

# California State Auditor

B U R E A U O F S T A T E A U D I T S

## California State Lottery:

**Information Technology Operations Need  
Correction and Because of Poor Scratcher  
Automation Decisions, It Unnecessarily  
Incurred Millions of Dollars in Contract  
Dispute Costs**



July 1997  
96107.2

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Sacramento, California 95814**

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# CALIFORNIA STATE AUDITOR

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July 31, 1997

96107.2

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 second audit report concerning the California State Lottery (lottery). This review completes our comprehensive performance audit of the lottery and focuses on the lottery's information technology operations. We also reviewed the contract and lawsuit between the lottery and High Integrity Systems, Inc. (HISI). The lottery filed the lawsuit in 1993 after it terminated the contract with HISI for the Scratcher automation project. This report concludes that the lottery is not effectively managing its information technology operations. Specifically, the lottery's Information Management and Services Division (IMS division) is not effectively managing its resources. In addition, the lottery's primary database is not structured to allow lottery staff direct access to retailer sales information. Also, the IMS division's service request process and Help Desk do not adequately meet the needs of lottery staff. Further, the lottery has not developed a long-term strategic plan for its IMS division.

During the procurement of and litigation related to the Scratcher automation project, the lottery's decisions strongly contributed to the failure of the project under the terms of the original contract. Further, the lottery was not aggressive in managing the lawsuit and may have been able to reach settlement much earlier. During the litigation and settlement process, the lottery incurred at least \$7.5 million in contract dispute costs.

Respectfully submitted,

KURT R. SJOBERG  
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# Summary

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## **Audit Highlights . . .**

***In this the second phase of our comprehensive audit of the lottery, we found that the Information Management and Services Division is not effectively managed. Specifically:***

- ☑ It does not use common management tools to ensure its new systems and programs are completed properly and on time;***
- ☑ The service request process and the Help Desk do not adequately meet the needs of lottery staff;***
- ☑ It cannot defend its staffing levels; and***
- ☑ Staff from other divisions cannot directly access database information needed for their work.***

***Further, decisions by lottery officials related to the Scratcher automation project strongly contributed to its initial failure and led to at least \$7.5 million in contract dispute costs.***



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## **Results in Brief**

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**T**he California State Lottery (lottery) originated with the passage of Proposition 37 in November 1984. The primary purpose of the proposition is to provide additional moneys to benefit education without the imposition of additional or increased taxes. As of June 30, 1997, the lottery projected fiscal year 1996-97 revenues of approximately \$2 billion from its five on-line games and a variety of instant ticket games.

In August 1996, we issued a report on the first phase of our comprehensive performance audit focusing on the lottery's strategic planning efforts, administrative functions and expenses, mandated audit activity, and Scratcher product distribution system. The purposes of this report are to complete our comprehensive audit by examining the lottery's information technology operations, and to review the contract and lawsuit between the lottery and High Integrity Systems, Inc. (HISI). The lottery filed the lawsuit in 1993 after it terminated the contract with HISI for the Scratcher automation project.

The lottery's Information Management and Services Division (IMS division) is responsible for providing cost-effective, quality automated systems and reliable production services to the other lottery divisions. However, we found the lottery is not effectively managing its information technology operations. The IMS division does not provide the necessary information services that lottery staff need to effectively perform their jobs. Specifically, the IMS division does not use common management tools to ensure it is effectively managing its resources, does not use adequate project management techniques to ensure its new systems and programs are completed properly and on time, may not be using its staff efficiently, and does not compile the cost of its services and compare them to appropriate benchmarks. Further the lottery's Sales Inquiry System, which is its primary database, is not structured to allow lottery staff direct access to retailer sales information. Moreover, the IMS division's service request process fails to adequately meet the needs of the lottery staff in other divisions. In addition, the IMS division's Help Desk does not effectively assist lottery staff with questions and problems.

Finally, the lottery has not developed a long-term strategic plan to ensure the information technology structure can support the lottery's long-term organizational goals and objectives.

During the procurement of and litigation related to the Scratcher automation project, the lottery's decisions strongly contributed to the failure of the Scratcher automation project under the terms of the original contract. Specifically, the lottery did not heed concerns raised by potential bidders about the technical specifications and timelines in the draft request for proposal, or concerns about the financial viability and necessity of the project raised by lottery staff before the contract was awarded. Further, the lottery's indecisiveness regarding various policy decisions and its inability to freeze the technical requirements for the design and implementation of the Scratcher automation system impeded HISI's progress. Similarly, a former lottery director's September 1992 decision to make the installation and implementation of the Keno game the number one priority of both lottery sales staff and GTECH Corporation, the lottery's on-line game contractor, negatively impacted HISI's ability to perform. Moreover, the lottery expanded HISI's scope of work which also lengthened HISI's implementation schedule. While the lottery identified a number of areas where HISI's system was deficient, the deficiencies could have been resolved with sufficient time and attention. Finally, we found the lottery was not aggressive in managing the lawsuit and may have been able to reach settlement much earlier. During the litigation and settlement process, the lottery incurred at least \$7.5 million in contract dispute costs.

