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A Performance Audit of the Department of Environmental Quality's Commercial Waste Facility Oversight

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Audit Performed by:

Audit Manager	Tim Osterstock
Auditor Supervisor	Darren Marshall
Audit Staff	Deanna Herring
	Ivan Djambov

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Regulatory oversight of hazardous and radioactive waste disposal in Utah appears to adequately follow safeguards for the health and safety of Utah's population. The Utah Department of Environmental Quality (DEQ) follows federal regulations and state laws as delineated in the **Utah Code**. There are, however, concerns with some questionable operating procedures and accessibility of information that may limit DEQ's program effectiveness.

The department's oversight of commercial waste disposal sites requires a complex organizational structure that must be capable of dealing with complicated regulations and site operations. Oversight is further complicated because environmental issues have always raised some degree of public concern. This concern begins with the very nature of DEQ's mission statement of both protecting the environment and aiding in economic development. This charge, combined with the unique ownership, waste streams, and history of one of the state's primary waste disposal sites, creates concerns. The concerns have been further fueled by a perceived lack of departmental administrative controls and, at times, a lack of readily accessible information.

This audit was requested by the Utah Hazardous Waste Regulation and Tax Policy Legislative Task Force. The task force requested that the Office of the Legislative Auditor General determine:

- If state-licensed radioactive, solid, and hazardous waste disposal facilities are regulated according to, and in compliance with, Utah statutory requirements.

- If Utah's regulatory requirements are adequate to provide effective management of state environmental concerns.

- If established fees are used in accordance with state statute and are sufficient for the department's operational needs.

Chapter II: Waste Site Programs Need Better Planning and Administrative Support

DEQ Administrative Support of Waste Disposal Oversight Needs Improvement. The Department of Environmental Quality (DEQ) lacks a coordinated, written plan to guide its divisions' oversight of commercial waste disposal facilities. A clearly developed, risk-based, plan could better guide budgetary decisions. Such a plan should address fee fluctuations and the department's current reliance on the diminishing EQRA account. On a positive note, DEQ'S oversight of site financial assurances appears appropriate.

DEQ Should Review Adequacy of Funds to Improve Operational Efficiency. The department reported to the Hazardous Waste Regulation and Tax Policy Task Force that certain oversight activities are conducted annually when, in fact, during tight budget years they have not been performed. Adequate funding for future oversight of waste disposal programs is a concern that can be addressed, in part, with regular DEQ audits of waste disposal fees. Our review indicates that information gained in fee audits could increase revenues available for oversight programs. Improvements are also needed in information storage/retrieval management and information available for future fee setting.

Chapter II Recommendations:

1. We recommend the Legislature review the **Utah Code** outlining the EQRA account to clarify legislative intent.

2. We recommend the DEQ formalize its oversight plans and include prioritization, risk assessment and necessary funding levels.

Chapter III: Commercial Waste Disposal Oversight Can Improve

Performance of DRC's Groundwater Oversight Program Raises Questions. Oversight of commercial waste disposal programs is in large part done by a variety of inspections and monitoring programs. We reviewed DRC's groundwater sampling assurance program and are concerned with: 1) well sample selection which has been cost-based not risk-based; 2) less frequent sampling than reported; and, 3) elimination or reduction of sampling as budgeted funds are used elsewhere.

Inspection Programs Appear Effective and Seem to Meet Current Health-safety Needs. DRC inspectors appear to be thorough and effective in addressing health-safety needs. DRC inspections have been

broken down into manageable "modules" that have been approved for content and effectiveness by the NRC.

DSHW Can Improve Disposal Facility Oversight. In contrast to DRC inspections, DSHW does not utilize a written inspection plan. Rather, the division relies on the expertise of its staff. As a result, there is neither a formal risk assessment nor tracking of violation trends to guide DSHW activities.

Chapter III Recommendations:

1. We recommend the department ensure that its oversight plans are coordinated between divisions and kept current.
2. We recommend DRC establish formal policy and practice of a risk-based groundwater split-sampling program.
3. We recommend that DSHW design and implement written, uniform, annual inspection plans.
4. We recommend the Legislature study DSHW's penalties to determine appropriate maximum fine levels.
5. We recommend that DSHW sample treated waste to ensure that it meets treatment standards.

Chapter IV: Record Keeping and Fee Collection Reviews Need Improvement

DEQ Administrative Controls Can Improve. Oversight functions can be improved with additional administrative control of information and improved fee collection from waste disposal facilities. Currently, DRC's lack of an integrated information system prevents easy access to information such as the tracking of notices of violations (NOVs). This concern has also been voiced by the NRC. Additional controls, primarily in fee collections, are necessary if the state is to fully collect the legislatively set fees. Our review found substantial under-payments. Clarification and improved policies regarding fee collections would better transmit legislative intent to the department and to the disposal site operators.

Fee Collection Regulations Need Clarification. Clarification of state statute and formalization of departmental policies could provide the state with increased revenues without changing the existing fee structure. As an example, facility operators have elected to either not follow or reinterpret state statute to reduce fee payments. The department was not aware of the altered practice of the facilities. In another instance, the

department has used an informal policy to not collect all the legislatively established fees in cases where multiple fees apply.

Chapter IV Recommendations:

1. We recommend that DRC create a position to maintain its information systems.

2. We recommend that the facilities submit monthly fee reports in a more user-friendly format.

3. We recommend that DEQ establish a commercial waste facility audit program to provide quality assurance for its regulatory program.

4. We recommend that the Legislature review **Utah Code** 19-6-118, regarding generator fees, and clarify its intent.

Chapter I
Introduction

Regulatory oversight of hazardous and radioactive waste disposal in Utah appears to adequately follow safeguards for the health and safety of Utah's population. The Utah Department of Environmental Quality (DEQ) follows federal regulations and state laws as delineated in the **Utah Code**. There are, however, concerns with state programs' effectiveness that are the result of some questionable operating procedures and, at times, a lack of readily accessible information.

The Department of Environmental Quality (DEQ) lacks a written plan to guide its oversight of commercial waste disposal facilities. As a result, during funding shortages the department has had to choose what to fund without a formal, written guide prioritizing the greatest necessity. Further, DEQ could improve its operational efficiency by ensuring funds for existing programs as well as providing funding for improved file record management and regularly conducted audits on waste disposal fee collections.

In addition, DEQ can improve its oversight of the commercial waste disposal facilities. We question decisions made by the Division of Radiation Control (DRC) regarding their groundwater oversight protection program; however, DRC's inspection programs appear effective and able to meet current health-safety needs. Finally, we believe that the Division of Solid and Hazardous Waste (DSHW) can improve their waste disposal site oversight.

DEQ also lacks some internal controls necessary to efficiently and effectively administer the radioactive and solid and hazardous waste programs. The department needs to strengthen its administrative controls in regard to record keeping and fee collections. In addition, DEQ needs to clarify some of its fee collection policies.

Overall, departmental and divisional coordination needs to improve. The department's administrative staff lack some of the divisional expertise necessary to fully perform their assigned functions while the divisions do not appear to be fully aware of what the other is doing. DRC's operations lack a number of administrative functions that could improve division file record management systems and, ultimately, improve its

regulatory ability. Conversely, DSHW has reasonable file management operations but falls behind in its waste site oversight functions.

DEQ's mission to protect environment and promote economic development creates complexities.

Organizationally, the department deals with very complex and complicated issues. Environmental topics have always raised some public concern. This concern begins with the very nature of DEQ's mission statement of both protecting the environment and aiding in economic development. This charge, combined with the unique ownership, waste streams, and history of one of the state's primary waste disposal sites, creates concerns. The concerns have been further fueled by a perceived lack of departmental administrative controls and, at times, a lack of readily accessible information.

Oversight Revenue Is Dependent On Waste Volume

The mission statement of Utah's Department of Environmental Quality calls for a balancing of environmental protection and support of economic development. These charges are intended to foster the cooperation of industry in maintaining a healthy environment. Yet in many instances, the point the department needs to step in as a regulator is not clearly defined.

Oversight funds are dependent on waste disposal streams.

The department depends on waste disposal fee revenues as the primary funding source for its regulatory responsibilities. Low fee revenues signify decreased funds for oversight. Another issue is the two divisions in charge of regulating the industry operate under two distinct federal agencies. These two separate agencies and their regulations create two different operations. Each has its own strengths, but better coordination could mutually improve the overall efficiency.

Regulatory Effectiveness Is Dependent On Budget and Staff Constraints

Funding for the regulation of commercial waste disposal facilities comes principally from waste disposal fees. Most fees are tied to waste stream volume and are paid by the industry. The fees are then deposited in the Environmental Quality Restricted Account (EQRA). Because the industry waste streams fluctuate, so do fee revenues that fund regulatory activities of both the Division of Radiation Control (DRC) and the Division of Solid and Hazardous Waste (DSHW).

Fee revenue fluctuations make budget planning difficult for DEQ.

The fluctuations in revenues have posed and still pose a challenge to the department in determining a budget to cover the appropriate regulatory activities. The department and Legislature recognized this problem when they created the EQRA account. The account is intended to stabilize funding shortages by allowing for excess revenues to be stored in the account and used in times of budget shortfalls. Still, in our review of the EQRA's recent history, revenues have consistently fallen short of budgeted expenditures. The department is left to make the decision of requesting a fee increase and/or choosing to reduce or eliminate budgeted activities and programs.

DEQ Divisional Operations Differ Significantly

The two primary divisions that are in charge of regulating commercial waste facilities are DRC and DSHW. Both divisions regulate waste disposal, but each has a separate federal agency which performs oversight over the divisions. The Nuclear Regulatory Commission (NRC) oversees DRC, and the Environmental Protection Agency (EPA) oversees DSHW. Each federal agency has its own guidelines and requirements for the divisions and different levels of oversight provided. These are two causes for the differences in how the divisions' oversight activities are conducted.

Commercial waste facilities are regulated by two distinct DEQ divisions.

An example of differences between the two divisions is that DRC has been granted administrative penalty authority. This authority gives DRC the power to impose actual fines for violations on the waste disposal facility. DSHW does not have that authority. DSHW has to negotiate the penalty amount dependent on the nature of the violation. The issue is eventually settled before it is presented to the DSHW's board. The board can approve or modify the settlement amount.

DRC should improve record keeping while DSHW should develop formal inspection plans.

Further differences exist between these divisions in how they operate. Two of the primary regulatory functions we viewed as necessary to adequately regulate the waste industry are site inspections and record keeping. We found inconsistencies in both divisions that hinder proper reviews. DSHW has appropriate and accessible records but has not developed sufficient written inspection procedures to ensure adequate site review. Rather, they rely on an informal program based on the individual inspector's knowledge gleaned from their experience. DRC has disorganized file information systems that limit public use and access to information but has fairly well organized and consistent site inspections and inspection reports.

Despite differences in their operations, there are some shared functions that need departmental clarification. These include coordinated fee collections and administrative support for auditing and financial oversight (tracking fee payments).

The two divisions are responsible for independently regulating Utah's five active commercial waste disposal facilities. While each operates under its own set of rules and guidelines. DRC oversees two facilities while DSHW has regulatory authority of four facilities. Figure 1 lists these facilities.

Figure 1. Utah's DEQ Regulates Five Commercial Waste Disposal Facilities. The state currently regulates a variety of wastes and its inventory of waste facilities is increasing.

Facility	Type of Waste Disposed	Division Responsibility
Aragonite	Hazardous Waste (Incinerator)	DSHW and Air Quality
ECDC	Solid Waste	DSHW
Envirocare	Radioactive Waste	DRC
Envirocare-Mixed Waste Cell	Mixed Hazardous and Radioactive Waste	DSHW and DRC
Grassy Mountain	Hazardous Waste	DSHW
IUC (pending)*	Uranium Mill Tailings	DRC

** IUC is an operating uranium processing mill that is not considered a waste disposal facility, but disposes tailings on-site.*

During the course of the audit, we performed site visits of all commercial waste disposal facilities in Utah. However, this audit was a review of DEQ's regulation of the commercial waste disposal facilities and not of the facilities themselves.

Utah's Radioactive Waste Disposal Program Poses Challenges

Most low-level radioactive waste disposal processes have long-standing, nationally established rules, regulations, and practices. The

federal government has, since the 1950s, worked on the classification of radioactive wastes and the development of safe storage and disposal mechanisms. The result of this work is a primary classification system with a number of exemptions and some established rules for disposal. Utah's regulators follow the federally-established processes but, in addition, regulate some non-classified wastes and have oversight authority over a private operation that is unique in a number of aspects.

Radioactive waste facility comparisons to other such facilities are difficult to make.

In our review of commercial waste disposal facilities, we found that radioactive waste regulation exists in a complicated environment. Part of this complication results from the lack of comparative facilities within the United States to Utah's radioactive facility. The four major low-level radioactive waste receiving disposal facilities in the United States do not accept the same waste mix as Utah's facility. Further, the categorization of radioactive waste is broad and much of the public have misunderstandings regarding the radioactivity levels of the waste.

An additional concern we found in our review of the state's radioactive waste disposal program is that obtaining financial and contractual records on the radioactive waste disposal facility was very difficult. The facility is privately owned, and, thus, its records are not public information. Lastly, the **Utah Code** outlines and requires DRC to have a state plan on radioactive waste management. However, the plan has not been updated nor is it used. Planning is an essential management tool.

Radioactive Waste Regulation Is Complicated

Most radioactive waste is controlled by the federal government. Thus, much of the waste being stored at the radioactive waste facility arrives from federal cleanup sites. Due to the long-term toxicity of this waste, it was originally required to be placed in publicly-held facilities. Currently, Envirocare of Utah is an exception and is the only privately owned and operated low-level radioactive waste disposal facility in the United States. Only three other radioactive waste disposal facilities, two state-owned and one primary federal disposal site that receives radioactive waste. The state sites are located in Barnwell, South Carolina and in Richland, Washington. Both states take in more dangerous waste than Utah. The federal facility is in Nevada.

Utah's radioactive waste facility accepts lower radioactive concentrations than other states' sites.

Comparisons between other states' facilities and Utah's are difficult. First, the waste streams are different. Washington and South Carolina take in higher risk radioactive concentrations, which also brings in higher

revenues to their states. These differences make fee comparisons difficult. Also, both Washington and South Carolina are publicly owned facilities and privately managed, making regulation easier for their states because the facilities are state-owned. Site regulators have easier access for conducting inspections. Utah's DEQ regulates a private business, and it is more difficult to obtain certain types of information.

Utah's radioactive facility is privately owned while other states' facilities are publicly owned.

Regulators in South Carolina and Washington have easier access to information than in Utah. Utah's radioactive waste facility does not allow public access to its financial records, stating that this information is proprietary information. Because the other states' facilities are publicly owned, this information is readily available to their states. These states have placed limits on the profits that the facilities can earn. Both South Carolina and Washington allow their site operators a 29 percent profit.

All these factors help explain why it is difficult to draw comparisons between these facilities because Utah's is a unique entity. Decisions by the department and Legislature on how to regulate Utah's radioactive waste facility should be made independently from what occurs in Washington and South Carolina. The state should be the ultimate decision maker on the following issues:

- Which fees to impose to cover DRC's regulating costs
- What additional revenues the state ought to be receiving, since the state is the eventual custodian of the waste
- What level of access the state should have to both the facility site and the records, including business records

Regulators' access to information is restricted by private industry.

Access to records is important for adequate regulation and for proper budgetary decisions at the state level. DRC's not having access to some of the proprietary information, hinders the regulating process. For example, in March 2004, DRC issued a notice of violation (NOV) to Utah's privately-owned radioactive waste disposal facility for $750. The violation was issued because the facility had too much waste in storage. The amount of waste in excess was approximately 6,000 cubic yards. This violation was self reported by the industry.

