazardous waste generated in 1985 required off-site management of which 1,200 tons were managed in Nevada and 676 tons were shipped to facilities located out of state. Off-site management in Nevada consisted solely of disposal, while out of state facilities utilized by Nevada generators included recycling facilities, surface storage and treatment and disposal.

Table 2-5 shows, by state, the quantities of waste shipped from Nevada to out of state management facilities. The future availability of these sites is discussed in Chapter 5.

Table 2-5. Nevada Waste Exported

State	Quantity (tons)	Percent
Arizona	5	<1
Oregon	8	1
Louisiana	23	3
Utah	215	32
California	425	63

C. SMALL QUANTITY GENERATORS

A small quantity generator is one who generates between 220 and 2,200 pounds (100 and 1,000 kilograms) of hazardous waste in a calendar month. A small quantity generator may accumulate hazardous waste on-site. However, to maintain status as a small quantity generator, the accumulation must not exceed 13,200 pounds (6,000 kilograms).

On November 8, 1984, the President signed into law the 1984 amendments which mandated many sweeping changes to the federal hazardous waste law. Part of those amendments included a requirement that the U.S. Environmental Protection Agency (EPA) lower the regulated limit of hazardous waste generation from 2,200 to 220 pounds (1,000 to 100 kilograms). On March 24, 1986, EPA published the required final rule in the Federal Register, which becomes effective September 22, 1986. The final rule adopts most of the existing provisions for large generators. Small quantity generators will now be subject to the provisions regarding storage, transportation, treatment, disposal and enforcement. The provisions required of small quantity generators are outlined in Table 2-6.

Table 2-6. Small Quantity Generator Provisions

1. Determine whether their waste is hazardous.
2. Obtain an EPA identification number.
3. Store hazardous waste on-site for no more than 180 or 270 days in compliance with the modified storage provisions.
4. Offer their wastes only to transporters and facilities with an EPA identification number.
5. Comply with applicable Department of Transportation requirements for shipping hazardous materials.
6. Use a multi-part "round-trip" uniform hazardous waste manifest to accompany the waste to its final destination.
7. Maintain copies of manifests and other required documents.

1. Available Data

Limited data is available on small quantity generators. Data must be extrapolated from national surveys and projections.

2. Estimated Values

The total number of small quantity generators can be estimated by using data available from recent EPA and other states' surveys. The EPA survey lists small quantity generators by Standard Industrial Classification (SIC) codes. The survey calculated the percentage of actual small generators from the total number of facilities comprising each SIC code. Based upon the extrapolation of this data, there are 850 small quantity generators in Nevada.

The rate of produced waste identified in the national survey can be applied to the total number of small quantity generators in Nevada. Using this assumption, the 850 generators produce 2,550 tons of hazardous waste per year.

It should be noted that these figures are estimates. A more detailed survey of small quantity generation rate may be required.

D. NON-REGULATED GENERATORS

Non-regulated generators of hazardous waste include generators of agricultural and household waste, generators of less than 220 pounds (100 kilograms) per calendar month and generators of exempt waste streams. Since these generators are exempt from regulation, little is known regarding the generation and management of these wastes.

1. Agricultural Hazardous Waste

Farming operations generate hazardous wastes from discarded pesticides and other agricultural chemicals. In 1983, these wastes were not included in the definition of "hazardous waste". At present, pesticide usage and disposal is regulated under the Federal Insecticide, Fungicide and Rodenicide Act (FIFRA) which is under the control of the Nevada Department of Agriculture.

A survey was conducted by the Iowa Farm Bureau to determine the types of hazardous waste that are stored on Iowa farms, waste disposal practices, and past problems encountered in the disposal of such wastes. The following observations are made based on 388 completed survey forms:

- Fourteen percent (14%) of the respondents reported storage of a hazardous waste such as pesticides, solvents or other chemicals intended to be discarded. These chemicals included small quantities or residual materials left over from discontinued livestock or crop operations, banned pesticides, and spoiled or damaged farm operation materials.

- Forty-eight percent (48%) indicated that they did not know how they would dispose of the wastes.

- The remaining respondents used the following disposal practices: landfill (34%), burial on farm (28%), disposal on the ground or open burning (31%), and return to dealer or recycle (7%).

- Only fifty-four percent (54%) identified the amount of waste being stored. The median storage quantity was 44 pounds.

- Seven percent (7%) indicated that they previously had problems in disposing of their wastes.

2. Household Hazardous Waste

Nearly every household has small amounts of pesticides, cleaning solvents, paints, and other commercial products that become hazardous waste when disposed. Therefore, every person in Nevada could be considered a non-regulated generator.

State and federal regulations exclude household wastes from the definition of "hazardous waste", and these wastes are not regulated. However, the total amount of these wastes could be significant. Most household wastes end up in landfills designed for non-hazardous garbage, refuse and rubbish, not those designed for disposal of hazardous waste.

E. POLYCHLORINATED BIPHENYL (PCB) WASTE

1. Source of Data

Since Nevada began to regulate PCB as hazardous waste, generators have been required to submit annual reports of their activities. The information here is based upon the 1984 annual reports, as the 1985 reports are not due until August of 1986.

2. Generation

There are 16 identified generators of PCB waste in Nevada who in 1984 generated and transported 88 tons of PCB waste. Most of the waste is comprised of electrical transformers; utilities generate the majority of the waste.