## ***Recommendations***

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To justify its staffing levels and to ensure priority projects are completed, the IMS division should take the following actions:

- Develop unit and division annual plans. These plans should incorporate the estimated staff hours to complete all of the division's workload including periodic gaming system loads, service requests, system problem reports, monitoring major gaming contractors, operating the lottery's data center, and completing special projects.
- Implement a timekeeping system to develop a historical base for planning purposes and for tracking the completion of work.
- Implement appropriate project management techniques, including planning, tracking, oversight, and evaluation.

- Review its practices and determine ways to accomplish its work more efficiently.

To measure its performance, the IMS division should develop a benchmarking approach that includes routinely tracking its workload statistics, accumulating actual costs, and soliciting formal feedback from other divisions on a project-by-project basis.

To provide the other lottery divisions with better access to retailer sales information, the IMS division should use a consultant to develop the best solution. Also, the IMS division must consider the lottery's long-term business outlook, staff needs, the information technology strategic plan currently under development, and the cost-efficiency of the chosen solution.

To fulfill its responsibilities to the other divisions, the IMS division should implement the following improvements:

- Establishing procedures for prioritizing service requests and system problem reports that emphasize communication among management about competing priorities and consider its existing workload.
- Developing open lines of communication with other divisions to reduce discrepancies between the services provided and the requesters' original needs.
- Providing adequate training to Help Desk staff to enable them to directly resolve the majority of calls received.
- Acquiring more useful software packages for both the service request process and the Help Desk. Purchasing decisions should consider current industry standards.
- Tracking the resolution of Help Desk calls and establishing a database of troubleshooting information accessible to both Help Desk staff and other divisions.
- Tracking the types of service requests and system problem reports received, time needed for completion, and the level of satisfaction with the results.

To ensure its information technology structure can support its long-term organizational goals, the lottery should develop a long-term strategic plan for its IMS division.

To ensure the lottery does not unnecessarily incur costs of the magnitude occurring in the Scratcher automation project, the lottery should improve its procurement process by taking the following actions:

- Critically review and address concerns raised by potential bidders and lottery staff during future procurements.
- Periodically reassess the impact of the lottery's strategic direction on current and future procurements.
- Consider the lessons learned from the Scratcher automation project by attempting to resolve any future contract disputes through means other than litigation, whenever possible.

#### ***Agency Comments***

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The lottery agrees with the findings and recommendations in our report and is planning to incorporate them into its efforts to streamline lottery operations, reduce costs, and improve overall effectiveness in support of its mission. In addition, the lottery will include the lessons learned through its experiences with the Scratcher automation project in its future procurements.



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# *Introduction*

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## ***Background***

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**T**he State Lottery Initiative Constitution Amendment and Statute (lottery act) established the California State Lottery (lottery) in November 1984. The primary purpose of the lottery act is to provide additional moneys to benefit public education without the imposition of additional or increased taxes. The lottery act requires the lottery to produce the maximum amount of net revenues to supplement the total money allocated for education in California.

