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*Auto Dealership Compliance with Hazardous
Materials Management In the
Las Vegas Valley*

*Lisa Evenson
10 May 2001*

The Nevada Division of Environmental Protection inspects automobile dealerships in Las Vegas and Henderson approximately every two years to evaluate their compliance with hazardous waste disposal regulations. The follow-up inspections alert the Division as to which regulatory issues appear to be the most problematic and occur most often. This paper provides the methods and information needed to establish auto dealership compliance in the Las Vegas Valley, and the results obtained from the inspections of those facilities. The data is then summarized to allow the Division to determine the effectiveness of its current enforcement program.

Chapter One

Introduction

Why this research project was done

The Nevada Division of Environmental Protection (NDEP) contains a bureau that enforces hazardous waste compliance. Car dealerships that have maintenance and repair facilities in the Las Vegas Valley are one type of business in which the agency oversees their compliance with hazardous waste and disposal laws. To insure these businesses are complying with the applicable laws, the NDEP conducts inspections of the facilities in cycles, usually every two years or more often if complaints are received. Typically inspections of these places find at least one violation. Usually the violations are minor and similar in type, such as missing labels on used oil and antifreeze containers. There were approximately 80 businesses in the area that sold vehicles at the time this study was done. A sample of 20 was evaluated, and from that group, generalizations were made about the compliance of the whole dealership population. This project was done because the NDEP wanted to know how effective their inspection-based compliance program was in regard to the types of violations that were found, the frequency the violations occurred, and if the same types of violations were found after future inspections were conducted.

Background information

As an intern for the Division it was my job to answer those questions and in addition, determine why some businesses had particular violations. The information was important to the NDEP because it would allow them to modify their current enforcement program if it were found that most of the dealerships were not complying with the regulations. In addition, they would also then be able to avoid citing these places with written notices or monetary fines. An effective compliance enforcement program would provide the Division with extra time to manage their other responsibilities.

The car dealerships would also benefit from this research. If violations were found the NDEP would work with these places to correct the problems by providing informational handouts that listed and explained the laws the dealerships are required to follow, and would instruct employees how to properly dispose the wastes they generate by the work they do. This would enable the dealerships to maintain compliance and avoid further enforcement action.

The consequences of dealerships not complying with hazardous waste disposal laws could be contaminated soil at the facility, contaminated water supplies if wastes were flushed into storm drains or into sewers, and poor public image to the communities where their businesses are located.

Problem statement

This research was done to find out if car dealerships in the Las Vegas Valley that sold new and used vehicles and had previous inspections on file with the NDEP were complying with the hazardous waste disposal regulations applicable to them. And if not, what were some of the reasons for their non-compliance?

What is known, or unknown about the problem

The NDEP suspected that the majority of dealerships in the Las Vegas Valley were not complying with the hazardous waste disposal regulations. Their assumption was based on the results of the inspections that were done in 1998. The most commonly found violation in all the dealerships was lack of labeling on containers identifying the wastes inside.

No studies of this kind had been conducted in Southern Nevada and no literature were found that addressed the problem or provided research methods, results, and conclusions; however, several articles dealt with some of the components that made up the research project.

Literature Review

John R. Heckman (2000) presents information regarding the formation of partnerships between the regulatory agencies and businesses and the benefits that could result from these unions. He concludes that partnerships between the two reduces problems within the business, creates a more positive attitude towards regulators, and diminishes environmental issues as a whole. This is similar to how the Division worked with dealerships in the Valley. In some cases, information is provided to dealers about what needs to be done to be in-compliance with the laws. If violations are found the Division can work with these businesses to ensure the problems get corrected.

In *Managing the Environment—Managing Ourselves: A History of American Environmental Policy*, Andrews (Caldwell 2000) provides several reasons why it is necessary for the government to involve itself in issues pertaining to the environment. Some of his reasons are related to car dealerships because they have to do with governments assigning and enforcing property rights, which in this case, identifies the party responsible for protecting it. Secondly, government is responsible for protecting the public's safety and health and government agencies must apply and enforce regulations. Lastly, Andrews states that governments were responsible for protecting environmental assets from the people. In the dealerships' case, it is the NDEP's job to enforce the regulations so that wastes are disposed of properly.

Dr. Ruth Hillary (2000) advises businesses to not wait until they are pressured to improve their compliance with environmental regulations, but rather to take the initiative to improve their own plans. Companies that do that tend to go above and beyond the regulations and as a result, have an excellent track record both environmentally and financially. Car dealerships could

implement the same types of plans and benefit from the decreased costs of disposal and increased environmental standing with the NDEP, as well as in the community.

Thomas Hern (1999), president of American Tool Companies Inc. concurs. As the head of his company, he realized that the key to being environmentally successful was to be proactive instead of reactive, as businesses often are. By implementing plans that increased efficiency in manufacturing, his company was able to cut costs and prove that smarter production was beneficial, not detrimental to the bottom line.

Two books reinforced Hern's belief that companies should take the active participant approach (Weschler 1999). Weschler reviewed *Principles of Environmental Management, the Greening of Business* by Rogene A. Bucholz and *Managing for the Environment* by Rosemary O'Leary, Robert Durant, Daniel Fiorino, and Paul Weiland and both conclude that if a business is going to be successful environmentally and financially, it must take the initiative. Current problematic issues should not be looked at as detrimental, but rather as an opportunity to develop and put to use new plans and ideas to deal with those events. Also, a company should not depend on the government to solve its problems. Managers must make themselves aware of all activities that go on in the facility that affect the environment if they are to meet the needs of the community and satisfy the requirements of the laws.

Andrews' ideas again come into use when environmental compliance from a management perspective looked at (Caldwell 2000). His book addresses the importance of environmental managers, or in this project's case, service managers and safety coordinators, not only being aware of the potential environmental problems that may be created by the type of work being performed at their facility, but also stepping forward and addressing these issues.

Part of this responsibility includes interpreting and forwarding the issues to employees to ensure that the entire staff is aware of the environmental risks they face.

C. Reimer (1990) summarizes how repair shops can make incorrect hazard determinations that lead them into non-compliance. This is applicable to the evaluating compliance because dealership maintenance and repair facilities that do not recognize, or misidentify the wastes they generate do not follow the law when it comes to their proper disposal. This mistake leads to non-compliance and subjects them to citations.

According to environmental business manager David Terry, the majority of businesses believe that environmental compliance equates to large monetary costs to the company (Mortimer 2000). In reality, non-compliance ultimately ends up costing them more due to inefficient manufacturing, disposal fees, and in some situations, fines. That is why it is not only important, but essential for a business to have an effective and knowledgeable environmental manager. Often, mistakes are a result of the lack of understanding of regulations and not communicating the issues to the work crew.

Recycling is another way in which a business can benefit environmentally and financially (Stack 2000). Dr. J. Winston Porter put together a guide that identified a variety of wastes that can be recycled to aid in the recovery of resources, reduce waste in quantity and toxicity, and be reused by other industries. For example, the oil collected from vehicles during an oil change can be recovered and burned in furnaces to produce heat. Instead of using paper-based products to clean up oil or other fluids, cloth rags can be substituted, which can then be picked up and washed through a commercial laundry facility for reuse.

Petra Christmann (2000) says that it is possible for a business to reduce the detrimental effects of their operations on the environment and still remain financially competitive in their

industry by using a form of environmental management called “best practice.” Best practice management involves a company identifying the key strategies that will help them profit from their operations. These strategies can include the following: redesign processes to pollute less, substitute products for less polluting ones, and reuse or recycle the by-products by creating other uses for them in their facility, or in another company.

By implementing the preceding practices, a company could potentially reduce production costs, increase its efficiency, and reduce the total amount of waste disposed. In turn, it may decrease manufacturing and disposal costs and reduce the amount of regulations they must follow. Car dealerships could implement similar best practice management plans in their activities. For example, a business could reduce its waste generator status from a small quantity generator (hazardous waste > 220 lbs./mo.) that has three pages of applicable regulations, to a conditionally exempt small quantity generator (hazardous waste < 220 lbs./mo.) that has only one half a page of applicable regulations. In order to make this move down, the company could change the way it disposes certain wastes or buy new equipment that has the ability to recycle used materials, such as solvents.

In recent times many businesses have developed and implemented new standards to manage the costs of environmental compliance and management according to Alan E. Reimer (2000). He says that if a company utilizes both best management practices and implements pollution prevention controls money can be saved, compliance will be met, and unnecessary production and environmental costs can be eliminated, or reduced.

Furthermore, advancements in technology can help a business accomplish all of that (Quinn 1999). When used in conjunction with best management practices, complying with regulations becomes much easier. For example, in an area related to automobile repair, auto

body could stand to benefit greatly from new equipment technology. Paint and solvent stills could recycle used materials for future use and the waste product is minimal. This machine not only could save the facility money in hazardous waste disposal costs, but it could potentially lower their generator status, resulting in fewer applicable regulations.

So if a company uses new technology and has an effective environmental or service manager, how does it know for sure if it is considered environmentally friendly? According to an anonymous writer for Industrial Distribution (1999), measuring compliance costs is not the determining factor because it does not show an indication of actual performance. A company must have criteria that will enable them to make smarter decisions in the future regarding material purchases and improvements in work procedures. Improvements can be seen in the auto repair industry when a dealership recycles used materials, like solvents. If a dealership purchases a parts cleaning machine that works by capturing the heavier materials like metals in the bottom, the solvent inside could be reused in future cleanings and the waste would not have to be disposed of as often. Another example is the chemical make-up of the different cleaners available. Waste generated from cleaners containing chlorine must be disposed of as a hazardous waste, which costs more and is less environmentally friendly. But, if the dealership switches to a non-chlorinated cleaner, any wastes generated from its use may be disposed of along with other non-hazardous wastes.