3. Management

Present EPA and State requirements prohibit the land disposal of PCB liquids in concentrations greater than 500 parts per million. The generation of PCB waste is expected to decrease due to the limited amount of PCBs in service and the fact that PCBs are no longer produced.

III. PROJECTED GENERATION AND MANAGEMENT

The safe management of hazardous waste in Nevada involves identifying the industries that generate hazardous wastes, determining the waste types and quantities currently generated, and estimating the types and quantities that will be managed in the future at off-site facilities.

A. BACKGROUND

Projections of the future generation of hazardous wastes were conducted for Nevada. From these projections, estimates were made of the capacity of hazardous waste management facilities that would be required to meet the needs of generators.

Approximately 98% of the hazardous waste generated in Nevada was managed on-site in 1985. Effective January 1986, this percentage lowered to 30% and total waste generation is projected at 5228 tons for 1986 as compared to the 96,200 tons generated in 1985. This reduction is due to the modification of waste management practices at Stauffer Chemical Corporation's facility in Henderson, Nevada. Stauffer Chemical has installed and is operating an elementary neutralization unit which adjusts the pH of the caustic scrubber waste prior to mixing with non-hazardous process waste water. Of the 91,000 tons of waste corrosives that Stauffer Chemical Corporation reported generating, only a small fraction was hazardous, but due to mixture rules, the entire 91,000 tons was classified as hazardous.

The management practices of Stauffer Chemical are indicative of the future of hazardous waste management. That is, where possible, a com-

pany will modify production and waste management practices in order to reduce the volume and/or hazard of their waste. Volume and hazard reduction makes straight line volume projections impossible especially as new treatment technologies are introduced.

B. WASTE PROJECTIONS BY TYPE AND MANAGEMENT TECHNOLOGY

Technologies were selected to address the following guidelines:

1. Waste reduction and elimination by the generator.

2. Reuse, recycling, and recovery of materials or energy by the generator or off-site facility.

3. Treatment or incineration by the generator or at an off-site facility.

4. Residual land disposal.

The most preferred method option is waste reduction and elimination by the generator. It is often the most economical option to the generator, and offers the greatest protection to the environment. The management technologies are listed above, in order of preference with land disposal being least preferred.

Hazardous waste can be grouped together according to treatment technology. Table 3-1 matches the various hazardous waste types with the appropriate off-site management technology.

C. METHOD FOR PROJECTING FUTURE WASTE QUANTITIES

Projections were based upon industrial growth and then adjusted based upon projected waste reduction practices. Industrial employment has remained fairly constant since 1970, fluctuating between 4.5 and 5.5 percent of total employment. These projections are based upon a maximum of 6 percent of total employment and the Nevada population projections issued by the Office of Community Services.

Table 3-1. Off-site Management Technologies

Management Technology	Waste Type	Waste Subtype
Recovery by solvent distillation	Halogenated organics	Halogenated solvents with heavy metals Halogenated solvents with other metals Halogenated solvents Unspecified solvents containing halogenated organics
	Non-halogenated organics	Non-halogenated solvents with heavy metals Non-halogenated solvents with other metals Non-halogenated solvents Unspecified non-halogenated solvents
Treatment by cyanide oxidation	Inorganics	Inorganic solutions containing cyanide
Treatment by neutralization/precipitation	Inorganics	Other inorganics
	Heavy metals	Acid solutions with heavy metals Alkaline solutions with heavy metals
Incineration	Heavy metals	Oil sludge with heavy metals Paint and pigment sludge
	Halogenated organics	Organic liquids with halogen only Solutions containing halogenated organic residue Organic solids, resins, tars containing halogens Degreasing sludges Other halogenated organic compounds
	Non-halogenated organics	Non-halogenated organic liquids with heavy metals Other non-halogenated organic liquids Solutions with non-halogenated organic residues Other non-halogenated organic compounds
	Pesticides	Pesticide wastes and associated compounds
	Other wastes	Other complex waste mixtures
Land disposal/ long-term storage	Heavy metals	Heavy metals sludges Electroplating/metal finishing sludge Tetraethyl lead sludge Tannery waste Other heavy metal waste

D. WASTE PROJECTIONS

These projections were made for the wastes that will require off-site management. The projections reflect on-site treatment as EPA has recently interpreted that on-site treatment may occur without a permit in certain cases. These projections are important when determining the type and size of management facilities needed to properly manage the waste generated in Nevada.

The types of wastes were matched with the appropriate management technology as listed in Table 3-1. This matching followed the management guidelines which provide for use of recovery, treatment and incineration options where possible. Land disposal and long term storage were used only if other management techniques are not feasible.

The intent of the guidelines is to reduce the amount of hazardous waste needing land disposal to the lowest extent possible. These projections are presented in Tables 3-2 and 3-3.

Table 3-2. Hazardous Waste Projections by Waste Type[1] (in tons)

Waste Type	1985	1990	1995	2000
Solvents	606	690	783	881
Heavy Metals	748	852	967	1,088
Corrosives	93,000	2,263	2,569	2,891
Organics	725	826	938	1,055
Other[2]	951	1,084	1,231	1,385
Total	95,079	5,715	6,488	7,300

1. Includes all hazardous waste generators and on-site treated waste.
2. Includes waste pesticides, PCB, reactives and paints.