## ***Organization of the California State Lottery***

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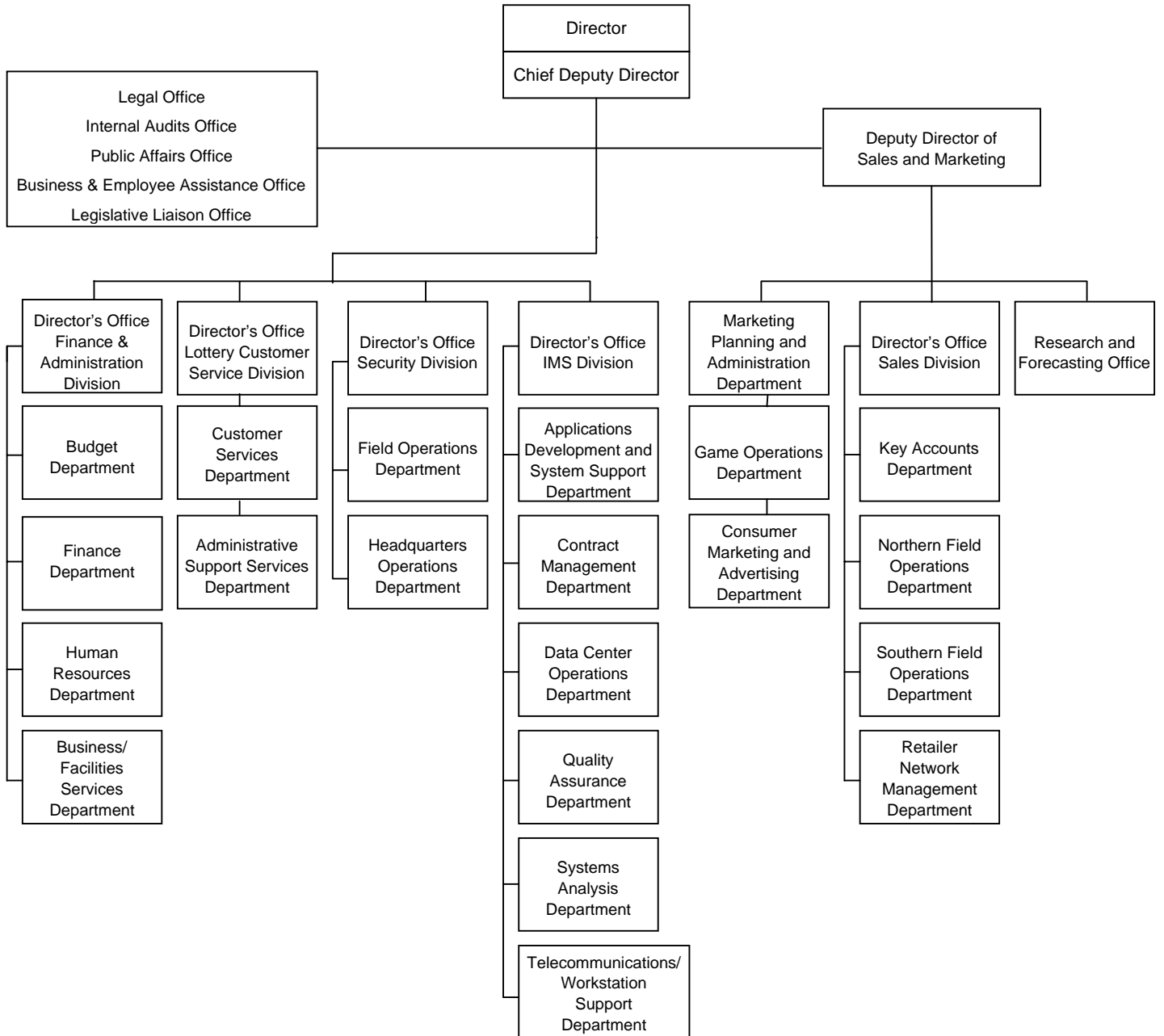
With the concurrence of the Senate, the governor appoints a five-person commission to administer the lottery, with each commissioner appointed for five years. At least one of the commissioners must have a minimum of five years' experience in law enforcement, and at least one must be a certified public accountant. No more than three commissioners can be members of the same political party. Appendix A includes a list of lottery commissioners and their dates of service.

Within the constraints of the law, the commission has final approval to set policy, but in all its decisions, the commission must consider the particularly sensitive nature of the lottery. Commissioners generally meet monthly to approve game rules and the way prizes are paid, to approve major contract awards, and to decide critical policy issues.

The lottery is organized into an executive division and five operating divisions. The director supervises and administers the operation of the lottery in accordance with the lottery act and the rules and regulations adopted by the commission. The current director was appointed April 29, 1997, but has not yet been confirmed by the Senate. Figure 1 shows the lottery organization during fiscal year 1996-97.

**Figure**

***The Organization of the  
California State Lottery  
Fiscal Year 1996-97***



## ***The Lottery's Games***

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Table 1 shows the games the lottery offered during fiscal year 1996-97. These games consist of two basic types of products: on-line games and instant ticket games.

**Table 1**

***Lottery Games Offered  
Fiscal Year 1996-97***

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<b>Game Name</b>	<b>Description</b>	<b>Gross Sales Through May 31, 1997</b>	<b>Status</b>
<b>SuperLotto</b>	Twice-weekly 6/51 lotto game. On-line game.	\$1,022,860,681	Active.
<b>Fantasy 5</b>	5/39 lotto game with seven draws per week. On-line game.	136,885,098	Active.
<b>Daily 3</b>	Daily three-digit numbers game. On-line game.	64,645,482	Active.
<b>Hot Spot</b>	Keno-type game with draws every five minutes. On-line game.	178,127,901	Active. Introduced September 26, 1996 to replace Keno.
<b>Decco</b>	Six-times weekly four-digit card game. On-line game.	17,181,747	Game terminated June 14, 1997.
<b>Scratcher<sup>a</sup></b>	Paper ticket with latex covering the player scratches off to reveal game result. Off-line game.	489,393,958	Active.

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<sup>a</sup> Scratcher<sup>®</sup> is a registered trademark of the California State Lottery.

In the on-line games, players can select their own numbers and enter them into the terminal at the lottery retailer's location with a play slip. The retailer can also enter the numbers manually. If players do not wish to make their own selections, the computer system will randomly generate numbers at the on-line terminal and produce the ticket, called a "quick pick." In the on-line games, all tickets are potential winners until the lottery conducts the respective drawings. In the SuperLotto game, the

jackpot prize amount accumulates until someone wins by matching all six numbers. The lottery makes similar prize accumulations in the Fantasy 5 and Hot Spot games.

The other type of lottery product, the Scratcher ticket, is commonly known as an instant ticket game. Scratcher tickets are paper with a latex-coated section that the player scratches off to find out whether the ticket is a winner. The lottery designs its Scratcher games around a variety of themes and offers different prize structures. During fiscal year 1996-97, the lottery introduced 29 new Scratcher ticket games.