There are several concerns with this incident from a regulating perspective. For example, because the facility's information is proprietary, the division staff could not determine the economic value of the excess waste in storage. Without this information, the division faces the difficulty of assessing an appropriate fine that is punitive and could serve

to force future facility compliance. When we asked a division staff member why a facility would comply with this regulation if the fine was less than the profits earned on the waste, he responded, "Good point." The division director responded by saying that this excess waste was not a health-safety violation; it was more of an administrative violation that he believes was adequately covered by the site's surety fund.

Utah's radioactive waste facility self-regulates. DRC relies, to some extent, on this self-regulation.

This example illustrates the difficult and complex nature in which DEQ operates. The radioactive waste facility self-regulates and has in the past self-reported violations to the division. DRC relies to some extent on self-regulating by the waste disposal facility. The facility is a business trying to stay in compliance while making the best profit possible. The division is a regulator that also tries to allow business to operate as freely as possible. Conflicts due to the DEQ's mission are inevitable.

Radioactive Waste Categorization is Broadly Defined.

Radioactive waste is categorized into several broad categories. The waste is classified by type, volume, and radioactive content. For radioactive waste, additional characteristics help categorize the waste even further and include the element's half life, the concentration levels of the radiation, toxicity of the waste, origin of pedigree, date of generation and mobility of the element. The following figure shows the various waste types.

Figure 2. Low-level and Low-level Equivalent Waste Types. There are a variety of low-level waste types defined by federal laws and rules. All but classes B & C waste are allowed in Utah's facility.

Waste Type	Waste Description
Class A	Waste with low activity concentrations that will, in containment, decay to a pre-determined acceptable level within 100 years.
Class B	Waste of somewhat greater activity levels that could pose a potential hazard to an inadvertent waste site intruder unless placed in stabilized containment for over 300 years.
Class C	Waste of higher activity level than Class B that requires stabilized containment for at least 300 years and barriers protecting against inadvertent intrusion for at least 500 years.
Uranium Mill Tailings	Low activity earthen residue from the extraction of uranium ore (called 11e.(2)), similar to NORM waste.
NORM	Radioactive material from natural sources that is usually below the activity limits of other low-level waste types.
Mixed Waste	Waste that contains both hazardous chemicals and low-level radioactive substances.

Note: Utah's facility does not receive class B and C waste, but does receive the other waste types.

Utah currently only allows low level class A radioactive waste to the state.

Utah currently allows waste disposal of A level radioactive wastes and their equivalents but not B and C waste. By volume, the greatest amount of waste now coming into Utah is from federal clean-up projects and is either low level A, mixed wastes, or mill tailings. Radioactive wastes and material that will ultimately become waste are transported to two privately-held sites in Utah. Figure 3 depicts low-level radioactive waste classification – A, B and C. All three classifications are considered low-level radioactive waste. They do not contain spent nuclear reactor rods or other such highly radioactive materials.

Figure 3. National Low-level Waste Volume and Activity Levels.* Of the three low-level waste classifications, Utah currently only accepts Class A which has the greatest volume and the least radioactive content.

Volume of Waste Generated	Percent	Total Radioactivity
Class A	97.0%	9.7%
Class B	2.5	24.8
Class C	0.5	65.5

* *U.S. Department of Energy*

For a number of years, Utah's site has had little commercial competition. Most bulk low-level waste (LLW) is either shipped to Utah or undergoes on-site remediation to reduce costs. Higher toxicity LLW is shipped to one of two previously established state-operated sites (Richland, Washington and Barnwell, South Carolina) or to a federal facility (the Nevada Test Site).

Only three low-level waste disposal facilities exist in the United States.

LLW sites are limited and slow to come on line. Sites are in the development phase for LLW, and some newly opened sites are accepting non-regulated wastes. The slow approval of sites is in part due to past problems. Over the last twenty years, a federal site reached capacity and closed, and three state-operated sites were closed due to water contamination problems.

Unique Program Requires Original Work by State

Few competitors exist to Utah's radioactive waste disposal site making comparisons of little value.

The unique nature of Utah's radioactive disposal site has meant that Utah has had to develop regulatory programs to allow and oversee its safe operation that do not exist elsewhere. There are currently no viable program competitors, so comparisons with other waste disposal sites offer little value. Additionally, the level of federal rules and regulations varies with each of the different waste types (called waste streams) handled by the operation.

When the Utah site was initiated, there was no Utah radiological need for the site. Utah LLW was then, as now, sent to Richland, Washington as agreed upon in the Northwest Compact. Utah's site was an extension of the DOE/State of Utah remediation and relocation of the Vitro tailings. The site had a completed Environmental Impact Statement (EIS)

and rail access which made it a prime waste facility location. It originally began as a site that disposed of non-regulated NORM wastes that were of high enough radiological concentrations to warrant remediation but not high enough to use the limited capacity of existing sites.

In the late 80s and early 90s the site received its state operating license without much legislative oversight. In 1991, the State Legislature was concerned enough with the operation, and their lack of knowledge, that they ordered the development of a Radioactive Waste State Plan. The next year, the Legislature, acting on serious allegations, ordered a legislative audit of the state's radioactive waste disposal program.

1992 Legislative Audit found problems with administrative public policy.

The original audit of DEQ's waste disposal programs focused on problems with the oversight of the waste site. As its conclusion, the audit found that public exposure risk was adequately controlled, but public policy for such a site was being made at an inappropriate level, and future security of the site was questionable. At that time, the site was allowed to function outside its existing license with conditional permits while awaiting license amendments. By the late 1990s, the discovery of a past state regulator's improprieties further raised concern for the site's development.

State Planning Controls Need Updating

The department and DRC need to better develop, review and revise the radioactive waste state plan. The plan is required by the **Utah Code**, 19-3-107. This plan was initiated in 1991 and completed in 1994, but there have been no updates since. The division's staff do not use the plan and even had a problem finding the auditors a copy. The division says that federal regulations dictate regulating activities, not a plan.

State Radioactive Waste Plan needs review and updating.

The plan is intended to serve as a guide to the division and the board in determining limits on radioactive waste coming into the state as well as other important planning points. One area the plan could be used but is not is during the license amendment process.

When a facility approaches the division for an amendment to its license, for example, to either bring in a new waste stream or even higher concentrations of radioactive waste, there is no guide used by DRC as to what should or should not be accepted. We believe that having a waste plan, outlining allowable limits or types of waste, would allow the division

to act on amendments more easily. According to staff, this amendment review process is very time consuming.

Radioactive Waste Plan was intended to set goals and project the plan over 20 year period.

The goal of the plan was to project over twenty years an estimate of radioactive waste capacity for the state. A decade has passed, and the plan is not used. If the plan is not being used, the department should determine the reasons it isn't. If the **Utah Code** needs to be reviewed and modified, then the department ought to pursue statutory changes. The development and use of a plan is a prudent managerial instrument.

Audit Scope and Objectives

This audit was requested by the Utah Legislative Hazardous Waste Regulation and Tax Policy Task Force. The task force requested that the Office of the Legislative Auditor General determine

- if state licensed radioactive, solid, and hazardous waste disposal facilities are regulated according to and in compliance with Utah statutory requirements.
- if Utah's regulatory requirements are adequate to provide effective management of state environmental concerns.
- if established fees are used in accordance with state statute and are sufficient for the department's operational needs.

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Chapter II
Waste Site Programs Need Better Planning and Administrative Support

The Department of Environmental Quality (DEQ) lacks a coordinated, written plan to guide its divisions' oversight of commercial waste disposal facilities. As a result, when faced with lower fee revenues and unanticipated expenses, the department has had to choose what to fund without a formalized guide prioritizing the greatest need. It appears that revenue shortfalls may continue, and the department ought to formalize a plan that addresses the department's most critical needs.

In addition, DEQ could improve its operational efficiency. The department reported to the Legislative Hazardous Waste Regulation and Tax Policy Task Force Committee that certain oversight activities are conducted annually which during tight budget years they have not been performed. Adequate funding for future oversight of waste disposal programs is a concern. We believe that regular audits of waste disposal fees paid by the industry to the department could increase revenues available for the department's oversight programs. Further, one division within DEQ could improve its efficiency by adding an office information systems manager.

DEQ Administrative Support of Waste Disposal Oversight Needs Improvement

The department lacks a written oversight plan, including risk analysis, of its oversight priorities. A clearly developed plan could better guide the department's budgetary decisions. The need for a plan is evident especially in times of shortages in disposal fee revenues used for oversight. Waste disposal fee revenues that fund the divisions' principal oversight account, the Environmental Quality Restricted Account (EQRA), have decreased. At the same time, at least one division's lack of available funds has affected some oversight activities.

We found that the divisions adequately track each waste disposal facility's methods of financial assurance and ensures that the contracts are current. Each facility is required to have financial assurance on its

property in case of company insolvency. The radioactive waste disposal facility's financial assurance covers the cost of closing the site and maintaining the site for 100 years. DSHW's sites financial sureties cover the costs of closing and maintaining the sites for 30 years. Each facility has an approved form of financial assurance.

Fee Fluctuations Affect Level of Oversight

Fluctuations in waste disposal fee revenues affect division oversight of commercial waste facilities. Due to the lack of a written plan, we believe some oversight programs may not be adequately funded. If the administration wishes to ensure a certain public safety level, risk analysis ought to be used in formulating the plan. In addition, the department's oversight fund used for oversight of commercial waste disposal facilities may need clarification in the **Utah Code**.

Fee fluctuations affect the level of oversight the divisions are able to conduct.

Oversight of Utah's Waste Disposal Sites Is Dependent on Waste Disposal Fees Collected from the Regulated Industry. Unlike many state programs that are funded with general fund monies, DEQ waste disposal oversight budgets are funded primarily by waste disposal fees. Oversight funds fluctuate from year to year and are primarily dependant on amounts of waste received. This fluctuation affects the level of oversight DSHW and DRC are able to conduct.

The department needs better planning to ensure areas of greatest risk are met.

DEQ needs better planning to ensure the areas of greatest risk are regulated and that their budget meets the needs of these areas of highest risk. To achieve this budget, DEQ ought to develop a cost structure that reflects both fixed and variable costs. First, the department ought to determine the fixed costs of waste disposal regulation that meets the public's health safety needs. Second, they should establish a fee, such as a flat fee, that would be less affected by fluctuations in the waste disposal industry. Lastly, fees tied to volume of waste could then be put in place that cover variable costs, such as additional costs the DEQ encounters when waste being disposed of at Utah's sites increases.

EQRA Purpose Needs to Be Better Defined. The **Utah Code** section 19-1-108 does not fully develop a purpose for the Environmental Quality Restricted Account (EQRA). The EQRA account holds waste disposal fee revenue from commercial waste facilities for the oversight of radiation control and solid and hazardous waste programs. The purpose of the EQRA is found in subsections (4) and (5) which reads:

(4) The Legislature may annually appropriate monies from the Environmental Quality Restricted Account to:
(a) the department for the costs of administering radiation control programs;
(b) [and] the department for the costs of administering solid and hazardous waste programs; ...
(5) In order to stabilize funding for the radiation control program and the solid and hazardous waste program, the Legislature shall in years of excess revenues reserve in the restricted account sufficient monies to meet departmental needs in years of projected shortages.

EQRA account code language needs review.

We believe the **Utah Code** does not fully distinguish whether the funds will cover all the costs or partial costs of administering radiation control and solid and hazardous waste programs nor does it appear to recognize which programs should be funded. Both DRC and DSHW administer programs besides commercial waste facilities.

Defining the EQRA's purpose is important since DEQ staff have said that the intent of the disposal fee collections was to cover the costs of regulating all waste facilities. However, one division has had to rely on federal funds to help cover its waste facility oversight expenditures. We question if EQRA funding should be transportable either into the account from other programs or out of the account for non-commercial waste facilities. We believe clarification of the EQRA account's purpose can assist the Legislature in setting fees necessary for oversight.

Increased Expenditures Have Resulted in a Diminishing EQRA Balance

Waste disposal fee revenues, primarily used for oversight of waste facilities by DSHW and DRC, have steadily decreased since 2001 while budgeted expenditures have increased. Despite waste disposal fee increases implemented in 2003, DEQ projections still show an overall diminishing EQRA fund balance. A continuing decrease in disposal fee revenues may be the cause of insufficient funds to cover oversight costs at the level DEQ has reported to the Legislative Hazardous Waste Regulation and Tax Policy Task Force (Task Force).

The department decided not to spend some planned oversight funds for budget reasons.

The department has chosen not to use some of the divisions' budgeted monies on oversight programs. Due to budget concerns, DEQ opts to lapse these unused monies to the EQRA account. While the EQRA account is designed to help stabilize revenue shortfalls, we disagree with

this practice if some fundamental oversight functions are not being conducted.

Disposal Fee Revenues Fall Short of Budgeted Expenditures. There has been a decline in waste disposal fee revenue since 2000. The budgeted expenditures have increased over the same time period. Budgeted oversight expenditures that consistently exceed revenues received is of concern to us. Planned oversight activities have been reduced or displaced for other needs. When we questioned department staff, they seem to differ on the level of concern with the EQRA account's financial healthiness. Some staff feel that new waste disposal fees are adequate to sustain the EQRA account. While DEQ's 2004 budget estimates show revenues exceeding expenditures, 2005 estimates show fee revenues falling short as depicted in Figure 4.

Figure 4. Fee Disposal Revenues Fall Short of Budgeted Expenditures in EQRA Account. Projected budgets are not in-line with disposal fee revenue.

Fiscal Year	Fee Disposal Revenue	Budgeted Expenditure	Difference
2000	$ 5,339,828	$ 5,214,664	$ 125,164
2001	4,985,840	5,370,357	(384,517)
2002	4,146,605	6,245,220	(2,098,615)
2003	4,105,141	6,068,862	(1,963,721)
2004 est	5,886,499	5,727,890	158,609
2005 est	5,117,799	5,829,940	(712,141)

Note: 2004 and 2005 are DEQ reported estimates.

Fee disposal revenues continually fall short of budgeted expenditures.

Figure 4 demonstrates that since 2000, fee disposal revenue has not kept pace with budgeted expenditures. The department has used dedicated credits collected from other programs to help offset fee disposal revenue shortfalls especially in 2002 and 2003.

As a result of revenue shortfalls in recent years, the overall EQRA account fund balance has declined. Figure 5 depicts the declining trend of the EQRA fund balance as well as the department's projected EQRA fund balance. The projections took into account, where applicable, the amount

of waste coming in averaged over the last three years and then multiplied by the new fee rates that went into place in 2003.

Figure 5. EQRA Oversight Fund Balance is Diminishing. Available oversight funding resources are being used at a faster rate than they are being replenished.

Fiscal Year	Beginning Fund Balance	Ending Fund Balance	Percent Change
2001	$ 2,387,609	$ 2,255,330	-6 %
2002	2,255,330	1,830,919	-19
2003	1,830,919	871,309	-52
2004 estimated	871,309	1,029,918	18
2005 projected	1,029,918	317,777	-69

Note: 2004 and 2005 are DEQ reported estimates.

Divisions' oversight fund balance is decreasing.

In analyzing the figure, we see a decrease in the fund balance between 2001 and 2003. Projections for fiscal years 2004 and 2005 are estimates, and actual balances may be higher since any unspent regulating monies are lapsed to offset budget shortfalls. It is of concern that revenue shortfalls mean the department must rely on dedicated credits from other programs to maintain a given level of oversight.