Table 3-3. Hazardous Waste

Management Method	1985	1990	1995	2000
Treatment	93,672	3,962	4,489	5,066
Recovery	836	975	1,105	1,247
Incineration	386	451	511	576
Land Disposal	601	694	787	889
Total	95,495	6,096[1]	6,862[1]	7,778[1]

1. Differences between Tables 3-2 and 3-3 reflect manufacturing process changes expected to occur as a result of better management practices.

IV. TRANSPORTATION

The transportation of hazardous waste is just a fraction of the major risk of transporting hazardous materials. Hazardous wastes are the residuals left over from the production usage of hazardous materials. Every generator of hazardous waste has an estimated minimum of 20 times more hazardous material being shipped to him as what the generator ships out as hazardous waste.

A. CURRENT REQUIREMENTS

The current level of transportation regulation in Nevada is at the minimum required federal level for RCRA waste and for PCB waste. The RCRA waste standards were adopted and an additional State notification number must be issued for PCB transporters. The standards are outlined in Table 4-1.

Table 4-1. Transportation Requirements

A transporter of "RCRA" hazardous waste must comply with the following:

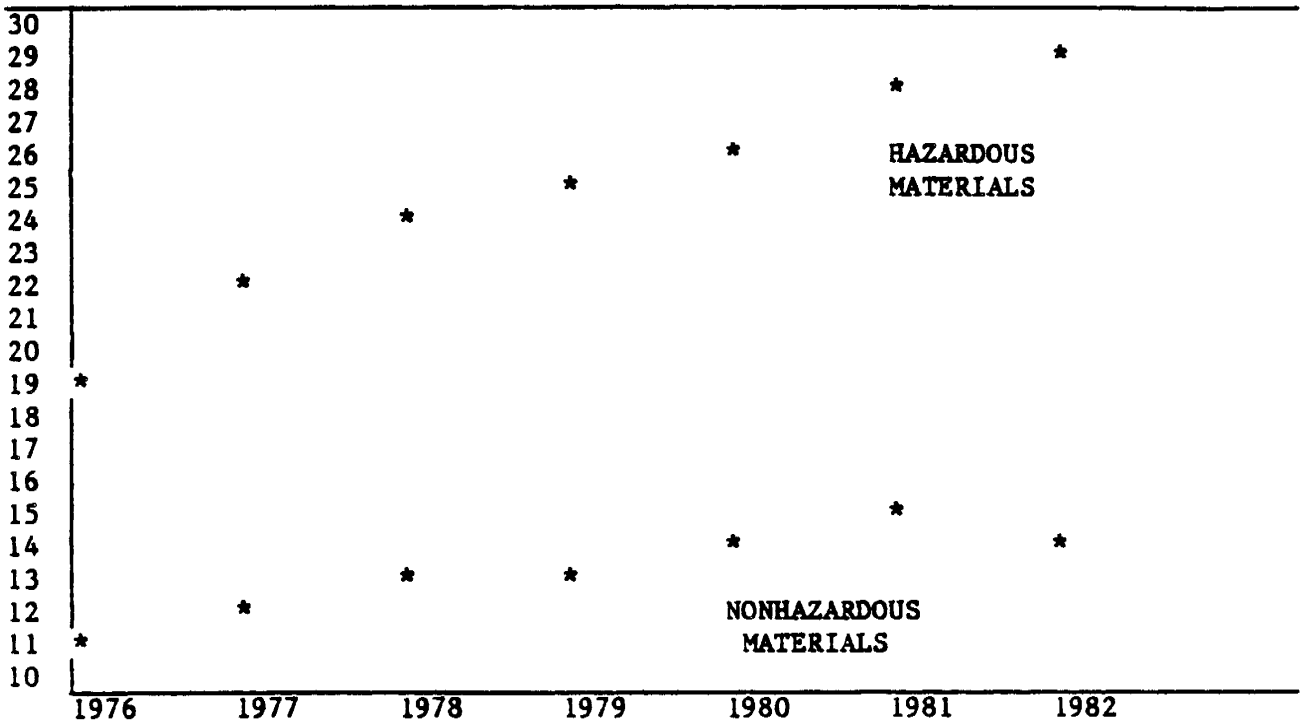
1. Obtain an identification number from EPA and complete the required notification form;
2. Not store waste in excess of 10 days;
3. Comply with the "cradle to grave" manifest tracking system;
4. Retain all required documents including manifest for a minimum of 3 years; and
5. Comply with all DOT requirements regarding transportation of hazardous materials.

Since October of 1984, Nevada has required that transporters who ship PCB waste into or through Nevada obtain a State PCB Identification Number. Since that time, 153 transportation firms nationally, have obtained a Nevada number. As discussed in Chapter II, Nevada has only 15 PCB generators, therefore most of these transporters are importing waste from other states and transporting through the State.

B. TRANSPORTATION OF HAZARDOUS MATERIALS

The transportation of hazardous materials and the subsequent hazardous waste is emerging as a national concern and there are ongoing attempts to assess the risks of potential accidents and to develop plans to reduce the vulnerability through risk mitigation and community preparedness. A recent study completed by Arizona State University identified that the number of hazardous material accidents are growing and the cost of each accident is also increasing. Table 4-2 identifies the increasing cost associated per accident.