For fiscal year 1996-97, the lottery expects total sales to be approximately \$2 billion, which is about \$300 million less than its total sales for fiscal year 1995-96. Two major factors have impacted the sales figure for the lottery during the fiscal year. On June 24, 1996, the Supreme Court of California ruled the lottery's Keno game illegal, and the lottery suspended the game. In addition, on July 3, 1996, the State Attorney General opined that the lottery's Scratcher vending machines were an illegal method of distributing Scratcher tickets; the lottery then immediately notified its retailers to stop using the machines.

### ***The Computer Environment***

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The lottery contracts with an outside vendor to provide its on-line gaming system and uses its own information technology staff to support its administrative functions. The entire system consists of several mainframe computers, telecommunications networks with the lottery retailers and with the lottery's own district offices, approximately 26,000 gaming machines located at the lottery retailers, a local area network within the headquarters office, and a variety of personal computers.

The lottery contracts with the GTECH Corporation (GTECH) to provide most of the services related to the operation and maintenance of the on-line gaming system. The primary elements of this contract are the operation of the central system, and the provision and maintenance of terminals located at the lottery retailers. The lottery also contracts with High Integrity Systems, Inc. (HISI) to supply the Scratcher automation system, which allows lottery retailers to validate a winning Scratcher ticket no matter where the player purchased it. As of April 8, 1997, the lottery's on-line terminal network consisted of approximately 18,000 terminals, of which 12,000 are GTECH-supplied clerk-activated terminals (CATs) and 6,000 are HISI-supplied LINK terminals. In addition to terminals, GTECH provides and supports approximately 8,000 Hot Spot monitors, all of which are connected to a CAT via a special

controller. In fiscal year 1997-98, the lottery plans to complete the Scratcher automation project by providing Scratcher validation terminals to lottery retailers that do not have either a CAT or a LINK terminal.

In addition to contracting for the on-line games and Scratcher systems, the lottery operates a number of administrative support systems. These systems are updated nightly through a batch process, and the lottery uses on-line transaction processing systems to build files and databases for batch reporting and on-line inquiry. The lottery's system configuration consists of an IBM mainframe, SUN file server computer, Stratus and Tandem mainframes, a local area network, and 675 personal computers. The IBM mainframe handles most of the daily administrative operations of the lottery in addition to a number of game-related functions not undertaken by either the on-line games or Scratcher systems. The SUN file server computer handles the primary retailer master file, while the Stratus and Tandem computers are used for the administrative functions of the Scratcher automation system. Further, the lottery is connected to the state's CALSTARS system, the State Controller's Office personnel and payroll system, and the State of California statewide network.

### ***Scope and Methodology***

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Our purpose was to perform the second phase of the comprehensive performance audit of the lottery's operations by focusing on the efficiency and effectiveness of the lottery's information technology operations. The scope of this audit also included a review of the contract and lawsuit between the lottery and HISI. The lottery filed the lawsuit in 1993 after it terminated the contract with HISI for the Scratcher automation project. Finally, we followed up on findings and recommendations identified during the first phase of the audit and included in the audit report we released in August 1996.

To determine the efficiency and effectiveness of the lottery's information technology operations, we reviewed the following areas:

- Staffing levels
- Workload measures and benchmarks of staff and equipment
- Project management techniques
- Training

- Structure of the lottery's databases
- Service request process
- Help desk
- Strategic planning

We assessed the lottery's process to assign work in the Information Management and Services Division (IMS division). We obtained information from four other state lotteries related to staffing and workload measures in their information technology operations. We analyzed this information to identify differences between California's staffing in this area and staffing by other states, and to determine reasons for the differences. We also assessed how the IMS division manages its staff, resources, and the impact of planned training. In addition, we assessed project management techniques used by the IMS division in implementing the projects covered by the 17 action plans in the fiscal year 1996-97 Annual Business Plan, for which the IMS division was the lead division.

To assess their effectiveness and efficiency, we reviewed the configuration of the lottery's databases. We also reviewed the requests for special reports through the IMS division and the ability of all lottery staff to access information from the lottery's databases. Further, we assessed the lottery's tracking of equipment usage and how it gauges the efficiency of its information technology operations.

We also assessed the responsiveness of the IMS division in delivering services to the other divisions within the lottery through the service request process and the Help Desk. As part of this assessment, we reviewed two reports that the lottery prepared related to its information technology operations. One of these reports, which the lottery drafted in January 1995, was based on a customer survey the IMS division conducted in December 1993. The other report, which the lottery issued in September 1996, is an assessment of the lottery's business processes that it prepared in anticipation of putting the on-line games contract out for bid. Finally, we interviewed lottery staff from the IMS division and other divisions to determine their satisfaction with the services of the IMS division. To assist us in our review of the lottery, we obtained the services of a consultant from the NewPoint Group with experience in management audits of specialized government activities, such as information technology.

We also determined whether the lottery has a strategic plan for the IMS division that is integrated with the lottery's overall strategic plan. Further, we noted how the lottery's capital purchases are evaluated and approved and how the lottery is modifying its computer programs to address the year 2000 date change problem.

