



Low-Level Radioactive Waste:

The State Has Limited Information That Hampers Its Ability to Assess the Need for a Disposal Facility and Must Improve Its Oversight to Better Protect the Public

June 2008 Report 2007-114



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The Governor of California
President pro Tempore of the Senate
Speaker of the Assembly
State Capitol
Sacramento, California 95814

Dear Governor and Legislative Leaders:

As requested by the Joint Legislative Audit Committee, the Bureau of State Audits presents its audit report concerning low-level radioactive waste (low-level waste). The report concludes that public concern related to the disposal of low-level waste will likely increase in the near future as generators of low-level waste in California are losing access to one of the two disposal facilities they currently use. In June 2008 the disposal facility in Barnwell, South Carolina, is scheduled to cease accepting low-level waste from generators in many states, including California. Unfortunately for decision makers, the implications of this pending closure and what it means for the State's policy are not clear-cut. California's current approach to managing low-level waste is significantly affected by the lack of its own disposal facility, as well as incomplete data on the volume of low-level waste in the State.

The audit also revealed that the Department of Public Health (department) and its Radiologic Health Branch (branch) can better protect the public's health by improving their oversight of low-level waste. Specifically, the department has yet to develop dose-based decommissioning standards that define when a physical location is sufficiently clean from harmful radiation. Further, we found that the department's branch cannot demonstrate that it conducts its oversight inspections on time. The branch's data systems for tracking inspections are not sufficiently reliable, while some inspections were not completed until they were more than a year overdue. The audit also found the branch is unable to justify its recent requests for more resources, such as the fee increases it imposed in 2005 and its requests to the State for more staff in fiscal years 2006-07 and 2007-08. Finally, the branch lacks a reasonable explanation as to why it has not provided the Legislature with data on the amount of low-level waste that is generated in California and requires disposal.

Sincerely,



ELAINE M. HOWLE
State Auditor

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Summary

Results in Brief

Public concern related to the disposal of low-level radioactive waste (low-level waste) will likely increase in the near future because entities in California that generate this waste are losing access to one of the two disposal facilities they currently use. In June 2008 the disposal facility in Barnwell, South Carolina, is scheduled to cease accepting low-level waste from generators in many states, including California. Generators of low-level waste will need to consider alternative methods, including long-term or off-site storage, to deal with their most radioactive low-level waste. Unfortunately for decision makers in California, the implications of this pending closure and what it means for the State's public policy are not clear-cut. The lack of its own disposal facility and incomplete data on its volume of low-level waste significantly affect the State's current approach to managing low-level waste.

In 1988 the State entered into an interstate agreement, known as the Southwestern Low-Level Radioactive Waste Disposal Compact (Compact), for the management of its low-level waste disposal needs. As the host state, California is responsible for establishing a low-level waste disposal facility to accommodate the needs of member states for the first 30 years after a facility opens. However, the State's efforts to provide such a facility ceased in 1999, leaving generators in Compact states—Arizona, North Dakota, South Dakota, and California—the option of exporting the waste they generate to the only two low-level waste disposal facilities—in South Carolina and Utah—that currently accept their waste. To do so, the generators need the approval of the Southwestern Low-Level Radioactive Waste Commission (Southwestern Commission), the Compact's administrative body.

Our review found that although the Southwestern Commission has an accurate understanding of its legal responsibilities and has appropriately assumed responsibility for approving the exportation of low-level waste for disposal and recycling, its approach to approving these exportation requests is not consistent with federal law. Under the terms of the congressionally approved Compact, the Southwestern Commission must approve exportation requests by a two-thirds vote of representatives from the member states. However, the Southwestern Commission has delegated this authority to the executive director, its employee.

The Southwestern Commission's counsel described the executive director's role in approving exportation petitions as essentially ministerial. However, the fact that the Southwestern Commission does not even ratify the executive director's decisions in handling

Audit Highlights...

Our review of the State's approach to managing low-level radioactive waste (low-level waste) found the following:

- » *In June 2008 generators in California will lose access to one of the two low-level waste disposal facilities that currently accept their waste.*
- » *The Southwestern Low-Level Radioactive Waste Commission's process for approving the exportation of low-level waste is not consistent with federal law.*
- » *The Department of Public Health (department) has yet to follow a 2002 executive order requiring it to develop dose-based decommissioning standards, resulting in a lack of public transparency and accountability over its actions.*
- » *The department's Radiologic Health Branch (branch) cannot demonstrate that its inspections of those that possess radioactive material and radiation-emitting machines are performed timely in accordance with federal and state requirements.*
- » *The branch has poorly planned for its resource needs, is unable to justify the magnitude of its 2005 fee increases, and used old and incomplete data when asking for more staff.*
- » *More than five years after the effective date of the law, the branch is still unable to provide required information on the amount of low-level waste generated in California.*

disposal requests suggests that its delegation to the executive director is legally impermissible. Further, the Southwestern Commission's policy for handling the exportation of low-level waste for recycling, which grants automatic approval of all such requests, provides weak oversight of the exportation process.

In some cases radioactive-waste generators in California may ship their low-level waste to Tennessee for processing and disposal under that state's Bulk Survey for Release (bulk release) program. Under this program, certain licensed facilities in Tennessee receive and process construction or demolition debris, asphalt, soil, wood, concrete, and other materials that contain levels of radioactive contamination that the Tennessee Department of Environmental Conservation has categorized as *extremely low*. After processing, the low-level waste may be disposed of in designated municipal solid-waste landfills in Tennessee. When low-level or other waste is shipped from California for purposes of processing and subsequent disposal at the bulk release program in Tennessee, it is not shipped for purposes of ultimate *disposal* at a *low-level waste disposal facility*, so approval by the Southwestern Commission is not legally required, nor is it within the authority of the Southwestern Commission to require a generator to seek approval because the waste will not ultimately be disposed of as low-level waste. The report of an advisory committee to the Tennessee State Legislature issued in August 2007 states that what makes this program attractive to waste generators is that it provides a degree of regulatory ease that may not be available in other states. Therefore, it is likely the degree of regulatory ease is what makes this program attractive, as opposed to any practice or policy on the part of the Southwestern Commission. In analyzing whether the shipment of waste generated in California to this program subjects the State to liability, we did not become aware of any facts that would presently subject the State to liability. Nonetheless, any decision about the legality of the bulk release program rests with the courts. Moreover, a number of different laws may subject those who manage low-level waste to liability if they violate the law or cause harm by their actions.

The Department of Public Health (department)¹ also plays an important role in the State's oversight of low-level waste, which includes licensing and inspecting those that possess sources of radiation and generate such waste. Our review found that the department has not complied with a 2002 executive order, D-62-02, that requires it to adopt dose-based decommissioning standards formally. Decommissioning is a process in which the department concludes that a physical location that formerly contained radiation is sufficiently clean for the public to use it safely and

¹ Effective July 1, 2007, the former Department of Health Services became two departments. One of these is the Department of Public Health, which inherited responsibilities for regulating sources of radiation. For simplicity, we use the term *department* throughout the audit report.

qualifies the location for release from further regulatory control. In 1998 the department's attempt to enforce a federal standard for decommissioning was challenged. In 2002 a court ruled that the department could not implement the federal decommissioning standard, or similar standard, without complying with the California Environmental Quality and Administrative Procedure acts. As a result, the department handled decommissioning on a case-by-case basis. Subsequently, the former governor issued an executive order directing the department to develop decommissioning standards that complied with the court order, but the department continues to use a decommissioning process that lacks public transparency and accountability.

The department's Radiologic Health Branch (branch) performs many of the oversight activities for radioactive materials or radiation-emitting machines. The branch's oversight activities include inspecting entities that use radiation-emitting machines, such as X-ray equipment, or that possess radioactive material. Federal guidelines and state regulations prescribe the frequencies with which these inspections should occur, with more hazardous material or machines needing more frequent inspections. However, the branch's electronic data for ensuring that it conducts these inspections in a timely manner is not sufficiently reliable. Specifically, because the branch has poor management controls over data entry and because its data systems include inaccurate information, the branch cannot rely on its data systems for assessing inspection timeliness or for determining the size or extent of inspection backlogs. We found cases in which branch staff had incorrectly classified how frequently some inspections should occur, while in other cases the branch was unable to provide records of inspections that support the data appearing in its various data systems.

The branch also lacks documentation that describes how its data systems work and how these systems store information. Further, the department's information technology support staff does not know whether the data it provides to the branch is complete, acknowledging that the staff does not know why data reports exclude certain types of inspection data. The fact that the information technology staff has never resolved these issues with branch staff, along with our observations of limited coordination between these two groups, raises doubt as to whether the branch can adequately manage its inspection activities. Additionally, we found instances in which the branch did not conduct annual inspections of equipment or materials promptly. In two cases, inspections of equipment were late by more than a year. One of the materials inspections that we tested was more than two years overdue by the time the branch performed its review, and the branch had incorrectly classified the inspection as requiring an annual inspection.

Moreover, the branch continues to use the same data systems today that it determined needed replacing in 1996, 12 years ago. It has considered implementing three replacement data systems since 2001, when the Department of General Services suspended the Computer Utilization for Radiation Information and Enforcement project, intended to resolve issues caused by poor information management practices. The department states that the development of a department-wide data system currently includes the branch's data needs and that the project's first phase, which supports the branch, should be complete in November 2010.

Although the branch has pointed to inadequate funding and a lack of staff as key areas that need to be addressed, its attempts to resolve these concerns have often lacked adequate analyses to demonstrate that its requests for additional resources are reasonable. In June 2005 the branch obtained approval from the Office of Administrative Law to change its fee structure. The branch funds the bulk of its operations through the fees it imposes on those licensed to possess radioactive material or radiation-emitting machines and other sources. It claimed that the year-end balance in the Radiation Control Fund was declining. However, in the absence of specific quantitative fiscal and workload analyses that would demonstrate how the new fees were calculated, the branch is unable to support the magnitude of the increases. We noted similar problems with its recent requests for more spending authority to hire additional staff. The branch's incomplete analyses failed to address the work backlog that it mentioned in its staffing requests. Further, these requests were based on data that were not current, and at times, were over three years old. It appears that the branch may not know how many staff members that it truly needs to accomplish all of its work, acknowledging that it has not fully evaluated its staffing needs since the mid-1990s.

The branch also lacks a reasonable explanation as to why it has not yet complied with state law enacted in September 2002 to obtain and report data on how much low-level waste is stored in California or exported to other states for disposal. More than five years after the State imposed this requirement, the branch is still far from being able to report this information. In fact, the branch currently has only about 6 percent of one year's data entered. The State provided the department with \$1.3 million in additional spending authority during fiscal year 2003-04 to implement a reporting system to compile this information; however, the department allowed to lapse its authority to spend more than \$3 million for that budget year, choosing not to implement the reporting system.

In addition, branch staff members doubt whether the data collected will provide all the necessary information. The department recognized this problem and admits that it needs to clarify its

reporting obligations with the Legislature. The branch's lack of data on low-level waste storage and disposal hinders policymakers' ability to assess the State's need for a disposal facility. The lack of data also hinders the branch's own ability to develop a contingency plan that recognizes that one of the two available out-of-state disposal facilities will soon stop accepting low-level waste from generators in California; the Barnwell, South Carolina, facility is scheduled to close its doors to low-level waste from generators in many states, including California, in June 2008. Although state law requires the department to develop such a contingency plan, the department was unable to provide us with one during the audit. Instead, the department stated that this plan was last prepared in the early 1980s.

Finally, the branch lacks an adequate strategic plan. Although not required under law, its existing plan lacks best-practice elements such as performance metrics, which would allow it to monitor its own performance and identify areas in need of improvement.

Recommendations

To provide greater public transparency and accountability for its decommissioning practices, the department should begin complying with the Executive Order D-62-02 and develop dose-based decommissioning standards formally. If the department believes that doing so is not feasible, it should ask the governor to rescind this 2002 executive order.

To ensure that the branch uses sufficiently reliable data from its future data system to manage its inspection workload, the department should develop and maintain adequate documentation related to data storage, retrieval, and maintenance.

To make certain that the branch uses sufficiently reliable data from its current systems to manage its inspection workload, the department should do the following:

- Improve the accuracy of the branch's data for inspection timeliness and priority level. The branch can do so by comparing existing files to the information recorded in the data systems.
- Improve its internal controls over data entry so that it can maintain accurate data on an ongoing basis. Such controls might include developing a quality assurance process that periodically verifies the contents of licensee files to the data recorded electronically. Other controls might include formalizing data entry procedures to include managerial review or directing the information technology staff to perform periodic logic checks of the data.

To ensure that the branch can sufficiently demonstrate that the fees it assesses are reasonable, the department should evaluate the branch's current fee structure using analyses that consider fiscal and workload factors. These analyses should establish a reasonable link between fees charged and the branch's actual costs for regulating those that pay specific fees. Further, the analyses should demonstrate how the branch calculated specific fees.

To make certain that it can identify and address existing work backlogs and comply with all of its federal and state obligations, the department should develop a staffing plan for the branch based on current, reliable data. The plan should involve a reevaluation of the branch's assumptions about workload factors, such as how many inspections an inspector can perform annually. The plan should also include the following components:

- An assessment of all backlogged work and the human resources necessary to eliminate that backlog within a reasonable amount of time.
- An assessment of all currently required work and the human resources necessary to accomplish it.

To inform the Legislature when it is likely to receive the information to evaluate the State's need for its own disposal facility, the department should establish and communicate a timeline describing when the report required by Section 115000.1 of the Health and Safety Code will be available. The department should also see that its executive management and the branch discuss with appropriate members of the Legislature as soon as possible the specific information required by state law that it cannot provide. Further, to the extent that the department cannot provide the information required by law, it should seek legislation to amend the law. Finally, when the branch has an understanding of the disposal needs for generators in California based on this data, it should develop an updated low-level waste disposal plan.

To better manage its performance in meeting key strategic objectives, the branch should establish a new strategic plan that contains all essential elements, including performance metrics and goals that the branch believes would be relevant to ensuring its success.

Agency Comments

The Southwestern Commission disagreed with many aspects of our audit report and its counsel believes the process by which the Southwestern Commission approves petitions is legally sufficient.

The department agrees with all but two of our recommendations. It disagrees with our recommendations concerning complying with the 2002 executive order and developing a low-level waste disposal plan that complies with the Health and Safety Code.

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Introduction

Background

According to the U.S. Nuclear Regulatory Commission (NRC), the average person experiences constant exposure to ionizing radiation from several sources. The National Academy of Sciences defines radiation as energy emitted in the form of waves or particles.

Types of radiation include X-rays, gamma rays, and cosmic rays, or alpha particles and beta particles. Ionizing radiation is capable of displacing electrons from atoms or molecules, thereby producing ions. Our environment and even the human body contain naturally occurring radioactive materials that contribute to the radiation dose people experience. The largest source of natural background radiation exposure is terrestrial radon, a colorless, odorless, chemically inert gas, which causes about 55 percent of the average person's exposure. Cosmic radiation contributes additional exposure, as do X-rays and radioactive materials in medicine. According to the NRC, the average person receives an annual radiation dose of about 0.36 rem, or 360 millirems (thousandths of a rem).²

According to a report issued by the chair of the Advisory Group on Low-Level Radioactive Waste Disposal,³ radioactive materials are used in various job sectors, including academic, defense, energy production, industrial, and medical. For example, medical researchers at academic institutions use radioactive materials as imaging agents or as tracers to study drug metabolism to ensure the safety of potential new products. Hospitals and medical research facilities use radioactive materials for medical diagnosis and treatment of cancerous tumors and other ailments. Radioactive material that these activities no longer need and that the federal government does not consider high-level radioactive waste, spent nuclear fuel, *transuranic waste*, or certain *byproduct material*, is generally called *low-level radioactive waste* (low-level waste). The low-level waste generated from these activities can take many

² A *rem* is a unit that measures radiation dosage and that researchers use to determine the potential health risk associated with exposure. According to the NRC, depending on the dose and length of exposure, health effects from radiation can range from none to the individual's death. Radiation's effects include cataracts, skin burns, genetic effects, and diseases such as leukemia or bone, breast, and lung cancer. The NRC also states that studies have not shown a consistent cause-and-effect relationship between relatively lower levels of radiation exposure and biological effects. It further states that the scientific community generally assumes, however, that any exposure to ionizing radiation can cause biological effects that may harm an exposed person. This community also assumes that the magnitude of the probability of these effects is directly proportional to the radiation dose.

³ In June 1999 former Governor Gray Davis asked the president of the University of California to chair an advisory group that included representatives from government, the public, industry, environmental organizations, and other public interest groups to recommend options for the disposal of California's low-level radioactive waste. The president issued his report, *Management and Disposal of California's Low-Level Radioactive Waste*, in August 2000.

forms, including cloth, plastic, and rags containing traces of radioactive material. The physical form of low-level waste may not occur as solids only; it can also occur in liquid or gaseous states. Figure 1 depicts the various paths low-level waste can take as it moves from generation towards disposal.

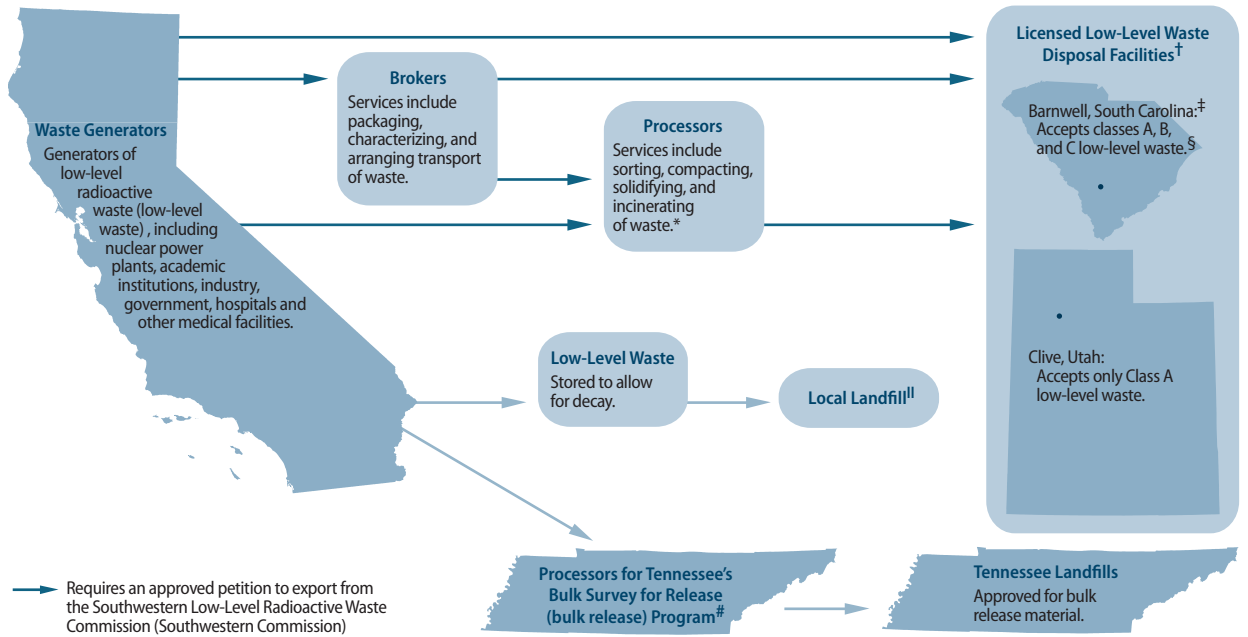
As the figure illustrates, one option for generators of low-level waste is to contract with brokers to arrange for the transportation, processing, or disposal of the low-level waste. Waste generators and brokers may have financial incentives to recycle or process this waste before disposal because the disposal costs at the facilities that accept such waste (disposal facilities) may be based on such factors as volume and physical or chemical composition of the low-level waste. Figure 1 shows two disposal facilities only. Although three such disposal facilities exist in the nation,⁴ only the facilities in Clive, Utah, and Barnwell, South Carolina, accept low-level waste from generators in California for disposal.