Table 4-2. Damage Per Accident ($ Thousands)



C. TRANSPORTATION OPTIONS

Present transportation management of RCRA hazardous waste in Nevada is at the minimum level allowable by EPA. Many states have identified numerous deficiencies in this approach and have imposed additional requirements. In California the transportation of hazardous waste requires, in addition to the minimum federal standards, vehicle inspection, registration fees, certificate of compliance and additional reporting requirements. These additional requirements were deemed necessary to provide maximum protection to the people and environment of California. Obviously, California's population is much greater than Nevada's, but transportation into and through the State is not a function solely based upon population. Hazardous materials and wastes from and to California must pass through many of the western states, especially Arizona and Nevada.

D. TRANSPORTATION OF HAZARDOUS MATERIALS

As discussed previously, the transportation and management of hazardous waste is only a small portion of the hazardous material issue. The 1985 Legislature recognized the potential threat that hazardous material transportation represents and created an interim subcommittee to study the history, rules and procedures for the transportation, handling, storage, emergency response and disposal of hazardous materials. The findings of the subcommittee were published as Bulletin No. 87-4, "Study of the Hazardous Materials Management Committee on Chemical, Toxic and Low-Level Radioactive Wastes" in August of 1986.

Proposed legislation of the Committee required the State Department of Transportation to conduct a risk analysis of transportation of hazar-

dous materials including hazardous waste and to develop a plan for the routing of hazardous materials in the State. This did not conflict with this plan in that any routing studies completed by the Department of Transportation, or other legislative mandates, would be available to the Division for review and incorporation as required. Mandated legislation may require 18 months to 3 years to implement.

The 1987 legislative session passed four new laws that impact the management of hazardous materials which include waste.

Assembly Bill 47 authorizes the Department of Transportation to establish a routing plan for regulated quantities of radioactive materials.

Assembly Bill 349 amends the Hazardous Waste Law by requiring that any permit issued be in conformance with the adopted Hazardous Waste Management Plan and making the insurer or guarantor responsible for an insolvent insured regarding hazardous waste management activities.

The most comprehensive bill is AB 352. This bill authorizes the Department of Motor Vehicles to establish a regulatory system to manage the transportation of hazardous materials including waste but only as it pertains to the safety of the vehicle and its operation. Fees will be established to cover both the cost of this permitting activity and the support of the State Emergency Response Commission. The bill establishes a repository of information concerning hazardous materials in Nevada which will be available to governmental agencies involved with hazardous materials. All shipments of controlled quantities of radioactive materials and spills must be reported to the Highway

Patrol. The State Emergency Response Commission was formally established to comply with Title III of Public Law 99-499 and to develop a statewide system of radio communication for emergency management. The bill authorizes the Response Commission to establish spill cleanup criteria, conduct cleanups, and assist local governmental cleanups of hazardous material spills. There are provisions for enforcement.

Assembly Bill 719 places an additional surcharge on radioactive waste received at the Beatty Burial Site. $250,000 goes to establishing a training center at Stewart for hazardous material emergencies, $100,000 goes to the Highway Patrol for duties concerning hazardous materials, and $200,000 goes to develop the statewide communication system for hazardous material transportation emergencies.

This legislation made a significant impact on the management of hazardous materials, particularly regarding transportation. The need for this legislation was pointed out by Bulletin 87-4 and the draft hazardous waste management plan. The resulting legislation impacts the Waste Management Plan in the area of waste transportation. Adoption of Transportation regulations will be postponed until the DEP meets with DMV to establish compatible regulations which comply with each agency's authority.

E. OTHER MODES OF TRANSPORTATION

Shipments of hazardous material in the United States total 1.55 billion tons in 1982. A breakdown of transportation modes indicates that motor transport has the greatest total tonnage transported. Table 4.3 shows the totals of the major modes of transportation.

Table 4-3. Major Modes of Transportation

Mode	Tonnage (in millions)	%
Motor	927	59.8
Water	549	35.4
Rail	73	4.7
Air	.3	< 1

(Source: Office of Technology Assessments)

As no water transport is available in the State, and as air shipments of hazardous waste are prohibited, rail transportation is the only other mode available for transportation of hazardous waste. The projected total of hazardous waste shipments by rail is less than 5% (percent) of the total. In support of this premise, a review of manifests indicates that no rail shipments of hazardous waste originated in Nevada. As rail shipments of hazardous waste is negligible, regulation and inclusion of rail shipments of hazardous waste is not warranted at this time.

V. HAZARDOUS WASTE MANAGEMENT FACILITIES

A. BACKGROUND

Hazardous waste management facilities are divided into on-site and off-site designations. An on-site facility is one in which the generator is the owner and operator of the facility. Such facilities presently in Nevada are identified in Table 5-1.

Table 5-1. Nevada On-site Facilities (July 1986)

Firm	Location	Status
Fallon NAS	Fallon	Thermal destruction[1]
Hawthorne Army Ammunition Plant	Hawthorne	Storage only Thermal destruction operations suspended
Montrose Chemical	Henderson	Closing
Stauffer Chemical	Henderson	Closing
Nellis Air Force Base	Las Vegas	Storage
Nellis Air Range	Las Vegas	Thermal destruction

1. Open detonation of waste explosives

Presently, the only operational on-site facilities in Nevada are owned and operated by the Department of Defense. Being a governmental agency, these sites have some permitting exceptions which make them less costly to operate than private facilities. This fact, plus process operational changes at commercial on-site facilities may explain why there are no such facilities in operation in Nevada and no interest has been expressed in operating one. As such, this plan is limiting itself to off-site commercial facilities.