Finally, we interviewed current and former lottery management and staff regarding the lottery's actions related to the contract and lawsuit between the lottery and HISI. We also reviewed a variety of documents related to the contract and lawsuit to assess when critical information was available. Further, we identified the pertinent provisions of the original contract and the reinstated contract with HISI. We also reviewed the impact the extension to the on-line games contract with GTECH Corporation had on the lottery's reinstated contract with HISI.

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# *Chapter 1*

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## *The California State Lottery's Information Technology Operations Do Not Provide Responsive and Streamlined Services*

### *Chapter Summary*


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The smooth functioning of every division of the California State Lottery (lottery) is dependent on the ability of the Information Management and Services Division (IMS division) to provide information quickly and accurately. Currently, the IMS division does not always achieve this objective. As a result, the other divisions' work can be more difficult or time-consuming. Specifically, the IMS division cannot defend its staffing levels because it does not prepare adequate plans or record time spent on daily work or special projects. Without this information, the IMS division cannot determine if its operations are efficient and effective. Further, the lottery's primary database does not allow lottery staff in other divisions to directly access the information they need to perform their jobs. In addition, the service request process and the Help Desk do not adequately meet the needs of lottery staff. Ultimately, many of these deficiencies can be traced to the lottery's lack of strategic planning. Consequently, the IMS division is not as effective as it could be in using its staff and administrative resources to further the lottery's goals.


### *The Information Management and Services Division Does Not Have a System for Effectively Managing Its Resources*

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The IMS division does not have a system to determine whether its staffing is appropriate and its operations are effective. For instance, the IMS division does not prepare an annual plan to anticipate workload and the number of staff needed to complete that workload. In addition, staff do not record time spent per assignment; therefore, the IMS division cannot effectively budget time, meet deadlines, or measure its efficiency. Our comparison of the lottery's information technology operations to that of another state's lottery revealed that the lottery could become more efficient.



*Without proven management tools, the IMS division lacks information:*

- ✓ to track work already assigned,*
  - ✓ to prioritize tasks and allocate workload, and*
  - ✓ to assure projects are completed in a reasonable amount of time.*
- 

Without proven management tools, such as planning documents, time records, or progress reports, the IMS division cannot effectively manage its resources. Specifically, the IMS division management cannot fairly assign new tasks because it does not have current and reliable information about the work already assigned to individual staff. In addition, management cannot effectively assign priorities to new tasks because it does not have current information about the priority of its existing work or reliable information about how close the staff is to completing their current work. Finally, management cannot determine if staff are completing projects in a reasonable amount of time.

As of March 19, 1997, the lottery had a total of 887.5 budgeted positions, with 161 positions in the IMS division, or about 18 percent of the lottery's total workforce. Anticipating a reduction in revenue for fiscal year 1996-97 with the loss of Keno and Scratcher vending machines, the lottery hired few new employees that year and left many positions vacant as turnover occurred. Consequently, the number of filled positions in the IMS division as of March 19, 1997, totaled 136, or 17 percent, of the lottery's filled positions.

The IMS division performs several major classifications of work: periodic gaming system loads, service requests, system problem reports, monitoring its major gaming contractors, operating the lottery's data center, and carrying out projects related to annual corporate or divisional objectives. The periodic gaming system loads involve programming changes for both Scratcher and on-line games. These changes include adding new games or enhancements to and new promotions of existing games.

The service requests and system problem reports consist of requests for changes or enhancements to the lottery's computer system, special reports, and corrections to the computer system. This process is discussed more fully in a later section of this chapter. Both the periodic gaming system loads and the service request process require IMS's Application Development and System Support Department to perform the actual programming. The Quality Assurance Department tests changes the on-line game vendor makes to the computer system. The Contract Management Department manages and oversees the lottery's major gaming contractors. The Data Center Operations Department runs the lottery's data center on a 24-hour-per-day/7-day-per-week basis. Finally, the 17 projects in fiscal year 1996-97 related to corporate or divisional objectives ranging from completing the Scratcher automation project to implementing a disaster recovery plan.


### ***Poor Project Management Results in Project Delays***

We determined that the IMS division committed to a workload for fiscal year 1996-97 that included the following:


- Seventeen special projects, as described in the fiscal year 1996-97 Annual Business Plan
- Over 1,170 service requests
- An average of 108 hours of training per employee

This commitment did not take into consideration employee vacations, sick leave, staff meetings, or other administrative functions. Further, the IMS division did not estimate the number of people or the amount of time needed to complete this work. Moreover, the IMS division did not require its units to prepare plans incorporating the estimated number of hours and required staff to complete the periodic gaming system loads, service requests, system problem reports, and approved projects assigned to them. Consequently, the IMS division can neither justify its staffing level nor effectively manage its operations.

In addition to assessing progress on the 17 major projects in the Annual Business Plan, we reviewed the project management techniques the IMS division used to manage 3 of the 17 projects. Of the 17 projects, the IMS division has completed 4, partially completed 7, and placed 3 projects on hold. The IMS division substantially changed the objectives of the remaining 3 projects. None of the completed projects met the completion date established on the action plan included in the Annual Business Plan. Rather, they were between one and seven months behind schedule. Further, all 4 had been IMS division projects since at least fiscal year 1995-96.