How does one develop an effective environmental program for their company? Wiernhoff (1999) gives the following guidelines: 1) define the facility's activities, 2) quantify the regulated chemicals and products used and stored there, 3) maintain up-to-date copies of all federal, state, and local regulations applicable to the business, 4) if certain regulations do not apply, provide the documentation that proves it, 5) perform an audit of the current level of

compliance, 6) identify the areas that need improvement, 7) develop a timeline for achieving and maintaining compliance, 8) define any resource or equipment needs, which includes employer and employee training, 9) maintain all compliance records, including waste manifests from the transporters, past inspection documents, and analytical test results from products used at the facility.

Goldstein (1999) uses similar methods to access a company's Environmental Management System (EMS), but goes further by incorporating ISO 14001 into it. The EMS approach is basically "plan, do, act, and check." It is a series of steps a business follows to determine what effects their type of work has on the environment, and what kinds of practices can be put into place to reduce or eliminate those adverse affects in the future. For this type of system to work, a company must be committed to its development, its implementation, and its continuation of following regulations. Horne laid out several steps to create an effective EMS. First, procedural steps called "Common Procedures" must be generated and followed throughout the whole company. Essentially, these steps state what the company must do, but they do not detail how to accomplish these things. Once the procedures have been drafted, an independent third party reviews them. While this step is feasible in a large corporation, it may not be practical in a company like a car dealership. The review is basically for verification and oversight, and to create community confidence. Many times, companies will not even have to come up with new procedures. They can simply update the practices that are currently being done and make them more efficient. The importance of documenting all environmental site activities in the event of staff changes is also emphasized so that the new employee can pick up where the last left off without difficulty. The EMS is supposed to be designed to be a continuous plan with room for improvement always available. Car dealerships could implement the EMS to

smaller scale and in effect, manage their businesses with greater efficiency, create positive public perception, and save money in the process. Some areas in their operations that could be examined are shop rag service, procedures for cleaning parts, and how they dispose recyclable fluids, such as oil and antifreeze.

A couple of big-name companies like General Motors Corporation and Ford Motor Corporation have taken the preceding proactive approach (Wilson 1999). In 1999 both announced that they would only conduct business with companies that were ISO 14001 certified. Advocates of environmental protection strongly supported the move because they believe it will encourage other companies to recognize the importance and benefits of ISO 14001 through waste reduction and cost savings and implement it in their own industries. One motivation for Ford to become ISO 14001 certified was because car manufacturers tend to receive a lot of criticism when it comes to the condition of the environment (Wilks 1999). The affects of Ford's decision can be felt throughout the entire automobile industry. Ford uses supplies from 1600 manufacturers and utilizes service and non-manufacturing products from 3500 different companies.

To summarize, the field of environmental health and safety came about in the 1970s and 1980s when companies started being held responsible for their actions (Giampalmi 2000). Economics was primarily the push for businesses for becoming more environmentally friendly. They found that the more waste they eliminated, the more money they saved. In addition, not complying with the law lead to fines from the government and a negative perception from the community. Giampalmi gives the following reasons for the trend towards progressions among industry regarding pollution prevention and environmental compliance: increased regulations and/or their stricter enforcement, commitment among businesses to clean up their operations,

concern for the quality of life, and greater influence of the companies' stakeholders. He also makes the point that although all these changes in management benefit the environment, ultimately they are business decisions made to increase economic benefit to the company. This is relevant to the auto repair industry because if a business manages its wastes efficiently, disposing it costs less. For example, if a dealership changes its partswashing solvent from one with a low flash point (100 degrees) to one with a high flash point (140 degrees), the solvent by itself is no longer considered a hazardous waste. Then, if no other hazardous components are added to it, the disposal of the waste solvent costs less.

Sub-problems

The problem statement included several sub-problems. They were as follows:

1 – How many dealerships were found to be in-compliance?

This study would give an estimate of the percentage of businesses that were complying with the regulations. Approximately 80 businesses that sold vehicles existed in the Las Vegas Valley when this study was conducted. 20 of these places, or 25 percent, would be inspected. If greater than 50 per cent of the dealerships were found to be complying, then the NDEP's current enforcement program was effective, according to their criteria.

2 – How many dealerships were found out-of-compliance?

An estimate of the percentage of businesses that were not complying with the laws would be calculated. If less than 50 per cent were in-compliance then the NDEP's current program was ineffective to a majority of the dealerships and would possibly need modifications by the Division.

3 – Of those dealerships not complying, what were the violations and what were the reasons they occurred?

The types of violations found would indicate to NDEP what areas in their enforcement program needed to be addressed or focused on so that fewer of these violations are found in the future. Knowing the reasons these infractions occurred would help the Division correct the areas of concern and give it the opportunity to provide facilities with the information they need to bring their business into compliance with the regulations. It would also alert the Agency to which dealerships needed to be given the most attention.

4 – Of those found to be in-compliance after their previous inspection, how many had maintained their compliance?

This information would let the Division know which dealerships had maintained satisfactory compliance records and did not require additional corrective help.

5 – Of the dealerships found to be in-compliance previously, how many had not maintained compliance?

The dealerships that had not maintained compliance could receive additional help in the form of information and instruction from the Division to bring themselves back into full compliance with the regulations.

6 -- If violations were found again, were they of the same type?

If a dealership continued to have violations it alerted the NDEP to a problem in either their compliance enforcement of the facility or a problem at the dealership itself. If the issue were within the facility, the Division would have to determine why problems persisted and how they may be prevented in the future. Some of the most common violations usually found are missing labels identifying drums or tanks containing used oil and used antifreeze, and missing analytical tests on wastes.

7 – Of those dealerships with previous violations, how many did not have violations after the second inspection?

Dealerships that had violations in the past but have since corrected these problems let the NDEP know that their current enforcement program was effective for those particular businesses.

Figure 10 lists the sub-problems and shows the tabulations of the inspection results. **Figure 2** is the inspection form that is used to evaluate a business's compliance.

Definitions

Agency – the Nevada Division of Environmental Protection

Compliance – when a business is following all applicable hazardous waste disposal regulations (NDEP)

Division -- the Nevada Division of Environmental Protection

Hazardous waste – waste that exhibits the following characteristics: ignitable ($\leq 140^{\circ}\text{F}$), corrosive (aqueous $\text{pH} \leq 2$ or ≥ 12.5), reactive (normally unstable, undergoes violent changes without detonating, water reactive), toxic (exceeding the regulatory limits for contaminants under the TCLP test) (Nevada Small Business Development Center)

Inspection – visually examining applicable compliance issues at businesses

NDEP – the Nevada Division of Environmental Protection

TCLP – Toxicity Characteristic Leaching Procedure

Valley – Las Vegas and Henderson

Violation – not adhering to all applicable regulations resulting in non-compliance

Delimitations

For this study I had elected to inspect 20 dealerships. **Figure 1** shows the inspection list. Nearly 80 businesses that sold new vehicles existed in the Las Vegas Valley when this study was done. To inspect each of these businesses, organize, analyze, and interpret the data would have been difficult due to time constraints. I felt that 20 facilities selected from different areas of the Valley would provide an accurate representation of the data the NDEP sought. The dealerships were chosen from the new car dealers listing in the Las Vegas July 2000 Yellow Pages. After the list was compiled, five dealerships from each region of the Valley were selected in a random draw. The regions were designated as Auto Mall, West Sahara, East Sahara, and Various Areas, which included points from all over Las Vegas and Henderson. Furthermore, a back-up list of five dealerships was included as additional places for inspections or as substitutes if for some reason a selected facility could not be inspected (i.e. time conflicts, business closure).

This study would not provide solutions as to how the NDEP could modify their compliance enforcement program if it was found that a majority of the dealerships were out-of-compliance. It would only establish the percentage of businesses in or out-of-compliance, the compliance records of the facilities, and the reasons some place fell out-of-compliance. Some of these reasons could include changes in management or staff, lack of knowledge regarding regulations, unawareness of repair shop activities, and lack of employee training.

Chapter Two

Approach

How the answers were found

In order to find the answers to the issue of dealership compliance status, the approach was to review past inspections, conduct new inspections, and complete a questionnaire for each business. No other studies on auto repair and maintenance facilities and their hazardous waste disposal compliance had been done according to the NDEP so no literature existed to establish guidelines and to compare results. In addition, the results would be specific to the Las Vegas Valley as regulatory agencies vary in their methods and in their effectiveness of enforcement, even if they are part of the same division.

Hypotheses

In order to establish auto repair compliance in the Las Vegas Valley, approximately 25 percent of dealerships would be inspected. The results would test the following hypotheses:

1 – After conducting the inspections, I expected to find that the majority of the dealerships would be out-of-compliance.

2 – I expected the most common violation found would be missing labels on waste containers.

3 – One reason facilities would be out-of-compliance would be due to the cost of waste disposal. Dealerships pay disposal service companies to remove wastes from their facilities. The costs would be substantially higher if hazardous chemicals, like chlorinated compounds were mixed in with the waste. It could potentially cost hundreds to thousands of dollars, especially if the dealership generated a lot of hazardous waste. In those cases, the waste must be tested for its toxicity characteristics. **Figure 4** shows the types of tests that can be performed and their costs. This hypotheses would be difficult to establish because I would have to rely on the validity of the questionnaire answers.

4 – Some of the non-compliance would be a result of employees misunderstanding or misinterpreting the hazardous waste disposal regulations. Personnel inexperienced in understanding the technical language some of the regulations are written in may have had difficulty applying the requirements to their workplace. While some of the regulations would have been implemented, others may not have been, based on the reader's level of comprehension.