Although federal law generally requires that low-level waste be disposed of in a low-level waste disposal facility or by other means specified in federal law, not all low-level waste handled by processors ultimately ends up in these disposal facilities. Tennessee, like California and other states, has agreed to assume the NRC's regulatory authority over certain kinds of radioactive material. As an *agreement state* Tennessee must conduct its oversight of low-level waste in a way that is compatible with federal law. Further, Tennessee has the authority to allow waste generators to dispose of their low-level waste through alternative measures other than those specified in federal law. Based on this authority, Tennessee has allowed a small number of processors to dispose of certain treated low-level waste, known as *bulk release waste*, in certain Tennessee municipal landfills. Tennessee has granted all necessary approvals for this program without opposition from the NRC or the U.S. Environmental Protection Agency.

An entity licensed to handle radioactive materials that wishes to terminate its license must go through *decommissioning*, which is the process of removing licensed equipment or a licensed facility from service and reducing the level of residual radioactivity emitted by the equipment or facility to a level that permits it to be released for either unrestricted or restricted use and for its license to be terminated. By law, decommissioning must occur before a license can be terminated. Once equipment or a facility has been decommissioned and released for unrestricted use, it is no longer

⁴ The third facility, located in Richland, Washington, only accepts low-level waste from the following 11 states: Alaska, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Figure 1
Disposal Pathways for Low-Level Radioactive Waste Generated in California



Sources: Bureau of State Audits based on information from and discussions with staff of the Southwestern Commission and on information related to the disposal of low-level waste obtained from various Web sites, such as those maintained by the Nuclear Regulatory Commission (NRC) and brokerage, processing, or disposal facilities.

* Excludes bulk release.

† A third disposal facility is located in Richland, Washington. This facility only accepts waste from the 11 states in the Northwest and Rocky Mountain compacts.

‡ South Carolina facility to close to California generators on June 30, 2008.

§ The NRC has divided low-level wastes into categories of hazard exposure, beginning with Class A, followed by B and C. Classes A, B, and C wastes for near surface disposal are defined in federal regulations. The U.S. Department of Energy is responsible for the disposal of a fourth category of low-level waste, known as greater-than-class C waste, as well as the low-level waste it owns and generates.

II Presuming no other hazards (e.g. biological) are present.

After processing, the resulting waste that does not meet the conditions for disposal at one of the designated Tennessee landfills may need to be disposed of at a low-level waste disposal facility.

subject to regulation under the various laws pertaining to radioactive waste, and any equipment or material remaining at the site need not be disposed of at a radioactive waste facility. It is important to note that equipment and facilities may be decommissioned and released from further regulatory control regardless of the fact that the equipment or facility continues to emit some radioactivity, so long as the amount of that radioactivity is within applicable regulatory limits.

For the State of California (State), the Department of Public Health (department)⁵ is responsible for evaluating locations going through the decommissioning process, assigning this task to its Radiologic Health Branch (branch). In addition to the branch's responsibilities for determining when locations have been successfully decommissioned and are thus sufficiently safe for the public's unrestricted use, the branch is also responsible for licensing and inspecting those entities that possess sources of radiation, such as radioactive material and radiation-emitting machines like X-ray and mammography equipment.

The Radiologic Health Branch Plays an Important Role in Protecting the Public and the Environment From Harmful Radiation

With an annual appropriation of more than \$22 million and more than 120 employees, the branch is responsible for protecting the public, radiation workers, and the environment from harmful radiation exposure and for regulating those that possess radioactive material or use radiation-emitting machines. Its responsibilities fall into two distinct areas: First, the branch regulates certain radioactive materials for the NRC. In 1962 the State became an agreement state under the Atomic Energy Act of 1954, as amended, thus voluntarily assuming the regulatory powers of the NRC for certain types of radioactive material within the State. The branch's other area of responsibility is enforcing the State's radiation control laws. Table 1 provides an overview of the branch's main responsibilities with respect to regulating both radioactive material and radiation-emitting machines.

As Table 1 shows, the branch's authority to regulate radioactive material stems from the State's 1962 agreement with the NRC to assume the NRC's responsibilities within California. Subject to the branch's licensing conditions, hospitals, universities, and private industry may use radioactive materials. However, the branch's activities for regulating radiation-emitting machines, such as medical X-ray equipment and mammography machines are based on the State's radiation control laws and state regulations, and these activities are not a part of the State's agreement with the NRC. Although the branch's authority to regulate radioactive material and radiation-emitting machines stems from two different sources, its regulatory activities for both the materials and the machines

⁵ Effective July 1, 2007, the former Department of Health Services became two departments. One of these is the Department of Public Health, which inherited responsibilities for regulating sources of radiation. For simplicity, we use the term *department* throughout the audit report.

are generally the same; these activities encompass licensing⁶ and inspection responsibilities for entities that possess radioactive materials and radiation-emitting machines.

Table 1
Key Oversight Responsibilities and Sources of Authority for the Radiologic Health Branch

	RADIOACTIVE MATERIALS (FEDERAL CRITERIA)*	RADIATION-EMITTING MACHINES (STATE CRITERIA)†
Licensing	<p>Licensing activities include:</p> <ul style="list-style-type: none"> • Stating limits on the quantities of radioactive material an entity can possess. • Specifying the specific individuals who will use or supervise the use of the radioactive material. • Specifying limits on where radioactive materials can be used. • Terminating licenses after successful cleanup (decommissioning) of a location. <p>Radioactive materials include:</p> <ul style="list-style-type: none"> • Radioisotopes,‡ such as carbon-14, iodine-125, and cobalt-57, used in hospitals, universities, or private industry. • Sealed devices that contain radioactive materials, such as density measurement devices and moisture measuring devices. 	<p>Licensing activities include:</p> <ul style="list-style-type: none"> • Registering radiation-emitting machines. • Certifying machine operators after ensuring they have passed the required courses of study and passed an exam. • Approving the curriculum of schools that train individuals to become machine operators. • Receiving notification by a radiation machine registrant when the machine's use is discontinued. <p>Radiation-emitting machines include:</p> <ul style="list-style-type: none"> • Medical and industrial X-ray equipment. • Mammography machines.
Inspections	<p>Inspections are intended to (examples):</p> <ul style="list-style-type: none"> • Provide assurance that licensees are using radioactive material in accordance with licensing terms. • Occur within prescribed frequencies established by the Nuclear Regulatory Commission (NRC) (based on the hazard risk of the radioactive material to the public, workers, or the environment). These are routine periodic inspections. • Investigate allegations and incidents involving radioactive material. These are reactive inspections. 	<p>Inspections are intended to (examples):</p> <ul style="list-style-type: none"> • Verify that those operating machines have the necessary certificates to do so. • Confirm that entities are using only machines that the Radiologic Health Branch (branch) has authorized. • Analyze whether appropriate shielding is in place to protect against exposure of those not receiving an X-ray. • Investigate allegations and incidents involving radiation-emitting machines. These are reactive inspections.

Sources: NRC guidance, California's Health and Safety Code and Code of Regulations, and branch documents.

* In 1962 California assumed the NRC's authority for regulating radioactive material as an agreement state under Section 274 of the Atomic Energy Act of 1954.

† The Department of Public Health is responsible for enforcing California's radiation control laws, which govern the registration and inspection of radiation-emitting machines.

‡ A radioisotope is an atom with an unstable nucleus.

Of the roughly 120 employees working in the branch, about 75 are classified as health physicists, who are individuals with the necessary education and work experience to specialize in radiation protection activities and programs designed to protect the public and those who work with radiation from its harmful effects. The remaining 45 branch

⁶ Although the branch technically *registers* radiation-emitting machines and *certifies* machine operators upon reviewing their qualifications, we use the term *licensing* broadly to include both of these activities.

employees are primarily its leadership and support staff. The branch's headquarters are located in Sacramento; it has two satellite offices, one in Southern California and one in the Bay Area.

California Belongs to an Interstate Compact for Low-Level Waste Disposal

With its passage of the Low-Level Radioactive Waste Policy Act in 1980, Congress declared that each state as a matter of federal policy should be "responsible for providing for the availability of capacity either within or outside the state for the disposal of low-level radioactive waste generated within its borders." Further, Congress declared that low-level waste could be managed "most safely and efficiently" on a regional basis and requires each state to be responsible for providing, either by itself or in cooperation with other states, for the disposal of certain low-level waste generated in the state. Envisioning that states would decide how best to dispose of their own low-level waste, the 1986 amendments to this act permitted states to form interstate compacts for the regional management of low-level waste. Federal law only encourages states to join compacts; it does not compel them to do so.

In 1987 the State joined the Southwestern Low-Level Radioactive Waste Disposal Compact (Compact), which includes the states of Arizona, North Dakota, and South Dakota. Congress approved the Compact agreement in 1988, and the terms of this agreement are codified in the State's Health and Safety Code. The agreement

calls for the establishment of the Southwestern Low-Level Radioactive Waste Commission (Southwestern Commission), which consists of voting members from each member state. The Compact agreement charges the Southwestern Commission with doing "whatever is reasonably necessary to ensure that low-level radioactive wastes are safely disposed of and managed within the [Compact] region." As the *host state* of the Compact, the State is required to cause the development of a low-level waste disposal facility within California's borders. Under the terms of the Compact agreement, the State would be responsible for ensuring the safe disposal of low-level waste at that facility for at least 30 years. The Southwestern Commission's most significant responsibilities are listed in the text box.

The Southwestern Low-Level Radioactive Waste Commission's significant responsibilities include the following:

- Submitting an annual report to the compact states that includes a review of and recommendations for low-level waste disposal methods.
- Making available to the public and compact states information concerning low-level waste management needs.
- Approving the exportation of low-level waste outside the compact region for disposal.

Source: California Health and Safety Code, Section 115255.

Acting under the policy of the Southwestern Commission's members, an executive director performs most of the daily work. Under the terms of the Compact, the Southwestern Commission's responsibilities are largely ministerial. A significant portion of the Southwestern Commission's work involves approving the exportation of low-level waste generated within the Compact region to one of the two low-level waste disposal facilities noted in Figure 1 on page 11.

Scope and Methodology

The Joint Legislative Audit Committee (audit committee) requested that the Bureau of State Audits (bureau) conduct an audit assessing the management and oversight of low-level radioactive waste by the Southwestern Commission, the California Department of Health Services,⁷ and the branch. Specifically, the audit committee requested that the bureau determine the process by which the department and the Southwestern Commission approve the exportation of low-level waste, including slightly radioactive waste, and whether they approve the exportation of such waste to Tennessee for disposal in municipal landfills after the waste is treated. The audit committee also asked us to define *slightly radioactive waste*, to research the use of that term by the industry, and to determine whether the Southwestern Commission's exportation policies comply with federal law or expose the State to liability. In addition, the audit committee asked us to review and assess the department's requirements regarding cleanup standards for contaminated sites, assessing whether such requirements comply with applicable laws, including a 2002 court order and former governor's executive order.

The audit committee also asked us to review a sample of decommissioned sites, to determine whether significant radioactive contamination occurred after the decommissioning, and to examine the branch's disposal records to ensure that disposals complied with applicable requirements. In addition, the audit committee requested that we assess the extent to which the branch's work is backlogged and the impact of such a backlog on the public's health and on the branch's ability to fulfill its mission. Further, the audit committee asked that we evaluate the goals, objectives, costs, and reasons for initiating one of the branch's former information technology projects, the Computer Utilization for Radiation Information and Enforcement, or CURIE, project. We were also to examine the sources and uses of the Radiation Control

⁷ Effective July 1, 2007, the former Department of Health Services became two departments. One of these is the Department of Public Health, which inherited responsibilities for regulating sources of radiation. For simplicity, we use the term *department* throughout the audit report.

Fund (Control Fund); determine whether the costs charged to the Control Fund appear reasonable and consistent with the branch's mission; and identify how the branch used any additional funds resulting from a June 2005 increase in fees, including whether the fee increases funded new equipment, resources, or staffing to ease the backlog. Further, the audit committee asked us to review and assess the status of the branch's system for compiling and reporting information about low-level waste, as required by the State's Health and Safety Code, Section 115000.1.

The audit committee also asked us to review and assess the branch's strategic plan and determine whether this plan is aligned with its mission and contains elements to plan and implement procedures, measure effectiveness, and report on performance. Additionally, the audit committee asked us to review and assess the branch's minimum qualifications and training requirements for its staff and to sample personnel records to ensure that the staff's qualifications and training meet the requirements. Finally, the audit committee asked us to gain an understanding of the department's denial of a December 2006 request by the *Orange County Register* to access information related to a licensed facility located in Irvine.

To assess the roles of the Southwestern Commission and the department in the management and disposal of low-level waste, we reviewed the various federal and state laws that are relevant to these oversight functions. The Atomic Energy Act of 1954, as amended, the Low-Level Radioactive Waste Policy Act of 1980 and subsequent amendments, the federal compact that established the Southwestern Commission, and provisions of state law that implement and reflect these various laws were especially pertinent. We performed our analysis consistent with generally accepted rules of legal analysis and interpretation, and, where necessary, we confirmed our understanding with either the counsel for the Southwestern Commission or counsel for the department.

To evaluate the legality of the Southwestern Commission's policies and procedures for approving the exportation of low-level waste, we reviewed its exportation policy documents, interviewed its executive director and legal counsel, and reviewed examples of approved exportation petitions and the method used to make such approvals. We noted that the Southwestern Commission's exportation policy did not include the term *slightly radioactive waste*. Because the policy mentioned *slightly radioactive solid material*, we included in our analysis an assessment of this term. Following these interviews, observations, and document reviews, we confirmed our understanding of the Southwestern Commission's practices with its executive director. We compared the Commission's policies and practices against the applicable legal standards to assess the legality of its exportation process. In doing so, we applied generally accepted

principles of legal analysis. In particular, consistent with principles of law that give great deference to the interpretation of an agency charged with carrying out a law, we deferred to the views of the Southwestern Commission.

Further, we interviewed the branch's staff and legal counsel so that we could review and assess the department's policies and procedures for cleanup standards. To assess the branch's decommissioning procedures in practice, we also obtained and reviewed documentation related to 12 locations where the branch had determined the site was safe and ready for unrestricted public use. To assess the legality of the branch's approach to decommissioning and to determine whether the department had satisfied its legal obligations, the bureau's legal counsel reviewed documents associated with a 2002 court case as well as other relevant laws and legal principles and the terms of the former governor's 2002 executive order. Because the branch is not legally required to assess routinely whether unacceptable levels of radioactivity have arisen following the decommissioning of a location, we performed high-level testing in this area. Our review found no instances in which a complaint about significant radioactivity occurred and follow-up inspection found significant radiation. Therefore, we focused the balance of our work in this area on understanding the branch's decommissioning standards relative to the 2002 court order and executive order. Although the department may approve disposal locations as part of its approval of site decommissioning plans, once a site has been decommissioned, the department does not monitor low-level waste disposal following the closure. We did not attempt to identify waste disposal records that would show where this low-level waste from a decommissioned site was sent because the branch does not keep such records.

The U.S. Government Accountability Office (GAO), whose standards we follow, requires us to assess the reliability of computer-processed data. We attempted to test data from three of the branch's data systems to evaluate whether the branch had backlogged and untimely inspections based on federal and state standards. The branch maintains its information within different data systems depending on the type of inspection being performed. Two different data systems contain data about its inspections of radiation-emitting machines. The California Mammography Information Management System (CAMIS) maintains data about inspections of mammography equipment. Our review of a sample of 30 inspection records for mammography equipment found that the branch was unable to provide five inspection records that were still within its 10-year record retention policy. Additionally, we identified an instance in which an inspection record did not include an entry for the inspection date. Additional interviews of

data entry staff suggested weak controls over data entry. As a result, we concluded that the mammography inspection data was not sufficiently reliable for our intended purpose.

To determine whether the branch had performed inspections of mammography facilities late or currently had overdue inspections, we selected a sample of 20 facilities that appeared to be overdue for inspection in the CAMIS database and used the branch's hard-copy files to confirm the facilities' inspection status. Details of our results appear in Chapter 2 of this report. We also asked the branch to confirm and explain the tardiness of these inspections.

The Health Application Licensing (HAL) system records data on the branch's inspections of radiation-emitting machines other than mammography equipment. According to the branch, the HAL system was developed in the early 1980s for the Department of Consumer Affairs and was later obtained by the branch. To determine inspection timeliness, we followed GAO standards for assessing data reliability. Because of the department's outdated documentation for the HAL system, staff members' inability to fully explain which data they extracted from the system and why they extracted it, and the lack of coordination between the branch and its information technology support staff, we were unable to obtain assurance about the reliability of the system. Moreover, we were unable to obtain the information necessary to use the system for identifying late inspections.

The branch records its inspections of entities that possess radioactive material in its radioactive materials (RAM2000) database. To determine the accuracy of the data in this system, we selected a sample of 29 inspections from the RAM2000 database so that we could validate the information in key data fields. The supporting documentation for 13 licenses had been destroyed in accordance with record retention policies; however, for two of our remaining sample items, we found that the RAM2000 database contained inaccurate data in the priority code field. This field notes the inspection frequency standard to be applied to a given licensee. If we used the branch's RAM2000 data, our analysis would likely reach an incorrect conclusion because it could overstate or understate inspection timeliness based on errors in this key data field. With the existence of other errors, such as missing inspection dates and poor management controls over data entry into the RAM2000 database, we concluded that this data was not sufficiently reliable for our intended purpose.

To determine whether the branch had late inspections of its radioactive materials licensees, we selected from the RAM2000 database a sample of 20 high-priority inspections—those that must be performed annually—that appeared to have taken place

late and used the branch's hard-copy files to verify this inspection information. This review yielded additional examples of data errors in the priority code field. To the extent that we could verify that inspections were late based on this sample of 20, we present this information in Chapter 2. We also asked the branch to confirm our understanding of these late inspections and to explain how the branch missed such inspections.

To assess the status of its CURIE project, we reviewed records that the branch provided, such as service agreements describing the scope of work and contract deliverables from the primary consultant involved. We noted that the Department of General Services suspended the CURIE project in June 2001, nearly seven years ago. Because the branch asserted that many of the individuals associated with the CURIE project are no longer with the branch, we reviewed the documents previously described to better understand the branch's intent behind the CURIE project and its difficulties in procuring this data system. The branch provided us with its documents electronically via compact disk, which contained some material that appeared to be in draft form. In the absence of more reliable evidence, such as final documents or testimony from individuals actually involved with the CURIE project, we duly considered these documents as part of our analysis. We also elicited information from the Department of Finance and the Department of General Services, considering this information in our evaluation of the effort.

To examine the sources and uses of the Control Fund, we obtained revenue and expenditure reports from the department's on-line accounting system, isolating Control Fund transactions from those affecting other funds. Before using this data system, we obtained an understanding of the branch's internal controls over data entry. We did not conduct a data reliability assessment of the department's accounting system since we relied on the results of our annual single audit, which evaluated the accuracy of this system. Based on this accounting data, we identified the revenue sources and amounts deposited in the Control Fund from fiscal years 2002-03 through 2006-07. To ensure that our information was complete, we compared these amounts to the revenue shown in the budgetary basis reports published by the State Controller's Office. We followed similar procedures for determining expenditures charged to the Control Fund over the same period. We also evaluated the branch's expenditures to assess whether they seemed consistent with its mission. Based on this assessment and our professional judgment, we concluded whether the branch's expenditures appeared reasonable.

To evaluate whether the department's fee increases in 2005 were reasonable, we obtained and reviewed its official rule-making package. The rule-making package records the department's rationale for changing the state regulations that establish its fees. The Office of Administrative Law and the Department of Finance approved the change in regulations for the fee increases, but we did not assess the legality of the new fees as this was outside the scope of our audit. Instead, we inspected the rule-making package for fiscal analyses, workload analyses, and other documents that, in our professional judgment, were necessary to justify adequately the magnitude of the fee increases. To the extent that the department's justification cited fiscal concerns that accounting data could corroborate, we reviewed such data to assess the validity of the department's assertions.

We identified the amount of additional revenue resulting from the 2005 fee increases by reviewing the department's on-line accounting records. We confirmed our understanding of the size and extent of the fee increases with the department. To assess how the branch spent the extra funds, we evaluated its expenditure patterns both before and after the increases, looking for noticeable increases in broad expenditure categories, such as personnel costs and operating expenses and equipment. To the extent that the branch asserted that it hired additional staff with the fee increases, we obtained and reviewed approved budget change proposals. Using our review of the branch's personnel costs and interviews with its management, we determined the extent to which the branch filled these new positions. During our testing of the branch's employees in general, we used the criteria published by the Department of Personnel Administration to evaluate the qualifications of some of these new employees. We discuss this testing later in this section.