*Of the 17 major projects the IMS division committed to perform, 4 were completed late, 7 that are partially completed are not on schedule, 3 are on hold, and 3 were substantially changed.*



Of the seven partially completed projects, none is on schedule. Currently, these projects are between four and eight months behind schedule. All of these projects were also IMS division projects in previous fiscal years. According to the IMS division, the Scratcher automation project, the reduction in revenue from the loss of Keno and Scratcher vending machines, and work with a higher priority kept staff from completing these projects on time. Although resources consumed by the Scratcher automation project and reduced revenues explain a portion of the delays that occurred in fiscal year 1996-97, these limitations do not explain why

projects were delayed in the previous fiscal years. Finally, we question the IMS division's rationale for setting the unrealistic goal of completing 17 special projects in addition to its regular workload.



None of the project descriptions, or action plans, in the fiscal year 1996-97 Annual Business Plan included an estimate of the staff hours or other resources the IMS division would need to complete the work. However, our review of 3 of the 17 projects showed 2 of the projects had sufficiently detailed timelines that included both specific tasks and the staff assigned to the project. Although these plans appear sufficient to compare the actual completion of tasks to the planned completion, the first available plan for one of these projects was dated two months before the project ended. Finally, none of the 3 reviewed projects included an adequate and fully supported project budget.

  
*Files, discussion  
summaries, and status  
reports reflect insufficient  
project oversight.*  


Project files also contained no record of adequate project oversight. Project oversight consists of processes for successfully tracking and communicating project status and performing risk assessments. Even though major projects were discussed at the weekly IMS division meetings, discussions appeared general and brief. Therefore, neither meeting notes nor project files documented how specific events affected staff's ability to meet deadlines. In fiscal year 1996-97, the lottery began requiring all divisions to report on the progress of their projects in a quarterly status report. However, the information in the quarterly report does not contain enough detail to enable lottery management or the commission to compare the status of the project to the approved plan. Consequently, lottery management and the commission do not have sufficient information to fulfill their management responsibilities.

Finally, the IMS division had not conducted an evaluation of the one completed project that met the criteria for review. An organization should evaluate completed projects to determine if the projects achieved their goals and met their specified requirements. Further, the evaluation can show if the projects met their cost and time budgets. The IMS division planned to evaluate the one project six to nine months after its completion. Since the IMS division completed the project in August 1996, it should have completed an evaluation of the project by May 1997. However, as of June 30, 1997, the IMS division has not evaluated the project, and according to IMS staff, the evaluation is now scheduled for sometime between January and March 1998.

### ***The Information Management and Services Division's Regular Workload Is Not Adequately Planned***

  
*Special software designed to help manage workload is either not used at all or not used to its full advantage.*  


In addition to the planning documents prepared for the special projects, some of the units within the IMS division use special software to prepare project plans for their recurring workload. However, not all units use this tool, while those that do are not using it consistently, nor are their plans complete. For example, although the Internal Control System (ICS) and Financial Systems section is one unit that prepares formal planning documents, its plans are not entirely complete. One of its project plans included a summary of tasks for the gaming system loads in June and October 1997, a listing of special projects assigned to the ICS and Financial Systems section, and a simple timeline with start and finish dates for each task. While this provides some useful information, it is not a complete picture of the required resources to perform the listed work and to meet the proposed timelines. Specifically, the plan does not include the estimated number of hours required for the various tasks or to whom the work is assigned. In addition, the tasks listed are summarized to the point of being indefinable. These summarized tasks should be more specific and should include due dates. Finally, the plan is incomplete because it does not consider any time or effort required for service requests or system problem reports.

To help in managing its projects, the ICS and Financial Systems section prepared a spreadsheet detailing other tasks by project. This spreadsheet included staff assignments, service requests, and estimated hours needed to complete some of the items listed. However, the spreadsheet did not indicate any work already completed or a due date. The number of estimated hours assigned to each staff person varied from none to 1,462 hours. As a result, the spreadsheet is not useful for ensuring equitable workloads.

Finally, none of the planning documents we reviewed included estimates of hours for staff to take planned training. This omission is significant because, for the past three fiscal years, the IMS division requested 13,236 to 16,925 hours for training, approximately 6 percent of the IMS division's available hours. Though actual training for the IMS division staff in fiscal years 1994-95 and 1995-96 was half the amount requested, training still comprised 2.3 percent to 2.8 percent of the IMS division's available hours. Because training affects the time staff can spend on projects, the IMS division should include training hours in its annual planning document.

***The Information Management and Services Division May Not Be Efficiently Using Its Staff***

Based on our review, the IMS division may not be using its staff in the most efficient manner. We compared the operations of California’s IMS division to those of the corresponding division at the Florida lottery. Of the four states we reviewed, we chose Florida for this comparison because it has a similar mix of games, uses in-house programmers to support its computer systems, and uses similar programs to test the gaming transactions of its on-line gaming contractor. We found that California has significantly more information technology staff than Florida and may not be appropriately staffing its data center operations.

Table 2 shows IMS division staffing compared to Florida’s staffing of similar units.