5 -- Some of the dealerships, particularly those that were new or have had recent changes in management, may not have been aware of the requirements they are regulated by, and therefore, would be out-of-compliance. Generator status is one part of the regulations that can effect a facility's compliance. It is dependent on the amount of waste the business generates each month. Exceeding their status limit even once for a one-month period places them in the next higher quantity category, which has additional regulation requirements. If a dealership was unaware that they had exceeded their generation limit and continued to follow only the regulations for the smaller quantity generator, they would be in violation and would not pass their compliance inspection.

6 – Non-compliance would be caused, in some cases, by the dealership's employees not having been properly trained in waste disposal procedures. Employee actions could be an issue in a facility's compliance. A dealership should provide their workers with information and instruction of how to handle the wastes generated.

The preceding hypotheses are based on the Division's experience in inspecting and enforcing waste regulation compliance. They have determined that those are the primary reasons for a business's non-compliance.

7 – Most dealerships that were in-compliance after their previous inspections would be in-compliance when inspected again. The NDEP's past experiences in follow-up inspections have found that some of the facilities that complied with the regulations in the past usually maintained their compliance--or at least have only minor violations like not labeling their waste containers.

8 – Dealerships that have had violations in the past would probably have violations again after a future inspection. The NDEP has found that businesses with poor compliance records continue to have similar issues.

Chapter Three

Methods for Data Collection

How to find the answers

Each of the hypotheses would be tested using the same method. To obtain the answers, inspections would be conducted at each facility listed in **Figure 2** using the same form the NDEP utilizes for their evaluations. The inspection form contains the criteria a dealership must meet to be considered in-compliance with their applicable regulations. In addition, the service manager at each dealership would be asked the questions listed on the questionnaire shown in **Figure 3** to in order to identify things such as changes in ownership, changes in management, training, knowledge regarding the environmental regulations, past inspection results, and record keeping. This information would be necessary to conclude why a facility was or was not complying with the laws. Lastly, the previous inspection records for each dealership would be used to compare their compliance status last time to their current status, and to compare the types of violations, if any.

Data needed

The following is a list of the data that was needed to resolve each of the sub-problems:

- The number of dealerships in the Las Vegas Valley.
- The number of dealerships that would be inspected. See **Figure 1**.
- The names of the dealerships that would be inspected. See **Figure 1**.
- The files for the dealerships that would be inspected.
- The number of dealerships that were found to be in-compliance.
- The number of dealerships that were found to be out-of-compliance.
- The reasons for a dealership's non-compliance.
- The number of dealerships that had maintained compliance since their last inspections.
- The number of dealerships that had not maintained compliance since their last inspections.

- The number of dealerships with previous violations that had violations again.
- The number of dealerships with previous violations that did not have violations again.
- The results of the inspections and questionnaire answers. **Figures 2 and 3** show the specific data that is needed.

How to get the data

To begin collecting the needed data, the number of dealerships in the Valley had to be established. This was done by listing all of the new car dealers in the Las Vegas July 2000 telephone book on a sheet of paper. Then 20 dealerships were selected randomly from that list from the different areas in the Valley. The names of the dealers and their location are shown in **Figure 1**. The next step was to look in the NDEP's files to ensure the places selected had previous inspections on file. If no past inspections exist, the dealership would be ineligible to become part of this study and another qualified businesses would be selected. If a dealership had more than one previous inspection on file, only the most recent would be compared to the one that would be done for this research project. After that, a table would be constructed to keep track of the information collected. It would include areas to record all the information from the answers to the above referenced questions under *Data needed*.

After the data matrix was complete, the inspections of the dealerships would begin. Prior arrangements would be made to let the businesses know ahead of time that they would be inspected. The Environmental Protection Agency (EPA) prefers the Division to conduct unannounced inspections. However, since this research project was school related, dealerships would receive prior notification by the NDEP to ensure that the proper people and documentation was available. An inspection form and questionnaire would be filled out

completely for each inspection. The results would also be recorded on the data matrix after the inspections were done in order to tabulate the final results.

Once all of the inspections were complete, and the results were calculated, the information would provide the answers to the questions asked under *Data needed*.

Resources needed

- Materials – previous inspection files, inspection forms, questionnaires, data matrix sheet.

These items would be provided by the NDEP.

- Equipment – vehicle provided by the NDEP to travel to the dealerships, as well as the computer to enter in information and results, and perform calculations.
- Money – no money would be needed to research and complete this project.
- Labor – Each dealership to be inspected would have to be visited to obtain the information needed.
- Time – 20 dealerships would be inspected and evaluated with each taking approximately 30 minutes. The total time spent in the field would be approximately eight and one half hours, plus the time it would take to drive to each place in the Valley, which would vary depending on the traffic encountered at those times. The exact amount of time to record and calculate the results would be too difficult to estimate.

Steps in interpreting the data

The first step in interpreting the data would be to compare each dealership's current inspection results to the outcome of their last inspection. Then the following steps would be performed based on those comparisons:

- If the facility was found to be in-compliance after their last inspection and maintained that compliance, it would be recorded as such and no further analysis would be performed.

- If the dealership was in-compliance last time, but was found to be out-of-compliance this time, the type of violations would be recorded and the questionnaire responses would show why the violations occurred.
- If the dealership was out-of-compliance last time but was found to be in-compliance this time, the questionnaire responses would be used to determine what, if anything, changed in the facility, like management or training.
- If the dealership was found to be out-of-compliance during their previous inspection and had remained at that status after the next inspection, then the type of violations would be examined to determine if they were the same violations that were found during the last inspection. The responses from the questionnaire would be used to make conclusions regarding the reasons the facility did not meet all their requirements.

Location of the data

Each dealership's past inspection files were located in filing cabinets in the NDEP's office. The NDEP is located in the Grant Sawyer State Office Building at 555 East Washington Avenue, Suite 4300, Las Vegas, Nevada 89101. The inspection forms and regulation information sheets were located there, as well. The data to be collected from the car dealerships would be found on the completed inspection forms and questionnaires.

How the data will be secured

The data would be secured by inspecting each dealership and completing a questionnaire. This would be done by physically examining the businesses listed on **Figure 1** and asking their management the questions listed on **Figures 2 and 3**. The data from previous inspection forms would be obtained by pulling each business's file from the filing cabinets in the NDEP's office.

How the data will be interpreted

From the past and present inspection results, a data matrix would be constructed that would show the results of the sub-problems, *see* **Figure 9A**. It would indicate the past and current compliance status and what types of violations, if any, existed. If violations were found, it would also show the reasons that contributed to their status, such as lack of regulatory knowledge, lack of training, changes in ownership, management, and/or personnel, and inaccuracies in record-keeping.

Chapter Four

Data Analysis

Procedures to Summarize Results

The data were analyzed with respect to the project's hypothesis: Were the 20 selected car dealerships in the Las Vegas Valley that sold new and used vehicles and had previous inspections with Nevada's Division of Environmental Protection complying with the hazardous waste regulations applicable to them, and if not, what were some of the reasons for their non-compliance? The subproblems were answered in table form in **Figure 10**.

The first step in analyzing the data was to construct a table that showed the specific compliance information pertaining to each dealership that was concise, yet understandable to others. **Figure 9A** lists each of the 20 dealerships and compliance issues like their compliance status after the initial and last inspections, violation types, if the same or different violations were found after the second inspection, and the possible reasons for the dealership's non-compliance. A key is located at the bottom of the figure that identifies the reasons from their corresponding numbers in the table. **Figure 9B** lists the definitions of each violation type.

The next step was to create a table that showed the results of the totals after all of the inspections were completed. It provides information such as the number of dealerships in-compliance or out-of-compliance, if compliance was maintained, and additional information related to the violations. See **Figure 10** for the complete listing of totals and results.

Description of Calculations

The results for **Figure 10** were obtained by adding the number of dealerships together that correlated to each question. For example, there were seven dealerships found to be in-compliance after the second inspection, therefore a "7" was entered in its corresponding column. This procedure was appropriate because it shows the number of dealerships that meet the criteria to answer the question, from the total number of dealerships inspected.

After the total numbers were determined for each question, percentages were calculated. The percents will enable others to see how many dealerships out of the entire selected group were or were not complying with the regulations. In addition, the sample of the 20 selected businesses and their compliance issues and results can then be assumed to be a representative of the rest of the Valley's dealership auto maintenance repair facilities.

Summary of Results

Figure 9A and **Figure 10** summarizes all of the inspection results into tables. These figures contain the answers to the project's hypotheses and sub-problems. **Figure 9A** shows each dealership's name, their compliance status this time and last, violation types for each inspection, if they had re-occurring violations, and the likely reason for their non-compliance. **Figure 9B** provides the definitions for each violation type. **Figure 10** gives the totals of the compliance results and shows statistically how often violations occurred and which violations were found most often.

Chapter Five

Data Discussion

Summary of the Data

Twenty dealerships were inspected and evaluated for their compliance with hazardous waste regulations. Six of the dealerships were found in-compliance after their initial inspection by NDEP, leaving fourteen dealerships out-of-compliance. After the second inspection eight dealerships were found in-compliance and twelve out-of-compliance. Of the six businesses complying the first time, only two maintained their compliance. Of the fourteen places that had previous violations, five did not have violations again and nine were once again out-of-compliance. Four dealerships that did not have violations the first time had violations after the second inspection. **Figure 10** summarizes this information in a table.

Figure 9A shows each dealership's compliance status after the first and second inspections as well as the violation types. In addition, the table identifies which dealerships had the same violations after their last inspections and the reasons why those violations may have occurred again.

After the second inspection, seven dealerships were found to have the same violations that they had the first time. The most common violation was containers not labeled to identify their contents. Lack of analytical results on wastes, waste containers without lids, and improper disposal of wastes were occurred at the same number, and recordkeeping violations was the least common violation found.

Answering the Questions

To establish if the data supports the hypotheses, each question was examined to determine if the results obtained from the inspections can provide the answers. The format to determine this was to first state the hypothesis, and then follow it with an answer.