A healthy fund balance is ideal to help cover the costs of providing oversight during times of weak fee disposal revenue streams. In discussing this with both division and department management, there seems to be disagreement as to the level of concern over the diminishing fund balance. Regardless, from an audit perspective, balances should be closely watched, and future fee increases ought to be considered if the department and the Legislature wish to maintain or increase existing oversight levels.

Increases in Lapsing Balance Totals Are a Concern. The Legislature allows for unspent oversight monies to lapse to the EQRA account at year's end. Over the past four years the amount of unspent monies has increased annually from $240,000 to over a $1,000,000. Some department staff consider these funds to be program savings. However, our concern is that these unspent funds returned to the EQRA

came from budgets that staff had said weren't sufficient to cover some oversight activities. The following amounts were returned to the EQRA for each of the past four fiscal years:

Increasing unspent oversight funds lapsing to the EQRA is of concern.

- 2000 $ 242,899
- 2001 $ 252,237
- 2002 $ 1,674,204
- 2003 $ 1,004,111

During the audit, DEQ staff told us there were insufficient funds to do some oversight activities at waste disposal facilities. However, one DEQ administrative staff member told us that the department did not conduct some oversight activities, at least for one year, in order to lapse these funds to the EQRA account to offset total regulating expenditures.

Division reported insufficient funds to cover some oversight, yet some funds were unspent.

For example, one oversight function not conducted was groundwater split-sampling (discussed further in Chapter III of the report) at a site operator's radioactive waste facility between 2001 and winter 2004. DRC's budgets for fiscal years 2002 and 2003 identified $94,825 and $70,387, respectively, that were not used for the oversight function. These funds lapsed to the EQRA account at year's end.

We were told by some department staff that they used the groundwater oversight money at a uranium processing mill site which had a contamination problem. The staff said that the money budgeted to be spent at the radioactive waste disposal facility was spent on groundwater testing at the processing mill because they knew there was a greater risk at the processing mill.

In FY2003, the department received funding to staff a program that would oversee the uranium mill program. Because the state had not obtained authority to oversee this facility, this funding lapsed to the EQRA account and was used to cover other expenditures. The uranium mill program is not in operation, yet in fiscal year 2003 the department was appropriated $40,002 and may still receive funding for fiscal year 2004. The annual revenues from the uranium mill disposal fee will be $168,700.

The level of oversight that the department has implied to the task force has not been met. The regulation of these waste disposal programs is not

paid with general fund monies; they are paid by the industry in the form of waste disposal fees. If the Legislature is unsatisfied with the level of oversight being conducted, then an additional fee increase is an option.

Methods of Financial Assurance Seem Appropriate

Utah's waste disposal facilities follow approved methods for financial assurance. Each facility is backed financially in case the facility becomes insolvent. Utah's waste disposal facilities use either a letter of credit, bonds, or insurance for financial backing. These methods of assurance should cover the cost of site closure by a third party operator and post-closure maintenance for up to 100 years afterwards.

1992 legislative audit reported financial assurance as major weakness.

The 1992 legislative audit report identified DEQ's financial assurance programs as a major weakness that could have exposed the state to unnecessarily high risk. The current program is substantially different and affords the state significantly better protection. The current assurance program allows bank-secured letters of credit that are low-risk and widely used.

All five commercial waste facilities follow approved methods for financial assurance.

A letter of credit is usually backed by a large financial institution. The financial institution determines, with the disposal site owner, how the owner is backing the letter of credit. Utah's radioactive waste facility, for example, uses a letter of credit. Bonds and insurance policies are also commonly used as approved forms of financial assurance. Cash is the best form of financial assurance; however, no facilities use cash as their means of financial assurance.

Letters of Credit Are a Commonly Accepted Form of Assurance. In contacting other states that have radioactive waste disposal sites, we found that letters of credit are a common form of financial assurance. In South Carolina there was a facility in which they had to call the letter of credit. Calling the letter of credit allows an entity, in this case the state, to collect on the funds from the entity holding the letter of credit, usually a bank. The state reported no problems in collecting this assurance money.

The Nuclear Regulatory Commission (NRC), the national oversight organization over radioactive waste facilities, also lists letters of credit as an acceptable form of assurance. According to a spokesperson for the NRC, the financial instrument must provide assurance up front. A letter

of credit is one way to ensure these monies, and, thus, is acceptable as a means of financial assurance.

Risk to State Is Minimal for the Letter of Credit. We contacted the financial institution that holds the letter of credit on Utah's radioactive waste disposal facility. It appears that the majority of the risk is with the financial institution if the facility goes bankrupt or becomes unproductive. The financial institution backs the facility based on criteria that they couldn't disclose to us. However, there can be a variety of assets used by the facility for backing the letter of credit.

Letters of credit pose little risk to the state.

Further assurance to the state is obtained by the state having the right to call the letter of credit at any time. Upon calling the letter of credit, the state, as the beneficiary, would obtain the funds from the financial institution, and the financial institution would then collect on the cash or other assets from the waste disposal facility. In the case of bankruptcy by the waste disposal facility, the letter of credit should not be at risk because it is payable by the bank and not the disposal facility.

Perpetual Care Fund Also Provides Assurance. The state is the long-term custodian of the waste, long after waste disposal facilities are closed. To ensure additional funds for ongoing care and maintenance, Utah recently began collecting monies in the amount of $400,000 a year from the radioactive waste facility. We found that a perpetual care fund is in line with what other states have implemented. Washington, for example, has $36 million in their perpetual care account and have continual funding from a fee of $1.50 per cubic foot on waste.

One area that we lacked time to look into is the methods used to determine the amounts that the facilities calculate it will cost to close and maintain their sites. However, we do know that, first, the facility proposes an amount they have researched as is necessary to cover closure and post-closure expenditures to the department. Second, the divisions within DEQ review and approve whether the amount is sufficient.

Bonds and Insurance Are Also Acceptable Means of Assurance. The department accepts both bonds and insurance as reasonable forms of assurance. In contacting other states, Texas, for example, has bonds listed as one of four approved means of assurance.

Bonds and insurance are also approved methods of financial assurance.

According to a financial institution staff member, bonds are similar to letters of credit. The federal government prefers bonds instead of letters

of credit, but he doesn't see one better than the other. One department staff member said that he prefers payment bonds over insurance policies primarily because insurance policies are frequently litigated.

DEQ Should Review Adequacy of Funds to Improve Operational Efficiency

The department needs to develop a plan which would prioritize oversight functions of the waste disposal facilities. During the past few years, some oversight functions were not conducted. The division staff claim insufficient funding; however, it may be partially the result of not having a plan to prioritize what needs to be looked at first.

An additional concern is that the department has not budgeted funds which could improve operational efficiencies. These improvements include regular audits of the waste disposal fees and a better file management system for one of the department's divisions.

Funding Concerns Exist with DEQ's Current Oversight Functions

DEQ will soon become the primary authority overseeing Utah's uranium mill tailings programs. Along with that responsibility, DEQ plans to cover the costs primarily through waste disposal fees on the two facilities that have uranium mill tailings. We question whether the department will have sufficient funds to cover the costs of this program.

Funding issues ought to be addressed to cover current oversight functions.

An additional concern is that the department went three years without conducting groundwater split-sampling at the radioactive waste disposal facility. Department staff claim that insufficient funding is the reason groundwater split-sampling from 2001 through winter 2004 was not conducted. This issue ought to be addressed by the department as to the priority of sampling.

Funding of Uranium Mill Tailings Programs Poses Questions. The amount of fee revenue to pay for the cost of overseeing uranium mill tailings programs will fall short of the program expenditures needed to run this operation. The program is expected to cost around $310,000, however, this amount does not include the costs of permit reviews. The amount of disposal fee revenue from uranium mill tailings fees is $160,000. Utah is in the process of obtaining authority, or primacy, over

the oversight of uranium mill tailings programs. Currently, the NRC monitors the program. When primacy is granted, Utah will have ultimate authority over the uranium mill tailings programs. Primacy is a term used to indicate who has primary responsibility over a site.

Two fees were implemented in fiscal year 2003 to help fund this program. One fee was a $6,667 monthly fee paid by active uranium mill processing sites or commercial waste disposal sites disposing of uranium mill tailings. These two facilities are Envirocare and International Uranium Corporation (IUC). The other fee is a $4,167 monthly fee that was to be paid by mills or sites on standby status. No facility currently falls in this category.

Adequate funding to cover both the uranium mill processing oversight and EQRA budget shortfalls raises concerns.

Department administrative staff claim that they will be able to cover the costs of the new program because they intend to use fee revenue from the annual facility fee passed for fiscal year 2004 on public solid waste facilities. This fee amount is projected to be $225,000 annually. If the fee revenue from facilities with a uranium mill tailings programs is added to this amount, then there should be sufficient funds to cover program costs. DEQ staff also claim that they will receive funding from a $70 per hour review fee from these two sites.

Other department staff claim that new fees and increased disposal fees, both implemented in fiscal year 2004, were to help offset the declining fund balance in the EQRA account. Regardless, there is a finite amount of revenues coming in and it appears insufficient to cover both the uranium mill tailings program and to offset a declining fund balance.

An additional issue is that both sites roughly receive the same material, but federal classifications make distinctions and allow for different handling. IUC's operation must be able to process the byproduct waste material into usable uranium or other recoverable elements. There is at the end of this process waste as well, and it is deposited into waste disposal cells. IUC only starts up the mill when it has enough bi-product material to process, which could be a year or two. Envirocare's operation is designed as a waste disposal facility only. Further differences between the facilities are that Envirocare receives payments for disposal of the waste while IUC may receive a lower payment for accepting the waste and can make a profit on the re-sell of the recoverable uranium.

Uranium Processing Mill Fee may need review to ensure fairness to facilities.

There is reason to reevaluate the funding for the regulation of these two programs. We feel that further work is necessary in the development

of the state's plan as to assessment of risk and equitable fee structure for this program. These are two different operations, yet both are expected to pay the same fee.

Sufficient Funds to Cover Costs of Groundwater Well Oversight Remain Uncertain. The department administration initially told us, as well as reported to the task force, that it would cost $80,000 a year to test all the wells at Envirocare and receive analysis on both radioactive and organic elements. However, this only includes analytical costs and does not reflect staff time, which is built into DRC's existing budget. We've been told the department budgeted only $25,000 for the groundwater oversight program for fiscal year 2004.

Availability of funds to conduct future groundwater split-sampling is questionable.

The department did not have a lab that could perform the necessary tests until relatively recently. The department contracts with the state health lab to perform some of their groundwater sampling analysis, but the lab can't perform analysis for certain radioactive elements. In winter 2004, DRC turned to the state health lab to find a lab that could perform the analysis.

Funding Needed to Improve Operational Efficiency within DEQ

The department should conduct regular audits on disposal fees at the waste disposal facilities instead of relying on self-reporting by the industry. We feel this control is weak and inappropriate. Further, DRC needs better file record management. We were unable to audit certain areas due to the inability to find some files. DSHW, on the other hand, has an excellent record keeping system.

Department did not conduct an independent audit of waste disposal fees from 1997 to March 2004.

DEQ Needs to Conduct Regular Fee Audits. DEQ has completed only one financial audit, performed in 1997, on the commercial waste facilities. They are currently in the process of conducting a fee audit on the radioactive waste disposal facility that will cover the years 1998 to present. Department staff, however, perceived that these audits ensure that the state obtains the full amount from waste disposal fee revenues.

In lieu of auditing, for the past seven years the department has relied on the site operators' internal fee payment reviews. One site operator has found that fees were owed to the state. The accuracy of the fee payment review was not verified by the department. During the course of our

audit, we found instances where waste disposal facilities have underpaid fees to the state. This is further discussed in Chapter IV of this report.

Ongoing funding for independent audits of commercial waste disposal fees is needed.

Without an audit function, there is a lack of financial controls over fee collections. The DEQ finance division is in the process of doing an audit on fee collections. The department has no staff audit position; therefore, department finance staff are taken from their regular duties to conduct the audit. We believe the department should consider either hiring an auditor or contracting with the state auditor to do this function. The department would need to allocate existing funds or request an increase in disposal fees to cover the audit cost.

DRC needs to address record management concerns.

DRC Lacks Adequate File Keeping System. The Division of Radiation Control ought to consider hiring a full-time file information systems manager. We found that the disorder in the file-keeping system hindered our ability to perform a complete review. Further, a more ordered file keeping system would help the division respond more quickly and accurately in providing information to the public. Currently, each DEQ inspector handles and files his/her own reports. The organization could benefit from a standard file keeping system. This issue is further addressed in Chapter IV.

Curie fee on radioactive waste brings in little revenue to the EQRA oversight account.

Some Waste Disposal Fees May Not Bring in Desired Revenue Levels. The curie fee on radioactive waste is $1 per curie on a shipment. Utah's radioactive waste facility brings in large quantities of class A radioactive waste; however, the curie level (level of radioactivity) is relatively low. Most, if not all shipments would be below one curie. The amount of revenue this fee has generated, then, is as follows:

- 2002 $16,467
- 2003 $18,513

Of the EQRA budget revenues that come from waste disposal fees, only .5% comes from the curie fee.

One state, South Carolina, accepts much higher concentrations of radioactive waste than Utah and also has much higher curie fees. South Carolina has a $.345 to $.690 per millicurie (1/1000th of a curie) charge. Utah's $1 curie fee would be $.001 on this same scale. However, comparisons are difficult to make between Envirocare and other radioactive waste facilities. If Utah begins accepting higher concentrations of radioactive waste, though still considered low-level, the Legislature

should review the fee structure and ensure an adequate oversight program be in place.

Recommendations

1. We recommend the Legislature review the **Utah Code** outlining the EQRA account to clarify legislative intent.

2. We recommend the DEQ formalize its oversight plans and include prioritization, risk assessment and necessary funding levels.

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Chapter III
Commercial Waste Disposal Oversight Can Improve

The oversight of commercial waste disposal programs by the Department of Environmental Quality (DEQ) is in need of direction and planning. Communications to the Hazardous Waste Regulation and Tax Policy Legislative Task Force imply that a certain level of oversight is being conducted, yet in actuality some areas have gone without oversight for a few years. The regulation and oversight of commercial waste disposal facilities by DEQ are run through two of its divisions, the Division of Radiation Control (DRC) and the Division of Solid and Hazardous Waste (DSHW).

We reviewed portions of each of these divisions' commercial disposal site oversight programs. We question how the DRC performs their groundwater protection program. However, the DRC's inspection programs appear effective and appear to meet current health-safety needs. Finally, we believe that DSHW can improve their waste disposal facility oversight.

Performance of DRC's Groundwater Oversight Program Raises Questions

The performance of the DRC's groundwater oversight program is periodically conducted, when deemed appropriate, by DRC staff. This sporadic performance has not appeared to affect public safety based on federal reviews, but it does limit the division's oversight information and, ultimately, public assurance by relying heavily on industry-reported information. The groundwater protection program is one of the state's primary assurances that radiation is not escaping containment at disposal sites.

On reviewing the groundwater oversight program, we found some concerns that ought to be addressed by DEQ. These are as follows:

- DRC's well selection for sampling has been cost-based.
- DRC's sampling frequency needs to be reviewed.
- Budgetary needs elsewhere have hampered groundwater quality oversight program.

These issues need both division and departmental review.

Sampling Program Is Cost-based Not Risk-based

Risk-based well sampling could improve the efficiency and effectiveness of the well oversight program.