To determine whether the department complied with the State's Health and Safety Code, Section 115000.1, by reporting volumes of low-level waste stored or disposed of, we interviewed branch staff members who are working on this reporting system and determined how much data is currently in its database. We also asked the department to provide its perspective for the delay in the system's implementation. We reviewed the reasonableness of the department's explanation in light of the fiscal condition of the Control Fund and the extent to which the branch had spent all appropriated funding amounts.

To assess whether the branch has a strategic plan that contains elements to measure effectiveness and monitor and report on performance, and whether this plan is aligned with its mission, we interviewed branch management. We compared the documents branch management provided us to the Department of Finance's

guidelines on the key elements of strategic planning. To the extent that the branch's strategic plan appeared incomplete or lacked key elements, such as performance metrics and action plans, we discussed these issues with branch management to obtain their perspective.

To determine whether branch employees met the minimum qualifications for their current classifications, we selected a sample of 20 employees within the health physicist series and reviewed their personnel files. We reviewed the education and work experience of these 20 individuals and compared this data to the minimum qualifications published by the Department of Personnel Administration for their current positions. Our sample included individuals who were new employees as well as individuals in supervisory positions. We also compared the branch's training programs to applicable guidance, such as the *Training Working Group Recommendations for Agreement State Training Programs* issued by the NRC and the Organization of Agreement States.⁸ In other instances, we used professional judgment in making these assessments. The results of our reviews found that branch staff met the minimum qualifications for their current positions, while its current training programs appear generally consistent with the applicable guidance.

Finally, to gain an understanding of the department's disposition of a December 2006 information request by the *Orange County Register* for the cleanup plan and related documents for a facility located in Irvine, we evaluated the request letter and the department's response. The department had denied the request, citing Homeland Security concerns that the release of information regarding current licenses may jeopardize security and public safety. To put the department's response in context, we also examined the request letters and department responses for 15 additional requests for access to information related to licenses from 2005 through March 2008. The department granted the requests in all instances in which the licenses were already terminated. Further, in all but one instance, it denied information requests when the licenses were still active. In this instance, a Veterans Affairs medical center had a working agreement with the NRC that allowed the center access to the branch's files for active licenses. Based on our review, we found that the department's denial of the request from the *Orange County Register* was consistent with its treatment of other information requests.

⁸ According to its Web site, the Organization of Agreement States is a nonprofit, voluntary, scientific, and professional society. Its membership consists of radiation control directors and staff from the 34 agreement states who are responsible for implementing their respective programs. The organization's purpose is to provide a mechanism for agreement states to work with each other and with the NRC on regulatory issues associated with their respective agreements.

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Chapter 1

THE STATE NEEDS TO MANAGE LOW-LEVEL RADIOACTIVE WASTE DISPOSAL AND CLEANUP MORE PROACTIVELY

Chapter Summary

In July 2007 the newly formed Department of Public Health (department)⁹ for the State of California (State) assumed important obligations related to the management and disposal of low-level radioactive waste (low-level waste) generated in California. As described in the Introduction, the department's Radiologic Health Branch (branch) carries out these responsibilities. Among these obligations is the responsibility to develop an overall plan for the management, treatment, and disposal of low-level waste generated within California. This plan must include specific contingency plans for addressing the State's needs for the short-term storage of low-level waste if existing out-of-state commercial waste disposal facilities close and for evaluating feasible alternatives for meeting the State's needs.

The State is required to establish and license a low-level waste disposal facility that can accommodate the disposal needs of the Southwestern Low-Level Radioactive Waste Disposal Compact (Compact) region, but efforts to do so have been unsuccessful. The lack of such a facility has significant consequences. California waste generators must receive approval to export their waste to licensed low-level waste disposal facilities in Barnwell, South Carolina, and Clive, Utah, that have licenses to accept low-level waste, or the generators must store it on-site until it decays to the point where it can be released from regulatory control. In the absence of a low-level waste disposal facility in the Compact region, the primary role of the Southwestern Low-Level Radioactive Waste Commission (Southwestern Commission) has evolved into little more than approving requests to export low-level waste out of the Compact region. Although its policies related to exportation are generally consistent with federal law, we believe that the process used by the Southwestern Commission to approve such requests delegates its approval obligations impermissibly.

In addition, some waste generators in California ship their waste to a program in Tennessee known as the Bulk Survey for Release (bulk release) program, where low-level waste is processed and subsequently disposed of in designated landfills. In these instances,

⁹ Effective July 1, 2007, the former Department of Health Services became two departments. One of these is the Department of Public Health, which inherited responsibilities for regulating sources of radiation. For simplicity, we use the term *department* throughout the audit report.

approval by the Southwestern Commission is not legally required. Although this program may be lawful, shipment to Tennessee or elsewhere in the nation presents the possibility of liability if that waste disposal results in significant environmental contamination or takes place in an unlawful manner.

As part of its broad authority to regulate the proper management and disposal of low-level waste, the department oversees the decommissioning of equipment and facilities where radioactive materials have been used. The primary purpose of decommissioning is to reduce the amount of residual radioactivity remaining at a site through various cleanup activities so that the radioactive materials license can be terminated. In 2001 the department adopted regulations that imposed a specific dose-based standard, a way of measuring the impact that exposure to a certain dose or amount of radioactivity would have on members of the community who would likely be affected by that exposure, for equipment or facilities that were undergoing decommissioning. Under this standard, the branch could terminate the license for equipment or a facility and release the licensee from further regulatory control as long as the amount of residual radioactivity did not exceed exposure limits.

Within months of their adoption, these dose-based regulations were challenged in Sacramento Superior Court, and the court directed the department to set them aside because it had not followed the proper procedures when adopting them. Although it set aside the challenged regulations, the department has not yet complied with a subsequent executive order that imposes a direct obligation on it to adopt such regulations properly. In the absence of a formally adopted regulatory standard, the department makes case-by-case decisions as to what criteria to apply when decommissioning. Because the department has not formally adopted the criteria through a rule-making proceeding that allows for public review and comment, the department's decisions about the decommissioning of equipment and facilities lack transparency and public accountability.

The State's Inability to Establish a Licensed Disposal Facility in California Has Significant Consequences

Although we recognize the political and economic hurdles to establishing successfully a regional disposal facility for low-level waste, the failure by the State to do so has considerable consequences. In the absence of a regional facility, generators must find other ways to dispose of the waste that they generate or must store it on-site. Of particular concern is the impending closure of the facility in Barnwell, South Carolina, to low-level wastes from California. Following this closure, only one low-level waste

disposal facility will remain operational for California's generators, and that facility is licensed to accept only the least radioactive of the various classes of low-level waste.

Without a Low-Level Waste Disposal Facility in the Compact Region, Generators Must Export Waste or Store It On-Site

Generators of low-level waste generally must dispose of this waste at a licensed low-level waste disposal facility or through other means specified in federal law, including storage for decay. Presently, three licensed disposal facilities in the nation are authorized to accept low-level waste, and only two of those—Barnwell, South Carolina, and Clive, Utah—accept waste from California. The Barnwell, South Carolina, site accepts classes A, B, and C low-level waste and sealed sources for disposal. The three classes rank waste in order of degree of radioactivity, Class C being the most radioactive. Anything that is greater than Class C must be disposed of in a facility that is licensed to accept high-level radioactive waste. Sealed sources are radioactive materials encased in capsules that prevent leakage or escape. After mid-2008 the Barnwell, South Carolina, site will accept only waste from Atlantic Compact generators. The other facility, in Clive, Utah, is licensed to accept only Class A waste and certain other materials.

In addition to exporting low-level waste directly for disposal at one of the two licensed low-level waste disposal facilities, waste generators in California may ship their waste to licensed processing facilities before disposal. This preliminary processing typically uses various technologies to separate the radioactive and nonradioactive components of the waste. This processing reduces the volume of waste, and the processor or generator may then dispose of the resulting waste at a low-level waste disposal facility or, if appropriate, at another type of facility, such as a hazardous-waste facility. As we discuss later, some waste generators in California may ship their low-level waste to the bulk release program in Tennessee, where the waste is processed at a facility licensed to accept it, and the resulting waste is disposed of either in certain designated landfills in Tennessee or at a licensed low-level waste disposal facility.

Some Aspects of the Southwestern Commission's Policies Do Not Conform to Federal Law

The Compact that governs the Southwestern Commission expressly authorizes it to approve the exportation of low-level waste for disposal and for the sole purpose of processing for recycling. These two powers, coupled with its broad power to do whatever is reasonably necessary to manage low-level waste generated in

Low-level waste generators in California may ship their waste to licensed processing facilities before disposal.

The Southwestern Commission's policies related to the approval of low-level waste exportation were not always consistent with federal law.

the Compact region, serve as the primary legal backdrop for the Southwestern Commission's policies and practices related to exportation. These policies are contained in a formally approved document titled *Policy of the Southwestern Low-Level Radioactive Waste Commission Regarding Exportation of Various Low-Level Radioactive Waste Streams* (policy document).¹⁰ The Southwestern Commission must exercise its authority consistent with the various laws that regulate low-level waste—the Low-Level Radioactive Waste Policy Amendments Act of 1985 and the Atomic Energy Act of 1954.

We found that the Southwestern Commission's policies related to exportation are consistent with federal law in some respects but inconsistent in others. Its view that it has the authority to approve the exportation of low-level waste for disposal, whether that waste is exported directly to a disposal facility or indirectly after processing, is consistent with federal law. Similarly, its understanding of its authority to approve the exportation of low-level waste for the sole purpose of processing for recycling is consistent with federal law. However, the actual process that the Southwestern Commission has implemented to approve requests for exportation does not comply with federal law. We also found that its determination that *slightly radioactive solid material* falls outside of its jurisdiction is consistent with federal law.

The Southwestern Commission's Process for Approving Requests to Export Waste Does Not Comply With Federal Law

The federal Compact governing the Southwestern Commission expressly authorizes it to allow an individual generator, a group of generators, or the host state of the Compact to export low-level waste to an appropriate disposal facility located outside the region. Generators might include, for example, medical hospitals or research institutions that handle radioactive materials in their day-to-day operations. To export low-level waste, the generator or the host state must file a petition with the Southwestern Commission, which may only approve that petition by a two-thirds vote. Under the Compact, permission to export low-level waste is effective for a specific period of time and for a particular amount of low-level waste, and it is subject to any other term or condition that the Southwestern Commission may impose. The Compact also authorizes the Southwestern Commission to approve, only by a two-thirds vote, the exportation outside the

¹⁰ For purposes of our review, we analyzed the version of this policy that took effect on October 23, 2007. As of April 15, 2008, the Southwestern Commission made some revisions to its exportation policy. We reviewed those changes, and they do not affect our conclusions.

region of material that otherwise meets the criteria for low-level waste if the sole purpose of the exportation is to process the material for recycling.

Our legal counsel found that the Southwestern Commission reasonably interpreted its basic authority related to approving the exportation of low-level waste for disposal and for processing for recycling. The actual processes it uses to approve exportation requests, however, are problematic. The Southwestern Commission delegates impermissibly the authority for disposal to the executive director. In addition, it delegates impermissibly its authority to permit exportation for processing low-level waste for recycling by essentially allowing waste generators to determine whether their low-level waste meets recycling requirements.

The Southwestern Commission uses two somewhat different procedures for the two types of approval. Generators who wish to export waste for disposal must submit a petition, or request, that meets requirements spelled out in *Requirements of the Southwestern Low-Level Radioactive Waste Commission for Exportation Petitions for Low-Level Radioactive Waste Disposal*, which the Southwestern Commission formally approved. The Southwestern Commission does not review these applications, nor does it vote on their approval. Rather, the executive director reviews each petition to determine whether it complies with the requirements. If the executive director determines that the petition satisfies those requirements, he approves the request. The policy related to approval for exportation for recycling provides even less oversight by the Southwestern Commission. Under this policy, a generator does not need to file an exportation petition or seek any specific approval whatsoever. Instead, the Southwestern Commission has granted *general approval* to generators who wish to export low-level waste solely to process that waste for recycling. At its April 15, 2008 meeting, the Southwestern Commission made some clarifying changes to its policy related to exportation for processing or recycling. Nonetheless, under the revised policy, the Southwestern Commission still does not vote to approve the exportation of this waste.

We asked the Southwestern Commission to describe its rationale for its approval processes. It believes that it does not delegate authority to the executive director and that the review performed by the executive director is essentially ministerial. While it is legally permissible to delegate certain ministerial functions to the executive director as long as the Southwestern Commission retains its core decision-making function, the fact that it makes no decisions or even ratifies the executive director's determinations suggests that what the commission does amounts to an impermissible delegation of authority. Moreover, the transfer of this authority to

The Compact authorizes the Southwestern Commission to approve, only by a two-thirds vote, the exportation of low-level waste.

By following its current approval practices, the Southwestern Commission not only impermissibly delegates an important function, but it renders the other members essentially voiceless in these decisions.

the executive director regarding exportation for disposal without its subsequent review or approval conflicts with the Compact provisions that require a two-thirds vote of the Southwestern Commission for each petition.

According to the Southwestern Commission, the number of exportation petitions it is charged with approving may exceed 200 annually. While this number may be far greater than the number anticipated when the commission was formed, the law plainly requires a two-thirds vote to approve each petition. By following its current practices, the Southwestern Commission not only impermissibly delegates an important function, but it renders the other members essentially voiceless in these decisions. The Southwestern Commission is also required to conduct its business in accordance with the State's open-meeting laws. Because these decisions are made outside of an open public meeting, the process lacks transparency.

Although only a court of law may ultimately decide on the legality of the Southwestern Commission's approval process, we believe that it fails to comply with the Compact and is inconsistent with the legal doctrine that prohibits a public official from delegating a duty that he or she is charged with performing. Because the Southwestern Commission is a federal agency, the California Legislature cannot direct its actions. Nonetheless, we believe it would be advisable for the Southwestern Commission to reexamine its approval processes to make them more consistent with the Compact and with the legal doctrine that requires a public body charged with carrying out a duty to perform that duty directly.

The Southwestern Commission requires waste generators to submit follow-up disposal reports indicating the amount of low-level waste they actually disposed of. These disposal reports, the source of the data in Table 2, are provided by generators on how much low-level waste they shipped for disposal. The Southwestern Commission does not have a legal responsibility to verify how much low-level waste was actually exported under its exportation requests. Its executive director noted that such data is not readily available and is often incomplete. The commission only uses these reports to assess whether it collected the correct exportation fee; generators pay this fee in advance based on their estimate of how much low-level waste they will export for disposal. Table 2 shows the amount of low-level waste approved for exportation by the Southwestern Commission and the volume reported to it as disposed of. Records indicate that reported disposal volume was significantly less than approved.

Table 2
The Southwestern Low-Level Radioactive Waste Commission's Statistics on Exportation and Disposal

	2005			2006		
	BARNWELL, SOUTH CAROLINA	CLIVE, UTAH	TOTALS	BARNWELL, SOUTH CAROLINA	CLIVE, UTAH	TOTALS
Approved for export*	1,967	163,578	165,545	2,238	144,948	147,186
Generator reported disposal	159	82,313	82,472	1,053	108,832	109,885

Source: Unaudited data provided by the Southwestern Low-Level Radioactive Waste Commission (Southwestern Commission) on November 29, 2007.

Note: Volumes of low-level radioactive waste shown in cubic feet.

* Volume approved by the Southwestern Commission for export is the generators' estimates of waste needing disposal.

The Southwestern Commission's Use of the Term "Slightly Radioactive Solid Material" Is Consistent With Federal Law

The Compact expressly limits the Southwestern Commission's oversight authority to low-level waste. Low-level waste is defined by what it is not—namely, high-level radioactive waste. High-level radioactive waste includes highly radioactive materials produced as a by-product of the reactions that occur inside nuclear reactors. Low-level waste is essentially all other radioactive waste that comes from other sources. It typically consists of contaminated protective shoe covers and clothing, wiping rags, mops, filters, reactor water treatment residue, equipment and tools, luminous dials, medical tubes, swabs, injection needles, syringes, and laboratory animal carcasses and tissues. The radioactivity in low-level waste can range from just above background levels found in nature to very highly radioactive—for example, parts from inside the reactor vessel in a nuclear power plant. Significantly, the definition of *low-level waste* contained in federal regulation does not specify any lower limit or threshold below which radioactive material is no longer subject to regulation.

Nonetheless, in some cases waste material that is somewhat radioactive is no longer subject to further regulation. One important example is when, at the completion of the decommissioning process where equipment or a facility has been decontaminated to the point at which the license can be terminated, the equipment or facility is qualified for being cleared for unconditional release. Under federal regulations that apply to decommissioning, once equipment or a facility is unconditionally cleared for release, it is no longer regulated as low-level waste despite the fact that some degree of radioactivity may remain. The material that remains after a site has

The term “slightly radioactive” has been used to describe the material or equipment remaining at the site that may be somewhat radioactive but that is no longer subject to regulation as low-level waste.

been decommissioned is sometimes referred to as *decommissioned material*. Alternatively, the term *slightly radioactive* has been used to describe the material or equipment remaining at the site that may be somewhat radioactive but that is no longer subject to regulation as low-level waste.

The Southwestern Commission’s exportation policy, as it read during our audit review period, contained various statements related to what it calls “slightly radioactive solid material.” Its policy statements indicate that it does not consider radioactive waste that has been unconditionally released from further regulatory control, either through a license condition or as a result of the decommissioning process, to fall within its jurisdiction. In other words, the Southwestern Commission does not consider this material to fall within the definition of *low-level waste*. Use of this phrase is consistent with federal regulations in that it corresponds to the regulatory circumstances described above where material that is unconditionally released from further regulatory control is no longer regulated as low-level waste.¹¹ Although an environmental organization has suggested that the Southwestern Commission’s use of the term *slightly radioactive solid material* in this context creates a form of deregulation, we did not find this to be the case. Subsequent to our audit review period, the Southwestern Commission revised its policy document to delete the phrase “slightly radioactive solid material.” However, the basic elements of its policy remain the same.

Waste Generators Ship Their Low-Level Waste to a Bulk Release Program in Tennessee

A bulk release program allows certain licensed processing facilities in Tennessee to receive and process construction or demolition debris, asphalt, soil, wood, concrete, rubble, plastic, paper, and clothing that have levels of radioactive contamination, which the Tennessee Department of Environmental Conservation has characterized as *extremely low*. After processing, the remaining waste may be disposed of either in certain designated municipal solid waste landfills in Tennessee or at the low-level waste disposal facilities in South Carolina or Utah. Although it has been suggested that the Southwestern Commission’s policies may have caused the shipment of low-level waste to the bulk release program, we did not find this to be the case. When low-level or other waste is shipped from California for purposes of processing and subsequent

¹¹ The Southwestern Commission’s policy also contains a similar statement for waste that is conditionally released from control. Because it is our understanding that the State does not conditionally release equipment or facilities from control, this statement does not apply to waste generated in California.

disposal at the bulk release program in Tennessee, it is not shipped for purposes of ultimate *disposal* at a *low-level waste disposal facility*, so approval by the Southwestern Commission is not legally required, nor is it within the authority of the Southwestern Commission to require a generator to seek such approval because the waste will not ultimately be disposed of as low-level waste. It is likely that the regulatory ease of submitting waste to this program, as opposed to some practice or policy on the part of the Southwestern Commission, is what makes this program attractive to waste generators.

The underlying authority for the bulk release program comes from an exemption in federal law that allows low-level waste to be disposed of through *alternative* measures. Like California, Tennessee is an agreement state. As an agreement state, it operates under the same federal laws that generally govern the management and disposal of low-level waste elsewhere in the country. As described earlier, low-level waste may be lawfully disposed of only at a licensed low-level waste disposal facility, through on-site storage and decay, or through other methods specified in federal law. However, an agreement state may authorize the disposal of low-level waste through *alternative* measures if the generator provides certain information to the agreement state and the agreement state grants approval for the alternative disposal measure. Among other things, the generator must show that the alternative disposal method will comply with the exposure dose limits set out in federal regulations. This regulatory exemption serves as the legal underpinning of the Tennessee bulk release program.