Meaning of the Data with Respect to the Hypotheses

Hypothesis 1: The majority of dealerships would be found out-of-compliance.

Answer: Affirmed. Twelve out of 20 dealerships, the majority, were found to be out-of-compliance after inspections were completed.

Hypothesis 2: The most common violation would be lack of labeling on waste containers.

Answer: Affirmed. Labeling violations were found in seven out the twelve out-of-compliance dealerships, and it was the most frequently occurring violation.

Hypothesis 3: Dealerships would be out-of-compliance because of the high costs of disposing hazardous waste.

Answer: Negative. The costs of waste disposal did not influence the dealerships' failure to comply with the hazardous waste regulations. However, the literature does point out that many times businesses believe the costs of disposing the wastes are more than the costs of properly complying with the regulations (Mortimer 2000). But in this case, the disposal violations were a result of the facilities' inability to determine the disposition of some of their wastes.

Hypothesis 4: Dealerships would be out-of-compliance because their shop employees do not understand, or misinterpret the hazardous waste disposal regulations.

Answer: Negative. Failure to properly dispose waste was not found to be a result of employee ignorance of the regulations. Disposal violations were due to the businesses being unable to identify the disposition of some of their wastes.

Hypothesis 5: Dealerships would be found out-of-compliance because of staff changes and its disorganization effects.

Answer: Affirmed. In four of the cases recent changes in service management affected some of the dealerships' compliance status. Managers uneducated in hazardous waste disposal regulations led to non-compliance in the areas of: awareness of shop activities (such as ensuring

all containers are labeled and all wastes disposed), and inadequate recordkeeping. The literature reinforces the answer to this hypothesis. Dr. Ruth Hillary (2000) and Thomas Hern (1999) both reiterate the importance of a responsible, informed, and proactive management. It increases efficiency, shop awareness, and cuts the costs of material purchases and disposal.

According to Alan E. Reimer (2000), the best managers are the ones who use best management practices and initiate pollution prevention measures before they are forced to by the government. John Wiernhoff even provides tips on how managers can become more effective in their workplaces (1999) by essentially performing an audit on themselves and correcting the areas that lack full compliance.

Since there is so many staff changes in the automotive repair industry, James Horne (Goldstein 1999) suggests that the current managers keep accurate facility records that document the shop procedures and activities so that the next manager can continue the same program.

Note: No dealerships were found to be in violation of applying incorrect hazardous waste generator status as a result of their inability to determine waste compositions in the inspections conducted for this research paper.

Hypothesis 6: Non-compliance would be caused by insufficient training of shop employees.

Answer: Negative. Lack of employee training regarding waste disposal did not cause any non-compliance among the dealerships inspected. This is an example of effective management in this area. The proper procedures were sufficiently communicated to the shop staff (Caldwell 2000).

Hypothesis 7: Most of the dealerships found in-compliance last time would be found in-compliance after the second inspection.

Answer: Negative. Six dealerships were complying with the regulations after the last evaluation. Only two of those dealerships were found to be in-compliance after the second inspection.

Hypothesis 8: Dealerships with violations in their previous inspection would be found in violation again.

Answer: Affirmed. Twelve of the fourteen dealerships with previous violations were found to have violations again.

What the Findings Mean

Overall, the inspection results show a slight increase in compliance in the selected sample. The results can be extrapolated to the rest of the dealership automotive repair industry to assume that the entire area experienced a small rise in hazardous waste disposal compliance, also. However, it is worth noting that only two dealerships were able to maintain their environmental compliance after receiving their second inspection two years later. In addition to that, labeling was still the most often occurring violation. In the first inspections it was found in twelve of the fourteen dealerships with violations. In the second inspections, it was found in eleven of the twelve businesses out-of-compliance.

Observations

After I had completed my data collection from each dealership, I noted that what seemed to be the simplest area of compliance, labeling used oil and used antifreeze containers, was found to be the most often occurring violations. In addition, I observed that only two out of the six dealerships in compliance after their first inspections had maintained compliance after their second. I had assumed that I would have found the majority to maintain compliance. Lastly, the turnover rate of managers was much higher than expected. Three months after completing the inspections, the NDEP discovered that approximately four service managers had since found

employment with different companies, according to one of the service managers who had his facility inspected for the project.

In Summary

The information obtained and analyzed from the dealership inspections shows that the Nevada Division of Environmental Protection's compliance enforcement program was as effective as it was at the time of the previous cycle of inspections of these facilities two years ago. Over half (60%) of the dealerships were not in-compliance with the hazardous waste disposal regulations compared to the 70 percent that were out-of compliance last time. Lack of labeling containers to identify the wastes they contain was the most frequently found violation as it was found in approximately 90 per cent of the cases for each of the inspection cycles.

Based on the research results, the NDEP will now have to determine if it will keep its current enforcement program in effect or if it will make changes to the curriculum to bring more businesses into compliance with the regulations. It may also have to address the finding that labeling violations continue to be the most often occurring violation in these businesses and decide if changes need to be made in the way it addresses that issue.

Figures

Inspection List

Auto Mall

Desert BMW
Chapman Chrysler Jeep
Findlay Oldsmobile Saab Subaru
Towbin Nissan
Towbin Dodge

West Sahara

Courtesy Oldsmobile Isuzu Kia
Desert Nissan
Saturn of West Sahara
Desert Toyota
Towbin Hummer Jeep Eagle

East Sahara

Desert Honda
United Nissan
Gaudin Ford
Signature Lincoln Mercury
Fletcher Jons Toyota

Various Areas

Desert Pontiac GMC Buick
Chapman Dodge
Ford Country
Jim Marsh Jeep Mazda Volvo
Henderson Chevrolet

Figure 1

Figure 9A

DealerShip	Names	In-Compliance Last Time	Violation	In-Compliance This Time	Violation	Same Violations	Reasons
Auto Mall	Desert BMW	no	label	yes	n/a	n/a	
	Chapman Chrysler Jeep	yes	n/a	no	label	n/a	1:4
West Sahara	Findlay Olds Subara Saab	no	label	yes	n/a	n/a	n/a
	Towbin Nissan	yes	n/a	no	label;analytical	n/a	1:3
West Sahara	Towbin Dodge	no	label	no	label;analytical	yes	1:2;3;4
	Courtesy Olds Isuzu Kia	no	label	no	label	yes	1:2;3
East Sahara	Desert Nissan	no	label	no	n/a	n/a	n/a
	Saturn of W Sahara	no	label	no	label;containers	yes	1:4
East Sahara	Desert Toyota	no	label	no	label;disposal	yes	1
	Towbin Hummer Jeep Eagle	yes	n/a	yes	n/a	n/a	n/a
East Sahara	Desert Honda	no	containers;post info	no	label;containers	yes	1
	United Nissan	yes	n/a	no	label	n/a	1:4
East Sahara	Gaudin Ford	no	label;post info	no	label	yes	1
	Signature Lincoln Mercury	no	containers	yes	n/a	n/a	n/a
Various Areas	Fletcher Jones Toyota	yes	n/a	no	containers;label;disposal	n/a	1
	Desert Pontiac GMC Buick	no	label;analytical	yes	n/a	n/a	n/a
Various Areas	Chapman Dodge	no	label	no	disposal;recordkeeping	no	1:3;4
	Ford Country	no	label	no	analytical;label;disposal	yes	2
Various Areas	Jim Marsh Jeep Mazda Volvo	yes	n/a	yes	n/a	n/a	n/a
	Henderson Chevrolet	no	label;recordkeeping	yes	n/a	n/a	n/a
Reason Key							
1	unaware of shop activities						
2	unaware of regulations						
3	unaware of missing paperwork						
4	recent changes in management						
n/a	not applicable						

Violation Key

analytical	<i>analytical test results of waste not done or not on file</i>
containers	<i>waste containers not stored closed with lids</i>
disposal	<i>waste not disposed properly or within time limits</i>
label	<i>waste products not labeled with their identification</i>
post info	<i>emergency information not posted for employees</i>
recordkeeping	<i>paperwork regarding waste disposal missing from files</i>

Figure 9B

Figure 10

92	Most often occurring violation (this time)	
86	Most often occurring violation (last time)	
	labeling (11)	labeling (12)
50	Total number of dealerships that had new/different types of violations after the last insp	
58	Total number of dealerships that had the same violations after the last inspection	
64	Total number of dealerships out-of-compliance last time that were out-of-compliance ag	
36	Total number of dealerships out-of-compliance last time that were in-compliance this tim	
67	Total number of dealerships that have not maintained compliance	
33	Total number of dealerships that have maintained compliance	
60	Total number of dealerships out-of-compliance (this time)	
40	Total number of dealerships in-compliance (this time)	
100	Total number of dealerships inspected (this time)	
70	Total number of dealerships out-of-compliance (last time)	
30	Total number of dealerships in-compliance (last time)	
100	Total number of dealerships inspected (last time)	
Totals		
%		

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Appendix

Site name/address		Date	
Phone number			
Site representative			
NDEP representative			
EPA ID Number		Was this scheduled in advance?	<div>Yes</div> <div>No</div>

TYPICAL HAZARDOUS WASTE STREAMS	LBS. GENERATED PER MONTH	DISPOSAL METHOD	IS IT MANAGED AS HAZARDOUS WASTE?	
			Yes	No
Partswasher & other solvents			Yes	No
Spray cabinet wastewater/sludge			Yes	No
Hot tank wastewater/sludge			Yes	No
Cold tank waste (carb. cleaner)			Yes	No
Sump sludge			Yes	No
Batteries			Yes	No
Contaminated used oil			Yes	No
Contaminated wipers/rags			Yes	No
Aerosol cans			Yes	No
Fluorescent light tubes			Yes	No
			Yes	No
			Yes	No