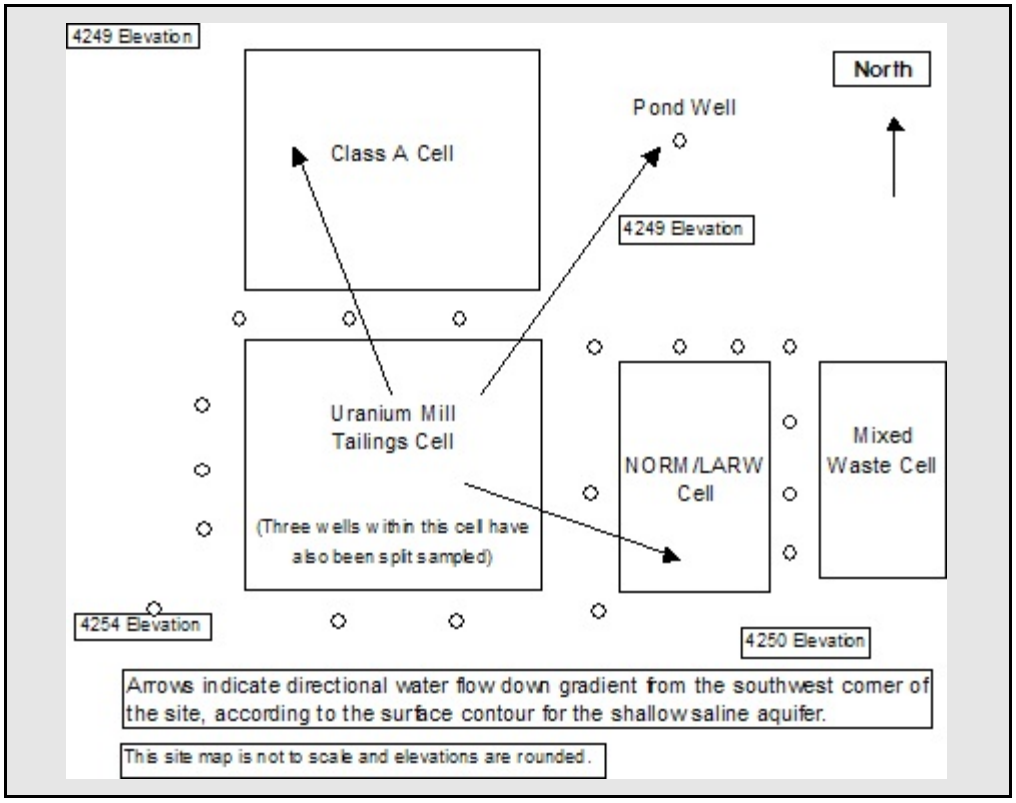
If the aim of the groundwater protection program is to ensure a favorable health-safety standard, the wells that the division selects for split-sampling should reflect the areas most likely to identify contamination. To a large extent, the division's well selection does not reflect all of the disposal site's operations because well selection has been cost-based.

DRC's Well Selection Does Not Reflect All of the Disposal Site's Operations. In the past, the wells that have been chosen for split-sampling have not been representative of the entire site. Split-sampling is the process where the regulator and site disposal operator take samples at the same time, but they have the tests run at separate laboratories. DRC's groundwater inspectors rely on their own independent water sampling program to cross-check the groundwater samples collected by the disposal site operator. Inspectors do so to ensure adequate compliance by the operator. By not conducting groundwater samples, the division is left to rely on self-reported data by the industry.

In our review of the division, we found fifty-nine percent of the wells split-sampled by DRC have been from the uranium mill tailings (also known as 11e.(2) material) related wells. The remaining split-samples, representing 41 percent, were taken from the wells related to the naturally occurring radioactive materials (NORM) cell and one pond well.

Through March of 2004, no groundwater wells have been split-sampled for the Class A cell as shown in Figure 6. In addition, no groundwater wells have been split-sampled and reviewed for radiologic analytes, contamination, at the mixed waste cell. Detecting an excess of radiologic analytes in the groundwater is a possible sign of contamination.

Figure 6. Wells Split-sampled Surround Two of the Four Cell Types. The circles on the site map below show the approximate location of wells that have been split-sampled by the division. The Class A and Mixed Waste cells are also surrounded by wells, but the division has never split-sampled for them.



Note: This map information is dated August 1999; however, water flow can change and flow direction needs to be identified prior to each sampling event.

Although the division may not split-sample all or even some of the wells each year, the Groundwater Quality Discharge Permit requires the site operator to sample 57 groundwater wells twice a year. The site has additional wells which are not included in the split-sampling program. According to DRC staff, the site operator does sample in accordance with the permit. The DRC receives a copy of the results and reviews them for any exceedances. An exceedance is any occurrence of a concentration above the permitted level.

The site operator's frequent sampling, as well as the site's lack of discrepancies in groundwater sampling results, is the division's justification for not doing split-sampling in past years. In those years of limited budget, the division reasoned that there was a more pressing need to use these funds at another site.

Selection of Well Samples Should Be Risk-based for the Entire Site. Instead of selecting wells based on budget limitations, the division should choose to collect split-samples that are the most likely to show evidence of a problem. The division does consult water flow prior to its sampling, but has not sampled the wells around each of the four cells, nor have they tested for all of the possible contaminants. Such a risk-based oversight program could be incorporated into a cost-effective overall oversight program that recognizes and reacts to the site's health and safety issues. The present informal and unwritten policy to inspect 30 percent of the wells lacks this risk-based emphasis.

Risk-based sampling is more likely to expose contamination.

The division reports that almost all exceedances measured are for radionuclides that occur naturally in the site's groundwater. A former division hydrologist responsible for reviewing Envirocare's groundwater sampling told us a lot of natural variation in the aquifer occurs at the site. Thus the aquifer's radionuclide levels can vary due to natural events regardless of any activities at the site. According to department staff, only one analyzed sample indicated an exceedance of a man-made nuclide (which is a nuclide not naturally occurring at the site). We were initially told that this was found to be a laboratory error, but were recently informed that this is still under investigation.

DRC Sampling Frequency Needs Review

The frequency of DRC's split-sampling is sporadic. The department reports on its website, to the task force, that they conduct split-samples at times it deems appropriate. State quality assurance split-samples have only been done in four of the last ten years, none between 2001 and winter 2004. While this frequency is unregimented, division actions imply this lack of review has caused no health-safety issues. We also found that the state's disposal site water-sampling practices lack sufficient policies.

Infrequent groundwater sampling reduces the ability to ensure the site operator's performance.

Groundwater split-sampling is a process that takes place during one of the licensee's sampling events. As set forth in the Groundwater Quality Discharge Permit, the site operator takes groundwater samples from the compliance wells on a semi-annual basis. According to the DRC, if a sample collected is to be split, the division also collects a sample at that time. The DRC collects split-samples to verify the sample data reported by the site operator. The division sends its sample to a different laboratory than the operator's so as to avoid conflict of interest issues.

Communications to the Task Force Imply Regular Oversight of Groundwater Program. We believe the department has implied to the task force, that certain oversight activities were being conducted that in actuality were not. For example, reported to the task force, via its website, that, "For groundwater wells monitored by the Division of Radiation Control, wells are sampled on a semi-annual basis." In another location of this same report, DEQ states, "During a semi-annual sampling event, inspectors will accompany the licensee's sampling crew and observe the sampling methods..." We believe that lack of clarity in the department's website can lead readers to believe that DRC has been consistently conducting groundwater split-samples semi-annually. In actuality, the site operator conducts semi-annual groundwater samples, not the division.

State Quality Assurance Split-Samples Have Only Been Done in Four of the Last Ten Years. Our review of groundwater split-samples reveals that the DRC conducted split sampling events in 1995, 1996, 2000, and 2001. The following figure reveals the years split-samples were conducted, the number of wells available to sample during each year, and percent sampled from the whole.

Figure 7. Percentage of Wells Split-sampled Has Decreased. Over the last four split-sampling events, the percent of wells split-sampled, have decreased compared to the number of wells for possible compliance split-sampling.

Year	Total Compliance Wells	Number of Wells Split-sampled	Percent Split-sampled
1995	30	11	37%
1996	35	13	37
2000	73	12	16
2001	68	10	15

From 1995 to 2001, respectively, the DRC sampled 37 percent, 37 percent, 16 percent, and 15 percent of the total compliance wells available to sample. While actual sample numbers have remained constant, the increased complexity of the site has called for more monitoring wells.

This growth in the number of wells combined with a static number of split-samples has resulted in a decreasing percentage of sampled wells.

A recently created informal policy guides the division's water sampling practices.

State's Disposal Site Water Sampling Lacks Sufficient Policies. We believe the DRC should have a formal written policy for groundwater compliance oversight incorporated into the division's policy manual. In 2003, division management created an informal, unwritten policy governing the frequency of split-sampling events of groundwater compliance wells. This informal policy declares that the division will split-sample 30 percent of the wells during each calendar year. Prior to the informal policy, the division conducted split-sampling events when it deemed appropriate; their aim, according to DEQ's website in the task force section, is to "confirm acceptable sampling and chain of custody procedures of the licensee, as well as the performance of the independent analytical lab." In February 2004, DEQ formalized the policy in a memorandum.

Budgetary Needs Elsewhere Have Hampered Water Quality Oversight Program

Budget monies have been directed away from split-sampling.

As discussed in Chapter II, the department has used other monies, aside from waste disposal fee revenues, to cover expenditures. Also, if there is a more pressing need within a particular division, the division will reevaluate the planned use of the funds based on greater need. The reallocation of division funds based on greater need has caused the groundwater split-sampling program at one facility to not be performed, since the division used this money for groundwater oversight at another site.

We believe that the division's new, informal policy will result in more oversight for the current year. However, upon analysis of the department's budgets for fiscal years 2002 and 2003, we believe the division could have collected split-samples in those years. Nevertheless, in comparing Utah's sampling frequency with that of the three disposal sites in the United States, each have different sampling practices. The other two facilities are located in South Carolina and Washington state.

The Division's Sample Selection Has Been Based on Cost. In 2002 the division received a "price list" from the site operator for split-sampling. This list reported an approximate total cost of $80,000 to conduct split-sampling on all the compliance wells. This $80,000 amount was also reported to the task force. According to DRC, this amount does

not include staff costs used to perform planning, analysis, and/or evaluation of the samples. Figure 8 summarizes those findings.

Figure 8. The Cost for Analyzing Samples Varies with Each Cell Type. The cost of split-sampling wells differs with each type of cell, depending on which analytes are being tested. The site operator researched these prices in 2002 and submitted them to division management.

Uranium mill tailing cell's wells are split-sampled more frequently because they are cheaper to test.

Well Type	Estimated Sampling Cost Per Well
LARW/Class A	$ 1,828
Uranium Mill Tailings	868
Mixed Waste	1,220
Pond Wells	1,828

Note: These costs do not include analytical costs performed by an outside party.

According to this price list, uranium mill tailings is the least expensive well type to sample. Division staff has stated that is why the uranium mill tailings cell has been sampled so extensively—its cost is less relative to the cost of sampling the other cells.

New Informal Policy Should Result in More Oversight for the Current Year. Currently, DRC is in the process of conducting a fifth split-sampling of the groundwater wells at the disposal site. This testing seems to have been prompted by the informal policy that the division would be sampling 30% of the wells annually. The department has allocated $25,000 to the division for the sampling project. According to division management, they requested the State Health Lab to find a third-party laboratory to perform the tests that the State Health Lab cannot perform. This third-party laboratory cannot be associated with the site operator for conflict of interest reasons.

Twenty wells are currently being split-sampled, which will satisfy the informal policy.

Reportedly, an out-of-state laboratory has been hired to conduct the needed tests for $900 per sample. Therefore, the division should be able to send as many as 27 samples to this laboratory for $25,000. According to division management, they have chosen to sample 27 wells, which exceeds the division's informal policy of sampling 30% of their wells annually, by seven wells, as discussed earlier.

However, during this current split-sampling a collection error was made. The division reports the state health lab made the error by misinforming the division on the amount of water needed to be collected from each well. The result was that some of the samples could not be collected for some radiologic analytes. Division staff said they will not ask the site operator to recollect the samples. Regardless of the lab error, the division expects they will still be able to receive results on at least 20 of the wells sampled, which will satisfy its policy.

Division's Budget Was Sufficient to Allow for Split-sampling. We have been told that the division did not conduct split-sampling in 2002 and 2003 because of budget restrictions. However, our review of DRC's budgets for those years identifies unused monies in the amounts of $94,825 and $70,387 respectively in the oversight account that could have been spent on split sampling. We believe some of these funds could have been used to conduct groundwater split-sampling of at least some of the wells.

Funds were available to conduct some split-sampling in 2002 and 2003.

Groundwater Sampling Differs by Site. Groundwater oversight programs vary at each of the three U.S. low-level radioactive waste disposal sites. Program variability between sites is due to a variety of factors that include:

1. Site size and configuration;
2. Site location and environment;
3. Site ownership and operations—both Washington and South Carolina own their sites, which are privately operated, where Utah's site is privately owned and operated; and
4. Sites accept and dispose of different materials. Both the South Carolina and Washington sites accept higher levels of radioactive waste than Utah's site.

Figure 9 explains the different groundwater oversight programs in each of the three states.

Figure 9. States' Groundwater Programs Vary. Each of the three states that have a radioactive waste disposal program have their own schedule for split-sampling. According to South Carolina and Washington representatives, those states split the groundwater samples with the site operator annually.

The three radioactive waste disposal sites in the U.S. differ significantly in their split-sampling.

State	Operator Sampling Frequency*	Number of Monitoring Wells*	Percentage of Wells Sampled by State Agency and Frequency*
South Carolina	Quarterly	250	10% (25 wells) annually
Utah	Semi-Annually	57	Number of wells sampled in the past varies; no set frequency; management proposes 30% (20 wells) annually
Washington	Quarterly	7	36% (2 - 3 wells) annually

** The South Carolina and Washington information was self-reported by each state. None of the information has been verified with an examination of their governing rules or inspection reports.*

Each of the three sites have a groundwater oversight program. Although Utah's disposal site is the only one owned and operated by a private company, all of the states' site operators sample the groundwater wells. Both South Carolina's and Washington's sites are state-owned. Utah's site is owned by a private company but is overseen by the Department of Environmental Quality's Divisions of Radiation Control and Solid and Hazardous Waste.

Inspection Programs Appear Effective and Seem to Meet Current Health-safety Needs

In our review of DRC's inspection programs, we found the division inspectors appear thorough and effective in their inspections of the radioactive waste disposal site operator. Also, the division's spot inspection program appears to meet current health-safety needs.

The U.S. Nuclear Regulatory Commission (NRC) commended the division on the technical quality of their inspections of the disposal site as well as the status of the low-level radioactive waste disposal program. Utah's radiation control program was found by the NRC to be "adequate to protect public health and safety." Although Utah, and not the NRC, is the authority over radioactive waste disposal in Utah, about every four years the NRC does a full review on Utah's radiation control program. Utah's last radiation control review by the NRC was in June of 2003.

Site Inspection Program Overall Appears Effective

DRC's 2003 radioactive waste disposal facility inspection reports indicate that the inspectors have thoroughly examined the required elements as found in the inspection plans or modules. We accompanied one inspector while he conducted his annual inspection and found him to be very thorough and his inspection was consistent with prior inspections.

Inspections and inspection reports appear adequate.

Based upon our review of the 2003 inspection files and accompanying an inspector, we believe that inspectors do question site operator staff on concerns that arise, conduct unannounced inspections, randomly sample site operator reports, document observations as they find them, and follow a set inspection plan pertinent to each type of inspection or "module" as referred to by the division. Finally, we reviewed the 2002 inspections but only to verify the inspections had been conducted; we did not review the 2002 inspections for the quality of the inspection.