Tennessee has granted four licensed waste processors an alternative disposal exemption that allows them to dispose of bulk release waste that meets certain conditions in landfills that have been authorized to receive this waste. Unlike the way the *alternative* disposal measures exemption would typically operate, on a case-by-case basis, these four licensed processors have been granted an exemption that allows for alternative disposal for all waste they process that meets the conditions of the bulk release program. Significantly, the amount of bulk release waste that results from the activities of these four licensed processors that may be accepted at any of the designated municipal landfills in Tennessee cannot contribute to more than 5 percent of the total waste accepted per year at each landfill and cannot contribute a dose exposure of more than one millirem per year (mrem/yr) to any member of the affected public. Waste that does not meet this standard for disposal must be disposed of in a low-level waste facility.

The underlying authority for the bulk release program comes from an exemption in federal law that allows low-level waste to be disposed of through "alternative" measures.

Although the bulk release program has been approved and licensed by Tennessee and the U.S. Environmental Protection Agency has not questioned its legality, in the final analysis only a reviewing court can determine whether this state's program satisfies federal requirements.

The federal Resource Conservation and Recovery Act (RCRA) regulates landfills, and Tennessee has assumed primary responsibility for regulating landfills in that state consistent with the health and safety requirements imposed by RCRA. Although the bulk release program has been approved and licensed by Tennessee and the U.S. Environmental Protection Agency has not questioned its legality, in the final analysis only a reviewing court can determine whether this state's program satisfies federal requirements related to landfill disposal. As of this writing, we are not aware of any formal challenges to the legality of this program.

The question of why low-level waste generated in California would be shipped to the bulk release program may be answered by the report of an advisory committee to the Tennessee State Legislature issued on August 20, 2007. This report states that what makes this program attractive to waste generators is that it provides a degree of regulatory ease that may not be available in other states. Testimony provided by one of the licensees to the Tennessee Municipal Solid Waste Advisory Committee on August 20, 2007, states that the bulk release program is "attractive to facilities in other states where the evaluation of requests for disposal approval continues to be performed on a case-by-case basis. Reviews of such requests often require long periods of time, and because the evaluation is done on a case-by-case basis, consistency and timeliness of regulatory decisions vary". Moreover, the report goes on to state that the speed and predictability of the approval process under the program means that transaction costs for generators are less. Under the bulk release program, all low-level waste processed by these licensed processors that meet the bulk release criteria may be disposed of in designated landfills without the need for case-by-case exemption from the requirement to dispose of that waste in a low-level waste disposal facility.

We Are Not Aware of Any Facts That Would Presently Subject the State to Liability for Participating in the Tennessee Bulk Release Program

A number of different laws and legal doctrines impose significant legal obligations on those who generate, store, process, transport, or otherwise manage low-level waste or other types of waste, and these laws and doctrines make those entities accountable for harm that may result from their actions. The manner and extent to which these entities will be held accountable for harm caused by their actions depends on a number of factors: the law or legal doctrine at issue, the nature of the violation, the harm caused by the violation, the identity of the person who pursues the violation, the liability scheme imposed under the law at issue, and jurisdictional issues. We are not aware of any facts that indicate that shipments of

low-level waste to the bulk release program present any immediate threat of legal action or liability. Nonetheless, we have summarized various laws and legal issues that are potentially relevant to the shipment of low-level waste to Tennessee and to the subsequent processing and disposal of bulk release waste in municipal solid waste landfills.

First, the federal Hazardous Materials Transportation Act of 1974 (transportation act), administered by the U.S. Department of Transportation, regulates the packaging and transportation of this waste. The transportation act and its implementing regulations govern the safety aspects of hazardous materials transportation and include specific requirements for classification, packaging, hazard communication, handling, transport, and incident reporting. These complex regulations address the legal, technical, and operational safety aspects for transporting thousands of hazardous materials. Significantly, these regulations require certain minimally acceptable levels of financial responsibility insurance, policies, or surety bonds for hazardous material shipments to provide monetary coverage for incidents. In addition, the transportation act contains enforcement provisions that allow the U.S. attorney general to file an action in federal court against those who violate the transportation act.

Other laws that may be relevant include the potential civil liability that may be imposed under various state laws, such as negligence, nuisance, and trespass; the regulatory framework imposed under the Atomic Energy Act for the receipt, possession, use, and transfer of radioactive materials; and the regulatory framework imposed under RCRA for the handling, transportation, treatment, storage, and disposal of hazardous waste. RCRA imposes strict standards on hazardous waste generators and transporters, and on operators of hazardous waste treatment, storage, and disposal facilities. Liability under RCRA may be imposed for improper handling, transportation, treatment, storage, or disposal of hazardous wastes, or for failure to take corrective action to address releases of hazardous wastes. In addition, the federal Comprehensive Environmental Response Compensation and Liability Act (Superfund), and subsequent amendments that include the Superfund Amendments and Reauthorization Act impose liability upon owners or operators of facilities where a release of hazardous substances has occurred, upon parties who generated hazardous substances that were released at such facilities, and upon parties who arranged for the transportation of hazardous substances to such facilities.

As we noted earlier, we do not have any evidence to suggest that participation by California generators or any other state entity in California has resulted in a violation of law or any harm that presents the threat of liability. The extent to which the State, a state agency, or a licensed California generator might be subject

We are not aware of any facts that indicate that shipments of low-level waste to the bulk release program present any immediate threat of legal action or liability.

to liability as a result of any harm or illegal activity related to the shipment of waste to the bulk release program or through any other similar program would depend on many different factors. These factors include such things as where the harm or illegal activity occurred, the nature of the waste involved, the amount of harm caused, the particular law violated and the liability imposed under that law, as well as any possible defenses to liability. The specific application of these laws is very complex and depends on the factual circumstances at issue. At this point, without any showing of harm or violation of law, the question of liability is primarily a hypothetical one. Finally, it is important to note that the potential for liability presents itself regardless of whether low-level waste generated in California is sent to the Tennessee bulk release program, is stored on-site for decay, or is sent elsewhere in the country for processing, treatment, or disposal.

The Department Still Has Not Adopted Dose-Based Decommissioning Standards

The department is responsible for approving and overseeing plans to decommission licensed equipment and facilities within its jurisdiction. In 1998 the department began informally applying the U. S. Nuclear Regulatory Commission's (NRC) 25 mrem/yr standard whenever it decommissioned licensed equipment or facilities under its jurisdiction and terminated such licenses. Applying this new dose-based standard meant that equipment or facilities could be released from further regulatory control as long as the degree of residual radioactivity remaining at the site would not result in more than 25 mrem/yr of exposure to those members of the community who would likely be affected. In October 2001 the department formalized this practice of using the 25 mrem/yr standard by adopting regulations that incorporated by reference the federal standard. These new regulatory standards were controversial; within a matter of months, they were challenged in court.

In October 2001 the department formalized its practice of using the federal 25 mrem/yr standard by adopting regulations. These new regulatory standards were controversial; within a matter of months, they were challenged in court.

Legal Challenges to Dose-Based Regulations Led the Court to Direct the Department to Set Aside the New Standards

In December 2001 the Committee to Bridge the Gap (Gap Committee)—an organization that describes its mission as advocating for nuclear safety—filed a petition in Sacramento Superior Court asking the court to direct the department to set aside the new dose-based decommissioning standard. In its petition and related documents filed with the court, the Gap Committee challenged the standard on the basis that it had been adopted without following the requirements of two laws that impose various procedural requirements on state agencies when

they adopt regulations. First, the Gap Committee asserted that the regulations were adopted without satisfying the requirements of the Administrative Procedure Act, which requires state agencies to provide public notice, to receive public comment, and in some cases to conduct a hearing, before formally adopting regulations. Second, the Gap Committee asserted that the new regulatory standard had been adopted without complying with the California Environmental Quality Act (CEQA), which requires an agency to determine whether proposed regulations would impose significant impacts on the environment, and if so, to undertake actions to address those impacts, including the preparation and adoption of an environmental impact report.

The department opposed the petition. However, in April 2002, the court ruled in favor of the Gap Committee, finding that the new regulatory standard had been adopted without satisfying the requirements of the Administrative Procedure Act and CEQA. Based on this ruling, the court issued an order in May 2002 directing the department to set aside its approval of the challenged regulations insofar as the regulations incorporated the 1998 NRC standard. It also directed the department not to readopt the NRC standard or any similar provisions related to cleanup standards for decommissioning without first preparing an environmental impact report as required by CEQA.

The Department Set Aside the Challenged Regulations and Appears to Have Satisfied the Court Order

In response to the court order, the department set aside the challenged regulations and in its place turned to previously existing regulations that prescribe the process to follow when decommissioning equipment or facilities. These regulations also incorporated by reference a federal regulatory standard that called for reducing any residual levels of radioactive contamination to “as low as reasonably achievable” but did not specify a particular dose-based standard that needed to be met. In August 2002 the department reported to the court what it had done to comply and stated that it had met all of its obligations. The Gap Committee disagreed and argued that the standards the department had begun using were fundamentally similar to those the court had required it to set aside in May. In its August 2002 ruling on these issues, the court agreed with the Gap Committee and found that the department’s response was inadequate because it intended to follow essentially the same standard contained in the regulations that it had been ordered to set aside. The court also granted the Gap Committee’s request to have the court retain jurisdiction over the matter and ordered the department to report within 60 days regarding license terminations.

The court ruled that the department had adopted its 2001 regulatory standard without satisfying the requirements of the California Administrative Procedure Act and California Environmental Quality Act.

Given that the court now considers the matter closed and that the petitioners have not pursued the matter further, it appears the department has satisfied its legal obligations under the 2002 court order.

In October 2002 the department, as required by the court's ruling, reported on 18 applications for license termination that it intended to grant. At this hearing, it appears that the court did not issue a written ruling, or order, on the matter. The court took no further action and now considers the matter closed. Because it was somewhat unusual not to see a formal written order from the October 2002 hearing date, we asked the department's legal counsel about it. They informed us that they believed they had fulfilled their obligations under the court's order.

Our legal counsel has advised us that the department's conclusion that it satisfied its legal obligations under the 2002 court order is not unreasonable. It is clear from the court records that the department did, in fact, set aside the challenged regulatory standard. Given that the court now considers the matter closed and that the petitioners have not pursued the matter further, it appears the department has satisfied its legal obligations under the 2002 court order.

When we asked for clarification regarding its current practice related to cleanup standards for decommissioning, the department explained that it makes these decisions on a case-by-case basis, consistent with the federal standard and the court's 2002 order. The department further explained that for those sites where there may be residual contamination, it currently reviews the licensee's proposed decommissioning plan, including the projected residual dose, the final results of the survey of any radiological contamination remaining at the site, and the final dose estimate. According to the department, these final dose estimates must fall below 2 mrem/yr and usually fall below 1 mrem/yr. It told us that the highest projected residual dose in the period since the court directed it to set aside the challenged 25 mrem/yr standard was 5 mrem/yr and that was approved by the former branch chief. We reviewed a sample of 12 decommissioning files and confirmed that the department is, in fact, making these decisions as described to us.

The Department's Efforts to Comply With an Executive Order Have Been Fruitless

During 2002, while the *Committee to Bridge the Gap v. Bonta* case was before the Sacramento Superior Court, the Legislature held a hearing related to the State's management of radioactive waste and, in particular, its standards related to decommissioning. During this same session, various legislative proposals, including Senate Bill 1970 of the 2001–02 Regular Session of the Legislature, which was ultimately vetoed by a former governor, attempted to address issues related to the management of low-level waste. This bill, if enacted, would have prohibited the disposal, transport for disposal,

or transfer for possession, recycling, or reuse of radioactive waste, with certain exceptions, in the State except to a facility that is licensed by the State or by the NRC to dispose of that particular amount and type of radioactive waste. In his veto message, the former governor stated his belief that the bill was “overly broad, unworkable and would do little to significantly enhance the protection of the public health.” He also stated his intention to impose a moratorium on the disposal of all decommissioned materials with emissions above background levels in public landfills (Class III) and unclassified waste management facilities.

On September 30, 2002, the former governor issued Executive Order D-62-02 (executive order), which imposed obligations not only on the department but also on the State Water Resources Control Board (state water board) and the nine regional water quality control boards. In particular, these boards have responsibility for ensuring that waste disposal does not result in harm to water quality in the State, and they, along with the Department of Toxic Substances Control, play an important role in the monitoring and cleanup of disposal sites where water quality may be affected.

Unlike the 2002 court order, which simply directed the department to set aside the challenged regulations, the executive order imposed a direct obligation on the department to adopt regulations that would establish dose-based standards for the decommissioning of low-level waste. The executive order also directed the department to assess the public health and environmental safety risks associated with the disposal of decommissioned materials and to comply with all applicable laws, including CEQA, when it adopted those dose-based standards.

The executive order also directed the state water board to impose a moratorium on the disposal of decommissioned materials into Class III landfills and unclassified waste management facilities. Both of these types of facilities are typically licensed to receive nonhazardous solid waste only. As a practical matter, nonhazardous household waste ordinarily is disposed of at a Class III landfill. Thus, under the executive order, decommissioned materials could no longer be disposed of at these types of facilities.

When we asked the department to describe the efforts that it has undertaken to adopt regulations consistent with CEQA and the Administrative Procedure Act to establish a new dose-based standard for decommissioning, it told us that it had not adopted regulations because of the prohibitive expense of doing so and because of the likely opposition it might encounter. The department further clarified and expanded on its response. We were told that in June 2003 department staff drafted a memo to the department

A 2002 executive order directed the department to adopt regulations that would establish dose-based standards for decommissioning generators of low-level waste.

More than five years after the issuance of the executive order, the department has not begun the rule-making process to adopt a dose-based regulatory standard.

director outlining the steps that needed to be taken to adopt a dose-based decommissioning standard that would comply with CEQA. Subsequent to that memo, it contracted with the Department of General Services (General Services) to coordinate the work that it would need to perform to comply with CEQA. The initial contract was executed on September 16, 2003, and it expired on June 30, 2004.

Sometime between April and June 2004, department representatives met with General Services regarding the next steps in the CEQA process. The current branch chief told us that during this meeting General Services expressed concern about the high cost of the CEQA process, suggesting that the potential costs might be between \$3 million and \$4.9 million. On July 1, 2004, General Services forwarded a draft Request for Qualifications to department staff. Its purpose was to solicit bids from environmental consulting firms that would undertake the work required by CEQA in order to adopt regulations establishing a dose-based standard for decommissioning.

However, it is our understanding that General Services never awarded a contract for this purpose. Moreover, we were informed that although department staff inquired about the status of efforts to undertake the rulemaking, the former branch chief told them orally that rulemaking was not a high priority and that General Services was pursuing a contract to conduct the rule making. Nonetheless, more than five years after the issuance of the executive order, the department has not begun the rulemaking process to adopt a dose-based regulatory standard.

As we described earlier, the department currently uses a dose-based standard that is more rigorous than the 25 mrem/yr federal standard¹² in that it does not release a site from regulatory control as a result of decommissioning unless the degree of residual radioactivity is less than 5 mrem/yr to the affected community. Although these case-by-case determinations appear to create a more protective standard than what is required under federal law, they are being applied without having been formally adopted through a rulemaking that complies with CEQA and the Administrative Procedure Act.

For informational purposes, we asked the state water board to provide a brief summary of the actions that it or the nine regional water quality control boards have taken to comply with the

¹² The department also continues to use other criteria contained in *NRC Guide 1.86* for releasing certain materials from control based on their degree of surface contamination. It has used these standards for decades and continues to use them in conjunction with the case-by-case dose-based standard that it currently applies.

executive order. The state water board advised us that by October 15, 2002, the nine regional water quality control boards had each adopted cleanup and abatement orders imposing a moratorium on the disposal of decommissioned materials into Class III landfills and unclassified waste management units. The state water board indicated that it believes the cleanup and abatement orders have been effective because many landfill operators have installed radiation detectors and other additional mechanisms to ensure that low-level waste is not disposed of at their sites. In addition, the state water board wrote a letter to potential generators of low-level waste informing them of the moratorium. The state water board advised us that it had not adopted waste discharge requirements because it did not believe that doing so would provide additional benefit and because it had to devote its limited resources elsewhere.

To obtain further information, we asked the California Integrated Waste Management Board (Waste Board) to summarize the actions that it has taken since the executive order became effective to ensure that low-level waste is not disposed of in Class III landfills or unclassified waste management units. Although the executive order did not mention the Waste Board, it is the lead state agency for purposes of solid waste management and for regulation of the public health and safety aspects of landfills. The Waste Board reported that it has continued to provide guidance, assistance, and training to local solid waste enforcement agencies and landfill owners and operators regarding load-checking methods and procedures relative to low-level waste. In addition, the Waste Board reported that it continues to implement, in partnership with other state and local agencies, an inspection and enforcement program to ensure that only legally allowable materials are disposed of in solid waste landfills within California.

Recommendation

To provide greater public transparency and accountability for its decommissioning practices, the department should begin complying with the Executive Order D-62-02 and develop dose-based decommissioning standards formally. If the department believes that doing so is not feasible, it should ask the governor to rescind this 2002 executive order.

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Chapter 2

BAD DATA AND POOR PLANNING PREVENT THE STATE FROM EFFECTIVELY MANAGING ITS WORK RELATED TO RADIOLOGIC HEALTH

Chapter Summary

The Radiologic Health Branch (branch) within the Department of Public Health (department)¹³ is responsible for the licensing and periodic inspection of entities that operate radiation-emitting machines, such as medical X-ray equipment and mammography machines, or that possess radioactive material. However, the electronic data the branch uses to ensure that these inspections take place in a timely manner is not sufficiently reliable. Examples of the errors we found include incorrect or missing inspection dates, dates that cannot be verified because the branch cannot provide the supporting inspection records, and mistakes in inspection priority codes, which are the classifications that define how frequently inspections should occur. Because this information is inaccurate or absent, the branch cannot effectively manage its workload for inspecting users and generators of radioactive materials.

Despite the branch's poor data, we were able to identify some inspections that the branch did not perform within the required timeline. We identified 13 such instances, including two equipment inspections that were late by more than a year and one materials inspection that was late by more than two years and that the branch prioritized incorrectly as requiring an annual inspection. The branch recognizes the weaknesses of its existing data systems and has made various attempts to replace them since 1996. The branch's data system needs are currently being addressed in a department-wide information technology project, for which the department expects to complete the first phase in late 2010.

The branch also lacks adequate justification to support the fee increases that it imposed on licensees in 2005. By raising fees by as much as 280 percent, the branch was able to increase its annual revenues by nearly \$7 million; however, it lacks quantitative fiscal and workload analyses to demonstrate that the magnitude of its fee increases were reasonable. As a result, the branch's decisions about which fees should rise, and by how much, seem unjustified.

¹³ Effective July 1, 2007, the former Department of Health Services became two departments. One of these is the Department of Public Health, which inherited responsibilities for regulating sources of radiation. For simplicity, we use the term *department* throughout the audit report.

Further, the branch based its requests for additional staff in fiscal years 2006–07 and 2007–08 on old and incomplete data. In fact, the branch appears not to have evaluated its staffing needs fully since the mid-1990s.

In addition, the branch has not adequately explained why it has failed to collect and report data about the amount of low-level radioactive waste (low-level waste) stored in California or sent for disposal even though the State of California (State) imposed this requirement more than five years ago. In fiscal year 2003–04 the State gave the branch the necessary spending authority to implement a required reporting system to capture such data, but the branch chose not to spend those funds. As a result, the State’s decision makers continue to lack access to information that would better enable them to decide whether the State needs its own disposal facility for low-level waste.

Finally, our audit found that the branch’s strategic plan is incomplete. Its plan lacks essential elements such as performance metrics that would better enable the branch to monitor its performance and identify areas that need improvement.