OTHER WASTE STREAMS GENERATED	LBS. GENERATED PER MONTH	DISPOSAL METHOD	IS IT MANAGED AS HAZARDOUS WASTE?	
			Yes	No
Used oil			Yes	No
Used antifreeze			Yes	No
			Yes	No
			Yes	No
			Yes	No

[illegible]

At this time, the facility appears to be a (circle one)	CESQG	GPS	North
	SQG	Coordinates	West
	LQG		

Figure 2

GENERAL		
Did they make hazardous waste determinations?	Yes	No
Do they have an EPA identification number?	Yes	No
RECORDKEEPING		
Are TSDF signed copies of manifests on file?	Yes	No
Are manifests sent to NDEP (out of State disposal)?	Yes	No
Do they have LDR certifications/notifications?	Yes	No
Did they submit a biennial report?	Yes	No
Do they maintain a written inspection record?	Yes	No
Do they have personnel training records (LQG)?	Yes	No
CONTAINERS		
Are they closed?	Yes	No
Are they labeled "Hazardous Waste"?	Yes	No
Are accumulation start dates marked on them?	Yes	No
Are they in good condition?	Yes	No
Are they compatible with the waste in them?	Yes	No
Do they have EPA waste codes marked on them?	Yes	No
Have they exceeded accumulation time limits?	Yes	No
Is waste at points of generation in compliance?	Yes	No
FACILITY MANAGEMENT		
Do they have a contingency plan (LQG)?	Yes	No
Is there a preparedness/prevention plan (LQG)?	Yes	No
Is necessary information posted (SQG)?	Yes	No
OTHER REQUIREMENTS		
Are there HW accumulation tanks (LQG)?	Yes	No
Is used oil labeled "Used Oil"?	Yes	No
Is used antifreeze labeled "Used Antifreeze"?	Yes	No

GENERAL COMMENTS	REQUIRED ACTION LIST
	1.
	2.
	3.
	4.
	5.
	6.

The items noted in the Required Action List above represent violations of the hazardous waste regulations of the State of Nevada.

This document serves as a written Warning Letter. Return to compliance will be verified by either documentation or inspection (circle one). If documentation is required, it must be submitted in writing no later than (date). If an inspection is required, it will be conducted after (date). Documentation must be submitted to the Nevada Division of Environmental Protection, 555 East Washington Avenue, #4300, Las Vegas, Nevada 89101. If you have questions, you may contact the Division at (702) 486-2850.

Dealership Questionnaire

Date _____
Dealership Name _____
2nd Inspection Date _____
Inspector(s) _____
Previous Violations Found? _____

- 1-- Owner Name _____
- 2-- Same Owner as previous inspection? *yes* *no*
If no, previous owner's name _____
- 3-- Service Manager _____
- 4-- Same Service Manager as previous inspection? *yes* *no*
If no, previous manager's name _____
- 5-- Has the Service Manager attended any training regarding proper waste disposal and handling?
yes *no*
- 6-- Has anyone else at the facility attended any training regarding proper waste disposal and handling? *yes* *no*
- 7-- Where are the facility's waste disposal records located? _____
- 8-- How quickly could these records be retrieved upon request? _____
- 9-- Do the files contain any information regarding the regulations applicable to the dealership?
yes *no*
- 10-- Date of previous inspection _____
- 11-- Can a copy of the previous inspection be provided by the dealership? *yes* *no*
- 12-- Is the Service Manager aware of which agency holds the regulatory authority over inspections and enforcement of their facility? *yes* *no*
- 13-- If violations were found during the previous inspection, what type(s) were they?

- 14-- Why did the violations occur? List reasons. _____

- 15-- How soon after the inspection were the violations corrected? _____

Figure 3

FACT SHEET



EPA TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

EPA HW #	Contaminant	Regulatory Limit
D004	Arsenic	5.00
D005	Barium	100.00
D018	Benzene	0.50
D006	Cadmium	1.00
D019	Carbon Tetrachloride	0.50
D020	Chlordane	0.03
D021	Chlorobenzene	100.00
D022	Chloroform	6.00
D007	Chromium	5.00
D023	o-Cresol	200.00
D024	m-Cresol	200.00
D026	Cresol	200.00
D016	2,4-D	10.00
D027	1,4-Dichlorobenzene	7.50
D028	1,2-Dichloroethane	0.50
D029	1,1-Dichloroethylene	0.70
D030	2,4-Dinitrotoluene	0.13
D012	Endrin	0.02
D031	Heptachlor	0.01
D032	Hexachlorobenzene	0.13
D033	Hexachlorobutadiene	0.50
D034	Hexachloroethane	3.00
D008	Lead	5.00
D013	Lindane	0.40
D009	Mercury	0.20
D014	Methoxychlor	10.00
D035	Methyl ethyl ketone	200.00
D036	Nitrobenzene	2.00
D037	Pentachlorophenol	100.00
D038	Pyridine	5.00
D010	Selenium	1.00
D011	Silver	5.00
D039	Tetrachloroethylene	0.70
D015	Toxaphene	0.50
D040	Trichloroethylene	0.50

Often businesses are asked to perform an analysis on their waste using the Toxicity Characteristic Leaching Procedure or TCLP. The Code of Federal Regulations (40 CFR 261.24) outlines the 40 contaminants which the TCLP analysis tests for. Refer to the table on the left.

WHAT DOES THE TCLP ANALYSIS SHOW?

The TCLP analysis simulates landfill conditions. Over time, water and other liquids percolate through landfills. The percolating liquid often reacts with the solid waste in the land fill, and may pose public and environmental health risks because of the contaminants it absorbs. The TCLP analysis determines which of the contaminants identified by the Federal EPA are present in the leachate, and their concentrations.

NEVADA'S "7-11" TEST

The State of Nevada allows the use of a "pared-down" version of the Federal TCLP. The "pared-down" test is referred to as the "7-11" test. The "7-11" tests for only 7 metals, and 11 organics rather than the full 40. The cost of the "7-11" analysis is between \$200-\$300, depending on the laboratory and location. A full TCLP analysis may cost as much as \$3000. The "7-11" is NEVADA ONLY and for wastes which cannot be contaminated by pesticide residuals.

WHO DOES THE TCLP OR "7-11" TEST?

There are many businesses within Nevada who can perform these analysis. Look in the yellow pages under "Laboratories- Analytical". Many laboratories will offer courier services for a nominal fee, and provide sampling containers and a chain of custody form. Businesses in remote areas should contact the nearest lab to discuss sampling protocol, and sample preparation for transportation. Improper sample handling can result in

unreliable test results and wasted money!

WHEN IS A WASTE HAZARDOUS?

A waste is considered hazardous when it exhibits one of the following characteristics:

- **Ignitable** (Flashpoint $\leq 140^{\circ}$ F)
- **Corrosive** (aqueous pH ≤ 2 or ≥ 12.5)
- **Reactive** (normally unstable, undergoes violent changes w/o detonating, water reactive...)
- **Toxic** (exceeding the regulatory limits for contaminants under the TCLP or "7-11" analysis)

OR it is "Listed" in the Code of Federal Regulations (wastes which are pre-defined and categorized)

For the purposes of this fact sheet, a waste is considered hazardous due to toxicity if it exhibits results exceeding the regulatory limits outlined in the table above. There are many exclusions and exemptions within the Code of Federal Regulations. For this reason, call the BEP, or talk to your hazardous waste inspector if you have ANY questions regarding this, or any hazardous characteristic analysis.

BEP Toll-Free Assistance Line (800) 882-3233 (In State) or (702) 689-6688
BEP UNLV (702) 895-0852

This fact sheet was developed by the Business Environmental Program of the Nevada Small Business Development Center

EXAMPLES

Auto Repair:

auto repair shop uses "hi-flash" mineral spirits as parts washing solvent. The solvent does not contain any halogenated or listed solvents. When the solvent becomes dirty, it is distilled. The solvent extracted from the distillation is placed back into use, and the "still bottoms" or contaminants from the solvent extraction are the waste product. This waste product must be tested by an analytical laboratory before it is discarded. The laboratory performs the "7-11" test, and the results indicate the following:

Lead	0.8 mg/l
Cadmium	0.5 mg/l
Chromium	8.0 mg/l

Looking at the table on the front of this fact sheet, lead and cadmium exhibit concentrations below regulatory levels. Chromium exceeds regulatory levels. The still bottoms exhibit toxicity due to high chromium levels, and would be considered a hazardous waste D007.

Auto Body

The exhaust filters in the spray booth have become saturated with overspray from paint application. Since the body shop uses many different types of paints and primers, it's difficult to determine if the filters are hazardous without an analysis. A representative filter is removed and sampled. The remaining filters are placed into containers and marked "filters pending analysis". The laboratory performs the "7-11" test, and the results indicate the following:

Lead	9.1 mg/l
Chromium	0.4 mg/l
Barium	0.85 mg/l
Methyl ethyl ketone	10 mg/l

Only lead exceeded the regulatory levels. The exhaust filters are deemed hazardous due to lead toxicity, and referred to D008 waste. The business owner remembered that he used a "special" primer a friend gave him. After looking at the Material Safety Data Sheet (MSDS), the business owner found out why the filters failed the test. The "Special" primer contained high amounts of lead. Six months later, the filters need changing again. The business owner had kept detailed records of all the paints and primers sprayed, along with the total quantities since the last filter change out. Another analysis was performed, and the analytical report indicated all of the contaminants were well below the regulatory limits. The filters were not found to exhibit any characteristics of toxicity, and were allowed to be handled as regular municipal solid waste. Because the business owner maintained detailed records, further testing would not be required unless the types of paint and primers changed.