Annual Inspections Are Segmented into Manageable Modules. The modules the division uses to conduct annual inspections were once smaller parts of a larger inspection conducted annually at the site. According to division management, instead of sending a large team of inspectors on-site for several weeks to perform all of the inspections at that time, the division sends an inspector or two to conduct one area of the once annual, large inspection. The division believes that breaking the inspection into modules is more efficient and effective for completing their review of site operations.

DRC's inspection modules help guide regulators.

Each module can take anywhere from a few days to a week to conduct, depending on the complexity of the inspection. Follow-up to completely close the inspection may take longer, depending on the inspection's findings. The division is continuously working to improve their modular approach to inspections. Each year the modules are reviewed and sometimes changed to meet inspection needs. According to division staff, more modules are being added for 2004, and some of the 2003 modules are being amended to better fit inspection needs. It's a living document that could change every year as needed.

The NRC commends Utah's radioactive waste disposal program.

The NRC was also impressed at the division's modular approach to annual inspections. The approach is considered a good practice by the NRC. Upon review of the division's inspection files, the NRC found "that inspections were complete, the findings well-founded, appropriately documented, and reviewed by supervisors." The NRC concludes that "there were no performance issues identified in the inspections that were sampled." However, the NRC suggested that a supervisor accompany an

inspector at least annually on an inspection. The NRC also suggested the division develop a new module for mixed waste to "address unique radiation safety issues at the mixed waste operations facility."

Site Inspection Program is Limited by Administrative Problems. The 2003 inspection list includes six separate groundwater modules, ten engineering modules, and fifteen radiological safety modules, totaling 31 individual modules. In 2003, three modules were not performed. Two of the modules were not completed because the inspector who was conducting the inspections quit and the division was unable to fill the position until March of 2004. The third module was not conducted due to staff time constraints. We were also unable to review a fourth module because the inspector that was conducting this module quit and the file could not be located by the remaining staff.

In 2003, DRC staffing issues hindered four inspections from being performed.

After a Limited Review, 2002 Inspections Also Appear Thorough. As stated above, we examined the 2002 modules to verify inspections had been conducted. According to division management, seven of the 31 modules were not created until 2003. Of the 2002 modules that are still being performed now and were being conducted in 2002, we were unable to examine two of them. One of the modules was lost; the file was misplaced by a former employee and cannot be located — this file also contained the 2003 module. The other module was simply not conducted in 2002. The previous inspection on this last module was conducted in 2001.

DRC Spot Inspection Program Appears To Meet Current Health-safety Needs

The division's Generator Site Access (GSA) program appears well-developed by satisfying health-safety needs, and meeting the NRC's expectations. Inspections are conducted on select shipments and the accompanying paperwork. However, we found that Utah inspects a smaller percentage of shipments than the State of Washington. The Utah inspector also spends fewer days at the disposal site than the South Carolina inspectors. The GSA inspection program focuses on inspecting the generator or shipper of the waste, not the site operator. The GSA inspector does not pull samples of the actual waste product for analysis.

The DRC's shipment inspection program reviews generator waste manifests for correct levels of radioactivity per shipment.

Inspections Are Conducted on Select Shipments and Accompanying Paperwork. The inspector checks the physical characteristics and condition of the waste as it has been transported by the

truck or train. The inspector checks for the securement of the waste, checking that there is adequate bracing of the load and that it hasn't moved during shipment. The inspector also checks the placarding, markings, labeling, cleanliness of the container the waste was shipped in, and the total weight/volume. Finally, the inspector checks the radioactive level of the shipment with a Geiger counter to make sure it meets allowable radioactive levels. A Geiger counter is an instrument that measures radioactivity.

The GSA inspector is also charged with reviewing the paperwork (known as a "waste manifest") that accompanies a shipment. Manifests describe the type of waste and its radiologic characteristics, including the radioactive elements present and their level of radioactivity. The manifest also describes how the waste is packaged for shipment. The inspector checks the manifest to ensure that generators are shipping waste in the required manner and documenting it as required by federal and state law. The inspector also randomly calls the emergency contact number listed on the manifest to check the shipper's procedures if there was an actual emergency. During our fieldwork, we accompanied and observed the division's GSA inspector.

Several times during this audit we were told this is a self-regulated industry and the generator of waste is expected to be honest in its waste categorization and reporting. Generators are regulated by rules imposed by the Department of Transportation, Department of Energy, NRC, and respective states' agencies who all have staff that are, at times, active throughout the disposal process. However, according to both the division's GSA inspector and the NRC, the industry relies on the generator or shipper of waste to be honest in how they categorize waste in the manifests.

The NRC team also reviewed the Generator Site Access program. The NRC found the division's GSA inspector possessed the appropriate inspections skills and knowledge of regulations. Further, they consider the division's GSA inspector an expert on U.S. Department of Transportation regulations. The NRC did suggest the inspector receive further training on health physics instrumentation. The inspector is currently receiving that training.

Utah Inspects Fewer Shipments. The GSA inspector reports that last year, 70% of the waste manifests for shipments received at the site were inspected. According to the inspector, the site operator is not

required to hold the trucks until they are inspected even if the state's inspector is on-site that day. If the aim of this program is to provide the state with more oversight power, the on-site inspector should be given a reasonable time to inspect each shipment that arrives.

Utah's Generator Site Access inspection program is modeled after Washington's program. Washington's program receives less waste, but at higher concentrations which results in a more stringent program than Utah's. Washington's inspector reviews 100 percent of the incoming shipment manifests and shipments. The Washington site is much smaller than the Utah site, allowing the inspector to review 100 percent of the shipments. Careful inspection is important to Washington, given the higher radiological content of the waste they receive.

None of the three radioactive waste disposal sites take samples of the waste they receive.

At the Washington site, no shipments are allowed to be disposed of until inspected by the state inspector. The Washington site does not take samples of the waste, which is similar to Utah's program. A representative from Washington's Department of Health explained that since the site operator has the legal responsibility to monitor the site, if the state steps in then they risk being liable for any problems because they would be taking over the site operator's functions.

Utah Inspectors Spend Fewer Days at Disposal Site. From July through September 2004, the GSA inspector was on-site, inspecting shipments on average of 51 percent of the time. The other 49 percent of her time, the GSA inspector works on inspection reports, follows-up on inspection findings, receives training on federal transportation regulations and quality management practices.

Other states have more stringent regulation requirements.

South Carolina's program, due to higher radioactive content of its waste, is also more stringent than Utah's. South Carolina's inspector is on-site 100 percent of the time. The South Carolina site is larger than Utah's site, however. In South Carolina the state agency randomly inspects shipments and does not inspect 100 percent of the shipments. The inspector analyzes the amount of liquid that is inside the transportation drums. However, the inspector does not specifically open the drums but does review the manifests and waste shipments. The South Carolina representative said that they rely heavily on the generator's manifest and that this is an industry-wide practice.

DSHW Can Improve

Disposal Facility Oversight

DSHW is responsible for overseeing the compliance of the four commercial solid and hazardous waste disposal sites in Utah. Upon our review of the division's oversight functions, we identified some areas for improvement. DSHW does not prepare written inspection plans for overseeing the commercial waste facilities. Instead, the inspectors focus on the areas with the most problems as they arise. Also, the division's current penalty process results in lower fines. It requires DSHW staff to negotiate with violators, and the maximum penalty has not been updated for inflation since 1981. Finally, the division had not independently sampled and analyzed the treated waste until Spring 2004. Prior, the division relied instead on agency data.

DSHW Lacks Inspection Planning

DSHW does not facilitate the preparation and usage of written yearly inspection plans for compliance oversight of each commercial waste facility. In our review, we found that inspectors focus on the areas with the most pressing problems and as they arise.

Inspection plans can help DSHW formalize the annual inspection process.

DSHW Does Not Prepare Written Inspection Plans for Commercial Waste Facilities. The Environmental Protection Agency (EPA) is the federal agency that oversees DSHW. EPA requires DSHW to inspect each of the commercial waste facilities at least once a year. Currently DSHW inspectors, overseeing the commercial solid and hazardous waste facilities, complete the required one inspection by performing multiple partial inspections over the course of the year. However, inspection teams do not prepare and use written inspection plans. Inspection plans are a key component for compliance and could help ensure thorough inspection of all major risk areas for each facility every year.

As discussed earlier in this chapter, DRC has a detailed inspection program. This program consists of 31 separate inspection modules and is periodically adjusted to meet inspection needs. The value of the program is that it provides uniformity and ensures adherence to the inspection's requirements each year.

DSHW does not conduct formal risk assessments nor analyses on facility violation trends.

Further, DSHW does not conduct formal risk assessments nor analyses of facilities' violation trends. However, the DEQ's Performance Partnership Agreement with EPA states that DSHW should "conduct

periodic analysis of effectiveness of evaluation activities" to identify "areas of progress and areas of concern" by applying "national or state compliance/enforcement performance measures, methodologies, and/or compliance rate determinations." We did not find evidence of such evaluations and analyses. We believe that if appropriately done, such assessments could reveal tendencies and trends that can be used in identifying the risk areas for each waste facility and aid the teams in identifying the inspection priorities for the individual facility for the year.

Inspectors Focus on the Areas With Most Problems as They Arise. Inspectors admit that they have limited resources and are not able to cover all aspects each year. Instead, they focus on the areas with the most problems. One inspector said that generally the bigger the problem a facility has in one area, the more attention it receives by both the inspectors and the facility management while possibly they neglect other vital areas.

Lack of inspection plans made review of DSHW's regulation activities difficult.

Due to the lack of documented risk assessments and inspection planning, it was not possible for us to identify the degree to which DSHW has been thorough in completing every aspect of the required annual inspection. However, EPA monitors DSHW on a yearly basis, and in their reports has not expressed any concerns about the thoroughness of the DSHW inspections.

Current Penalty Process Results in Lower Fines

The statute requires DSHW to negotiate and settle the penalties with the violators. These negotiations usually result in lower penalties. According to division policy, the Notice of Violation (NOV) process is kept confidential. DSHW's maximum penalty amounts were established 23 years ago and have never been adjusted for inflation. However, the EPA, the federal agency that oversees DSHW, is required by federal law to regularly update its penalty for inflation.

Fine amounts for violations are not set by the division but are negotiated with the site operator.

Negotiations With Violators Result in Fine Reductions. According to the **Utah Code**, the Solid and Hazardous Waste Board does not have the authority to impose administrative penalties as do the EPA or even DRC. Instead, DSHW has to negotiate settlements for the penalty amount. The penalty amount calculated by DSHW staff is "proposed to the company as a starting point for the negotiations." The negotiations process usually results in lower fines than initially proposed.

DSHW's policy allows for some penalty reduction. It states that the difference between the penalty amount sought and accepted "...unless significant new information is brought to light during the negotiation process will generally be within 10-20 percent of each other." However, we found that at least for one facility, DSHW does not follow its own penalty reduction allowance standards. In the case of this site, the division has allowed the average reduction to be 29 percent for the last six years.

The division allows for no audit trail of how penalty amounts are reached.

Division managers consider this negotiation process to be protected which concerns us. DSHW's policy is that the negotiation process, along with all drafts and calculations, are considered confidential. Division management told us that the documentation is to be destroyed after the finalization of the negotiation. However, the final penalty amount and score sheet is public information.

Maximum Penalty Has Not Been Updated Since 1981. The Utah Solid and Hazardous Waste Act states that "any person who violates any order, plan, rule, or other requirement issued or adopted under the Acts is subject in a civil proceeding to a penalty of not more than $10,000 per day for each day of violation." This maximum penalty was first established in 1981, and it was intended to be a deterrent. However, this penalty amount has never yet been updated for inflation.

Federal law requires EPA to regularly update its penalty for inflation. The EPA's initial civil monetary penalty (CMP) per violation per day was

$25,000. Since 1997, the EPA has been adjusting its penalties on a regular basis. Federal law requires EPA to review its penalties at least once every four years and to adjust them as necessary for inflation. The purpose of the adjustment is to "maintain the deterrent effect of the CMP and to further the policy goals of the laws." However, according to DSHW management, the amount of the penalty that Utah imposes on a facility is less of a deterrent for future violations than actually getting an NOV. Facilities are more concerned with the negative publicity associated with the issuance of an NOV. Currently, the EPA's maximum fine per violation per day is $32,500, a 30 percent increase over the last seven years, compared to Utah's maximum of $10,000 per day. Perhaps Utah's penalty level has little deterring effect because it is relatively low compared to federal levels.

DSHW's Approach is to Ensure Facilities are in Business and in Compliance. Division officials told us that their charge is to make sure that if waste facilities are in business that they are operating safely. As the inspectors find problems, they point them out to the operator, expect them to be fixed in a timely manner, and may later be reported as an NOV. NOVs are compiled over a certain period of time and issues a formal NOV.

As mentioned in the previous section, we were told by division management that the facilities are more concerned about the issuance of an NOV than the actual amount of penalty imposed for the violations. According to the division, facilities believe an NOV sends a message to the generators, who are the facilities' customers, that there are safety issues at the facility. Generators are concerned about the safety of the disposal facility because they are ultimately responsible for the waste they have generated. If there is any problem with their waste after it is disposed of at the waste disposal site, the generator is responsible for paying cleanup costs.

DSHW Should Sample Treated Waste

DSHW had never independently split-sampled and analyzed the treated waste prior to being deposited in the cell until Spring 2004. Instead, the division had relied on the waste facilities' detecting, reporting and correcting any problems with treated waste. Other states split-sample treated waste.

DSHW Does Not Collect and Analyze Samples. Much of the waste received at the commercial waste facilities undergoes treatment before being deposited in the cells. The purpose of the treatment is to stabilize or to solidify the waste in order to minimize the danger of contamination. Facilities are required to follow specific sets of procedures and formulas prescribed for each treatment process. After the treatment, the facilities have to take and analyze samples to ensure that the treated waste meets the criteria.

DSHW relied on the generator to properly classify their waste.

Though DSHW inspectors occasionally observed the sampling by the facilities and review lab analyses, they had never independently collected and analyzed samples of treated waste until Spring 2004. Instead, the division relied on the waste facilities' detecting, reporting and correcting any problems with treated waste. Our review of the facilities' history of notices of violation indicates that often waste not meeting the treatment standards was deposited in the cells. In fact, this was a reoccurring problem for at least one of the commercial facilities. The following figure summarizes the results.

Figure 10. One Facility's Violations for Inappropriately Depositing Treated Waste. In the five notices of violation issued to one facility since 1997, there were 11 violations for inappropriately depositing treated waste.

Year NOV Issued	Number and Type of Violation for Depositing Waste That:	
	Was not verified to meet established criteria	Was not successfully treated
1997	2	1
1998	1	3
2000	-	2
2001	-	-
2003	1	1
Total	**4**	**7**

One of the four commercial waste facilities has had problems with inappropriately depositing treated waste over time. Over a six year

period, DSHW has issued 11 violations because the facility deposited the waste either without verifying that the treatment was successful, or the waste did not meet the safety criteria.

Other States Split-sample Treated Waste. We surveyed five other states to see if they take independent samples of the treated waste before depositing it in the cell. The results are summarized in Figure 11 below.

Figure 11. Most States Split-Sample Treated Waste. One out of five states contacted does not sample treated waste.

Idaho	Colorado	Nebraska	Oklahoma	Texas	Utah
Yes, regularly	Yes, when concerned	No	Yes, when concerned	Yes, regularly	Yes, Began in 2004

In our comparison we found that most of the other states take independent split-samples and perform independent lab analysis of treated waste. Two states perform regular sampling and the other two only perform it on an as-needed basis. Utah recently began split-sampling treated waste.