B. PRESENT OFF-SITE MANAGEMENT

As of July 1, 1986, there are two operational commercial off-site hazardous waste management facilities located in Nevada. One more site is presently under construction and is expected to be permitted prior to the end of 1986. These facilities are summarized in Table 5-2.

Table 5-2. Off-site Facilities in Nevada

Site	Type	Location	Yrs of Operation	Yearly Volume (1000 T)
US Ecology	RCRA Disposal PCB Disposal[1]	Beatty	24	35
ERM	PCB Storage[2]	Yerington	< 1	N/A
ETICAM	RCRA Treatment	Fernley	under construction	124

1. Prohibited from disposing of liquid PCB waste, liquids are transferred to out of state facility for incineration.

2. Storage of PCB's only. Not authorized for treatment, incineration or disposal. Storage limited to 131 tons at any given time.

The present stringent permitting and operational requirements for the operation of "RCRA" waste management facilities require a major investment be made. Cost estimates for construction, operation and permitting of a hazardous waste management facility is presented in Table 5-3.

Table 5-3. Facility Costs[1]

Facility Type	Cost (x $1,000)	User Cost/Ton[2]
Incineration	30,000	500 - 1,000
Waste Oil Refinery	8,000	0 - 500
Solvent Recovery	4,500	50 - 300
Aqueous Treatment	3,700	140 - 280
PCB Destruction	N/A	600 - 1,800
Stabilization	4,000	80 - 200
Transfer/Storage	500 - 1,000	90 - 200

1. Summarized from 1983 Minnesota Waste Management Board data.
2. Does not include disposal cost.

Because of the high cost associated with facility development, operating costs vary by the volume of waste being processed through the facility. At present, off-site facilities operating in Nevada are not restricted as to volume utilization and represent a free market system.

Table 5-4 presents the utilization summary of the US Ecology facility located in Beatty. These figures support the concept that commercial waste management facilities are dependent upon other states for a market and that Nevada generators are but a small percentage of their operation.

Table 5-4. Nevada Generator Utilization at US Ecology

Waste Type	Nevada Utilization	Total Utilization
PCB	32 manifested shipments (total of 1% of total) 300 tons	2,680 total manifested shipments totaling 30,004 tons
RCRA	950 tons	4,183 tons
Total	1,250 tons	34,187 tons
% Utilization	3.6% in-state	96.4% out-of-state

Without out-of-state waste, the cost per unit would be prohibitive to Nevada generators and the facility could not operate. Current disposal industry standards of operating volume range from 20,000 to 200,000 tons per year. The ETICAM facility presently under construction in Fernley has been designed to treat precious metal and heavy metal waste streams at a rate of 124,000 tons per year. Presently, less than 1,000 tons of heavy metals wastes are generated in Nevada, therefore, 123,000 tons or 30,000,000 gallons of hazardous waste will be imported into Fernley annually.

C. MANAGEMENT NEED

The best management of hazardous waste should consist of several steps: reducing the volume of waste generated, reduction of the hazard of the

waste generated; recovery of usable resources where possible and disposing or storing of the remaining residuals from reduction, treatment and recovery. The most attractive management option is one that matches management technologies with the types of waste to minimize the potential of release of hazardous substances to the environment.

The following priority system provides alternatives for hazardous waste management:

1. On-site waste reduction or elimination by the generator. This includes process changes or substitution of raw materials resulting in a change in waste production, waste separation, segregation, and volume reduction.

2. Reuse, recycling and recovery, either on-site or off-site, to make use of valuable materials and/or energy, including the use of waste exchanges so that a (potential) waste from one generator can be made available as a resource for another industry.

3. Treatment and incineration (on-site or off-site) to reduce the hazard level and/or the amount of waste requiring disposal.

4. Ultimate land disposal or retrievable long-term storage in a manner that holds release of hazardous constituents into the environment to acceptable levels.

Promoting waste reduction, recycling, treatment and incineration and limiting the use of land disposal are not only protective of human health and the environment but will save money. Wastes that are never created, or are never placed in or on the land, are unlikely to become future environmental problems.

The costs of cleanup of abandoned or uncontrolled sites may range from thousands to millions of dollars. The average cost for cleaning up and containing contaminated ground water ranges from $5 million to $10 million per site; the cost of totally restoring a contaminated aquifer could be 10 times that amount.

Disposing of liquids in the land increases the risk of release of hazardous substances into groundwater. Liquids provide a vehicle for movement of hazardous substances contained in the liquids or other wastes in the site. Liquids also add to the hydraulic pressure on the underlying liner(s) which increases the potential for release.

Solvents (usually liquids) can be processed and reused, used as a fuel source, or incinerated. If disposed, solvents have the potential to damage some types of landfill liners and can react with other wastes.

The following section describes the facilities required to meet the intent of best management of hazardous waste.