The Branch Lacks Sufficiently Reliable Data to Ensure That It Conducts All Required Inspections on Time

One of the branch’s key oversight activities includes inspecting licensees that use radiation-emitting machines or possess radioactive material, ensuring they do not expose the public to harmful radiation. Although federal guidance and state law define how frequently such inspections should occur, the branch is unable to demonstrate that it promptly performs these inspections. Its data systems contain data that are not sufficiently reliable, and this shortcoming prevents the branch from accurately assessing whether all inspections take place when necessary. The branch’s lack of sufficiently reliable information appears attributable to its use of data provided by its own information technology staff, who do not fully understand what data they are extracting or why they are extracting it, as well as to the lack of management controls that would help guard against inaccurate data entry. Although the branch recognizes the limitations of its current data systems and has tried to replace them since 1996, it continues to operate in an environment in which it cannot adequately manage its work, thus limiting its ability to protect the public from potential health risks.

Poor Data Hamper the Branch's Efforts at Enforcing State Laws Regarding Radiation-Emitting Machines

As we illustrate in Table 1 in the Introduction, one of the branch's responsibilities includes periodically inspecting radiation-emitting machines, such as mammography machines and medical X-ray equipment. These inspections are intended to evaluate, among other things, whether the machines are operated by qualified individuals and are properly maintained. State law establishes the frequency of these inspections by classifying radiation-emitting machines into different priority levels. The text box lists the four priority levels, along with examples of the types of machines included and how often the branch must inspect them. For example, mammography machines require an average inspection frequency of once every year. The branch uses the California Mammography Information System (CAMIS) to track its mammography machine inspections.

Our assessment of CAMIS, based on government auditing standards, found that the branch lacks documentation that describes the structure of this database and how information is stored, retrieved, and maintained accurately. Further, it lacks controls to mitigate the risk of inaccurate data entry. For example, CAMIS may not prompt the user if he or she omits certain data.

Our review of the CAMIS database was further hindered by the branch's lack of supporting documentation for its automated data. The branch was unable to provide records to verify five of the 30 mammography inspections we selected for our data accuracy testing. Documentation related to these five missing inspections should have been available in accordance with the branch's record retention requirements; however, it could not provide an explanation for where the records were. Additionally, we identified an instance where an inspection entry did not include the date it was conducted. After considering the branch's lack of documentation related to the CAMIS database, the absence of sufficient controls to ensure data accuracy, and its inability to provide records for 17 percent of our data accuracy sample, we concluded that the CAMIS data were not sufficiently reliable for the purposes of our audit. Believing that readers might reach an inappropriate conclusion upon seeing the results of analyses based on mammography inspection data, we decided against presenting it.

Inspection Priorities for Radiation-Emitting Machines

Special Priority: Mammography machines used for diagnostic purposes. Average inspection frequency of once every year.

High Priority: Generally includes machines used for human diagnostic and therapeutic treatment. Average inspection frequency of once every three years.

Medium Priority: Machines not ranked as High, Special Priority, or Dental, such as veterinary and industrial machines. Average inspection frequency of once every 4.25 years.

Dental Priority: Dentistry machines. Inspection frequency to average at least once every six years for the 50 percent of dentistry machines most in need of physical inspection (as determined by the department).

Sources: California Health and Safety Code, Section 115085; Title 17, Section 30145 of the California Code of Regulations; and other information obtained during the audit.

For the 20 seemingly late inspections we examined from the CAMIS database, we observed that eight were actually performed late. Five of the eight were completed between 30 and 100 days after they were due, while the three remaining inspections were performed 283, 374, and 482 days late.

Without sufficiently reliable data within its CAMIS database, we could not use the branch's data to determine the size and extent of any backlog of inspections for mammography machines. Alternatively, we used the CAMIS database to help determine whether overdue inspections existed by verifying inspection dates shown in the CAMIS database with the corresponding inspection reports in the branch's files. For the 20 seemingly late inspections we examined from the CAMIS database, we observed that eight were actually performed late. Five of the eight were completed between 30 and 100 days after they were due, while the three remaining inspections were performed 283, 374, and 482 days late. According to a supervising health physicist with the branch, three of the late inspections were overdue because of rescheduling needs due to illness or computer hardware issues. He further confirmed that half of the overdue inspections were not identified timely by the CAMIS database as being due for inspection.

The branch's inspections of other radiation-emitting machines such as medical X-ray equipment are recorded in its Health Application Licensing (HAL) system. Our attempt to analyze and evaluate the reliability of the HAL system's inspection data was hindered by the department's information technology support staff's limited understanding of what information is relevant and which data they should provide. The staff were unable to adequately explain why the programming code used to produce HAL-generated reports, which are used by the branch's management to plan its work, excludes certain types of machine inspections. They were also unable to explain why roughly one-third of the data reported to the branch's management lacked the date of a facility's last inspection. Based on the department's outdated documentation related to the HAL system and the information technology staff's inability to explain what inspection information in the HAL system was relevant, we were unable to obtain assurance regarding the reliability of the system, and how to identify late inspections in the system. Because of these problems, we have not presented data from the HAL system in the audit report. Nevertheless, the poor understanding of the HAL system and inability to know whether HAL-generated reports are accurate and complete raise serious questions as to whether the branch can effectively manage its machine inspection workload from the information the HAL system produces.

The Branch's Inspection Data About Radioactive Materials Are Also Not Sufficiently Reliable

Another of the branch's responsibilities is the periodic inspection of entities that possess radioactive material. Unlike radiation-emitting machines, which expose humans to radiation only when switched on, radioactive materials emit radiation constantly. Examples include cobalt-57, which might be used in the medical field to

calibrate diagnostic imaging devices, and iodine-125, which can be used to treat cancer. To help protect its citizens from the hazards of radioactive material, the State became an *agreement state* when it voluntarily assumed the authority of the U.S. Nuclear Regulatory Commission (NRC) to regulate certain radioactive materials within state boundaries. The branch provides this regulatory oversight by licensing entities qualified to possess radioactive materials and periodically inspecting them. According to federal guidelines, priority 1 inspections must be performed annually, priority 2 inspections must be performed at least once every two years, and so on. However, the NRC does provide states with some flexibility in the performance of their routine inspections, allowing inspections to occur no later than 25 percent beyond the prescribed inspection interval for priorities 1, 2, and 3.

The branch tracks its inspections of these licensees in its radioactive materials (RAM2000) database. Again, we found that the branch lacked documentation that described how data is stored, retrieved, and maintained in the RAM2000 database. Further, the branch lacks application controls for all key data elements and management controls that would mitigate the risk of inaccurate data entry. For example, our interviews with branch staff indicated the absence of a consistent monitoring program in which branch management reviews the accuracy of its staff's data entry. Our testing revealed several errors. For example, we noted that data values in the priority code field were incorrect for two of the 16 sample items for which we were able to obtain documentation. Since this field defines the required inspection interval for a given licensee, errors would result in too frequent or too few inspections being scheduled based on this data. We concluded that the data were not sufficiently reliable for our purposes and we therefore do not present this information.

Without sufficiently reliable data within its RAM2000 database, we could not use the branch's data to determine the size and extent of any backlog of inspections for radioactive materials. Instead, we used the RAM2000 database to help determine whether overdue inspections existed by verifying information such as inspection dates shown in the RAM2000 database with the corresponding inspection reports in the branch's files. For the 20 seemingly late inspections we examined from the RAM2000 database, our testing revealed a combination of late inspections and more inaccurate data. Of our sample of 20, five ranged from 29 days to more than two years late. For example, the database indicated priority code 1 for an item in the sample when in fact it should have been priority code 3. However, even after applying the three-year criteria, we found that the branch's inspection for this licensee was still more than two years late.

Without sufficiently reliable data within its RAM2000 database, we could not use the branch's data to determine the size and extent of any backlog of inspections for radioactive materials.

The branch's contractor began work on the CURIE project in 1999, but after nearly 2.5 years and \$2 million in consultation expenses, the Department of General Services suspended the procurement process, citing that the branch had neither adequately defined the project's requirements nor budgeted sufficient project funding.

The NRC conducts periodic performance reviews of the branch—most recently in early April 2008. According to the senior health physicist leading the review, the NRC has concluded initially that the timeliness of the branch's inspections were satisfactory; however, the NRC's assessment has not been finalized. In reaching our conclusions, we did not evaluate the NRC's methodology, but we did note that the NRC's approach to evaluating inspection timeliness involves relying on the branch's data systems. The NRC supervisor who led the review indicated that his team did not find sufficient cause to mistrust the branch's computer-processed data.

The Branch's Efforts to Replace Its Existing Data Systems Have Not Been Successful

In 1996 the branch first began its efforts to implement a new data management system. This became known as the Computer Utilization for Radiation Information and Enforcement (CURIE) project. The branch's contractor began work on the CURIE project in 1999, but after nearly 2.5 years and \$2 million in consultation expenses, the Department of General Services (General Services) suspended the procurement process, citing that the branch had neither adequately defined the project's requirements nor budgeted sufficient project funding. After considering other possible solutions, the branch is currently included as part of the development of a department-wide data system.

The branch intended that the CURIE project would resolve issues caused by poor information management practices. Issues it identified included error rates as high as 30 percent in existing data systems, with billing data error rates as high as 50 percent; a lack of control over data for which it was responsible and the inability to easily edit errors in that data; the inability to share information among the branch's databases; and the absence of a customized reporting capability.

The branch contracted with a consultant from 1999 through 2002 to redesign its business processes in anticipation of its upcoming new data system. The consultant's tasks included assessing the branch's current organization structure, identifying its information needs, assisting in the development of the system requirements for inclusion in the request for proposals, and assisting in procuring the technology to implement that new system.

Documents obtained from the branch indicate that it released its request for proposals for the CURIE project in October 2000. However, according to General Services, the responding bidders identified several deficient, unclear, and ambiguous requirements,

resulting in the branch's issuance of four separate addenda attempting to refine the CURIE project's requirements. Despite the branch's efforts at clarification, General Services suspended the effort in June 2001, citing undefined project requirements and lack of adequate funding based on the bidders' feedback and project proposals.

The branch and its consultant appear to have differing views on the factors that contributed to the CURIE project's demise. The branch indicated that it preferred a "commercial off-the-shelf" software solution, with a cost not to exceed \$4.5 million. However, according to the branch, the bidders that responded to its request for proposals all offered custom or modified software solutions, and General Services indicated that bidders were unable to perform the work within the published \$4.5 million cap.

In contrast its consultant raised concerns about the branch's lack of project ownership and commitment to the CURIE effort. In a May 2001 report to the branch, the consultant described areas and issues posing a risk to timely implementation of the project. The report indicated that branch management relied on the consultant to guide and take responsibility for many key decisions and activities—a role that should have fallen to the branch. Another area of concern for the consultant was its view that branch management did not perceive the CURIE project as a high-priority activity—allowing staff to miss project deadlines with few or no consequences. A third area of concern was the lack of consistent branch staffing for key management and supervisory positions; the report indicated that many of the key branch employees assigned to the CURIE project were not involved in the project's early planning and design phases and did not have the knowledge needed to embrace the upcoming changes or communicate them effectively to other branch staff.

The branch provided documents indicating that it paid the contractor around \$2 million for its efforts on the CURIE project; however, we were unable to confirm this amount due to the age of the transactions and lack of project-specific accounting records. Further, the department has not given consistent explanations of the benefits that its involvement in the CURIE project provided. Documents provided by the branch show that the department believes it achieved several benefits, including new business processes and revised forms. However, the department's indication that it received some value from the CURIE project stands in contrast to the branch's response to a member of the employee union that covers some health physicist classifications. This member raised questions about the CURIE project's costs and benefits in 2005. In response to the member's questions, the branch stated that it needed to explore opportunities that may help streamline its practices to provide better and more efficient services

In 2001 the branch's consultant raised concerns about the branch's lack of project ownership and commitment to the CURIE effort.

The branch continues to use the same data systems today that it determined needed replacing in 1996, 12 years ago.

and public health protection. It also stated that sometimes these explorations result in outcomes that are not in the best interest of the program or the public and the project is not continued or the deliverable is not accepted or used.

Records indicate that General Services suspended the CURIE project in mid-2001. The branch has subsequently considered at least three other data solutions, none of which were implemented. The branch's data needs are currently included as part of the development of a department-wide data system. The department stated that the Office of the State Chief Information Officer approved the department's feasibility study report for this system in March 2008, and that the department is awaiting funding authority from the State for this system. It states that the project's first phase, which supports the branch, should be completed in November 2010. In the meantime, the branch continues to use the same data systems today that it determined needed replacing in 1996, 12 years ago.

The Branch's Inability to Justify Its Requests for Additional Resources Demonstrates Poor Planning

To ensure it meets all federal and state responsibilities, branch management needs to identify its fiscal and staffing needs. However, management has demonstrated an inability to adequately plan for such resource requests. In June 2005 the branch obtained approval to raise the fees it imposes on the regulated public; however, its methodology for calculating the new fees lacked specific quantitative fiscal and workload analyses showing which costs were driving the need for the additional revenue. As a result, the branch's decisions to raise three fees by more than 200 percent while increasing one by less than 35 percent seem unjustified. The branch's budget change proposals for additional staff for fiscal years 2006–07 and 2007–08 relied on old and incomplete workload data to support its proposals. In fact, its fiscal year 2007–08 staffing proposal failed to address the work backlog that the branch asserted it had accumulated. Not surprisingly, following the approval of these two staffing proposals, the branch still believes it is inadequately staffed to meet its federal and state responsibilities.

The Branch Cannot Demonstrate That the Extent of Its 2005 Fee Increases Was Necessary

The State's Radiation Control Fund (Control Fund) supports most of the branch's operations,¹⁴ and money in the Control Fund comes from the fees that the branch levies on entities that possess

¹⁴ For fiscal year 2006–07, 93 percent of the branch's funding came from the Control Fund. The remaining 7 percent came from other funds, including the Federal Trust Fund and the State's General Fund.

radioactive materials or use radiation-emitting machines, fines and penalties assessed, and interest earned from money in the Control Fund. For each fiscal year from 2000–01 through 2004–05, the ending balance of the Control Fund declined. According to the State Controller's Office, the balance of the Control Fund was \$13 million at June 30, 2001, declining to \$4.3 million at June 30, 2005. Sparked in part by the declining balance, the branch obtained approval in June 2005 from the State's Office of Administrative Law for changes to the regulations that establish its fees.

Although it appears that the branch needed to address the declining balance of the Control Fund, its analysis and justification for its higher fees lacked specific quantitative workload and fiscal analyses one would reasonably expect. Lacking such analyses, the branch is unable to sufficiently demonstrate how it calculated the new fee levels and that its fee increases were reasonably related to the costs of services provided to those that pay them. Additionally, the branch's inability to fix problems with its billing systems, and the resulting uncertainty as to whether it was collecting all the revenue it could have, further calls into question the need for the fee increases in June 2005.

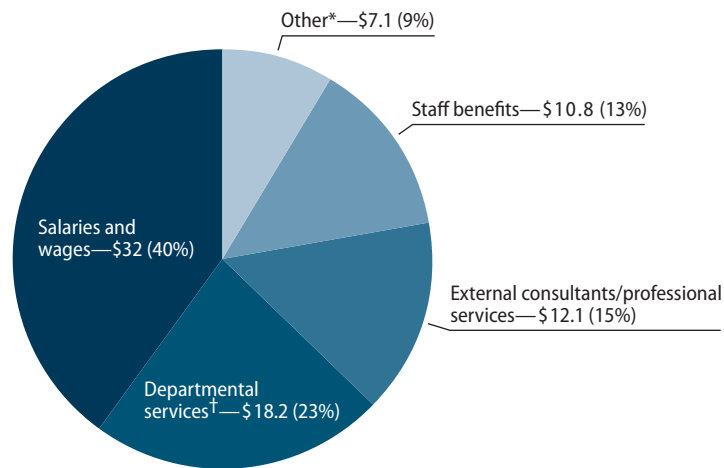
The Branch Spends Most of Its Funds on Personnel Costs and Staff Benefits

In fiscal years 2002–03 through 2006–07, the branch's annual expenditures from the Control Fund ranged from \$14.2 million to \$18.5 million, and totaled over \$80 million for the period. Figure 2 on the following page illustrates how it spent these funds as a percentage of the total expenditures from the Control Fund.

Over half of the branch's annual expenditures are devoted to personnel costs, which include the salaries, wages, and benefits for its staff. The *Departmental services* category includes various costs incurred by the branch, such as the expenditures for facility operations for its various offices and its allocated share of departmental costs for data processing, communication, and other overhead costs. The percentage of the branch's annual expenditures for departmental services was consistent with the amount the department charged to a fund similar to the Control Fund. The next largest category of expenditure is *External consultants/professional services*. The majority of these costs are attributable to the branch's contracts with Los Angeles and San Diego counties. These two counties perform inspection functions on behalf of the branch. The category labeled *Other* includes miscellaneous expenses such as training, travel, and equipment.

The branch's inability to fix problems with its billing systems, and the resulting uncertainty as to whether it was collecting all the revenue it could have, further calls into question the need for the fee increase in June 2005.

Figure 2
Radiologic Health Branch Expenditures
Fiscal Years 2002–03 Through 2006–07
(Dollars in Millions)



Source: California State Accounting and Reporting System data for the Radiation Control Fund.

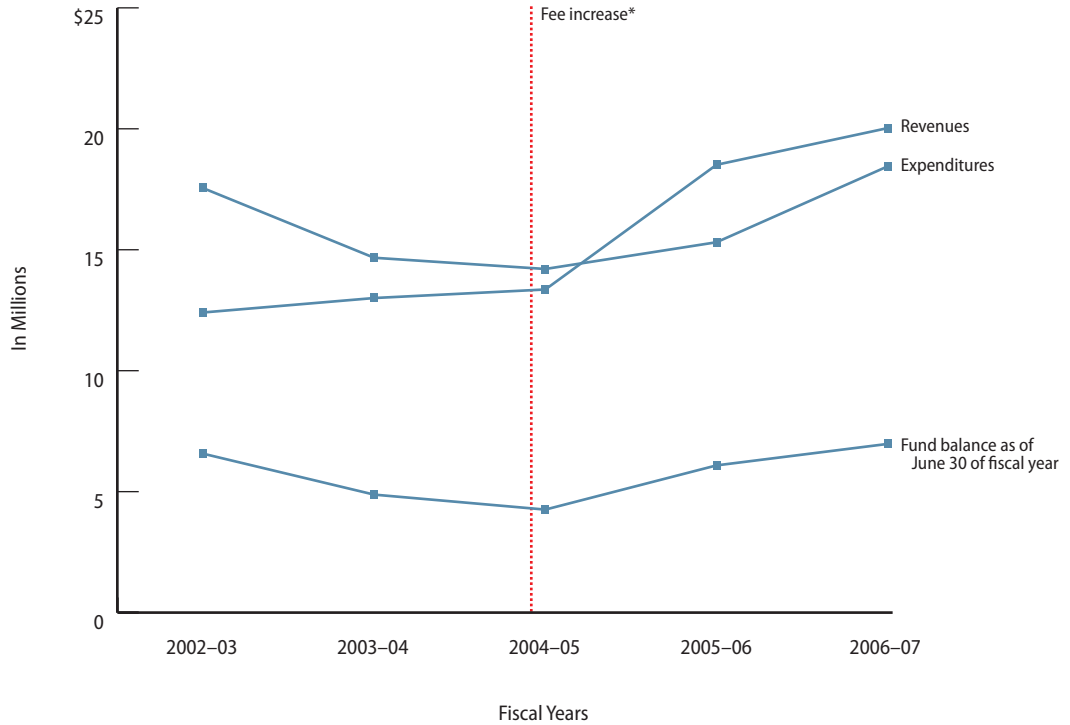
* Other includes expenses for items such as training, travel, and equipment.

[†] Departmental services include expenses such as facility operations, and allocated departmental costs for data processing, communication, and other overhead costs.

The revenues that are deposited in the Control Fund and subsequently support the branch's activities come from fees, penalties, and fines imposed on the regulated public, as well as earned interest. For example, the branch obtains revenue from the University of California in the form of licensing fees. In order to possess radioactive materials, the University of California must first obtain a license from the branch. Other examples of fees include machine registration fees, machine user certification fees, and fees paid by schools that train people to use radiation-emitting machines. All of these activities can be thought of broadly as *licensing* activities as shown in Table 1 in the Introduction. Before receiving approval to raise its fees in June 2005, revenues for the Control Fund were as high as \$13 million annually. Following approval of the fee increases, annual revenues increased to nearly \$20 million in fiscal year 2006–07.