General Manufacturing

The QRM company receives large steel components which they re-manufacture. The process requires them to dismantle the components, and surface prepare the outer housings for re-finishing. The metal components are placed into a sand blasting cabinet, and cleaned with special high pressure media. After months of use, the blasting media became ineffective, and needed to be replaced. The old blasting material was placed into a metal drum, and labeled "used blasting media pending analysis". A representative sample was taken to the laboratory for the "7-11" analysis. The results are:

Arsenic	0.5 mg/l
Barium	10 mg/l
Cadmium	2.0 mg/l
Chromium	15.0 mg/l
Lead	25 mg/l

This analysis reported Cadmium, Chromium and Lead in excess of regulatory limits. The blaster media waste would be classified as toxic due to high concentrations of Cadmium D006, Chromium D007 and Lead D008. This waste would be labeled as a D006, D007, D008 hazardous waste.

REQUIREMENTS FOR CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS

The State of Nevada has adopted by reference in NAC 444.8632, 40 CFR Part 2, Subpart A, Part 124, Subparts A and B, Parts 260 to 270, inclusive, and Part 279; furthermore NRS 459.560 gives NDEP inspectors the ability to enter and inspect for compliance, all facilities where hazardous waste is generated, treated, stored or disposed. The following list is being provided to help you identify and correct areas where your facility does not meet the minimum requirements for the management of hazardous waste in a facility generating less than 220 pounds of such waste per month.

SPECIAL REQUIREMENTS FOR HAZARDOUS WASTE GENERATED BY CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS (40 CFR 261.5).

1.) HAZARDOUS WASTE DETERMINATION (40 CFR 262.11).

Has the generator determined if any of his waste streams are hazardous?

2.) QUANTITY DETERMINATION (40 CFR 261.5 (a),(g)).

Is facility generating less than 100 kgs, and accumulating less than 1000 kgs of hazardous waste.

3.) WASTE DISPOSAL (40 CFR 261.5 (g)(3)(i-v))

Does the facility ensure delivery of hazardous or regulated waste through:

- a.) permitted treatment, storage or disposal facility
- b.) An authorized recycler, or
- c.) facility which is licensed, permitted, or authorized to manage hazardous waste or industrial solid waste.

Please review these requirements carefully. If you have any questions please feel free to contact your inspector at (702) 486-2850 or the Nevada Small Business Development Center at (800) 882-3233.

Revised August 28, 1997

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

REQUIREMENTS FOR RCRA SMALL QUANTITY GENERATORS

The State of Nevada has adopted by reference in NAC 444.8632, 40 C.F.R. Part 2, Subpart A, Part 124, Subparts A and B, Parts 260 to 270, inclusive, and Part 279; furthermore NRS 459.560 gives NDEP inspectors the ability to enter and inspect for compliance, all facilities where hazardous waste is generated, treated, stored or disposed. The following list is being provided to help you identify and correct areas where your facility does not meet the minimum requirements for the management of hazardous waste in a facility generating more than 220 lbs but less than 2,200 lbs of such waste per month.

A. RECORD KEEPING / MANIFESTS

1) Manifests (40 CFR 262.40(a))

Manifests must be retained for a period of three years.

a) Generator Information (40 CFR 262.20(a) & 40 CFR 262 Appendix A Items 1-4)
US EPA ID number, Manifest Document Number, Generator's Name, Mailing Address, and Phone number

b) Transporter Information (40 CFR 262.20(a) & 40 CFR 262 Appendix A Items 5-8)
Company Name(s) and USEPA ID number(s) of the transporter(s) who will move the waste to a Treatment, Storage or Disposal Facility (TSDF)

c) Destination Information (40 CFR 262.20(b) Appendix A Items 9 & 10)
The name, site address and US EPA ID number of the facility which will treat, store or dispose of the waste

d) Waste Information (40 CFR 262.20(a) & 40 CFR 262 Appendix A Item 11)
The US DOT Description of the waste, with hazard class and US EPA Waste ID number. The number and type of containers the waste is being transported. The total amount of each waste type being shipped.

e) Dates & Signatures (40 CFR 262.23(a)(1 & 2))
The generator must sign (by hand) the Generator's Certification and date it. The generator is also responsible for obtaining the handwritten signature of the first Transporter and the date on which that transporter accepted/removed from the site that waste listed on the manifest.

f) Wastes reclaimed under contractual agreement (40 CFR 262.20(e))
A generator who has waste removed for recycling under contractual agreement need not follow items a - e above if: 1) The agreement lists waste type and frequency of removal. 2) The waste is removed in a vehicle owned and operated by the recycler and 3) The facility maintains a copy of the agreement.

2) Copy to NDEP (NAC 444.8655(3))

Copies of manifests showing waste to have been shipped out of state must be sent by the generator to NDEP 333 West Nye Lane, Carson City, NV 89706-0866 ATT: Alene Coulson.

3) Exception Reporting (40 CFR 262.42(b))

An exception report must be filed with the Division if a TDS signed copy of the manifest has not been returned to the generator within 60 days of waste acceptance by the first transporter.

4) Land Disposal Restriction Certification or Notification (40 CFR 268)

A generator must have documentation that shows they have complied with the requirement to file either a certification stating that the waste is not restricted from being land disposed or a notification that the waste is restricted from land disposal.

5) Biennial Report (NAC 444.8675 (1)&(3))

A generator must file a Biennial Report with NDEP and retain a copy in their files for three years.

6) Hazardous Waste Determinations (40 CFR 262.11 & 40 CFR 262.40(c))

A generator must have records relating to hazardous waste determinations; to include test results, waste analyses, generator determination based on process knowledge, EPA or State of Nevada determinations and must retain these records for a period of not less than three years after the last waste has been removed.

7) EPA Identification Number (40 CFR 262.12)

A generator must not treat, store, dispose, transport or offer for transportation, hazardous waste without receiving an EPA identification number.

B. CONTAINERS/WASTE STORAGE

- 1) **Accumulation Start Date** (40 CFR 262.34(a)(2))
Each container holding hazardous waste not at a point of generation (or satellite storage area) must be clearly labeled with the accumulation start date.
- 2) **Hazardous Waste Labeling** (40 CFR 262.34(a)(3))
Containers holding hazardous waste must be clearly labeled with the words "Hazardous Waste".
- 3) **EPA Waste Code** (NAC 444.8671)
Containers holding hazardous waste must be clearly labeled with the appropriate EPA waste code.
- 4) **Condition** (40 CFR 265.171)
Containers holding hazardous waste must be in adequate condition to assure the waste does not leak.
- 5) **Compatible** (40 CFR 265.172)
Containers must be made of a material which will not react with and is otherwise compatible with the waste being stored in them.
- 6) **Stored Closed** (265.173(a))
Containers holding hazardous waste must be kept closed except when adding or removing waste
- 7) **Leak Prevention** (265.173(b))
A container holding hazardous waste must be handled and stored in such a manner as to prevent the possibility of rupture, or puncture.
- 8) **Weekly Inspections** (40 CFR 265.174)
Generators must inspect all containers holding hazardous waste on a weekly basis to assure that leaks or deterioration caused by corrosion or other factors has not occurred.
- 9) **Inspection Records** (NAC 444.8677)
A generator who generates more than 100 kilograms of hazardous waste in a calendar month and accumulates hazardous waste on site shall, in addition to complying with the requirements for accumulation set forth in 40 C.F.R. § 262.34, must maintain a written record of inspections conducted of the waste storage areas. Those records must be kept on site for not less than 3 years.
- 10) **Incompatible Waste Separated** (40 CFR 265.177(c))
Hazardous wastes that are not compatible must be stored in separate areas or separated by means of a berm, wall, dike or similar means.
- 11) **Waste Storage time limits** (40 CFR 262.34(d)&(e))
A generator may accumulate hazardous waste on site for 180 days without a permit. A generator who must transport his waste over 200 miles for treatment, storage or disposal may accumulate waste for not more than 270 days.
- 12) **Waste Storage Volume Limits** (40 CFR 262.34(d)(1)&(f))
If the quantity of waste accumulated on site by a SQG exceeds 6,000 Kg the facility will be subject to TSD regulations.

C. EMERGENCY ARRANGEMENTS / EQUIPMENT

1) Required Equipment (40 CFR 265.32(a)(b)(c)(d))

A SQG must have (a) an internal communications device or alarm system capable of relaying emergency instructions to facility personnel. (b) This or another communication device (phone) must also be accessible to facility personnel any time they are working on site to communicate with the police and fire department. (c) Portable fire extinguishers, fire control equipment, spill control equipment and decontamination equipment and (d) water at adequate volume and pressure to supply water hose streams, foam producing equipment or automatic sprinklers.

2) Equipment Testing and Maintenance (40 CFR 265.33)

A generator is responsible to maintain and inspect all emergency response equipment such as fire extinguishers, sprinklers, foam delivery systems, spill response, and containment equipment as necessary to assure proper operation in an emergency situation.

3) Access to Communications or Fire Alarm Systems (40 CFR 265.34)

A communication device must be immediately accessible to all personnel involved in handling hazardous waste and/or to employees who are alone on the premises.

4) Required Aisle Space (265.35)

A generator must maintain aisle space to allow the unobstructed movement of personnel, fire protection and/or spill control or decontamination equipment to any area of the facility in an emergency.

5) Arrangements with Local Authorities (40 CFR 265.37)

a) Police, b) Fire, c) Emergency Response, d) Contractors, e) Suppliers, f) Emergency Care Providers

A generator must have notified the agencies/suppliers listed a - f above concerning facility operation with respect to the layout, areas where hazardous waste and personnel would be, types and properties of their hazardous waste, the materials that might be needed to handle emergencies and injuries that could be expected in the event of an emergency such as fire, explosions or release.