D. FACILITY TYPES

1. Incinerator

A rotary kiln incinerator is designed to thermally destroy aqueous and organic wastes by combustion. Rotary kilns can receive a variety of solid, liquid, and sludge wastes. Combustion is assisted by the addition of fuel but is primarily dependent upon the incinerability of the wastes and their heat of combustion. Oxidation and destruction of organic chemical wastes reduces the waste volume and eliminates organic hazardous constituents. The

process yields gaseous by-products and ash. The gases are sent through appropriate air pollution control equipment, cleaned and released. The method for ash disposal depends on the characteristics of the ash.

The major process components of this facility include:

- rotary kiln
- secondary chamber
- heat recovery system
- air pollution control system with
  - quench chamber;
  - venturi scrubber; and
  - packed tower scrubber.

2. Waste Oil Refinery

A waste oil refinery is designed to recovery lubricating and fuel oils from waste oils, primarily through distillation. Waste oil refineries take in a variety of used oils. The exact process used to refine these wastes depends upon the characteristics of the wastes.

By-products of waste oil refining include waste solids and oily sludges. These by-products can be incinerated.

The major process components of this facility include:

- dehydration and fuel stripping system;
- solvent treating system;

- vacuum distillation system; and
- hydrotreating system.

3. Solvent Recovery

A solvent recovery facility involves distillation of waste organic solvents to allow the recovery of solvents for reuse. Distillation allows for the separation of the wastes into liquid and gaseous mixtures. Typically, the solvents are more volatile than the contaminants and are condensed in a much purer form. Facility operators must consider several factors before accepting a waste solvent for recovery including: the percentage of solvent in the waste; the relative volatility of solvent compared with its contaminants; and the level of pretreatment required to make the waste suitable for distillation. This type of facility does not usually involve consumption of raw materials other than wastes. Recovered solvents are usually sold for reuse.

By-products of a solvent recovery facility include sludges and distillation bottoms. These by-products are usually incinerated.

The major process components of this facility include:

- pretreatment system;
- batch distillation system; and
- continuous fractionators.

4. Aqueous Treatment

Aqueous treatment facilities receive and treat wastewaters to remove and/or detoxify hazardous constituents by use of physical,

chemical, and/or biological processes. The wastewaters consist of many types of wastes including: solvents and organic solutions; heavy metal solutions; and anion complexes and residuals from other waste treatment systems. The specific type and sequence of processes used in this facility is determined by the characteristics of the incoming wastes and the desired effluent quality.

Several chemicals may be added to the wastes to promote the physical, chemical or biological treatment processes. The by-products from an aqueous treatment facility will consist of treated liquid effluent which may be discharged to a municipal sewage treatment system and dewatered solids which are removed from the facility for disposal.

The major process components of this facility include:

- mixing and storage;
- batch reactions of several different methods;
- dewatering;
- final pretreatment;
- biological treatment;
- carbon adsorption; and
- monitoring and discharge.

5. PCB Destruction Facility

A PCB destruction facility is designed to remove the chlorine atoms from the PCB molecules (dehalogenation) leaving a non-hazardous chloride salt and an easily incinerable biphenyl compound.

The "generation" of PCB wastes is often associated with removal of equipment or spills of PCB contaminated oils or wastewaters. Facilities which "destroy" PCBs are much more useful if they are mobile and can be brought to the site of PCB "generation". There are several such facilities currently being marketed and used in the country.

6. Transfer/Storage Facility

A transfer/storage facility provides no treatment of wastes but serves as a central collection point for wastes from a number of generators. Wastes are collected in drums or in bulk and then shipped to treatment or disposal facilities elsewhere. An advantage of a transfer/storage facility is in collecting full loads for shipment to other facilities, thus saving generators the costs of shipping partial loads.

While these facilities are necessary to best manage waste generated in Nevada, location of these facilities in Nevada may pose more environmental hazard than expected environmental safeguards.

E. LOCATION OF FACILITIES

As previously discussed, the management of hazardous waste requires that generators have access to the various types of management facilities in order to reduce environmental risks. The location of these facilities, however, represent inherent risks which require assessments prior to approval. The risks of locating major hazardous facilities in Nevada include:

1. Increased Transportation

Transportation to a major hazardous waste management facility from out-of-state generators exceeds in-state transportation. Based upon U.S. Ecology operating data and the proposed ETICAM facility, the additional transportation rate is 100 to 900 times that which is generated within the state. To expand further, facilities such as U.S. Ecology and ETICAM represent a 100 to 900 times greater chance of a hazardous waste transportation accident than if these facilities were located in the state which generated the waste.

2. Natural and Man-made Hazards

Physical design criteria of hazardous waste management facilities represent the best management practices available presently. Failure of these designed systems by operational, construction or human error is a possibility which is compounded by natural or man-made hazards. Risk of increased damage and environmental contamination can be lowered by avoidance of natural or man-made critical zones or hazards such as flood plains, active seismic zones, wetlands, critical habitat areas, drinking water recharge zones, agricultural areas and areas of human habitation.

3. Environmental Controls

The location of a major off-site hazardous waste management facility is a function of environmental control. Environmental controls dictate the level of management required, and in cases where neighboring states' controls differ significantly, these

controls can also influence siting. Nevada presently has a hazardous waste management program which meets minimum federal standards. California on the other hand, has one of the country's most complex and restrictive hazardous waste management programs. Reasons for these different programs include major differences in population densities, industrial output, hazardous waste generation rates, and documented cases of contamination from industrial sources. When considering that Nevada generators shipped 1,600 tons of hazardous waste off-site in 1985 and California generators shipped 1,900,000 tons it is possible to understand the program differences. With the new restrictions proposed by the California Governor's Task Force on Toxics, Waste and Technology and effective in May 1986, the cost of transportation to out-of-state facilities for California generators becomes less of a cost factor when choosing in-state vs. out-of-state facilities.