***Table 2  
Comparison of Information Management and Services Division Staffing to Florida Lottery Staffing***

<i>Unit</i>	<i>California Budgeted Positions</i>	<i>California Filled Positions</i>	<i>Florida Positions</i>
IMS Director’s Office	4	4	2
Application Development and System Support Department	36	33	29
Contract Management Department	11	9	17
Data Center Operations Department	78	63	32
Quality Assurance Department	6	6	--
Systems Analysis Department	8	6	--
Telecommunication and Workstation Support Department	18	15	12
<b>Totals</b>	<b>161</b>	<b>136</b>	<b>92</b>


Overall, California has 44 more information technology staff than Florida. The largest differences occur in application development and data center operations. Based on a description of the work performed by Florida’s systems development group, Florida includes quality assurance and systems analysis work in its systems development unit. Since

California and Florida perform similar information technology activities, the differences in staffing are indicative of California's inefficiency in using its staff.

As discussed in another section, California maintains its sales information on a database management system that requires the IMS division to maintain both the sales data and the system search mechanisms. Conversely, Florida's sales information is stored on a different type of database management system, known as a relational database management system, that is less labor-intensive to maintain.



*Our analysis did not identify any compelling differences between California's and Florida's operations that would account for the additional 31 staff members in California.*



Based on our analysis of the two states, we found the primary difference in staffing levels in the data center departments. The Florida lottery operates its data center with 31 fewer staff than California, even though each operates on a 24-hour-per-day/7-day-per-week schedule, and includes production control and help desk functions. Our analysis did not identify any compelling differences in the operations of the two states' data centers that would account for the large difference in staffing.

### ***The Information Management and Services Division Does Not Adequately Measure Its Performance***


The IMS division needs to establish performance measures and compare them with appropriate standards of other similar organizations. While no two organizations will be identical, there should be sufficient similarities in the types of technologies used and the services produced to draw meaningful conclusions from these comparisons. In addition, an organization must develop an appropriate unit cost for work produced to measure its efficiency. Comparing its performance with appropriate standards, known as benchmarking, assists an organization in identifying its strengths and weaknesses. To accurately measure productivity, the IMS division should evaluate the functions of all its units. Only then can the IMS division assess how each unit affects the other, which would enable it to better meet the needs of the lottery as a whole. Without benchmarking, the IMS division does not have a reliable method for measuring its performance.

Implementing a benchmarking process can require a significant investment of time and effort, but the resulting measures can facilitate improvements. Benchmarking requires basic data the lottery should already have at its disposal. Nevertheless, the


IMS division does not measure its performance because it does not routinely track workload statistics, accumulate actual costs, or formally solicit feedback from the other divisions on a project-by-project basis.

All units in an information technology organization should track basic statistics to help it assess its efficiency. For example, a data center would normally track statistics on its activities, such as the number of lines printed, number of batch jobs, number of tape mounts, and any unplanned time a system is not available for use. Although the lottery's data center gathers many of these basic statistics, we found it uses the data only for limited purposes, such as to justify a budget request. While this is an appropriate use of this information, the data center should regularly use this data to measure its performance.

The IMS division also does not account for staff time spent on various tasks. Specifically, the IMS division does not require its staff to prepare time sheets or job tracking reports by workload category or by project. As a result, it is impossible for the IMS division to measure the efficiency of its staff's activities, determine the progress of projects, or build a historical base upon which to project future resource needs.



*The IMS division does not require staff to prepare time sheets or job tracking reports by workload category or project.*



Although the lottery requires the IMS division to budget for annual expenditures, it does not allocate the IMS division costs as overhead chargeable to the other divisions; therefore, the IMS division is not required to track its actual costs. Consequently, the IMS division is unable to calculate a unit cost for work provided to the other divisions. While the IMS division does not routinely track its actual costs, we found that it is capable of calculating these costs when necessary. As an example, an IMS division study conducted on options for reducing the amount of printed output included a statement that the IMS division spent approximately \$115,000 for paper.

Finally, the IMS division does not measure its effectiveness because it does not determine whether it meets promised due dates and it does not routinely solicit formal feedback from the other divisions regarding the availability, reliability, and responsiveness of the IMS division operations. In fact, the other divisions expressed significant dissatisfaction with some services, such as the service request process and the Help Desk, which are discussed in a later section of this chapter. The last formal feedback requested from the other divisions was a customer satisfaction survey conducted by the IMS division in December 1993. Further, not until January 1995 did the IMS division create a draft report, *IMS Customer Service Report: A Survey of IMS Customer Service Practices and Recommendations for Improvement* (January 1995 draft report),



from this survey. Moreover, during our period of review, we found the majority of the recommendations in this draft report had not been implemented.


***The Lottery's Sales Inquiry System  
Does Not Provide Easy Access to  
Retailer Sales Information***

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In its January 1995 draft report, the IMS division stated the lottery's Sales Inquiry System (SIS) provided staff with limited direct access to retailer sales data; furthermore, staff had to use more than one computer to obtain necessary information. Although the IMS division provides lottery staff with some standard reports from the SIS, many staff find that some of these sales reports do not completely meet their needs. Without useful standard reports or easy access to data, lottery staff may not be able to adequately perform their jobs.