6) Emergency Coordinator (40 CFR 262.34(d)(5)(i))

Each facility must designate an Emergency Coordinator

7) Posting (40 CFR 262.34(d)(5)(ii)(A)(B)&(C))

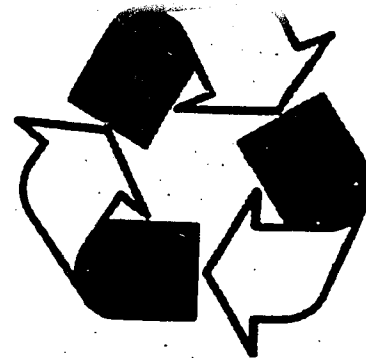
The generator must post the following items by a phone that is accessible to facility personnel: (A) The name and phone number of the emergency coordinator. (B) The location of all fire extinguishers and spill containment equipment. (C) The location of a direct alarm to the fire/police departments or their phone numbers.

8) Employee Awareness (40 CFR 262.34(d)(5)(iii))

The generator must insure that all employees are familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal and emergencies.

Please review this checklist carefully. If you have any questions please feel free to contact your inspector at (702) 486-2850 or the Nevada Small Business Development Center at (800) 882 3233.

Managing Used ANTIFREEZE



September 19

OVERVIEW

In September 1996, the Nevada Environmental Commission adopted new regulations regarding the proper management of used antifreeze generated within Nevada. Under the authority of Nevada Revised Statutes (NRS) 459.485, used antifreeze is regulated as a non-hazardous waste IF it is being recycled. The actual recycling can be performed at the business where the antifreeze is generated or at a permitted antifreeze recycling facility. If the used antifreeze is not being recycled, a Nevada business is responsible for making a waste determination on the used antifreeze and disposing of it according to the waste determination results.

Traditionally, under the Federal EPA regulations, a business was required to make a waste determination on their used antifreeze (submit a sample of the waste for a laboratory to test it using the Toxicity Characteristics Leaching Procedure). In many cases, the results of the waste determination indicated the used antifreeze was testing as a hazardous waste due to lead contamination. The lead contamination was derived from the lead soldering applied to older radiators. The state of Nevada, in an effort to promote recycling, determined if a business ensured their used antifreeze was being recycled (either on-site or off-site), no waste determination would be required on the used antifreeze.

Used antifreeze that is being picked up by a used oil hauler, mixed in with the used oil, and being burned off with the used oil, is not being recycled, and the generator of the used antifreeze is technically illegally disposing of a waste unless they have documentation that their used antifreeze is not a hazardous waste. If a business generates used antifreeze and is contracting with another business to dispose of their used antifreeze, request documentation as to where the used antifreeze is ultimately being recycled.

STORING USED ANTIFREEZE ON-SITE

There are minimum requirements for storing used antifreeze on-site prior to recycling. While used antifreeze is being stored on-site, ensure the following:

- Used antifreeze should be stored in containers that are in good condition, (not rusted or leaking.)
- All containers storing used antifreeze should clearly be labeled "Used Antifreeze." If the antifreeze is being recycled, it is not considered a hazardous waste and a business does not need to have the words "Hazardous Waste" on the container.

The Business Environmental Program (BEP) is a free and confidential assistance service provided by the Nevada Small Business Development Center. The BEP is located within the Sierra Pacific Power Company in Reno, Nevada, and services the entire state of Nevada 702-689-6688 or (1-800-882-3233). BEP receives funding support, to make our services possible, from the Nevada Division of Environmental Protection and the U.S. Environmental Protection Agency.

STORING USED ANTIFREEZE ON-SITE (con't)

- All containers storing used antifreeze must be closed at all times waste is not being added or removed from the container.
- Secondary containment around all antifreeze storage containers is recommended, though it is not required. Placing a spill kit (a trash can with floor dry and a scoop) near this storage area is also recommended. Preventing a spill from entering a floor drain or contaminating soil can save a business time, bad public relations, and money in the long run.

RECYCLING USED ANTIFREEZE

Under the Nevada regulations, if a generator of used antifreeze is having their antifreeze recycled either at their business ("on-site") or hauled away to a permitted antifreeze recycling facility ("off-site"), the used antifreeze is not considered a hazardous waste and the used antifreeze is not "counted" when a business is determining their generator status. A business' generator status is the amount of hazardous waste that is generated at their facility per calendar month.

ON-SITE RECYCLING

A Nevada business that generates used antifreeze may purchase an antifreeze distillation or filtration unit to recycle, recover, and reuse their antifreeze. No permit from the EPA is required for a business to recycle its own used antifreeze; the regulations are much more stringent if a business wants to recycle other businesses used antifreeze. Companies selling antifreeze recycling equipment include:

Automotive Equipment
Las Vegas, Nevada
(702) 791-0177

Auto Supply
Sparks, Nevada
(702) 331-2886

BG:CASCO
Maryland
1-800-327-8883

Another option for any Nevada business is to contract with a mobile antifreeze recycler. In this case, a mobile antifreeze recycler will come to the facility where the used antifreeze was generated, use his antifreeze recycling equipment to recycle the used antifreeze and leave this recycled antifreeze with the business for reuse. If a business elects to hire a mobile antifreeze recycler, they need to ensure the following requirements are met:

- The mobile antifreeze recycler shall have a "written determination" issued by the Nevada Division of Environmental Protection, and shall be able to provide a copy of this determination to any business requesting it.
- The generator of the used antifreeze should maintain a written contract with the mobile antifreeze recycler; this contract shall discuss who (the business generating the used antifreeze or the mobile antifreeze recycler) is responsible for managing any waste filter or sludge (still bottoms) generated from the antifreeze recycling process;
- The mobile antifreeze recycler shall maintain written records (receipts) highlighting the name/address/EPA ID # (if any) of the used antifreeze generator, the date and quantity of used antifreeze recycled, and signatures by both the generator and the mobile antifreeze recycler.

As of September 1997, there are five mobile antifreeze recyclers that have obtained a written determination from the Nevada Division of Environmental Protection:

A-1 Recycling Service

Reno, Nevada
(702) 689-0722

Antifreeze Recycling Services of NV

Las Vegas, Nevada
(702) 382-0363

Roadrunner Recycling

Boulder City, Nevada
1-800-507-0879

Cool As New

Sparks, NV
(702) 331-7745

Service Chem Distributing

Las Vegas, NV
(702) 869-8110

OFF-SITE RECYCLING

A generator of used antifreeze may transport, without any permit or identification number, up to 350 gallons of used antifreeze, provided the antifreeze is transported in a vehicle owned by the business that generated the used antifreeze or a vehicle owned by an employee of that business. The 350 gallon threshold only applies to a business transporting their own used antifreeze that was generated at their own business; anyone in the business of collecting and/or transporting used antifreeze from other businesses must comply with much more stringent requirements.

Any business having their used antifreeze picked up and transported off-site to a permitted antifreeze recycling facility must maintain documentation (receipts) containing the following information for a minimum of three years from the date of transport:

- Name/address/EPA ID # (if any) of the business generating the used antifreeze;
- Name/address/EPA ID # of the antifreeze collection center (where the antifreeze is being transported to for temporary storage) and/or the permitted antifreeze recycling facility;
- The amount of used antifreeze being transported; and
- Date/signature of representative from collection center or recycling facility.

As of September 1997, there is one antifreeze recycling facility in the state of Nevada that has obtained a written determination from the Nevada Division of Environmental Protection:

Thermoflow Corporation

Las Vegas, Nevada
(702) 642-9994

Antifreeze recycling facilities located outside of the state of Nevada that provide services *within* the state of Nevada include:

Antifreeze Environmental

East Palo Alto, California
(415) 325-2666

PRS

Salt Lake City, Utah
(801) 973-2220

The above listing of vendors/facilities is provided for informational purposes only. This list is provided as a service to Nevada businesses in order to assist in handling waste properly. The listing of these businesses is not to be construed as an actual or implied endorsement of their products or services. Additionally, other businesses which provide similar services or products may not be listed; this omission is not to be construed as an actual or implied denouncement of those businesses.

**business environmental program
Nevada small business development center**

Suppliers of Antifreeze Recycling Equipment

RE-NEVA AUTO PAINT & SUPPLY

935 S. Rock Blvd.

Sparks, NV 89431

(702) 331-2886

Attn: Don Ellis

SOLAR

Division of Century Mfgr. Co.,

Don Green Sales

Northern Nevada: (209) 474-7764

Southern Nevada: (714) 879-6062

BG: CASCO

Temple Hills

Maryland

(800) 327-8883

Attn: Bob Crovato

FINISH THOMPSON INC.

Automotive of Nevada

2901 S. Highland #10 b

Las Vegas, NV 89109

(702) 791-0177

Attn: Bob Seltzer

ROBINAIR

Northern Nevada:

Greenfield Enterprises,

(702) 849-1488

Southern Nevada:

Cap Warehouse,

(702) 642-0616

This listing of vendors and manufacturers involved in solvent cleaning substitutes and equipment is provided for informational purposes only. This list is provided as a service to Nevada businesses in order to assist them with obtaining items they need. The listing of these businesses is not to be construed as actual or implied endorsement of their products or services. Additionally, other businesses which provide similar products and services may not be listed; this omission is not to be construed as an actual or implied denouncement of those businesses. Your regular cleaner supplier may have information about alternative cleaners. Remember to check with them, too.

NEVADA SMALL BUSINESS DEVELOPMENT CENTER BUSINESS ENVIRONMENTAL PROGRAM FACT SHEET



UNDERSTANDING USED OIL & USED OIL FILTERS

I. INTRODUCTION

In March, 1994, the Nevada Division of Environmental Protection (NDEP) adopted new used oil management regulations. While many of the previous used oil requirements remain in effect, the new provisions include additional on-site management and recordkeeping requirements applicable to used oil generators; new recordkeeping requirements are also mandated for used oil transporters. Additional requirements for bulking and blending facilities used by the transporters are also included in the regulations, but these requirements are not addressed in this fact sheet. The Nevada regulations incorporate most of the federal used oil management regulations adopted as Title 40 of the Code of Federal Regulation, Part 279 (40 CFR §279) in September, 1992; Nevada, however, more stringently regulates mixing wastes and materials with used oil. The Nevada regulations can be found in Chapter 444 of the Nevada Administrative Code; a copy of the regulations can be obtained from the Business Environmental Program at 1-800-882-3233.