4. Need vs. Risk

The location of major hazardous waste management facilities in Nevada places increased risk of environmental damage to the State. In order to determine if that risk is necessary depends on the availability and accessibility of the required management facilities on a national and regional basis. Obviously, the potential for a hazardous waste disaster is less if 1,000 tons of waste is shipped to treatment facilities out-of-state than if those 1,000 tons are treated in-state and an additional 49,000 tons (The estimated volume of waste needed to profitably operate one hazardous waste facility.) of untreated hazardous waste are imported into the State.

The location of major hazardous waste management facilities in Nevada requires that the potential risks be minimized and that the need justifies the remaining unavoidable risk.

VI. SELECTED MANAGEMENT ALTERNATIVES

The following are the alternatives selected by the Nevada Division of Environmental Protection and approved by the State Environmental Commission.

A. WASTE MANAGEMENT GUIDELINES

The most preferred method for waste management is shown as item "1" in the following guidelines. The least preferred method is item "4".

1. Waste reduction or elimination by the generator.

2. Reuse, recycling, and recovery of materials or energy by the generator or at an off-site facility.

3. Waste treatment or incineration by the generator or at an off-site facility.

4. Land disposal or retrievable long-term storage.

These guidelines list the methods that have the lowest potential for environmental and public health risks first, and those with greater potential last. Also, the more preferred methods of waste management are generally the least costly to generators over the long-term.

B. ON-SITE MANAGEMENT

Practices which reduce or eliminate the production of hazardous waste at the site where the waste is generated (on-site) should be encouraged. Technical assistance, especially for small generators, and incentives for on-site source reduction should be developed and provided by the State.

On-site waste and volume reduction and treatment are the preferred management methods. These are currently in wide use among Nevada generators. Additional on-site management should be encouraged. Some generators, especially the small generators, lack the technical and financial means to develop on-site management. The State should provide technical assistance and incentives where possible to encourage use of on-site management.

C. OFF-SITE MANAGEMENT

Management of Nevada's wastes is focused primarily on those waste types and generators that require off-site management of hazardous wastes.

An assumption is made that on-site management will continue to be practiced. Off-site management facilities, especially landfills, are closing or restricting the wastes that can be accepted. Also, other states are restricting or prohibiting landfills. Nevada generators have no control over these off-site facilities. The trend indicates that Nevada generators will have increasing difficulty in obtaining secure contracts with off-site landfills.

As discussed in Chapter 5, each commercial off-site facility imports almost all of the hazardous waste from out of state. The largest generation state, California, has recently recommended further restrictions on the management of the 2 million tons of hazardous waste shipped off-site in California last year. With further restriction, the cost of transportation becomes less prohibitive to shipping wastes to Nevada, if Nevada facilities do not have safeguard costs equal to those of California.

With the existing potential for the importation of California's waste into Nevada, the additional restrictions of the siting regulations must become effective and implemented prior to the lifting of the hazardous waste moratorium.

D. THE ROLE OF THE STATE

In addition to the role of regulator through a program of permitting, inspection and enforcement, the State should encourage compliance through cooperative assistance programs. Present Division resources expended in this effort are limited, and have not yet been formalized. However, to date, an assistance contract has been established with the University of Nevada system to provide workshops and in-house assistance for small quantity generators of hazardous waste. Additionally, the Division and local governments through District Health Department's and Industrial Waste Offices offer assistance to every day inquiries. This piece meal approach needs to be organized with the goal of uniformity of advice.

The program of assistance is dependent upon available funding which is yet to be stabilized. With the movement toward self funding, the Division cannot yet allocate or prioritize levels of resources, however, at a minimum the following roles should be addressed:

1. Assistance role: to assist generators in developing on-site management practices and locating and promoting off-site management services;

2. Educational role: to inform the public and industry (especially small generators) about hazardous waste regulations and management options;

3. Financial incentives: to provide financial incentives, where possible, to industry to reduce the amount or toxicity of hazardous wastes.

4. Household collection: at a minimum, to encourage the development of local collection and safe disposal alternatives to the growing amount of hazardous waste generated in the home.

This plan has identified numerous areas of concern which cannot be addressed presently. Some activities are dependent upon the adoption of regulations and analysis of this impact.

Additionally, Federal changes which impact the State program are difficult to project. This plan needs to be amended as resources become known and program elements develop. A summary of resources, program elements and planning efforts should be available to the Commission by September 1, 1988. At a minimum, this plan should be reviewed on a biennial schedule based upon this summary.

E. COLLECTION/TRANSPORTATION SERVICE

A state-promoted, privately owned and operated, collection and transportation service should be provided to serve all generators.

Some generators, especially small generators, lack the volume of waste needed to attract commercial waste transporters. The State should help arrange such collection, using existing private transporters, and shipment to existing management facilities.

F. HOUSEHOLD HAZARDOUS WASTE

A state-supported system should be provided for the periodic collection of household hazardous waste.

Private citizens lack the means to properly dispose of household hazardous wastes. The state should work with local governments to provide periodic collection of these wastes. The state should provide support using existing private transporters to ship these wastes to existing management facilities.