Figure 3 depicts the total revenues, expenditures, and fund balances of the branch's Control Fund from fiscal years 2002–03 through 2006–07. As the figure shows, the branch's expenditures were consistently higher than its revenues before approval of the 2005 fee increases. During this period, the ending balance of the Control Fund was declining. According to State Controller's Office documents, the Control Fund's year-ending balance dropped

Figure 3
Revenues, Expenditures, and Fund Balances for the Radiation Control Fund
Fiscal Years 2002–03 Through 2006–07



Sources: California State Accounting and Reporting System data, *Budgetary/Legal Basis Annual Reports* issued by the State Controller’s Office, and *Final Budget Summaries* issued by the Department of Finance.

* The regulations authorizing the fee increase took effect in June 2005; the Radiologic Health Branch began applying the fee increase in September 2005.

from \$6.6 million in fiscal year 2002–03 to \$4.3 million in fiscal year 2004–05. The year-end balance was as high as \$17.2 million at the end of fiscal year 1998–99, and as of June 30, 2007, was \$7 million.

Following approval of the branch’s fee increases, revenues have increased by nearly \$7 million. For each of the two fiscal years since the fee increase, total revenues outpaced the branch’s expenditures by at least \$1.5 million. The disparity between the branch’s new revenue and expenditure amounts may lead some to question the branch’s justification for the magnitude of its fee increases in 2005.

Lacking quantitative fiscal and workload analyses, and given the varying magnitudes of the branch's fee increases on a fee-by-fee basis, its methodology for developing its current fee structure appears unjustified.

The Magnitude of the Branch's Fee Increases and Its Allocation to Categories of Fee Payers Appear Unjustified

The branch justified its fee increases in 2005 by claiming that the Control Fund's ending balance was declining and it would soon have to cut back its regulatory activities unless fee increases were approved. Figure 3 corroborates part of the branch's reasoning, namely that the Control Fund's ending balance was declining as expenditures outpaced revenues before the fee increases. To justify the specific fee increases, we expected to find quantitative fiscal and workload analyses that identified where the branch's costs were increasing, how those higher costs were used to calculate the new fees, and why its allocations of the fee increases to its fee payers were reasonable. We found no such analyses. Lacking quantitative fiscal and workload analyses, and given the varying magnitudes of the branch's fee increases on a fee-by-fee basis, its methodology for developing its current fee structure appears unjustified.

The regulations that implemented the new fees took effect in June 2005. The department asserted that it began imposing the new fees in September 2005 for all adopted fee changes except for sealed sources and devices. Table 3 shows examples of the branch's fees before and after the increase, including a calculation of the percentage increase associated with each fee.

Before the branch could impose the new fees shown in Table 3, it had to change the State's regulations that establish its fee structure. Title 17 of the California Code of Regulations lists the branch's fees. Such a change can only be accomplished by going through a public comment period so that those affected by the new fees have an opportunity to provide comments. During the public comment session in August 2005, several entities among the branch's regulated community spoke out against the new fees, questioning the need for the increase. For instance, a representative from the University of California at Santa Cruz cited concerns that the University of California would have difficulty bearing the additional costs, claiming that the higher fees would affect funding for research and education. Others who commented questioned the services the branch provided, while at least one questioned what was driving the branch's need for additional revenues. Members from the union representing many of the branch's employees also stated that the fee increases were based on flawed analyses.

Nine months earlier, the department's Office of Regulations also raised questions about the branch's justification for its new fees; this office asked why the branch lacked quantitative analysis and data that would shed light on why its fees had to be raised. When a state agency wishes to adopt emergency regulations, it must produce a statement of reasons for why it is taking immediate action. The

Table 3
Comparison of Selected Increases in Fees Charged by the Radiologic Health Branch

FEE CATEGORY	FEE TYPE	PREVIOUS FEE	NEW FEE*	PERCENT INCREASE
Licensing and Certification	School certification application	\$350.00	\$1,175	236%
	Radioactive materials license	508.55	1,112	119
	Nuclear medicine technologist (NMT) certificate application	82.39	153	86
	NMT special permit application	100.00	183	83
	Radiologic technologist (RT) and X-ray technician (XT) certificate application	45.78	75	64
	Supervisor and operator (S and O) certificate application [†]	55.95	85	52
Renewals	School certificate renewal	50.00	190	280
	NMT certificate renewal [‡]	55.20	175	217
	RT and XT certificate renewal	20.86	35	68
	S and O certificate renewal	22.89	35	53
Machine Registration	Medium priority machine registration	116.97	172	47
	Dental priority machine registration	53.91	79	47
	High priority machine registration	161.72	214	32
	Mammographic biopsy machine registration	412.00	475	15
Other	Exam reschedule (S and O, RT, and XT)	33.58	75	123

Source: Rulemaking file for fee increases maintained by the Radiologic Health Branch and auditor calculations.

* New fees approved June 2005.

† S and Os are medical professionals licensed as doctors in medicine, osteopathy, chiropractic, and podiatry.

‡ NMT renewal fee covers a 5-year period. Prior fee was \$55.20 or \$11.04 annually. New fee is \$175 or \$35 annually, which is the same as for RT, XT, and S and Os.

department's Office of Regulations provided internal comments on the drafts of the branch's statement of reasons to ensure that the documents met the State's requirements for adopting regulations. In November 2004, 10 months before the branch began imposing the new fees in September 2005, the chief of the Office of Regulations questioned the branch's lack of supporting data for the fee increases. In a memo to a department deputy director, the chief wrote:

Further, in the overview to the [branch's] costs that impact on the necessity of the proposed fee increases, the [branch] makes multiple references to increased staffing required to meet the federal and state statutory mandates. However, neither here nor in most of the specific regulation sections presenting the increased fees, does the [branch] offer the

information necessary to demonstrate the costs associated with the increased staffing. Further, there are likely multiple [branch] costs beyond personnel that drive the expenses associated with the [branch's] functions . . . While the [branch] may wish to be judicious in its degree of specificity, the [branch] is encouraged to provide the greatest degree of transparency in this presentation as it can tolerate. Without specific data the reader is required to make a definite leap of faith that cannot be expected of the regulated public or of a presiding judge in a court challenge.

In another section of this November 2004 memo, the chief stated, "This reader suspects there is some data and analyses beyond a general statement of workload that support the proposed percentages of increases for the various [radiation-emitting machine] categories. Please provide some cost bases that support the proposed changes."

However, our review of the department's and branch's records, and interviews with branch staff, did not produce the analyses called for in the November 2004 memo. Further, our review of the department's official rulemaking package for its regulatory change confirmed the absence of specific fiscal and workload analyses demonstrating how the new fees were calculated and what they were based on. The department's official rulemaking package includes its final statement of reasons why it has to change its regulations and other supporting documents that justify the change. The department and branch's justification for the fee increases can best be described as a narrative that generally discusses higher staffing costs, additional workload, and the declining balance of the Control Fund. Nevertheless, the analyses and figures the branch provided are not sufficiently supported to justify the specific rate increases that were approved.

Based on our review, it appears that the concerns raised by the Office of Regulations in November 2004 went unanswered. When we asked the department to confirm that such quantitative analyses did not exist, it stated that it had already provided copies of the official record and pointed out that the fee increases were reviewed and approved by the State's Office of Administrative Law. This office is the state entity charged with ensuring that proposed regulations are clear, necessary, and legally valid. We acknowledge that the Office of Administrative Law approved the fee increase. However, the persuasiveness of the branch's qualitative and narrative justifications for its higher fees is not compelling and is flawed by its inability to quantitatively demonstrate how specific fee increases were calculated, and the relationship that the fee increases have to the branch's expenditures that are supported by those fees.

The department's official rulemaking package for its regulatory change confirmed the absence of specific fiscal and workload analyses demonstrating how the new fees were calculated and what they were based on.

Finally, many of the branch's justifications for the extent of the fee increases are undermined by the branch's long-standing knowledge of billing errors. It has claimed that an unknown number of licensees are not paying bills and that it lacked a sufficient number of staff to follow up on such problems.

The Branch's Expenditure Patterns Did Not Change Noticeably After Its Fee Increases

Since approval of the fee increases, the branch's expenditure patterns from the Control Fund have remained essentially unchanged as a proportion of total expenditures, although its total expenditures have increased. Personnel costs continue to equate to just over half of its total expenditures, while costs for consultants and departmental services similarly remain stable.

The fee increases have had a dramatic effect on the branch's revenues, which increased by \$7 million to roughly \$20 million between fiscal years 2004–05 and 2006–07. Over the same period, the branch's expenditures increased by \$4.2 million. The ending balance of the Control Fund is also increasing as annual revenues now outpace the branch's expenditures.

The department states that the branch used the extra revenues to support the staffing requests it made in fiscal years 2006–07 and 2007–08, issues we discuss later in this chapter. The State approved both requests, resulting in additional spending authority for 16 health physicists who perform licensing inspection activities. The department states that the branch has filled 13 of these 16 positions, 12 with health physicists and one other with an associate governmental program analyst. It also indicated that the branch has converted one of the three vacant positions from a health physicist to a lawyer. The branch's expenditures on personnel costs increased by \$2.1 million between fiscal years 2004–05 and 2006–07, which seems consistent with its assertion regarding the increases to its staff. The branch also appears to have used the additional revenues for equipment and training. Its expenditure records show increased spending in these areas; the branch spent \$107,000 on seven cars for its inspection staff, increased its training expenditures from \$12,000 to \$38,700, and more than doubled its in-state travel expenditures from \$203,000 to \$463,000. Overall, the branch's expenditures following the fee increases seem consistent with its mission.

The ending balance of the Control Fund is also increasing as annual revenues now outpace the branch's expenditures.

The branch's inability to fulfill its goal of reducing backlog and meeting state mandates, at a minimum, raises questions as to whether it understands the staffing levels necessary to successfully accomplish all of its responsibilities.

The Branch Has Not Determined How Many Employees That It Needs to Fulfill Its Federal and State Obligations

The NRC, which periodically evaluates the branch's performance, raised concerns regarding its inadequate staffing in 2004 and again in 2006. In addition, the branch justified its need for fee increases in 2005 by citing increased work backlogs. It obtained the approval for eight health physicists for fiscal year 2006–07 and an additional eight positions for fiscal year 2007–08. As of March 2008 it has filled 13 of its 16 new positions with 12 health physicists and one associate governmental program analyst.

The branch claimed in its fiscal year 2006–07 budget change proposal that the additional staff would allow it to meet all its federal and state mandates. However, we question how it could make such a claim when it used workload analyses that were at least three years old, focused only on the current workload and excluded the backlog, and did not account for the staff needed to meet certain state mandates. Although the department indicated that it had not fully evaluated the branch's staffing needs since the mid-1990s, the branch requested an additional three permanent and two limited-term positions for health physicists for fiscal year 2008–09. However, the branch's inability to fulfill its goal of reducing backlog and meeting state mandates, at a minimum, raises questions as to whether it understands the staffing levels necessary to successfully accomplish all of its responsibilities.

Information from the NRC shows that staffing levels within the branch have been a recognized problem. Because California is an agreement state, the NRC periodically conducts reviews to assess the branch's performance. In its 2004 report the NRC said, "The California radiation control program is in critical financial condition . . . With revenues not increasing to meet increased program costs, financial reserves are being exhausted." The NRC report also stated, "The overall root causes of program weaknesses . . . are the lack of adequate funding and staffing for the program." Funding and staffing issues, coupled with other issues, led the NRC to place the State on heightened oversight, which is an increased monitoring process used to follow the progress of improvement needed in an agreement state. The NRC returned in 2006 to follow up on its 2004 review. With regard to staffing issues, it noted, "The current level of staffing may not be able to sustain the inspection timeliness, nor be able to absorb any future increased demands on the program. Although significant staffing improvements were noted during this review, the review team believes additional time is required for the branch to exhibit stability in staffing and to reach and sustain a level of satisfactory performance . . ."

When evaluating the adequacy of staffing levels, the NRC does not apply a set numeric standard, such as requiring a specific number of staff to handle the workload associated with a certain number of licensees. Rather, it draws conclusions based on other factors, such as vacancies in positions, particularly at the senior levels; the existence of workload backlogs; and the adequacy and monitoring of training. The NRC expects that states will critically evaluate their own staffing needs based on the volume and complexity of their licensing and inspection activities. Based on our review of its staffing requests in fiscal years 2006–07 and 2007–08, the branch has not performed such an analysis.

Its fiscal year 2006–07 budget change proposal claimed that the additional eight health physicists would “provide the staffing to meet [NRC requirements] and address statutory mandates . . .” Although the branch described its workload in the appendices of the budget change proposal, it did not provide evidence that its assumptions regarding how much work a staff member can do in a year and the resulting additional staff required to meet current workload are reasonable. Furthermore, the branch used workload data from fiscal year 2002–03, which was at least two years old at the time the proposal was developed, stating that the fiscal year 2002–03 data was the last year for which detailed numbers were available. When we asked the department’s management to explain why the branch used such old data, the department’s response was unclear, explaining that the fiscal year 2002–03 data was current when the branch began work on its fee increases that same year and that it kept this data in its staffing request to be consistent with its previously approved numbers.

In addition, the branch’s fiscal year 2006–07 budget change proposal was flawed since it did not consider all the work for which it is responsible, nor did it request enough staff to fulfill its obligations based on its own workload assumptions. The budget change proposal anticipated using the eight additional staff positions to address the branch’s current workload. However, nowhere in the budget change proposal or its appendices does the branch describe the specific time commitments for implementing state mandates. Further, it stated that it needed 25 machine inspectors to handle its “current” workload, but it asked for just three additional machine operators to supplement its existing staff of 15. The branch’s reason for doing so was that “technological improvements being developed” would address the difference. It is still waiting for these improvements and currently anticipates their implementation by the end of 2008.

In a budget change proposal for fiscal year 2007–08, the branch requested approval for another eight health physicists, stating that the prior year’s approved proposal was based on data from fiscal

The branch used workload data from fiscal year 2002–03, which was at least two years old at the time its fiscal year 2006–07 staffing proposal was developed, stating that this data was the last year for which detailed numbers were available.

year 2002–03 and this new request was necessary to meet workload increases since then. However, it did not account for the workload involved in implementing state mandates and addressing its backlog, and therefore did not request all staff necessary. In fact, we question whether the department or the branch understands the size and extent of the branch’s existing backlog. The branch has admitted the existence of backlogged inspections when justifying additional staff and higher fees, but did not fully quantify in these requests how many late inspections exist. When we asked the department to provide its understanding of the size and extent of the branch’s current inspections backlog, it did not provide this information. Nevertheless, the branch’s request for additional health physicists in fiscal year 2007–08 did not address its own estimation of staffing needs. The proposal indicated the branch already had 18 positions for inspectors but needed a total of 30 to handle all of its current workload, defining “current” as of May 2006. However, the branch only asked for eight more inspectors rather than the 12 needed to reach the number it asserted was necessary to address its current workload, again citing increased efficiencies due to “technological improvements being developed.”

In response to our query on this issue, the department indicated that it had prioritized and chose to first fill the “most critical vacancies” and new positions. The department contends that following the fee increases, the branch engaged in “aggressive recruiting” and worked with the department’s Human Resources Branch to be granted continuous filing of qualified applicants and to conduct more examinations to improve the list of candidates qualified for the health physicist series.

The Branch Has Not Complied With a State Law Requiring That It Report Data on Low-Level Waste Within California

More than five years after its September 2002 enactment, the branch still has not implemented requirements that the Legislature added to the Health and Safety Code, at Section 115000.1, which call for reporting on the amount of low-level waste stored in California or exported for disposal. As of April 2008 the branch had not produced the report, nor had it yet implemented the information system needed to generate such a report. In fact, the branch did not initially request the necessary data from licensees until April 2007. Without this information, neither the Legislature nor the branch can accurately assess the need for a disposal facility in California.

Without this information, neither the Legislature nor the branch can accurately assess the need for a disposal facility in California.

That section of the Health and Safety Code, enacted in September 2002, require the department to maintain for each generator of low-level waste a file of the shipping manifests for waste sent to a disposal facility, either directly or through a broker

or agent. They also require the department to maintain a file on each generator's low-level waste stored for decay and stored for later transfer. Finally, they require the department to prepare an annual report on that information. These sections were enacted to give policymakers the information needed to determine if a low-level waste facility is, in fact, needed in California, and, if so, the type and size of the facility.

The branch still has substantial work to complete before it can generate a report covering all years since the law's enactment. Although branch staff estimate that a report for the data from 2007 will be available by the end of 2008, based on the estimates from branch staff of how much work remains and the number of staff assigned, the Legislature may not see reports describing the volume of low-level waste stored or disposed of by California generators since the law's enactment before October 2009. A senior health physicist in the branch indicates that employees have entered only 6 percent of the annual reports from 2007 that it has received so far. He also states that the branch has not yet developed the database queries to obtain information from the system.

The department appears to lack sufficient will to comply with the Legislature's reporting requirements. For fiscal year 2003-04, it obtained approval for an additional \$1.3 million in spending authority for the equipment, contractors, and salaries for branch staff needed to implement this law. The department was also authorized to redirect six staff to the branch to work on the reporting system. Despite these authorizations, however, the department did not redirect staff, nor did the branch begin work on the reporting system. The department explained that its executive management delayed implementation until the regulations for increased fees were approved. We describe the branch's efforts to increase its fees earlier in this chapter.

The department also stated that it was deemed prudent not to move forward until ongoing revenues were in place to support the program. Yet, the Control Fund had a balance of almost \$4.9 million as of June 30, 2004—an amount sufficient to cover these expenditures. Further, the branch was not taking full advantage of its spending opportunities, allowing nearly \$3.8 million in appropriations from fiscal year 2003-04 to lapse without being spent, and allowing another \$4.9 million to lapse in fiscal year 2004-05.

Furthermore, when the branch finally does prepare the report, it may not contain all the information required under law. The provisions place data collection and reporting requirements on the department and allow it to use copies of shipping manifests from generators to provide the necessary information. However, the branch determined that the shipping manifests do not provide

The department appears to lack sufficient will to comply with the Legislature's reporting requirements.

The Health and Safety Code requires the department to develop a plan for the management, treatment, and disposal of low-level waste, which must also include a contingency plan in case an out-of-state disposal facility is closed. The branch could not locate this plan when we asked for it, stating that it was prepared in the early 1980s.

information on 12 of the 57 discrete data elements required by the legislation. The department is aware of these deficiencies and has stated the branch will need to revisit the issue with the department's executive management and the legislation's author to ensure that the required information meets the intent of the legislation.

The branch's inability to provide information on the volume of low-level waste stored in California or shipped for disposal also impairs policymakers' ability to plan for disposal needs. Section 115005 of the Health and Safety Code requires the department to develop a plan for the management, treatment, and disposal of low-level waste, which must also include a contingency plan in case an out-of-state disposal facility is closed. The branch could not locate this plan when we asked for it, stating that it was prepared in the early 1980s. As a result, the department appears to lack an updated plan. Without information on the amount of low-level waste requiring disposal or being stored on-site by California generators, the department has no documented basis to know how to plan for the imminent closure in June 2008 of the disposal facility in Barnwell, South Carolina, to low-level waste generated in California.

A Complete Strategic Plan Could Help the Branch Operate More Effectively

Although no state law specifically requires the branch to have a strategic plan, its inability to completely address issues concerning inspection data that is not sufficiently reliable, as well as its inability to justify its resource requests, suggest the branch might benefit from improving the limited plan it currently has. According to guidelines published by the Department of Finance, strategic planning is a long-term, future-oriented process of assessment, goal setting, and decision making that maps an explicit path between the present and a vision of the future. The branch currently uses a plan that lacks many essential elements of strategic planning and could benefit from setting priorities that would help it more effectively manage its work. Strategic planning is a good business practice for any organization.

The strategic planning process helps an organization to assess its environment, allocate resources, and establish action plans to achieve its objectives. When done successfully, this process also ensures management and staff accountability for the results of their work. According to guidelines issued by the Department of Finance, the essential elements of strategic planning include assessing the environment, identifying a mission and goals, establishing priorities

among goals and allocating resources, identifying objectives to achieve the goals, establishing action plans, selecting performance measures, and measuring actual performance.