Used oil is any oil refined from crude oil, or synthetic oil, that has been used and as a result of the use is physically or chemically contaminated by impurities. Used oil generated in the State of Nevada is not considered a hazardous waste if it is collected and recycled or burned for energy recovery. Used oil that has not been mixed with hazardous waste and contains no more than 1000 parts per million (ppm) halogenated compounds, is not considered a hazardous waste if it is collected and either recycled or burned for energy recovery. Used oil that is not being burned or recycled must be managed as a hazardous waste unless it is determined to be non-hazardous through laboratory analysis.

If used oil is considered a hazardous waste in the State where it was generated, it must be managed as a hazardous waste if transported to Nevada for disposal, even if it has not been mixed with another hazardous waste or contains less than 1000 ppm halogenated compounds.

II. MANAGING USED OIL

Businesses that generate used oil must collect and store the used oil in non-leaking tanks or containers that are in good condition without rust, dents, bulges, or other structural deformities. Unless the specific requirements outlined in Section III of this fact sheet are met, other wastes are not permitted to be mixed with used oil. The tanks or containers should be dedicated to the storage of used oil and must be labeled with the words "Used Oil"; similarly, fill pipes of underground storage tanks holding used oil must be labeled "Used Oil." Weekly inspections of containers to check for leaks should be performed and documented; any leaks found should be repaired immediately. Secondary containment around used oil storage areas is advised and may be required by local fire and sewer district regulations. Secondary containment can prevent isolated spills from causing safety hazards and illegal discharges to

BEP Toll-Free Assistance Line (800) 882-3233 (In State) or (702) 689-6688
BEP UNLV (702) 895-0852

This fact sheet was developed by the Business Environmental Program of the Nevada Small Business Development Center with funding provided by the Nevada Division of Environmental Protection.

drains.

III. MIXING PROVISIONS

The newly adopted Nevada-specific regulations allow for the mixing of certain non-hazardous materials with used oil. Additionally, the new regulations allow only conditionally exempt small quantity generators (CESQGs) to mix ignitable solvent hazardous wastes with used oil, provided specific criteria in Section IIIc of this fact sheet are satisfied. Conditionally exempt small quantity generators are those businesses who produce no more than 100 kilograms (approximately 26 gallons) of hazardous waste in a calendar month.

IIIa. Allowed Mixtures of Fuels and Products

The regulations allow the mixing of certain materials with used oil. Waste gasoline may be mixed with used oil if the resultant mixture does not exhibit any of the characteristics of hazardous wasteⁱ - specifically, the mixture must not be ignitable, reactive, corrosive, or toxic as determined by the TCLPⁱⁱ test. Waste diesel fuel may be mixed with used oil; written approval must be granted by NDEP prior to using the resultant mixture for extractive mining activities (i.e., combining the mix with ammonium nitrate for blasting purposes may only be performed with express written approval from NDEP). Similarly, diesel fuel (not waste) may be mixed with used oil, and written permission to use the mixture for mining extraction activities must be granted by NDEP.

Mixtures of used oil and products other than those allowed by the regulations must be managed as hazardous waste unless the mixture has been definitively shown to be non-hazardous or unless the mixture is being reused or burned for energy recovery.

IIIb. Allowed Mixtures of Non-Hazardous Wastes

Mixing of non-hazardous wastes with used oil is allowed; however, documentation that the waste mixed with the used oil is non-hazardous must be maintained on-site and available for inspection for at least three years from the date of mixing. For example, waste non-hazardous hydrocarbon-based cleaner that is not ignitable and passes the Toxicity Characteristics Leachate Procedure (TCLP) test may be mixed in the used oil. The Material Safety Data Sheet (MSDS) and the analytical results of the TCLP test applied to the waste should be maintained in the generator's files for at least three years from the date of mixing.

Used oil transporters are concerned about Btu values and other materials mixed with used oil. To avoid affecting the Btu value of the used oil, only certain types of non-hazardous materials should be mixed with used oil; used oil generators should discuss allowable mixing with their used oil transporter.

IIIc. Mixing Allowed for Conditionally Exempt Small Quantity Generators

Conditionally Exempt Small Quantity Generators (CESQG) who, in one month, generate less than five gallons of ignitable hazardous wasteⁱⁱⁱ (40 CFR § 261.21ⁱ) may mix that waste with used oil if the resultant mixture is not considered ignitable. Waste that is hazardous for any other reason besides being solely an ignitable hazardous waste cannot be mixed with used oil; if such waste is mixed with

used oil, the mixture must be managed as hazardous waste. Naphtha-based solvent represents one common waste that is hazardous solely because of ignitability. Typically, paint thinner and ink wash-up solutions cannot be mixed with used oil because they are hazardous wastes due to ignitability and because constituents such as acetone, toluene and xylene are listed under Subpart D of 40 CFR § 261.

Any CESQG that mixes an ignitable hazardous waste with used oil must maintain readily accessible records documenting:

- ✓ the type of hazardous waste mixed with the used oil
- ✓ the quantity of hazardous waste mixed with the used oil
- ✓ the quantity of used oil to which the waste was added
- ✓ the date the mixing was performed
- ✓ the amount of solvent purchased that would be considered ignitable hazardous waste upon disposal

These records must be maintained for three years from the date of mixing.

Small quantity generators and large quantity generators of hazardous waste are not permitted to mix any hazardous waste with used oil. Mixtures of used oil with hazardous waste(s), except the five gallon solvent mixture allowed for CESQGs, must be managed as hazardous waste.

IV. MANAGING USED OIL SPILLS

Isolated spills of used oil may be controlled with sorbent material such as "kitty litter", vermiculite, or synthetic adsorbent provided the mixture of used oil and sorbent does not contain any free liquid. The mix of sorbent and used oil may be disposed of as solid waste if no free liquid is present.

V. TRANSPORTING USED OIL

The new regulations also establish proper practices for the transportation of used oil. The regulations allow used oil generators to transport their own used oil to a collection center or to an aggregation point that is owned by the generator. Generators are allowed to transport a maximum of 55 gallons of used oil per shipment in a vehicle owned by the generator or an employee of the generator. The used oil must be transported to a permitted collection center or to a company designated aggregation point.

If a used oil hauler is hired, the generator of the used oil must use a transporter who has an EPA transporter number. The transporter must maintain records of the generator's EPA identification number (if they have one), the quantity of used oil accepted for transport, the date of the transaction, and the signature of the used oil generator. Generators should keep a copy of the receipts from the used oil haulers on file for at least three years.

VI. NEVADA USED OIL HAULERS^{iv}

Reno/Sparks/ Carson City/Gardnerville

Reno Drain Oil 702-342-0351
Americlean 702-577-9001

Las Vegas

Thermo Fluids, Inc. 888-771-6220
First Recovery 702-644-0897
Safety-Kleen

Thermo Fluids, Inc. 208-465-4800

Ev-Con 702-644-1167

Evergreen 702-645-1547

Elko/Ely/Winnecumma

DL White Trucking, Inc. 702-635-8760

Americlean 702-577-9001

VII. ON-SITE USED OIL BURNERS

Businesses which generate used oil may burn the oil in on-site used-oil fired space heaters, provided hazardous wastes are not mixed with the oil. Only waste oil generated at the business or by household "do-it-yourselfers" may be burned in the space heaters located at that business; used oil generated at one business cannot be burned in another business' space heater. On-site used-oil fired space heaters cannot exceed 0.5 million Btu per hour. Air permits for on-site used oil space heaters are required in Washoe County; Mr. Chris Ralph of Washoe County Air Pollution Control District, (702) 784-7200, can provide additional information regarding these permits. There is the potential for an air permit to be required in Clark County; Ms. Elizabeth Gilmartin of the Clark County Air Pollution Control District, (702) 383-1276, can provide additional information regarding any required permit. If a business is located outside of Washoe or Clark County, the State of Nevada, Bureau of Air Quality requires an air permit for used oil fired space heaters with a Btu value greater than 4 million Btu per hour. For information regarding the State permitting requirements, contact Mr. Don Del Porto, (702) 687-4670, Ext. 3074.

USED OIL FILTERS

On May 20, 1992, the Federal Environmental Protection Agency (EPA) issued a final rule on the handling and disposal of used oil filters. In the past, it was the generator's responsibility to determine if their used oil filters were a hazardous waste; historically, this determination was made by applying a Toxicity Characteristics Leaching Procedure (TCLP) analytical test to the used oil filters to determine if there were elevated levels of organic and/or inorganic constituents. **Under EPA's final rule of May 20, 1992, non-terne plated used oil filters are exempt from hazardous waste regulation if the filters have been gravity hot-drained using any one of the following methods:**

- 1 Puncturing the filter anti-drain back valve or the filter dome end and hot-draining;
- 2 Hot-draining and crushing;
- 3 Dismantling and hot-draining; or
- 4 Any other equivalent hot-draining method which will remove used oil.

The EPA recommends a 12 hour hot-drain time and defines "hot-drained" as drained near engine operating temperature and above room temperature (e.g. 60 degrees Fahrenheit).

This exemption is for non-terne plated oil filters only. Terne, an alloy of tin and lead, serves as plating on some oil filters. The lead concentration found in unused tern-plated oil filters can render the oil filter a hazardous waste, even without additional contamination that could occur during normal use. Filter manufacturers in the United States no longer make terne-plated filters. However, if you have a tern plated filter, you should either presume it is a hazardous waste, test it for lead using the TCLP analysis, or have it recycled under the scrap metal exemption.

No determination has been made regarding fuel filters, transmission oil filters, or specialty filters. The