G. ADOPT MORE AGGRESSIVE STANDARDS

The present minimum federal program of the State does not adequately protect the State from the transportation through or into the State, nor from the potential number of waste management facilities looking to service the major market of California. In order to protect the residents of the State, standards such as those proposed in the Appendices should be made effective.

Additionally, the State must continue to discourage the importation of wastes which are generated in states which have adopted more restrictive standards if such importation is a means of circumventing the originating states environmental law and regulations. In support of this stance is the congressional mandate placed upon EPA to consider expansion of the federal definition of hazardous waste to include the "California List." Until a decision is made nationally, Nevada shall continue its policy to discourage such importations.

H. BASIS OF NEED

Nevada generates 7,036 tons of waste based on 1985 data. Projection of generation rates for the future, based on population projections, economic diversification and industrial growth, indicates by the year 2050, generation may reach 25,000 tons per year. Nevada presently has a permitted capacity to import 200,000 tons per year with no increase in the number of facilities. The level of importation is expected to continue. Not all of this estimated waste can be treated at one facility. Some will be recycled, some treated, some landfilled and some incinerated. Therefore, the total waste figure cannot be used to justify one particular facility. Off-site facilities operate at the Beatty Burial Site, ETICAM, ERM and out of state principally, California. Additionally, the State of Arizona is presently processing a permit for a comprehensive facility near Phoenix, which includes treatment, neutralization, incineration and disposal. It is scheduled to begin operation in 1990. Industry generating hazardous waste in Nevada, has available facilities either in state or out of state to manage their wastes. An exception is the need for transfer or collection stations to assist small quantity generators. Therefore, with the exception of transfer stations and considering the average volume (50,000 tons per year) needed to operate a hazardous waste management facility economically, no additional facilities are needed at this time.

VII. RESOURCE ALLOCATION

To adequately implement the management objective of this plan, the current resource levels allocated in the State need to be expanded. Utilizing fees generated from transporters of hazardous waste and facilities for the management of hazardous waste, the Division proposes to increase resources in the following manner:

A. EMERGENCY RESPONSE

Develop a management plan in cooperation with the Division of Emergency Management on providing an emergency response system capable of responding and directing the cleanup of a spill of hazardous materials. At a minimum, such a system should be capable of responding within 30 miles of Reno, Elko or Las Vegas within 1 hour and elsewhere within 1 hour plus travel distance time.

B. SMALL QUANTITY GENERATORS

1. Enforcement

The number of generators in Nevada is increasing from 47 presently to an approximate 900 when small quantity generators become regulated on September 22, 1986. This increase requires an increase in the number of enforcement and compliance personnel.

To accomplish this higher level of enforcement, the Division proposes to increase staff and offer matching funds to local entities having industrial, solid, or hazardous waste offices.

2. Industry Assistance

In order to inform and educate the approximate 850 new generators of the program elements and requirements, the Division proposes to provide external and internal assistance programs through contract services and additional staff.

3. Planning

Develop a comprehensive management plan capable of providing the necessary network for small quantity generators to easily and safely manage hazardous waste.

The State could promote some or all of the following options: transfer or collection stations, "milk run" pickups, waste collection by chemical distributors, and generator co-operatives.

i. Transfer or collection station. A transfer or collection station is a facility where wastes may be brought for temporary storage until a full load of hazardous waste can be assembled for transport to a disposal facility.

ii. Milk run pickups. Under this option a hazardous waste transporter makes a series of prearranged stops at small generators with a single truck. The waste drums and containers remain intact and are not combined.

iii. Waste collection by chemical distributors. Some chemical and solvent distributors are now offering hazardous waste collection and transport services to their customers. The distri-

butors typically pick up hazardous wastes at the same time that fresh chemicals or solvents are delivered, hence saving hazardous waste transportation costs. Hazardous wastes may then be transported to a permitted storage or disposal facility, or a recycling facility. This option provides some of the same cost savings as milk run pickups.

iv. Generator cooperatives. Collectively, a group of businesses or a trade association, may be able to obtain a group rate for transportation and disposal services. This could be significantly lower than services available to individual generators. Generator cooperatives may also be able to help organize services (such as scheduling milk run pickups) to reduce costs to members.

C. FUNDING

The following Table 7-1 summarizes waste management in western states which have commercial waste management facilities presently in operation.

Table 7-1. State Management of Facilities Fees

State	Waste Generated[1] (tons)	Fee ($/ton)	Total Collected (x $1,000)
California	1,900,000	20.00[2]	15,000
Idaho	2,500	20.00	300
Nevada	1,700	0	0
Oregon	5,600	N/A[3]	250
Utah	3,000	3.00	300

1. Wastes shipped to off-site facilities.
2. Maximum charge.
3. No tonnage charge.

Based upon the above information, the State proposes to begin a fee system which will be used to increase regulation of off-site facilities and provide other services.

APPENDIX I

ADDITIONAL REPORTS AVAILABLE WHICH ARE RELATED TO EMERGENCY MANAGEMENT

The following reports may be obtained by contacting Nevada's Division of Emergency Management, 2525 South Carson Street, Carson City, Nevada 89710 (Telephone: 702-885-4240):

"State of Nevada Emergency Plan," and

"State of Nevada Hazardous Materials Operations Support Plan."