Recommendations

1. We recommend the department ensure that its oversight plans are coordinated between divisions and kept current.

2. We recommend DRC establish formal policy and practice of a risk-based groundwater split-sampling program.

3. We recommend that DSHW design and implement written, uniform, annual inspection plans.

4. We recommend the Legislature study DSHW's penalties to determine appropriate maximum fine levels.

5. We recommend that DSHW sample treated waste to ensure that it meets treatment standards.

Chapter IV
Record Keeping and Fee Collection Reviews Need Improvement

The Department of Environmental Quality can improve its waste disposal oversight with additional administrative control of information and improved fee collection from waste disposal facilities. Such improvements can result in better, more useful information that could improve the effectiveness of the oversight process. Clarification and improved policies regarding fee collections would better transmit legislative intent to the department and to the disposal site operators.

DEQ's Administrative Controls Can Improve

The Division of Radiation Control's (DRC) lack of an integrated information system has resulted in inadequate tracking of notices of violations (NOVs). In addition, lack of fee collection controls has resulted in an under-collection of state revenues.

Radiation Division Lacks Adequate Record Keeping System

It is difficult to review DRC records. The division needs a better records organization system that, we believe, could include a database for notices of violation (NOVs) and inspections. In its review of the DRC's Radiation Control Program, the Nuclear Regulation Commission (NRC) was also concerned with the division's records management.

Oversight records are not maintained centrally, making it difficult to review the division's oversight.

Better Record Organization Systems Needed. While conducting audit fieldwork, we were frustrated by the DRC's lack of adequate file keeping. The NOV and inspection files are difficult to navigate and are often either incomplete or missing. Information is kept at inspectors' desks and only filed when an inspector has time. There is no centralized responsibility for inspection files or NOVs issued to the site operator. This lack of systematic handling of records makes it difficult to get a clear picture of how the radioactive waste disposal site is regulated.

We asked the division for copies of all the NOVs issued to the radioactive waste disposal site in 2003 and inspection files for 2003. We were told that the NOVs are filed in the inspection files and are not maintained in a separate file. There is no complete listing of issued violations. Therefore, in order to review the NOVs for a specific year, every inspection file for that year must be individually reviewed, or an inspector would have to recall the event. Segregating these records will provide better record keeping to help the division more efficiently manage the radiation control program.

A review of inspection files found that not all NOVs were in the files. If the NOV hasn't been filed yet, or is still in the process, there is no ability to track the NOV's progress. We believe this lack of centralization can cause NOVs to fall through the cracks. For example, one NOV dated July 2003 was still in the inspection file and had not been mailed. This NOV still had the certified mailing tags attached to it indicating it had not been sent out.

Due to a disorganized tracking system for oversight records, files are missing and one NOV was never mailed.

In addition, we asked for inspection files for 2002 and 2003, and the division could not provide all of them. One inspection module record, which includes both 2002 and 2003 inspections, has been lost. According to division staff, the former inspector charged with inspection of this module misplaced the file, and it hasn't been found.

DRC Should Keep a Database on all NOVs Issued and Inspections Completed. These two organizational tools could help the division keep better records of site violations and status of inspections. In the past, the division maintained a spreadsheet for all NOVs. Eventually this document became an inspections record, and since 2002 it hasn't been used at all. Used correctly, the information found in these documents can help the division evaluate site operations, repeat violations, and improve public information access.

The NRC was also unable to locate files and found the division's record keeping inadequate.

The NRC is Concerned with Records Management. The NRC, in their review of the division's radiation control program, also notes that some of the "inspection report documentation was missing or misplaced in the files." Their review goes on discussing "the need to manage the control, access, and filing of the records to improve efficiency and eliminate potential losses due to mishandling of files."

We believe the division needs a file manager to organize, maintain, and track these valuable records. We talked to staff at the division about the need for this type of position, and they mentioned they have requested a file manager in the past.

DEQ Can Improve Its Fee Collection Controls

Waste disposal fees are the main source of funding for DSHW and DRC. The collection of this legislatively created fee has not been adequately controlled, resulting in an underpayment of fees to the state. In addition, DEQ has not utilized all of the available information to ensure fees are collected in full.

DEQ is Not Proactive in Auditing Fees. DEQ has not been performing regular financial audits on any of the commercial waste facilities. In 1997, the DEQ conducted financial audits of the waste disposal fees at each of the commercial waste facilities. The purpose of these audits was to ensure that all fees owed by these facilities were actually paid. The outcome of the 1997 audit indicated that the facilities did not always accurately transfer the waste disposal fees to the state. Although the DEQ has not conducted additional audits, it has relied on the facilities to be proactive in self-reporting fee collections.

However, the DEQ recently began an audit of one facility. We accompanied them on this audit and observed that the department is not familiar enough with how the facilities interpret waste manifests, which are the basis for fee collections. In the early stages of the audit we were able to observe, the department had difficulty identifying the accuracy of the fees submitted by the facility. This is partially due to the department's accounting staff being unfamiliar with some of the facility's information.

A lack of facility audits by DEQ has cost state revenues.

At this time, our detailed look into fees paid by another facility found a fee underpayment of more than $270,000 over a two-year period. DEQ was not aware of this underpayment because it had not been auditing the facility and, therefore, could not identify a programming error. Figure 12 details this underpayment.

Figure 12. One Facility Has Underpaid More Than $270,000 in Waste Disposal Fees. A programming error resulted in one facility significantly underpaying waste disposal fees. This error had not been identified by the department.

Test Period	Amount Underpaid	Percent Unpaid by Facility
March 2002 through February 2003	$ 70,231	8%
March 2003 through February 2004	201,455	27
Total Underpaid	**$271,686**	**18%**

For the 24 month period we tested, we found that this facility's disposal fees were underpaid by 18 percent. Due to lack of time, we did not extend the test beyond the 24-month period. However, we recommend that DEQ look further into this matter to identify the total amount this facility owes and that DEQ collect all fees with interest.

This underpayment was not a unique incident. In another facility DEQ's administrative controls were not capable of detecting the under-reporting of over 4,600 tons of waste material on a facility-generated monthly report. The facility's own internal audit function discovered the error two years later at which point the facility paid the fees. Both of these problems could have been detected by DEQ if they would have coordinated the facilities' monthly summary reports with DEQ's review of waste manifests.

Divisions Do Not Utilize All Available Information. Each month waste facilities submit summary information and detailed documents (waste manifests) to the department's oversight divisions. The divisions' accounting and technical staffs have not coordinated their efforts in verifying the accuracy of fees due.

The divisions do not coordinate their efforts to ensure facilities are submitting the correct state revenue.

There is an apparent lack of communication between the accounting staff and the technical staff (inspectors) in the divisions. Financial summary information is received by the accounting staff and waste manifests by the inspectors. However, the accounting staff is not aware that the facilities are submitting the waste manifests to the divisions.

One division's management has adopted the philosophy that site inspection should have no bearing on fees charged. Instead, division management believes that fee collections are the responsibility of accounting staff. We believe inspectors have shown themselves to be a valuable resource in the verification of fees. Inspectors have the necessary technical expertise, site knowledge to review waste manifest information, and can discern if the facility has properly categorized the waste.

DEQ should assert their ability to require facilities to submit monthly reports in a format that's most useful to DEQ.

Conversely, the accounting staff does not have the technical expertise and site knowledge necessary to fully understand the fee information submitted by the facilities. This lack is further complicated by facility waste disposal summary information not always being submitted in the most useful format. Facilities are allowed to submit information in a hard-copy report rather than the department directing them, as allowed by **Utah Code**, to provide it in a format of the department's choosing. An electronic version of these same reports can be reviewed quicker and better.

Fee Collection Regulations Need Clarification

Clarification of state statute concerning fee payments and formalization of departmental waste generator fee policies could provide the state's oversight divisions with increased revenues without changing existing fee structures. The perceived lack of clarity in the **Utah Code** may be allowing facilities to interpret fee calculations which result in lower revenues than the Legislature intended. Formalization of departmental generator fee policies could also result in increased revenues.

Code Clarification Regarding Fee Collection May Be Necessary

Utah Code 19-6-118 requires payment of fees based on a per ton increment. Specifically, the code identifies a need for payment based on "a fraction of a ton" when the waste is received. The code does not specify how "fraction of a ton" should be applied. As a result, treatment of fractional increments by the four commercial waste disposal facilities is not uniform and recently has been changed by some facilities, resulting in a reduction of fees paid. Further, enforcement of the statute is lacking

and, in the case of one facility, may result in as much as a $100,000 reduction in state revenue annually.

The Utah Code is unclear on how waste should be measured for state fee calculations allowing disposal facilities to apply different interpretations.

Facilities' interpretation of the statute may reduce state revenues on two levels. First, the statute instructs facilities to calculate the applicable fee based on weight "per ton or fraction of a ton." When waste is received, the facility is instructed to measure waste by weight and apply the appropriate fees. Currently, facilities group or summarize shipments and thus reduce the effects of the fraction of a ton charge. Statute clarification would address this interpretation.

Some facilities are ignoring the Utah Code's weight measurement of a "fraction of a ton" when calculating state fees.

Second, the "fraction of a ton" measurement is ignored by some of the waste facilities. For example, one of the four commercial waste facilities has been prorating the fees and paying a fraction of the fee for a fraction of a ton. This is clearly not in statute. Until recently the other three facilities have rounded up by submitting the fee for a full ton when the weight included a fraction of a ton. However, since January 2004, two of these three facilities have changed their practices and also began prorating the fees. This practice will result in lower revenues for the state. Our calculations for one of these facilities indicate a revenue reduction of at least $100,000 per year.

Formal Policy Regarding Applicability Of Fees Needs to Be Issued

DEQ managers have stated there is a policy, although unwritten, that in cases where multiple fees apply, facilities should only collect the highest single fee of all applicable fees and forgive any other potentially applicable fees. This type of policy may be acceptable if fees collected are used to administer only one program, but it clearly fails if there are multiple program needs. Even with this fee forgiveness, the policy is not always followed.

DEQ's informal fee policy forgives some state fees owed by disposal facilities.

Statute requires waste generators disposing waste in Utah to pay certain fees based on the type of waste. The statute identifies four major fee categories: hazardous waste, non-hazardous waste, PCB waste, and radioactive waste. The first three are administered by DSHW and the fourth by DRC. However, occasionally there are waste streams that fall under more than one fee category.

Informal Policy of Fee Forgiveness Reduces State Revenues. DEQ has unilaterally decided not to collect all legislatively established fees for waste which falls under multiple fee categories. While not articulated by DEQ, we believe the reason is that in many cases, regulation of the waste in question can be addressed by the revenues of a single fee. This practice is further complicated when this policy is applied to waste which has components regulated by different divisions. In the case of waste managed by both DRC and DSHW, the forgiveness of one fee diminishes funding the divisions could use for oversight. We do not believe, based on our review of the **Utah Code** section 19-6-118, that the department has the authority to forgive these fees.

DEQ's inconsistency in enforcing this informal policy is costing state revenue.

Informal Policy is Not Always Followed. One facility, for the sake of convenience, submits fees based only on one fee category. In the past three years, this facility received waste that falls under more than one fee category. A limited analysis indicates a loss to the state of at least $20,000 because the higher fee was not applied, yet DEQ believed the higher fee was being applied.

Recommendations

1. We recommend that DRC create a position to maintain its information systems.

2. We recommend that the facilities submit monthly fee reports in a more user-friendly format.

3. We recommend that DEQ establish a commercial waste facility audit program to provide quality assurance for its regulatory program.

4. We recommend that the Legislature review **Utah Code** 19-6-118, regarding generator fees, and clarify its intent.

5. We recommend DEQ establish a formal written policy specifying fees which facilities should pay for waste that falls under more than one fee category.

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Agency Response

State of Utah

Department of
Environmental Quality

Dianne R. Nielson, Ph.D.
Executive Director

William J. Sinclair
Deputy Director

OLENE S. WALKER
Governor

GAYLE F. McKEACHNIE
Lieutenant Governor

May 13, 2004

Mr. Wayne L. Welsh
Legislative Auditor General
Office of Legislative Auditor General
West 315 State Capitol Complex
Salt Lake City, UT 84114

Dear. Mr. Welsh,

RE: Department of Environmental Quality Response to Legislative Audit Report, "A Performance Audit of the Department of Environmental Quality's Waste Facility Oversight," dated May 12, 2004.

Thank you for the opportunity to respond to the above-referenced Legislative Audit Report. Radioactive and hazardous waste regulatory issues are complex. I appreciate the auditors' efforts to evaluate and provide recommendations to strengthen the programs. We have provided clarifications and comments, as detailed below, in an effort to better understand and improve the regulation of commercial radioactive and hazardous waste.

Chapter I. Introduction

The Department of Environmental Quality lacks a written plan to guide its oversight of commercial waste disposal facilities. (Page 1, paragraph 2, sentence 1)

Response: The Department of Environmental Quality (DEQ) does have a plan to guide its oversight of commercial waste disposal facilities. In the Division of Solid and Hazardous Waste (DSHW), an entire section of technical staff has been assigned the responsibility to oversight commercial waste disposal facilities. Individuals within the section have been grouped into "teams" and assigned to each facility. This organization has existed for several years. These individuals are experienced (average 15 years), highly trained, and are tasked, by individual performance plan, to evaluate all aspects of the facilities' operations and the corresponding compliance status on a regular basis. Their performance is reviewed at least annually. Adjustments are made as necessary. The teams/inspectors are given discretion to decide how to implement the management directive. All team members are intimately familiar with each facility's operation. Most, if not all, team members were involved in drafting the facilities'

permits and have extensive experience in compliance and enforcement.

The EPA requires an annual inspection at each of these facilities. However, the DSHW teams conduct inspections/site visits almost weekly. The nature and purpose of each inspection/visit varies. These are technically complex facilities that conduct a variety of operations and handle many different waste streams. The inspectors use their experience and, in conjunction with planning meetings with supervisors, they establish the frequency, sequence, scope and format of their inspections. Inspection priorities are adjusted as field conditions dictate. The inspectors use the facility permit, its attachments and various inspection checklists developed by the section as part of the oversight process. Throughout the course of the year, most of the operational aspects of each commercial facility are evaluated many times over. Inspections are documented. Enforcement actions are issued when necessary.

This approach is consistent with federal guidance. The DSHW's hazardous waste program, with its procedures and protocols, was reviewed and approved by EPA when Utah's program was authorized. EPA has not required any revision to DSHW's program. The DSHW's oversight program is one of the top programs in Region VIII and is more extensive than many state programs in the country. The EPA conducts oversight of Utah's program on a regular basis and each annual evaluation concludes that Utah implements a good program.

DEQ could improve its operational efficiency by ensuring funds for existing programs as well as providing funding for improved file record management and regularly scheduled audits on waste disposal fee collections. (Page 1, paragraph 2, sentence 3)

Response: Additional funding for file management and audits would require a new source of revenue or modification of an existing source of revenue to fully fund these activities. In response to regulatory oversight questions posed by the Hazardous Waste Regulation Task Force (see http://www.eq.state.ut.us/issues/task_force/documents/deq_response.pdf), additional audits were identified as a task that could be implemented with additional resources.

Overall, departmental and divisional coordination needs to improve. (Page 1, Introduction, paragraph 5, sentence 1)

Response: The DSHW and the Division of Radiation Control (DRC) are aware of each other's actions. Bi-weekly coordination meetings with respective staff are held, correspondence is shared, and staff from each division communicate regularly, by phone and face to face, on specific issues.