A successful planning process provides many benefits to both an organization and the clients it serves. Strategic planning improves an organization's ability to anticipate and accommodate the future by identifying issues, opportunities, and challenges. Good planning also enhances decision making at both the operational and executive management levels because it focuses on results, provides information to guide managers in making decisions on resource allocations, and establishes a basis for measuring success. Finally, the fundamental concept underlying strategic planning is its dynamic nature. The planning process is not a one-time project that, once completed, remains static. Instead, it should be a repetitive process that is refined and refocused as performance is measured, targets are reset, and new information becomes available.

The branch's previously discussed problems demonstrate its need for more effective planning tools and accountability to stakeholders. We found that the branch currently lacks a strategic plan that includes all the essential elements identified by the Department of Finance. The branch uses a plan for the department's Division of Food, Drug, and Radiation Safety as its strategic plan. Although this plan contains a mission statement for the division, vision statement, objectives for the branch, and some goals—three of the seven elements of strategic planning—it lacks the remaining four elements—an environmental analysis, action plans, performance measures, and the monitoring of performance. The plan contains some objectives tied to the goals, but they are not specific or measurable, as recommended by the Department of Finance. Without measurable objectives, action plans, performance measures, timelines, and monitoring, it is more difficult for branch management to know whether it is meeting the plan's goals. The lack of an environmental analysis, which would help the branch to understand its strengths and weaknesses and its internal and external threats and opportunities, also weakens its strategic plan. Without this understanding, a plan may not adequately respond to the branch's operational environment.

When we communicated our concerns about strategic planning in February 2008, the department stated that it would not require the branch to revise its strategic plan until the department finalized its own strategic plan. The department's strategic plan is dated March 28, 2008. This plan contains no branch-specific objectives. In the interim, the branch has used monthly and ad hoc reports to track its various work outputs, such as inspections, but has not established measures that define acceptable performance.

Without measurable objectives, action plans, performance measures, timelines, and monitoring, it is more difficult for branch management to know whether it is meeting its goals.

Regardless of the direction provided by the department in its March 2008 strategic plan, the critical problems previously discussed are more likely to continue to plague the branch until it develops and implements a branch-specific strategic plan. Such a plan would help branch management become more proactive as it makes resource allocation decisions and focus on successfully meeting important objectives. The branch's current lack of sufficiently reliable data on its inspections, or concerns about the accuracy of its systems in general, should also not prevent it from selecting several key benchmarks to address critical short-term challenges. Examples might include performing a regular time study to determine a need for additional staff or lowering the data-entry error rate. If the branch improves the reliability of its data systems in the future, it could add benchmarks that rely upon those systems, such as information about its inspections backlog.

Recommendations

To ensure that the branch uses sufficiently reliable data from its future data system to manage its inspection workload, the department should develop and maintain adequate documentation related to data storage, retrieval, and maintenance.

To make certain that the branch uses sufficiently reliable data from its current systems to manage its inspection workload, the department should do the following:

- Improve the accuracy of the branch's data for inspection timeliness and priority level. The branch can do so by comparing existing files to the information recorded in the data systems.
- Improve its internal controls over data entry so that it can maintain accurate data on an ongoing basis. Such controls might include developing a quality assurance process that periodically verifies the contents of licensee files to the data recorded electronically. Other controls might include formalizing data entry procedures to include managerial review or directing the information technology staff to perform periodic logic checks of the data.

To ensure that the branch can sufficiently demonstrate that the fees it assesses are reasonable, the department should evaluate the branch's current fee structure using analyses that consider fiscal and workload factors. These analyses should establish a reasonable link between fees charged and the branch's actual costs for regulating those that pay specific fees. Further, the analyses should demonstrate how the branch calculated specific fees.

To make certain that it can identify and address existing work backlogs and comply with all of its federal and state obligations, the department should develop a staffing plan for the branch based on current, reliable data. The plan should involve a reevaluation of the branch's assumptions about workload factors, such as how many inspections an inspector can perform annually. The plan should also include the following components:

- An assessment of all backlogged work and the human resources necessary to eliminate that backlog within a reasonable amount of time.
- An assessment of all currently required work and the human resources necessary to accomplish it.

To inform the Legislature when it is likely to receive the information to evaluate the State's need for its own disposal facility, the department should establish and communicate a timeline describing when the report required by Section 115000.1 of the Health and Safety Code will be available. The department should also see that its executive management and the branch discuss with appropriate members of the Legislature as soon as possible the specific information required by state law that it cannot provide. Further, to the extent that the department cannot provide the information required by law, it should seek legislation to amend the law. Finally, when the branch has an understanding of the disposal needs for generators in California based on this data, it should develop an updated low-level waste disposal plan.

To better manage its performance in meeting key strategic objectives, the branch should establish a new strategic plan that contains all essential elements, including performance metrics and goals that the branch believes would be relevant to ensuring its success.

We conducted this review under the authority vested in the California State Auditor by Section 8543 et seq. of the California Government Code and according to generally accepted government auditing standards. We limited our review to those areas specified in the audit scope section of the report.

Respectfully submitted,



ELAINE M. HOWLE
State Auditor

Date: June 12, 2008

Staff: Dale A. Carlson, MPA, CGFM, Project Manager
Donna Neville, Associate Chief Counsel
Grant Parks, MBA
Richard Power, MBA, MPP
Melissa Roye, MPP
Lea Webb, MPA, CPA

For questions regarding the contents of this report, please contact Margarita Fernández, Chief of Public Affairs, at (916) 445-0255.

(Agency response provided as text only.)

Southwestern Low-Level Radioactive Waste Commission
PO Box 277727
Sacramento CA 95827-7727

May 19, 2008

Elaine M. Howle*
State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento CA 95814

Dear Ms. Howle:

Thank you for giving the Southwestern Low-Level Radioactive Waste Commission the opportunity to comment on the Bureau of State Audits' draft final report (2007-114) entitled "Low-Level Radioactive Waste: The State Has Limited Information That Hampers Its Ability to Assess the Need for a Disposal Facility and Must Improve Its Oversight to Better Protect the Public."

You asked that the Commission respond in writing to this report. The Commission has reviewed the draft report and has held a telephone conference meeting to discuss it. The comments as you requested follow below.

However, it is important to stress at this point that although the Commission consented to the audit, we did so with reservation. The Commission firmly believes that California lacks the authority to audit our Compact and the Bureau of State Audits has failed to dispel that belief. We asked you to cite the law which gives you the authority, to no avail. The Commission now requests that you address this issue, preferably in the introduction of the final report. ①

Comment 1 - Introduction, Scope and Methodology, page 16, second paragraph, last sentence - Commission Counsel objects to the author's use of the statement "...confirmed our understanding with . . . the counsel for the Southwestern Commission..." Use of this phrase gives the reader the impression that the draft final report reflects what Commission Counsel communicated to the author. This could not be further from the truth. Commission Counsel expended great effort in providing BSA staff with the facts which BSA staff then ignored for the most part or gave superficial treatment to. The same applies to the phrase "we confirmed our understanding of the Commission's practices with its executive director" found on page 17, top paragraph. We were assured in your May 13, 2008 letter that the Commission's comments on the draft final report will be included in the final report when issued. Therefore, in order that the record accurately reflect and the readers of the final report be aware of what Commission Counsel and the Executive Director communicated to BSA staff, the Commission is enclosing, as Exhibit A, a memorandum dated December 12, 2007 from BSA staff Melissa Roye to Don J. Womeldorf asking for Confirmation of Understanding. Also enclosed, as Exhibit B, is a letter dated December 17, 2007 from Don J. Womeldorf responding to Ms. Roye's request. Commission staff has more examples of similar requests for confirmation but it is our belief that the December 17, 2007 letter suffices to make our point. ②
③
④

* California State Auditor's comments begin on page 71.

- ⑤ Comment 2 - The title of the report, "Low-Level Radioactive Waste: The State Has Limited Information That Hampers Its Ability to Assess the Need for a Disposal Facility and Must Improve Its Oversight to Better Protect the Public," suggests that California has flexibility in whether or not to obey an existing Federal and California law. The Southwestern Low-Level Radioactive Waste Disposal Compact Consent Act (P. L. 100-712) and California Health and Safety Code, section 115255, mandate that California, as host state, shall cause a regional disposal facility to be developed on a timely basis. These statutes became law circa 1988, twenty years ago. What does the report title language: "...Hampers Its Ability to Assess the Need for a Disposal Facility . . ." mean? The assessment took place in the 1980s and resulted in the laws that exist today but no regional disposal facility exists. The Commission believes the need is still there.
- ⑥ Comment 3 - Summary, page 4, paragraphs 2 and 3 - We disagree. The Commission has not delegated the petition approval authority to the Executive Director. Your attention is directed to the subject entitled "Comments re: Topic 1: Delegation of Authority" on page 4 of the enclosed December 17, 2007 letter from the Commission's Executive Director to BSA staff member Melissa Roye. The germane portion is excerpted below:

"Comments re: Topic 1: Delegation of Authority. As to the first topic, Counsel objects to use of the phrase "Delegation of Authority" and the context of the language which follows especially reference to guidance and guidelines. It is Counsel's position that the Commission does not "delegate the task of approving exportation requests to the Executive Director." The Commission can not legally do so because the Compact law mandates the Commission approve each petition by a two-thirds vote of the Commission. Instead, the Commission has set up a process whereby petitions which meet specified requirements are deemed approved by the Commission and the Executive Director then processes the approved petitions for the Commission. Counsel recommends Topic 1 be entitled "Commission's Exercise of Authority in Approving Export Petitions" and not "Delegation of Authority."

If California had a regional disposal facility there would be few, if any, export petitions submitted and approved for the export of LLRW. This is so because the Commission, as guarantor of the economic viability of the regional disposal facility, would strive to have all LLRW generated in the region disposed of at the regional disposal facility. However, since the establishment of the Commission in 1991, no regional disposal facility exists and all LLRW generated in the region must be either stored in the region or exported for disposal. Storing the waste in the region until a regional disposal facility becomes operational is not reasonable from a safety standpoint. Therefore, all LLRW must be exported.

Not having a regional disposal facility results in over 200 export petitions being submitted annually to the Commission for approval. The petitions are submitted randomly throughout the year based on generator need. This voluminous workload would require the Commission to meet, at one extreme, over 200 times per year to approve these petitions by the required two-thirds vote. (The Commission must meet because, pursuant to the Bagley-Keene Open Meeting law (Gov. Code, sec. 11120 et seq.), the Commission can only act at a meeting.) Even if a Commission meeting were scheduled monthly to approve accumulated petitions, this would create, in Counsel's opinion, a serious hardship on the Commissioners. (Commissioners receive no pay for the performance of their duties. Meetings require the expenditure of valuable time. They are reimbursed by the Commission for their travel, meals, lodging, etc. expenses incurred, but that is all.) Meetings by telephone conference could be held but these also involve hardship. Therefore, the Commission has adopted a process for petition approval which is described in detail in the document entitled "Policy of the Southwestern LLRW Commission Regarding Exportation of Various LLRW Streams" (Export Policy) at page 4 of 5.

As to the BSA draft's reference to guidance and guidelines, there are no such entities. The document entitled "Requirements Of The Southwestern Low-Level Radioactive Waste Commission For Exportation Petitions for Low-Level Radioactive Waste Disposal" (Requirements Document) is not a guideline document. It is a list of mandatory requirements. Petitions that satisfy these requirements are deemed by the Commission to be approved. The role of the Executive Director is to confirm that the requirements have been met and processes the approved petition for the Commission. The Executive Director is performing primarily an administrative (ministerial) function when reviewing and processing petitions. Counsel believes the process by which the Commission approves petitions is legally sufficient."

7

Comment 4 - Summary, page 4, paragraph 4 - No mention is made of the fact that the Commission does not, and has never, approved petitions for export to Tennessee. This express statement is necessary if the final audit report by the Bureau of State Audits is to be responsive to the issue raised by Senator Kuehl, and other like-minded individuals, in a May 6, 2007 letter to the Honorable Nell Soto, Chair, Joint Legislative Audit Committee, wherein she states "It has come to our attention that ... (the Commission is) allegedly approving the export and disposal of thousands of tons of California low-level radioactive waste (LLRW) to municipal landfills in Tennessee." (Also, see California State Auditor, Bureau of State Audits, Analysis of Audit Request, 2007-114, dated June 27, 2007, subdivision III, item 7.)

8

Comment 5 - Introduction, page 12, paragraph 3, sentence which reads: "With its passage of the Low-Level Radioactive Waste Policy Act in 1980, Congress declared that each state as a matter of federal policy should be "responsible..." We take exception to the phrase "should be." We recommend you substitute the word "is" (mandatory language, as found in the statute) for the phrase "should be" (discretionary language). The mandatory language is consistent with the language in the Low-Level Radioactive Waste Policy Amendments Act of 1985 (P.L. 99-240), section 3(a)(1) which states "Each State shall be responsible for providing either by itself or in cooperation with other States, for the disposal of (A) low-level radioactive waste generated within the State"

9

Comment 6 - Introduction, page 13, fifth line from the bottom - We recommend you use the statutory language as follows: "As the "host state" of the Compact, California is required to cause a regional facility to be developed on a timely basis," instead of the language "within its borders."

10

Comment 7 - Introduction, page 13, last sentence and page 14, top paragraph - The draft report fails to inform the reader of the Commission's most important responsibility, that being to ensure the economic viability of the regional disposal facility. The language here, in this part of the draft final report, gives the reader the impression that all the Commission does is approve export petitions and ministerially at that. The language is misleading. For a full explanation your attention is directed to the last paragraph on page 2 through the underlined, italicized paragraph on page 3 of the enclosed December 17, 2007 letter, excerpted below:

11

"The fourth Article (P.L. 100-712), in Counsel's opinion, a most important one, is entitled Rights, Responsibilities, and Obligations of Party States. Subdivision (A) states: *There shall be regional disposal facilities sufficient to dispose of the LLRW generated within the region.*

Subdivision (B) says: *LLRW generated within the region shall be disposed of at regional disposal facilities and each party state shall have access to any regional disposal facility without discrimination.*

Subdivision (C) (1) says, in part: *Upon the effective date of this compact, the state of California shall serve as the host state and shall comply with the requirements of subdivision (E) for at least 30 years.*

Subdivision (E) says: *A host state shall cause a regional disposal facility to be developed on a timely basis.*

Subdivision F(6) says: *Each party state may rely on the good faith performance of the other party states to perform those acts which are required by this compact to provide regional disposal facilities, including the use of the regional disposal facilities in a manner consistent with this compact.*

It is Counsel's opinion that the italicized language above referring to the regional disposal facility is the absolute keystone of the Act. Almost all provisions found in the Act relate to the existence of a regional disposal facility. The Commission's primary duty, i.e., ensuring the safe disposal and management of LLRW within the region at the regional disposal facility is the reason the Commission was established. However, no regional disposal facility exists. Therefore, the Commission is forced to perform its duties and authority in a manner never contemplated by the Congressional and State legislative authors of the Act. Counsel is making a legal argument above meant for BSA legal staff. Counsel firmly believes and recommends that the full force of this argument be included in the audit report. It is the fundamental and underlying reason which motivates and explains almost all of the conduct of the Commission."

⑪

⑥

Comment 8 - Chapter 1, page 20, first paragraph - Commission disagrees with the phrase "we believe the process used by the Southwestern Commission to approve such requests impermissibly delegates its approval obligations." As described in Comment 3, above, the Commission does not delegate its approval obligations. The Commission has set up a process whereby petitions which meet specified mandatory requirements are deemed approved by the Commission and the Executive Director processes the approved petitions for the Commission. The procedure the Commission follows has been approved by a 2/3 vote of the Commission, consistent with what the law requires regarding petitions.

⑫

Comment 9 - Chapter 1, page 20, first paragraph, last sentence - The BSA assertion ignores the fact that EnergySolutions (ES) is required by its license to ascertain that disposers have been approved by the state or region from which the waste originates. Commission staff gets a call from ES if it is not clear that a petition has been approved for a specific generator's waste, so there is more than the "...self-assertions of waste generators ..." involved.

⑧

Comment 10 - Chapter 1, page 20, last paragraph or page 23, first paragraph, last sentence - more needs to be said about whether or not the Commission approves export petitions to Tennessee. As we said earlier, the final report should include an express statement that the Commission does not approve, and has never approved, petitions for export to Tennessee.

⑬

Comment 11 - Chapter 1, page 21- Political and economic hurdles to the successful establishment of a regional disposal facility are not a justification for the State's failure to comply with both federal and State law.

⑥ ⑭

Comment 12 - Chapter 1, page 24, mid page - The Commission forcefully disagrees with the sentence - "However, the actual process that the Southwestern Commission has implemented to approve requests for exportation does not comply with federal law." This assertion is made without any justification whatsoever. The assertion is baseless. It is stated as a truism without any explanation. The statement is just a statement. As stated earlier in Comment 3, because there is no regional disposal facility the Commission

has adopted a process for petition approval which is described in detail in its Policy document. Also, the Requirements document is not a guidance document. It contains a list of mandatory requirements which each petition must satisfy to receive approval. Both the Policy document and the Requirements documents must be approved by the Commission by a 2/3 vote. The draft final report fails to address or inadequately addresses these facts.

⑦

Comment 13 - Chapter 1, page 25, second paragraph through page 27 - The Commission respectfully suggests that BSA legal counsel apply a fundamental legal rule to the analysis, that being the intent of the legislature which is the key to interpreting the statute. The legislative history becomes important here. The intent of the legislature regarding the authority to approve petitions is intimately tied to the existence of a regional disposal facility. The legislature intended that the Commission protect the economic viability of the regional disposal facility. This is the reason for the 2/3 vote requirement. The legislature wanted to make it difficult to export low-level radioactive waste. The concept is similar to the requirement for a 2/3 vote by the legislature to raise taxes. In the present situation, the original intent of the legislature is frustrated because the State has failed to develop the regional disposal facility. Because there is no regional disposal facility, the Commission has had to adapt to the current situation. The Commission therefore believes the process it uses is reasonable and legal. BSA focusing on the process and not considering the intent of the legislature is a weakness subject to challenge. See also Comment 3 above.

⑭

Comment 14 - Chapter 1, page 27, first paragraph, last sentence - The Commission disagrees with the BSA conclusion that the process lacks transparency. The Commission is subject to the California Public Records Act.

⑮

Comment 15 - Chapter 1, between pages 28 and 29 - An error appears in the amount of waste reported in 2006 as having been disposed of at Clive, Utah. The figure shown, 18,412 cubic feet, is incorrect. It was taken from a Commission summary document which showed incomplete data reported by the disposal facility. Additionally, the data shown as approved volumes are incorrect; perhaps they were incomplete at the time the draft was prepared. The correct data are 174,144 cubic feet approved for exportation, and 159,589 cubic feet disposed of, as shown by the generators' disposal reports. The column showing the totals also needs to be corrected.

⑯

Please contact Don J. Womeldorf, Commission Executive Director, if you have questions.

Sincerely,

(Signed by: Aubrey V. Godwin)

Aubrey V. Godwin
Commission Chair

Enclosures:

Exhibit A: Memorandum dated December 12, 2007 from BSA staff Ms. Melissa Roye to Don J. Womeldorf

④

Exhibit B: Letter dated December 17, 2007 from Don J. Womeldorf to BSA staff Ms. Roye

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Comments

CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE SOUTHWESTERN LOW-LEVEL RADIOACTIVE WASTE COMMISSION

To provide clarity and perspective, we are commenting on the response to our audit from the Southwestern Low-Level Radioactive Waste Commission (Southwestern Commission). The numbers below correspond with the numbers we have placed in the margin of the Southwestern Commission's response.

State law gives the Bureau of State Audits (bureau) the authority to audit any state, local, or publicly created entity in California, either as directed by statute or by the Joint Legislative Audit Committee (audit committee). To perform these audits in a manner that addresses the needs of the Legislature and that follows generally accepted government auditing standards for accuracy and completeness, it is often necessary for the bureau to work cooperatively with entities outside of California state and local government, including private and federal entities, to obtain relevant information. This audit was no exception. We were directed by the audit committee to address various questions related to the Southwestern Commission because it plays an important oversight role related to low-level radioactive waste (low-level waste) generated in California. To address the questions presented to us by the audit committee and to follow generally accepted government auditing standards, we had to obtain that information directly from the Southwestern Commission. We worked cooperatively with the Southwestern Commission to obtain the necessary information and then analyzed that information to address the questions presented to us by the audit committee.