Oversight Revenue is Dependent on Waste Volume

These charges [Mission of DEQ] are intended to foster the cooperation of industry in maintaining a healthy environment. (Page 2, paragraph 1 of topic, sentence 2)

Response: The DEQ Mission may foster cooperation of industry in maintaining environmental quality, although that may be an outcome. The Mission Statement was established to reflect the work of the Department and its employees. It does reflect the fact that environmental protection and economic development are not mutually exclusive.

Yet, in many instances the point the department needs to step in as a regulator is not clearly defined. (Page 2, paragraph 1 of topic, last sentence)

Response: This sentence implies that DEQ has no defined regulatory role. To the contrary, DEQ's regulatory responsibilities are well understood by the regulated community and the public. DEQ's regulatory decisions are consistent with legislative directive, environmental statutes (19-1-102 UCA) and implementing rules. Consideration of many factors, including economics, leads to careful decisions, not indecisiveness, as implied.

Regulatory Effectiveness Is Dependent on Budget and Staff Constraints

Funding for the regulation of commercial waste disposal facilities comes principally from waste disposal fees. (Page 2, paragraph 1 of topic, sentence 1)

Response: While the Environmental Quality Restricted Account is a significant component of funding for regulation of commercial waste disposal facilities, it is not the "principle" source. Other significant sources of funding for regulation of commercial waste facilities include: Dedicated Credits, such as fees for permit review, including application and review fees; federal funding, particularly for solid and hazardous waste; and General Funds.

DEQ Divisional Operations Differ Significantly

The issue is eventually settled before it is presented to DSHW's Board. The Board can approve or modify the settlement amount. (Page 3, paragraph 2 of topic, sentences 4-5)

Response: The settlement referred to here is a "tentative agreement" by both parties to the proposed terms of settlement. The tentative settlement is subjected to a 30-day public comment period. Following public comment, the Board is presented with the proposed settlement and a recommendation from the Executive Secretary. The Board may reject, approve, or modify the agreement.

DSHW has appropriate and accessible records, but has not developed sufficient written inspection procedures to insure adequate site review. (Page 3, paragraph 3 of topic, sentence 4)

Response: The DSHW believes, with concurrence of EPA, that it has sufficient inspection procedures to ensure adequate site review. See previous comment.

DRC has disorganized file information that limit public use... (Pages 3-4, paragraph 3 of topic, last sentence)

Response: DRC acknowledges that the file management system can be improved, but this statement provides the characterization that information is not available to the public, whereas the Division has fulfilled and consistently provided requested information to the public over the years.

Figure 1 – Utah's DEQ Regulates Five Commercial Disposal Facilities (Page 4)

Response: IUC is not a commercial waste disposal facility. Also, the heading in the figure should be "Type of Waste Disposed" instead of "Type of Waste Stored".

Utah's Radioactive Waste Disposal Program Poses Challenges

No Comments.

Radioactive Waste Regulation Is Complicated

Utah's radioactive waste facility does not allow public access to its financial records, stating that this information is proprietary information. (Page 6, paragraph 3 of topic, sentence 2)

Response: Add the words: [and contractual] after "financial".

Access to records is important for adequate regulation and for proper budgetary discussions at the state level…. For example, because the facility's information is proprietary, the division staff could not determine the economic value of the excess waste. (Page 6-7, paragraphs 5-7 of topic)

Response: The primary issue of this Notice of Violation related to making a determination that the surety was funded adequately, since the excess waste has not been accounted for in the facility closure cost estimates. This had nothing to do with not having access to facility information because cost estimates for disposal of this waste are available from information provided to and verified by the Division.

Radioactive Waste Categorization is Broadly Defined

Figure 2 depicts low-level radioactive waste classifications – A, B, and C. (Page 8, paragraph 2, sentence 4)

Response: Radioactive waste definitions may also take into account the origin/pedigree and the date of generation of the waste.

Over the last twenty years, a federal site reached capacity and closed and three state-operated sites were closed due to water contamination problems. (Page 9, paragraph 4 of topic, sentence 4)

Response: It may be best to reference the sites by name or broaden this statement to provide further explanation, e.g., sites were not subject to the same environmental regulatory regimen that exists today, resulting in water contamination problems and eventual closure of the sites.

Unique Program Requires Original Work by State

No comments.

State Planning Controls Need Updating

The plan is intended to serve as a guide to the division and the board in determining limits on radioactive waste…. One area the plan could be used, but is not is during the license amendment process.

We believe that having a waste plan, outlining allowable limits or types of waste, would allow the division to act on amendments more easily. (Pages 10-11, paragraphs 1-4 of topic)

Response: UCA 19-3-107 does not define "how" the plan is to be used (contrary to statements in the audit report) only that there is a statutory date for completion and that certain elements should be included in the plan. The Division met its statutory obligation by completing the plan, and the plan was subject to public hearings and consideration of the Radiation Control Board. The statute does not require an update to the plan. We would agree that the purpose and use of the plan should be reviewed. The original statutory purpose of the plan needs to be determined. The statute did not provide authority for the plan developed under Utah Code Section 19-3-107 to restrict the types of amendments and revisions submitted under other portions of the statute. Therefore, the plan will not enable staff to refuse to evaluate amendments which otherwise meet the requirements of Utah Code 19-3.

Audit Scope and Objectives

No comments

Chapter II. Waste Site Programs Need Better Planning and Administrative Support

Overall comment: Clarification is needed throughout Chapter II regarding the appearance that the Divisions are doing less work (oversight) when in fact the level of effort has remained steady even though state government in general suffered severe budget restrictions during the last two years.

DEQ Administrative Support of Waste Disposal Oversight Needs Improvement

The department lacks a written oversight plan, including risk analysis, of its oversight priorities. (Page 13, paragraph 1 of topic, sentence 1)

Response: The DEQ has established an oversight program for commercial waste disposal facilities. DSHW inspectors continually assess the waste management activities at each commercial facility and plan and target inspections accordingly. This method of oversight establishes inspection priorities and ensures the appropriate focus on facility activities. The DSHW believes this approach is consistent with the "establishment of priorities by risk analysis" concept suggested by the auditors.

Fee Fluctuations Affect Level of Oversight

General comment:
Two significant issues:

1. One issue is the perception that the Department continues to spend money from EQRA even though deficits are shown (Page 16, figure 4) without giving the broad perspective of EQRA. Recent revisions to DEQ projections indicate positive balances at the end of FY2004 and 2005 due to legislative actions taken during the 2003 general session.

2. The second issue is that if the Department had not taken steps to preserve the account, the account would be broke. The lapsing balances reflect actions taken by the Department to produce savings to the account.

Oversight of Utah's Waste Disposal Sites is Dependent on Waste Disposal Fees Collected from the Regulated Industry

To achieve the budget, DEQ ought to develop a cost structure that reflects both fixed and variable costs. (Page 14, paragraph 2 of topic, sentence 2)

Response: The suggestion to establish a structured fee system based on fixed and variable costs needs additional explanation or examples of how such a structure could work and what fixed or variable costs would be assigned to each. These changes to the fee structure would require a change in statute.

EQRA Purpose Needs to be Better Defined

We believe the Utah Code does not fully distinguish whether the funds will cover all the costs or partial costs of administering radiation control and solid and hazardous waste programs. (Page 15, paragraph 2 of topic, sentence 1)

Response: The Code reflects the discussion of the Legislature when the Act was first adopted. The EQRA funds more than just commercial waste disposal facilities. The auditor may recommend narrowing the use of the funds, but the statute is not vague on the matter. Furthermore, if EQRA funds are not used to fund "costs of administering the radiation control programs and the solid and hazardous waste programs", other funding will need to be appropriated.

Increased Expenditures have Resulted in a Diminishing EQRA Balance

No Comments.

Disposal Fee Revenues Fall Short of Budgeted Expenditures (Page 16)

In figure 4, estimates provided by DEQ initially averaged three years of radioactive waste receipts. This has resulted in a projected deficit to EQRA for FY2005. The Department re-evaluated these projections and believes that FY2005 will be similar to FY2004 in terms of waste receipts. As a result, the 2005 estimated numbers in figure 5 change as follows:

1. Fee disposal revenue: $6,183,688

2. Budgeted expenditure: $5,829,940

3. Difference: $353,759

This will also result in changes to figure 5 regarding FY2005 projections. These will be as follows:

1. Beginning fund balance: $1,029,918

2. Ending fund balance: $1,383,677

3. Percent change: +34%

Increase in Lapsing Balance Totals are a Concern (Page 17)

General comment: The amounts returned to EQRA were intentionally done to keep the EQRA solvent. If there had been no monies lapsed, the account would have faced a deficit.

The annual revenues from the uranium mill disposal fee will be $168,700. (Page 18, paragraph 5 of topic, last sentence)

Response: The annual revenues for the uranium mill program consist of both annual operating fees and a hourly review fee. These revenue sources are intended to fully fund the program. The $168,700 only represents the annual projected operating fee revenues.

Methods of Financial Assurance Seem Appropriate

No Comments.

Letters of Credit are a Commonly Accepted Form of Assurance

No comments.

Risk to State is Minimal for the Letter of Credit

No Comments.

Perpetual Care Fund also Provides Assurance

The state is the long-term custodian of the waste, long after waste facilities are closed. (Page 20, paragraph 1of topic, sentence 1)

Response: This is an important issue that needs additional information. The issue of eventual ownership of the property is still in question. Currently the property is privately-owned, and at some point in time will complete closure and post-closure monitoring activities. The Department has recommended (see Tab 8-1, Hazardous Waste Regulation and Tax Policy Task Force, DEQ website at: http://www.eq.state.ut.us/issues/task_force/documents/8.1.pdf) that future ownership of the Envirocare site be determined in statute.

Bonds and Insurance are Also Acceptable Means of Assurance

No comments.

DEQ Should Review Adequacy of Funds to Improve Operational Efficiency

An additional concern is that the department has not budgeted funds which could improve operational efficiencies. These improvements include regular audits of waste disposal fees and a better file management system for one of the department's divisions. (Page 21, last paragraph of topic, sentences 1 and 2)

Response: Information given to the Hazardous Waste Regulation and Tax Policy Task Force identified several areas where if "additional resources" were made available, the Department would provide such services. These were detailed in DEQ's response to Task Force questions of November 18, 2003 (see http://www.eq.state.ut.us/issues/task_force/documents/deq_response.pdf). Although not identified in the response to the Task Force, we would also agree that the additional resource of a file manager would be of great help to the Division of Radiation Control in conducting its administrative functions.

Funding Concerns Exist with DEQ's Current Oversight Functions

This issue ought to be addressed by the department as to the priority of sampling. (relating to split groundwater sampling). (Page 21, paragraph 2 of topic, sentence 3).

Response: See response to Groundwater Split Sampling in Chapter III.

Funding of Uranium Mill Tailings Program Poses Questions

No comments.

Sufficient Funds to Cover Costs of Groundwater Well Oversight Remain Uncertain

The Department did not have a lab that could perform the necessary tests until relatively recently. (Page 23, paragraph 2 of topic, sentence 1)

Response: This refers to the recent groundwater split sampling event at Envirocare (April, 2004) in which the Divisions use the State Health Laboratory to conduct the analyses of samples collected. The State Health Department can do many analyses, but its radiological analysis capability is limited. In those instances where the State Health Laboratory (and this applies elsewhere) cannot perform the analysis, it works closely with the agency to find a reputable laboratory. It would be better stated to say: "Radiological samples must be analyzed by an outside laboratory because the State Health Laboratory has not maintained the necessary capability to perform all needed radiological analysis. The State Health Laboratory works closely with the Divisions in assuring that all samples receive the requested analysis."

Funding Needed to Improve Operational Efficiency within DEQ

The Department should conduct regular audits on disposal fees. . .DRC needs better file record management. (Page 23, paragraph 1 of topic, sentences 1 and 3)

Response: These issues will be addressed in the fees and file management discussion areas.

DEQ Needs to Conduct Regular Fee Audits

DEQ has completed only one financial audit performed in 1997, on the commercial waste facilities. (Page 24, paragraph 1 of topic, sentence 1)

Response: The DEQ audit in 1997 went back to the inception of the fees. The current audit (underway) will cover the period from 1997 to present.

DRC Lacks Adequate File Keeping System

Response: We concur with the auditor's findings regarding hiring a full-time file keeping person. The funding for this position has not yet been determined.

Some Waste Disposal Fees May Not Bring in Desired Revenue Levels

The curie fee on radioactive waste is $1 per curie on a shipment. (Page 24, paragraph 1 of topic, sentence 1)

Response: During the 2001 Legislative session, this new fee, in conjunction with the 10 cents per cubic foot, charge was put in place in anticipation of any eventual approval of Class B and C low-level radioactive waste. As previously stated, Class B/C is higher in radioactivity content and would generate significant fee revenue to cover the cost of oversight. This was presented to the Hazardous Waste Regulation and Tax Policy Task Force at its April 22, 2004, meeting. (See Tab 19, Hazardous Waste Regulation and Tax Policy Task Force, DEQ website). There was realization that per curie fee with only Class A waste would generate a small amount of revenue.

Recommendations

No comments. See response to recommendations at end of letter.

Chapter III. Commercial Waste Disposal Oversight Can Improve

Communications to the Hazardous Waste Regulation and Tax Policy Legislative Task Force imply a certain level of oversight is being conducted yet, in actuality some areas have gone without oversight for a few years. (Page 27, paragraph 1of topic, sentence 2)

Response: See DEQ response to Communications to the Task Force Imply Regular Oversight of Groundwater Program.

The oversight of commercial waste disposal programs by the Department of Environmental Quality is in need of direction and planning. Finally we believe that DSHW can improve their waste disposal facility oversight. (Page 27, paragraph 1, sentence 1 and paragraph 2, last sentence.)

Response: The DEQ has developed and implemented a program for oversight of the commercial waste disposal facilities. See previous comments.

Performance of DRC's Groundwater Protection Program Raise Questions

General Comments: Groundwater is not the only environmental media that needs to be monitored to assure that radiation is not escaping the facility. These other media must include: air, soil, surface water, direct gamma radiation monitoring, and personal dosimetry. It is inappropriate to focus on groundwater only.

Sampling Program is not Risk-Based

General Comment: Page 28 and 29, Sampling Program is not Risk-Based.
This places the auditors in a position of making opinions regarding how to best conduct a split groundwater sampling program based on information provided. In the discussion somewhere, there needs to be a more visible explanation regarding the groundwater split-sampling program; who it applies to, what is the intended purpose, and which facilities are covered. There is much text in the report surrounding how split-sampling events at Envirocare were not conducted, but very little text about split-sampling events occurring at uranium mill facilities (IUC). In fact, split-sampling resulted in the discovery of the chloroform contamination problem at IUC. Given the choice between Envirocare (no indication of contamination) and IUC (suspected contaminated) and limited funding, it appears DRC made the right choice for split-sampling.

If the aim of the groundwater protection program is to ensure a favorable health-safety standard, the wells that the division selects for split sampling should reflect the areas most likely to identify contamination. (Page 28, paragraph 1 of topic, sentence 1)

Response: The objective of designing and implementing a split sampling program is not to "reflect areas most likely to identify contamination." That is an objective of the facility's groundwater sampling or monitoring program. The objective of the DEQ split sampling program is to take identical samples in order to test the operators' sampling methods, and to test the analytical methods of the lab. The ability to get results equivalent to those from the operators' split-sample provide assurance in the reliability of the larger monitoring program conducted by the operator.

DRC's Well Selection Does Not Reflect All of the Disposal Site's Operations

No comments.

Figure 6, Wells Split-sampled Surround Two of the Four Cell Types (Page 29).

General Comment: Groundwater flow directions on the figure are overly simplified. Flow directions change with time. Because they do change with time, they need to be considered in the context of each split sampling event. The figure needs to be annotated as to what date(s) the head measurements were made.

…*sample each of the 57 groundwater monitoring wells. . .* (Page 29, paragraph 1 after Figure 6, sentence 1)

Response: Current total count of Point of Compliance (POC) wells at Envirocare is 63 wells, as follows:

- LARW Cell = 13
- 11e.(2) Cell = 14*
- Class A Cell = 18

- Mixed Waste Cell = 14 (17, if you count replacement wells GW-67R, GW-68R, and GW-69R)
- Evaporation Ponds = 4
- Two 11e.(2) wells = head monitoring only (GW-37 and GW-38R).

Selection of Well Samples Should be Risk Based

Instead of selecting wells based on budget limitations. . . (Page 30, paragraph 1 of topic, sentence 1)

Response: Based on groundwater flow directions from September 2003, and the current disposal cell geometry, 86% (54 of 63) of the POC wells at Envirocare are downgradient of one or more potential pollution sources, including disposal cells and evaporation ponds. Because groundwater flow directions change with time, any determination about a well's downgradient position needs to be made in context of data available at the time of each separate sampling event. These considerations were made by DRC staff prior to each split-sampling event; wherein both up and downgradient wells were selected for split-sampling. Consequently, it is inaccurate to conclude that DEQ staff did not consider groundwater flow position in its selection of monitoring wells for split-sampling.

DRC Sampling Frequency Needs Review

The division sends its sample to a different laboratory than the operator's so as to avoid conflict of interest issues. (Page 30, paragraph 2 of topic, sentence 5)

Response: The reason for using a different laboratory isn't so much to avoid a conflict of interest, but it is to provide an independent check on the operator's laboratory.

Communications to the Task Force Imply Regular Oversight of Groundwater Program (Page 31)

General comment: We appreciate the auditors pointing out these problems with text provided to the task force. We will review and revise the text to ensure it does not imply something that the Division is or is not doing,

State Quality Assurance Split-Samples Have Only Been Done in Four of the Last Ten Years

Our review of groundwater split samples reveals that the DRC conducted split-sampling events in 1995, 1996, 2000, and 2001. (Page 31, paragraph 1 of topic, sentence 1)

Response: This does not indicate split sampling events at the International Uranium White Mesa Mill that occurred in 1999, 2000, 2001, and 2002.

Figure 7. Percentage of Wells Split-sampled Has Decreased

No comments.

State's Disposal Site Water Sampling Lacks Sufficient Policies

No comments.

Budgetary Needs Elsewhere Have Hampered Water Quality Oversight Program

No comments.

The Division's Sample Selection Has Been Based on Costs

No comments.

Figure 8. The Cost for Analyzing Samples Varies With Each Cell Type (Page 33**)**

General comment: The price list provided in this figure is an over-simplified summary. Close review of the prices shows the 2002 estimate tabulated by DRC staff did not include more than 12 other contaminants, not listed as GWPL parameters, yet required by the GW Permit as general monitoring parameters. Split-sampling costs for DEQ are higher than those shown in Figure 8. After consideration of the radiologic parameters that need to be contracted to a third party laboratory, and the costs for the State Health Laboratory to run the remaining parameters (including the general monitoring parameters required by the GW Permit, the total analytical costs to DEQ is about $2,200 per well (LARW and Class A Cells). Statements focus only on the analytical costs, and overlook several other equally important work elements and costs necessary to split-sampling, including preparation and planning, fieldwork of sampling, and data reduction and evaluation after sampling. After consideration of these other non-analytical costs, the total split-sampling cost to DEQ is about $2,900 per well.

New Informal Policy Should Result in More Oversight for the Current Year (Page 33)

General comment: The auditors were provided with a copy of the written policy.

However, during this current split-sampling a collection error was made. (Page 34, paragraph 3 of topic, sentence 1).

Response: Split-sampling error made was committed by the State Health Laboratory staff, who erred in preparation of the number and type of sampling bottles required by the third-party

laboratory. This error prevented certain radiologic samples from being collected at some of the Envirocare compliance wells.

Division's Budget was Sufficient to Allow for Split-Sampling (Page 34)

General comments: This paragraph fails to account for the other necessary work elements and costs involved in split-sampling, i.e., preparation and planning, actual fieldwork of sampling, and data reduction/evaluation. The Division did conduct groundwater split-sampling in 1999, 2000, 2001 and 2002 at the International Uranium White Mesa Mill. As part of a sound fiscal management policy, the Department needs to maintain a healthy balance within EQRA to account for the cyclic nature of waste disposal and resultant fee collection. While it appears that ending fund balances were large, these balances reflect the concept of maintaining that healthy balance. Additionally, $40,002 of the 2003 balance lapsed back to EQRA that was annual uranium mill fees paid in advance.

Groundwater Sampling Differs by Site

No comments

Figure 9. States' Groundwater Programs Vary (Page 35)

General comment: This figure omits other environmental sampling that is necessary to determining if radiation can or has escaped from a radioactive waste disposal facility, including monitoring of air, soil, surface water, direct gamma radiation, and personal dosimetry. It is inappropriate to focus on groundwater only.

Inspection Programs Appear Effective and Seem to Meet Current Health-Safety Needs

No comments.

Site Inspection Program Overall Appears Effective

No comments.

Annual Inspections Are Segmented into Manageable Modules

No comments.

Site Inspection Program is Limited by Administrative Problems

No comments.

After a Limited Review, 2002 Inspections Also Appear Thorough

No comments.

DRC Spot Inspection Program Appears to Meet Current Health-Safety Needs

No comments.

Inspections Are Conducted on Selected Shipments and Accompanying Paperwork (Page 38)

General comment: No mention was made of license conditions that require pre-shipment samples, sampling at the site by Envirocare for fingerprint and radiological analysis, - this is part of the "total" regimen that helps ensure waste is properly manifested and is shipped properly.

Utah Inspects Fewer Shipments

No comments.

Utah Inspectors Spend Fewer Days at Disposal Site (Page 39)

Response: Date in paragraph 1 should be September 2003.

DSHW Can Improve Disposal Facility Oversight

DSHW does not prepare written inspection plans for overseeing the commercial waste facilities. (Page 40, paragraph 1 of topic, sentence 3)

Response: The DSHW has implemented a well-developed oversight program for the commercial waste disposal facilities. In addition, the inspectors use the facility permit, its attachments and various inspection checklists developed by the section as part of the oversight process. However, the DSHW questions the use of the prescriptive and inflexible structure (inspection plans) as the only means of oversight suggested by the audit. Such an approach may be counterproductive and ineffective. The inspection teams need the discretion and flexibility to change the scope and direction of inspections without being constrained by a mandatory checklist.

High priority activities at each facility are discussed with supervisors and targeted for inspection in planning and strategy meetings as part of the oversight program. By focusing on these activities and using experience and judgment to adjust in the field, the DSHW believes it does establish inspection priorities based on "risk."

DSHW Lacks Inspection Planning

DSHW does not facilitate the preparation and usage of written yearly inspection plans for its compliance oversight. . . (Page 40, paragraph 1 of topic, sentence 1)

Response: The DSHW annually establishes a written inspection schedule of all commercial facilities. In addition to the annual inspection (which usually includes EPA inspectors), inspections/site visits are conducted throughout the year. Inspectors meet regularly with supervisors to identify priorities and plan these inspections/site visits.

DSHW Does Not Prepare Written Inspection Plans for Commercial Waste Facilities

(Page 40)

Response: The DSHW has implemented a well-developed oversight program for the commercial waste disposal facilities. While some forms of inspection planning may not be reduced to writing, inspection planning and prioritization occurs regularly throughout the inspection year. This planning takes place in coordination meetings with the DRC, in meetings with DSHW management and within the individual inspection teams. The inspection teams have been inspecting these facilities for many years and are fully aware of the activities and operations that require oversight. The inspection teams have developed the expertise and experience necessary to thoroughly evaluate compliance and all major "risk areas" each year.

Further, DSHW does not conduct formal risk assessments nor analyses of facilities' violation trends. (Page 41, paragraph 3 of topic, sentence 1)

Response: The DSHW does conduct assessments of violation trends. These assessments occur during "case preparation." This assessment includes a discussion of current violations in comparison with previous violations. This is "trend analysis." Various enforcement action options are also discussed and considered with the specific intent to identify the most effective option, given the specific circumstances. This is "effectiveness analysis." This assessment of trends is then included in the inspection planning previously mentioned.

These assessments and discussions are "enforcement confidential" because they are part of the DSHW's deliberative administrative enforcement process. Therefore, they are not documented in writing. This policy is consistent with that of other agencies with regulatory and enforcement responsibilities, including the EPA. It should be noted that the DSHW's penalty calculation worksheets do reflect this assessment of violation trends (see adjustment for "Repeat Violations"). These worksheets become public documents when enforcement settlements are released for public comment.

Contrary to the audit finding, the DSHW's self-assessment report submitted to EPA each year does include the affirmation that "periodic analyses of effectiveness of evaluation activities" have occurred.

Inspectors Focus on the Areas With Most Problems as They Arise (Page 41)

General comment: The DSHW believes it has implemented a well-developed oversight program for the commercial waste disposal facilities. In addition, EPA inspectors are included in developing the scope of the annual inspection.

Current Penalty Process Results in Lower Fines

No comments.

Negotiations With Violators Result in Fine Reductions

Division managers consider this negotiation process to be protected which concerns us. (Page 42, paragraph 2 of topic, sentence 1)

Response: The DSHW believes that penalty negotiations must be confidential. These negotiations are part of the administrative enforcement process and should be appropriately limited to the agency and the alleged violator. This is consistent with the EPA's policy and has a legal basis as well (63-2-304 UCA).

Maximum Penalty Has Not Been Updated Since 1981

However, according to DSHW management, the amount of penalty that Utah imposes on a facility is less of a deterrent for future violations than actually getting an NOV. (Page 43, paragraph 2 of topic, sentence 6)

Response: The auditor misunderstood the statement. Penalties have a significant deterrent on future violations. However, given the competitive nature of the waste disposal business, the issuance of an enforcement action also has a significant deterrent effect.

DSHW's Approach is to Ensure Facilities are in Business and in Compliance

No comments.

DSHW Should Sample Treated Waste

No comments.

DSHW Does Not Collect and Analyze Samples

. . .often waste not meeting the treatment standards was deposited in the cells. . . (Page 44, paragraph 2 of topic, sentence 3)

Response: The narrative that "often waste not meeting the treatment standards has been deposited in the cells" is misleading. In the year 2000, Envirocare disposed of approximately 239 treated loads in the mixed waste cell. Only two (.8%) were not successfully treated. In 2001, 0 out of 160 loads (0%) were not successfully treated. In 2003, two out of 22 loads (9%) were not successfully treated. The numbers of loads disposed in 1997 and 1998 were not immediately available, but we believe that the ratio would be similar. We do not believe that these low percentages constitute "often" as described in the narrative.

Figure 10. One Facility's Violations for Inappropriately Depositing Treated Waste (Page 44)

Response: See comment above regarding treated waste.

Other States Split-Sample Treated Waste

No comments

Recommendations (Page 45)

We recommend that DSHW design and implement written, uniform, annual inspection plans. (Recommendation 3)

Response: The DSHW has implemented a well-developed oversight program for the commercial waste disposal facilities. The DSHW questions the use of the prescriptive and inflexible structure (inspection plans) as the only means of oversight suggested by the audit. Such an approach may be counterproductive and ineffective. The inspection teams need the discretion and flexibility to change the scope and direction of inspections without being constrained by a mandatory checklist.

We recommend that DSHW sample treated waste to ensure that it meets treatment standards. (Recommendation 5)

Response: This recommendation implies that continual sampling by the DSHW is the only way to verify that treatment criteria were met. The DSHW disagrees. All treatment

verification samples are sent off-site to independent labs. These labs are required to be Utah-certified. Certification means that these labs have been challenged and audited to verify that they can perform the required analytical methodologies on the representative analytes. In addition, the DSHW requests full data packages (raw data with analytical notes from the lab) for questionable data. For these reasons, the DSHW believes that treatment can be verified using the facilities' data.

Chapter IV. Record Keeping and Fee Collection Reviews Need Improvement

DEQ's Administrative Controls Can Improve

No comments.

Radiation Division Lacks Adequate Record Keeping System

The division needs a better record organization. . .include a database for Notices of Violation (NOVs) and inspections. In its review. . .the …NRC was also concerned about the Division's records management. (Page 48, paragraph 1of topic, sentences 2 and 3)

Response: The sentence before discusses needs such as a database for tracking of NOVs and inspections. The NRC review was a broad statement regarding records management, the recent NRC review clearly indicated that the low-level waste inspection program was satisfactory.

Better Record Organization Systems Needed

No comments.

DRC Should Keep a Database on all NOVs Issued and Inspections Completed

No comments.

The NRC is Concerned with Records Management

No comments.

DEQ Can Improve its Fee Collection Controls (Page 50)

General comment: The process of collection of fees can always be improved, but there has to be some reliance and confidence that the commercial waste facilities will be responsible in the

reporting and payment of fees. Given that it appears that some facilities are not doing an adequate job, will require the Department to reassess all aspects of its fee collection process.

DEQ Is Not Proactive in Auditing Fees

However, the DEQ recently began an audit of one facility. (Page 50, paragraph 2 of topic, sentence 1)

Response: The Legislative Auditors accompanied the Department during the first 3-4 hours we were on site at the start of the audit. During this time there were many questions that needed to be asked to gain a full understanding of the various types of manifests and the facility's policies and procedures. Asking questions and gaining a full understanding of the procedures and information available at the beginning of an audit is essential and necessary in order to be able to perform a good audit to ensure that the waste facility has paid the proper amount of fees to the Department. It does not mean that we are unable to perform a good audit.

Figure 12. One Facility Has Underpaid More Than $270,000 in Waste Disposal Fees.

No comments.

Divisions Do Not Utilize All Available Information

However, the accounting staff is not aware that the facilities are submitting the waste manifests to the divisions. (Page 51, paragraph 2 of topic, last sentence)

Response: The DSHW's accounting staff **is** (emphasis added) aware that facilities are submitting manifests to the Division.

Fee Collection Regulations Need Clarification

No comments.

Code Clarification Regarding Fee Collection May be Necessary

No comments.

Formal Policy Regarding Applicability of Fees Needs to be Issued

No comments.

Informal Policy of Fee Forgiveness Reduces State Revenues

DEQ has unilaterally decided not to collect. . .fees which falls under multiple waste categories. (Page 54, paragraph 1of topic, sentence 1)

Response: We do not believe that it was the intent of the Legislature to double charge on any of the waste streams. We believe that the intent of the Legislature was to charge the higher of any applicable fees for a specified waste delivery

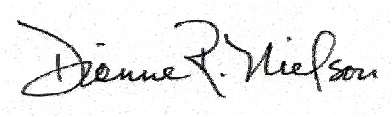
Informal Policy is Not Always Followed

No comments.

Recommendations

The Department appreciates the work of the Legislative Auditors in conducting this audit. The Department believes that such audits are beneficial in helping foster continuous improvement within the agency. The Department will work closely with the Legislature and the Hazardous Waste Regulation and Tax Policy Task Force relating to resolution of the recommendations presented by the auditors.

Best regards,



Dianne R. Nielson, Ph.D.
Executive Director

cc: Dane Finerfrock, Director, Division of Radiation Control
Dennis Downs, Director, Division of Solid and Hazardous Waste
Steve Higley, Director, Office of Support Services
Bill Sinclair, Deputy Director, UDEQ
Fred Nelson, Utah Attorney General's Office