①

While preparing our draft report for publication, page numbers shifted. Therefore, the page numbers that the Southwestern Commission cites in its response do not correspond to the page numbers in our final report.

②

It is not correct for the Southwestern Commission to imply that we failed to communicate with its legal counsel or executive director during the audit. Throughout the entire process we engaged in a two-way dialogue wherein we sought information, confirmed our understanding of what we were told, and, finally, relayed our audit findings, both verbally and in writing, to the Southwestern Commission prior to the release of this report. The Southwestern Commission may take issue with the results of our analysis and may not agree with the conclusions we have reached, but it is not correct to suggest that we failed to communicate with the Southwestern Commission's executive director and legal counsel throughout the audit.

③

- ④ We have not included the various exhibits provided by the Southwestern Commission here because to do so would present them out of context and without the surrounding analysis related to our conclusions. Those exhibits and other documents associated with this audit will be made available to the public upon request.
- ⑤ As demonstrated on page 14 of the audit report, we are well aware of the legal obligation that California has as the host state under the Southwestern Low-Level Radioactive Waste Disposal Compact (Compact) to establish and license a low-level waste disposal facility within the Compact region. Our report title indicates that the State of California's (State) limited information hampers its ability to accurately assess the need for such a disposal facility. Nothing in this wording is intended to suggest that the State does not have a legal responsibility to establish such a facility. In fact, an important aspect of establishing and licensing a low-level waste disposal facility is analyzing the disposal needs of the compact region so that a low-level waste disposal facility of appropriate capacity is developed. As we describe on pages 58 to 60 of our report, the department has yet to comply with the directives contained in 2002 legislation that require it to maintain and report on certain information that would allow it to effectively plan for a disposal facility of appropriate capacity.
- ⑥ We respectfully disagree with the Southwestern Commission's assertion that it has not delegated approval authority for exportation requests to the executive director. The federal law that governs the Southwestern Commission plainly requires a two-thirds vote by the Southwestern Commission for *each* exportation petition for the disposal of low-level waste outside the Compact region and also requires a two-thirds vote for the approval of low-level waste for processing for recycling. Rather than voting on these petitions directly, the Southwestern Commission has adopted a policy that allows the executive director to approve these petitions based on requirements adopted by the Southwestern Commission. The executive director's review and approval takes place outside of a public meeting without any review or voting approval by the Southwestern Commission. The Southwestern Commission's justification for these practices appears to be based in part on the fact that circumstances have changed since the compact was formed and that there are far more petitions to approve than may have been anticipated when the Compact was formed. This rationale, however, does not serve as a basis for deviating from the plain requirements set forth in federal law.
- ⑦ The Southwestern Commission has misread our draft report with respect to guidance and guidelines. In the draft report we provided to the Southwestern Commission for comment, we used the phrase "guidance" in the Introduction to explain that its executive director performs most of the daily work, acting under the policy and guidance of the Southwestern Commission's members. Although our statement

is correct, we have deleted the word “guidance” from that portion of the Introduction because doing so does not change the meaning of our report. We also acknowledge that the policies that have been formally adopted by the Southwestern Commission are not “guidance.” Accordingly, we have not used that word in the audit report to characterize its policies.

It is our understanding that the Southwestern Commission has never approved a petition that authorizes the shipment of low-level waste to the Tennessee Bulk Survey for Release program. To address the Southwestern Commission’s concern, we have added clarifying language to pages 2, 24, and 31 of the audit report.

⑧

On page 14 we are quoting from the declarations contained in the law, so we use the word *should* because that is the word used by Congress to reflect its intent. The Southwestern Commission is correct in that federal law imposes a mandatory obligation on each state, either by itself or in cooperation with other states, to take responsibility for the disposal of certain low-level waste generated within the State. We have added clarifying language on page 14 to reflect this.

⑨

Although we appreciate the Southwestern Commission’s desire to quote directly from the statutory language, we are not quoting directly from the specific statutory provision referenced by the Southwestern Commission here, but are conveying that the State’s legal obligation requires it to establish a low-level waste disposal facility within the State. Accordingly, we have not made the suggested change.

⑩

As we recognized on page 28, the Southwestern Commission is presented with a far greater number of requests to export low-level waste than anticipated when the compact was originally formed. At the time the compact was formed, the expectation of the parties to the compact was that the host state would license and establish a low-level waste disposal facility that would accommodate the disposal needs of the compact region. In fact, the central theme of Chapter 1 is that the State’s failure to successfully license and establish such a facility has significant consequences that cannot be overlooked.

⑪

To avoid misunderstanding, we deleted the sentence to which the Southwestern Commission refers. However, as we state on page 28, while the Southwestern Commission requires waste generators to submit follow-up disposal reports indicating the amount of low-level waste they actually disposed of, it does not have a legal responsibility to verify how much low-level waste was actually exported and, according to its executive director, data to verify this information is not readily available and is often incomplete. As such, the Southwestern Commission’s data on the volume of exported low-level waste is based on unverified and uncorroborated information.

⑫

- ⑬ We agree. That is why we have made a statement to that effect on page 24.
- ⑭ We respectfully disagree. In reaching our conclusion that the process the Southwestern Commission uses to approve exportation requests is not consistent with federal law or with the doctrine related to the delegation of governmental authority, we have relied on well-accepted principles of law related to statutory interpretation, including those rules pertaining to legislative intent. Contrary to the Southwestern Commission's suggestion that our conclusion is baseless, we prepared a thorough legal analysis in support of this conclusion. Without presenting that lengthy analysis here, we restate that the federal law governing the Southwestern Commission plainly requires a two-thirds vote of the Southwestern Commission to approve the exportation of low-level waste for disposal and processing for recycling. The Southwestern Commission's response suggests that because the circumstances have changed considerably since the Compact was originally formed, we should read the statutory language differently due to these changed circumstances. There is no rule of statutory construction or interpretation that would support such a reading. As we state on page 28 of the report, the number of petitions the Southwestern Commission approves each year is far greater than anticipated when the compact was formed. Nonetheless, the terms of the Congressionally approved federal compact plainly require the Southwestern Commission to approve requests for exportation of low-level waste by a two-thirds vote.
- ⑮ The Southwestern Commission is required to approve requests for exportation of low-level waste by a two-thirds vote. This vote, by law, must occur at an open, public meeting. The Southwestern Commission's response suggests that interested parties could use the California Public Records Act to obtain access to information related to the approval of exportation petitions. While it is true that the Southwestern Commission is subject to the California Public Records Act and any approval decisions would need to be disclosed pursuant to a request for information under that act, this does not serve as a substitute for complying with the voting and approval requirements of the federal law that governs the Southwestern Commission.
- ⑯ We corrected the amounts shown in Table 2 that reflect the quantity of low-level waste sent to the disposal facility in Clive, Utah, as reported to us by the Southwestern Commission in November 2007 during audit fieldwork. Further, the amounts the Southwestern Commission included in its response do not agree with the amounts it provided to us in November 2007. Because the Southwestern Commission included no supporting detail for the higher amounts in its response, we opted to use the amounts provided during fieldwork.

(Agency response provided as text only.)

California Department of Public Health
MS 0500
P.O. Box 997377
Sacramento, CA 95899-7377

May 16, 2008

Elaine M. Howle*
State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento, CA 95814

Dear Ms. Howle:

The California Department of Public Health (CDPH) has prepared its response to the Bureau of State Audits' (BSA) draft report entitled "Low-Level Radioactive Waste: The State Has Limited Information That Hampers Its Ability to Assess the Need for a Disposal Facility and Must Improve Its Oversight to Better Protect the Public." The CDPH is now submitting its response to the BSA for inclusion into the final report. The CDPH appreciates the opportunity to provide the BSA with its response to the draft report.

If you have any questions, please contact Rufus Howell, Acting Deputy Director, Radiologic Health Branch at (916) 445-0275.

Sincerely,

(Signed by: Mary Winkley for)

Mark B Horton, MD, MSPH
Director

Enclosure

* California State Auditor's comments begin on page 81.

California Department of Public Health (CDPH) Response to
Bureau of State Audit's (BSA) Report on Low-Level Radioactive Waste
May 2008

BSA Recommendation 1: To provide greater public transparency and accountability for its decommissioning practices, the department should begin complying with the 2002 executive order and develop decommissioning standards. If the department believes doing so is not feasible, it should ask the governor to rescind the executive order.

CDPH Response: CDPH does not agree with the BSA recommendation.

- ① In June 2003, the Department initiated compliance with the Executive Order to promulgate a dose-based decommissioning standard through the process defined by the California Environmental Quality Act (CEQA). This effort continued through September 2004 through an interagency agreement with the Department of General Services (DGS) to develop a CEQA-compliant decommissioning standard. Through this collaboration, the department concluded by February 2005, that it could neither demonstrate good resource stewardship nor advance its public health objectives by continuing contract services for this effort. This decision was informed by three factors:
1. The Department's assessment that public and environmental health and safety were adequately protected through the current decommissioning process.
 2. Funding was insufficient at the time to fully support all Radiologic Health Branch (RHB) operations.
 3. DGS and CDPH determined that following the CEQA process for establishing a statewide dose-based decommissioning standard would be a multimillion-dollar endeavor.
- ① CDPH's current decommissioning practices have been shown to be health protective and legally compliant, making pursuit of a CEQA based decommissioning standard unnecessary. The Department will discuss internally how to align with the Executive Order (EO) and decide whether or not a recession of the EO is appropriate.

BSA Recommendation 2: To ensure the Branch uses sufficiently reliable data from its future data system to manage inspection workload, the department should ensure that it develops and maintains adequate documentation related to data storage, retrieval, and maintenance.

CDPH Response: CDPH agrees with the BSA recommendation.

While RHB's computer systems were initially developed using non-relational, non-Web-based computer code, these databases met the immediate programmatic needs for data organization and management. However, recognizing that this legacy data management system had deficiencies, CDPH has forwarded an Enterprise-wide, On-line Licensing System to develop and implement an information management technology system. If approved by the Legislature, this system will replace existing legacy systems by 2010 and remedy the existing system limitations. The efficiency and coordination of multiple divisions within CDPH to develop the FSR and obtain its approval demonstrates RHB's and CDPH's understanding of program data needs and adherence to BSA's recommendation of the use of sufficiently reliable data. The FSR will be sent to the BSA under separate cover.

Until the Enterprise system is deployed, RHB will make functional system modifications to address data reliability and quality concerns with the existing systems, including issue management, change and test management, work-arounds, access control, business rules compliance assurance, error reports, peer and supervisor reviews, and tracking sheet capability development (the anticipated completion date of the functional system modifications is January 2009). While providing improvements to the existing systems, this effort will ensure good business and data management practices and compliance with the program's public health mandates. At the same time, RHB will ensure that the system is prepared for efficient data migration from the legacy system to the new Enterprise system.

BSA Recommendation 3: To ensure that the Branch uses sufficiently reliable data from its current systems to manage its inspection workload, the department should take the following actions:

1. Improve the accuracy of the Branch's data for inspection timeliness and priority levels. This can be accomplished by comparing existing files to the information recorded in the data systems.
2. Improve its internal controls over data entry to better ensure that accurate data is maintained on an ongoing basis. Such controls might include developing a quality assurance process that periodically verifies the contents of licensee files to that data recorded electronically. Other controls might include formalizing data input procedures to include managerial review or having the information technology staff perform periodic logic checks of the data.

CDPH Response: CDPH agrees with the BSA recommendation.

RHB recognizes the need to provide better quality control over its data entry and has begun developing structured processes, including those recommended by BSA. Historically, RHB has used three separate systems to manage its program data needs, including the CAMIS, HAL, and RAM200 databases. The CAMIS database has some data field validation and a program change history capability. HAL provides access control and routine peer and supervisory review of each individual's work product.

The procedures for quality control have already been initiated and will be fully in place by January 2009, and will include review of each work product, as well as benchmark levels for margin of error that will apply to data entry for the processes associated with facility and unit accreditation status. This will also include data entry associated with maintaining the accuracy of the inspection tables and the subsequent inspection reports. For the HAL data system, RHB will provide ongoing maintenance of the accuracy of facility and x-ray machine status and data entry for these processes. RHB will refine its quality control procedures for data entry and maintenance of facility inspection itineraries and inspection reports. The quality control changes to CAMIS and HAL will provide needed improvements to the accuracy, timeliness, and priority level assignments that BSA is seeking.

While CDPH agrees with the recommendation for improved quality control over database entries, CDPH is concerned with the implication that there were inaccurate data in the RAM2000 inspection priority code fields due to poor management controls over data entry into the database. Rather, more rigorous inspection priority codes were intentionally assigned to provide a timing buffer and better ensure that inspections were conducted in accordance with the U.S. Nuclear Regulatory Commission (NRC) requirements to ensure more frequent inspections of high-level radiation therapy treatment devices. CDPH's use of the inspection priority codes was examined by the NRC in their recently completed audit of the CDPH radioactive materials program, and found it to be acceptable.

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RHB and Information Technology (IT) staff have already begun to take measures to update existing reports to better represent the current needs of RHB as it relates to their inspection data. In the bi-weekly status meetings, RHB and IT managers have begun to define processes and procedures that can be implemented to better control and improve the accuracy of the data input. IT will work with RHB to develop and apply any agreed upon data validation methods, including periodic programming logic checks of the data system.

BSA Recommendation 4: To ensure that the Branch can sufficiently demonstrate that the fees it assesses are reasonable, the department should reevaluate the Branch's current fee structure based on analyses that consider fiscal and workload factors. These analyses should establish a reasonable link between the Branch's actual costs for regulating those that pay specific fees. Further, the analyses should demonstrate how specific fees were calculated.

CDPH Response: CDPH agrees with the BSA recommendation. In setting its 2005 fee schedule, CDPH followed the Administrative Procedures Act, held public comment hearings, and received approvals from the Department of Finance and the Office of Administrative Law. Notwithstanding, RHB will re-evaluate its fees to ensure the fees are set appropriately. Workload standard data analysis will form the basis for any fee schedule adjustment, as BSA recommends. The analysis will be completed by April 1, 2009.

BSA Recommendation 5: To ensure it can identify and address existing work backlogs and comply with all of its federal and state obligations, the department should develop a staffing plan for the Branch based on current and reliable data. The plan should consider reevaluation of the Branch's assumptions regarding workload factors, such as how many inspections an inspector can perform annually. The plan should also include the following components:

1. An assessment of all backlogged work and the human resources necessary to eliminate the backlog within a reasonable time.
2. An assessment of all currently required work and the human resources necessary to adopt it.

CDPH Response: CDPH agrees that staffing needs to be more appropriate for the program. To this end, CDPH will develop a baseline of staffing and workload needs within RHB including any backlog of work.

RHB will use a four-step process that will rely on the most current and reliable data within the branch. This will include:

1. Characterizing the detail of the workload to ensure public health and safety, along with compliance with NRC and state standards
2. The workload detail will include factors such as hours, activities by program, frequency of inspections and any backlog
3. Determining appropriate classifications to use by program.
4. Ascertaining the number of staff in each classification required to perform the work.

Data will be consolidated, analyzed, and organized into tasks. Each task element will be identified and summarized, along with the time required to perform the task.

BSA Recommendation 6: To inform the Legislature when it is likely to receive the information to evaluate California's need for its own disposal facility, the department should establish and communicate a timeline describing when the reports required by Section 115000.1 et seq. of the Health and Safety Code will be available. The department should also ensure that its executive management and the Branch discuss with

appropriate members of the Legislature as soon as possible the specific information required by state law that it cannot provide. Further, to the extent that the department cannot provide the information required by law, it should seek legislation to amend the law. Finally, when the Branch has an understanding of California's disposal needs based on this data, it should develop a low-level waste disposal plan per Section 115005 of the Health and Safety Code.

CDPH Response: CDPH agrees with the recommendation to communicate its expected timeline for when the annual reports required by the Health and Safety Code will be available to the Legislature. The first annual report, based on 2007 low-level radioactive waste (LLRW) generator data, will be available in early 2009, with subsequent reports available annually thereafter. CDPH will inform the Legislature of the reports as they become available.

CDPH agrees that the Health and Safety Code Section 115000.1 is limited. Specifically, the limitations include the NRC forms (540, 541 and 542) as mandated are unable to capture all the information requested by the statute. To this end, the Department will work with the Legislature to clarify how to best collect this information and comply with federal law.

While CDPH agrees with the recommendation to collect information and document the disposal needs of California, CDPH does not agree with the recommendation to develop a low level waste disposal plan as outlined in state statute. LLRW disposal is not an issue for California alone. The issue of LLRW waste disposal is a national issue that impacts the ability of 36 states to dispose of LLRW in appropriate facilities due to the impending closure of the Barnwell LLRW facility on June 30, 2008. A national solution will provide the only permanent solution for the states. (4)

There is existing data from both the U.S. Department of Energy and the Compact that can be used to evaluate our disposal needs. While we have not done so in the past, CDPH is requesting the assistance from the Compact's Executive Director to collect data to fully evaluate California's LLRW disposal needs. Per current regulations, CDPH is currently compiling information from licensees and will have reports available for public review by 2009. (5)

BSA Recommendation 7: To ensure it can better manage its performance in meeting key strategic objectives, the Branch should establish a new strategic plan that contains all essential elements, including performance metrics and goals that it believes would be relevant to ensuring the Branch's success.

Response: RHB, agrees with the BSA recommendation.

The current RHB Strategic Planning process will be revised based on this recommendation. The revised plan will include specific performance goals and objectives. The plan will include metrics to ensure RHB measures its performance in meeting established objectives. The plan will recognize the public health mission of RHB related to the safe use of ionizing radiation and its leadership role to industry, medicine and research.

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Comments

CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE DEPARTMENT OF PUBLIC HEALTH

To provide clarity and perspective, we are commenting on the response to our audit from the Department of Public Health (department). The numbers below correspond with the numbers we have placed in the margin of the department's response.

The department's response incorrectly suggests that it has complied with all relevant laws. While it is correct that the department's current case-by-case approach to decommissioning imposes a dose-based standard that satisfies the requirements of federal law, the department has yet to comply with the 2002 executive order requiring it to adopt dose-based decommissioning standards in a manner that satisfies the California Environmental Quality Act and the California Administrative Procedure Act. The department's response that it will make an internal decision as to whether a "recession" of the order is appropriate mistakenly suggests that the department may unilaterally make such a decision, when, in fact, that authority rests with the governor. Accordingly, we stand by our recommendation.

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Notwithstanding the department's concerns, as we describe on pages 42 and 45, we found a lack of application and management controls and inaccurate data in the radioactive materials (RAM2000) database. Further, the "more rigorous" inspection priority codes to which the department refers do not apply to the errors we cite in the report.

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On page 46 of our report, we acknowledge the U.S. Nuclear Regulatory Commission's (NRC) recent performance review of the Radiologic Health Branch (branch). We also point out that the NRC's approach to evaluating inspection timeliness involved relying on the branch's data systems without testing them. It therefore appears that the difference between the NRC's results and our results is attributable to using different methodologies.

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Notwithstanding the department's disagreement with our recommendation, as we state on page 60, state law requires the department to develop a low-level radioactive waste (low-level waste) plan that includes a contingency plan in case an out-of-state disposal facility is closed. While it may be true that low-level waste disposal issues affect other states, the fact remains that, according to the law, the department is responsible for California's plan.

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- ⑤ As we state on pages 58 and 59, Section 115000.1 of the Health and Safety Code was enacted to give policymakers the information needed to determine if a low-level waste facility is, in fact, needed in California, and, if so, the type and size of the facility. Despite its assertion of the availability of disposal data from other sources, the department is required by state law to make available specific information on the amount of low-level waste stored in California or exported for disposal. This state law plainly requires waste generators to submit certain waste shipping manifests to the department so that the department can fulfill its obligations under state law.

cc: Members of the Legislature
Office of the Lieutenant Governor
Milton Marks Commission on California State
Government Organization and Economy
Department of Finance
Attorney General
State Controller
State Treasurer
Legislative Analyst
Senate Office of Research
California Research Bureau
Capitol Press