To improve staff access to retailer sales information, the IMS division first began considering consolidation of the SIS with the primary retailer master file (RMF) on the Sun system in September 1994. The SIS contains information for on-line and Scratcher games, while the RMF contains information on all the lottery's retailers. The IMS division completed two analyses of the proposed project in July 1995 and November 1995, included the consolidation as an objective in the fiscal year 1996-97 Annual Business Plan, and is still including the project as an objective in the fiscal year 1997-98 Annual Business Plan. However, after three years, the IMS division has not progressed towards completing this consolidation.

While the IMS division appears to be focusing on consolidating the primary RMF and the SIS in its current information system structure to provide retailer sales information through only one computer, we believe the critical issue is the structure of the SIS. The consolidation of the primary RMF and the SIS will reduce data redundancies caused by multiple systems, but will not actually provide better access to the data. In fact, the IMS division's November 1995 analysis stated that even when it completes the consolidation, "all the data will still be in a file structure that standard reporting tools cannot easily access." This analysis also noted the retailer sales information is already on one platform, yet lottery staff complain they do not have suitable access to the data. Specifically, the database file structure of the SIS does not simplify the reporting and data


  
*The lottery's proposed solution to address sales information needs will actually provide no better access to data than currently exists.*




analysis processes; therefore, the IMS division should refocus its efforts on improving the SIS database and the database management system.

The SIS information is currently stored in ADABAS, an inverted list database management system. This database management system does not allow lottery staff in other divisions to access data easily because of the high level of technical knowledge needed and the difficulty in using it. While inverted lists are sorted files, the separate files of data are assigned unique internal record numbers, which act as pointers during a search of the database. The inverted lists also contain these same unique internal record numbers to allow the lists to point to the needed records during a search. As a result, to search for a specific record or to sort records in a specific order, one or more inverted lists must be used to select and retrieve data from a file. For example, to determine the amount of sales made by a specific retailer, staff must identify the inverted list containing the pointers to any sales records related to that retailer. The staff would then use this list to search the SIS database to obtain the needed information. Consequently, the typical user, such as lottery staff outside the IMS division, would have to know not only the data they want to retrieve, but also the specific inverted lists that would retrieve the data. Moreover, the IMS division must maintain not only the data in the database, but also the inverted lists containing the pointers that are needed to conduct searches of the database.

In contrast, a relational database is simpler and more flexible for nontechnical staff to use. The key difference between a relational and an inverted list database management system is how each conducts its searches. In a relational database, the actual data records are used to conduct the search of the database. A relational database organizes information in rows and columns of data, or tables, and uses these tables to conduct searches. For example, if one table contains fields for retailer numbers, names, and addresses, and another table contains fields for retailer numbers and types of terminals, a relational database management system can match the retailer number fields in the two tables to find all retailers selling from a specific type of terminal or to determine how many of one type of terminal are located in a specific zip code.




*Originally, the IMS division did not intend for the other divisions to do ad hoc reporting.*



Originally, the IMS division did not intend for the other divisions' staff to do ad hoc reporting. Instead, the IMS division developed pre-written programs to enable lottery staff to process searches for information. The staff in other divisions would only be required to provide the parameters for each search. These programs were expected to satisfy the vast majority of the day-to-day needs. However, the needs of lottery staff have

changed. The staff want to be able to do more with the data they know exists; therefore, the standard sales reports produced routinely, and the reports produced from the pre-written programs, no longer meet the staff's needs. Consequently, to obtain needed information, lottery staff have two alternatives: either request special reports from the IMS division or rekey and manipulate the information from the standard reports to meet their needs.

  
*Due to IMS backlogs of service requests, sales staff estimate they manipulate 25 percent to 95 percent of data gathered from standard reports.*

The first alternative is often unacceptable because the IMS division does not respond promptly to requests for services from other divisions. In fact, requests for reports comprised approximately 14 percent of the service request backlog as of March 31, 1997, with some requests dating back to fiscal year 1994-95. Because of this delay, lottery staff choose the second alternative. For example, during our interviews, staff from the lottery's Finance and Administration Division commented they rekey and manipulate some data from standard reports provided by the IMS division. Further, staff in sections of the Sales Division estimated they manipulate 25 percent to 95 percent of the data gathered from the standard reports.

The IMS division has three options to improve the other divisions' access to retailer sales information. First, it could enhance its current ADABAS system with specific tools that would allow searches in the existing database in a manner similar to a relational database. The vendor providing ADABAS to the lottery has these specific tools available. Second, it could reconfigure the database using a true relational database management system. Finally, the IMS division could continue with the current database management system, which will result in continued dissatisfaction of other divisions.

While choosing option one or two would result in upfront capital costs from the purchase of software or a new system, as well as staff training costs, there are also hidden costs associated with the last option. If lottery staff is unable to adequately perform their jobs because they are waiting for information or must rekey and manipulate data from standard reports, it costs the lottery money. Further, the IMS division incurs opportunity costs from postponing tasks to complete a request for a special report, and spending time to maintain pointers for searches of the database, in addition to maintaining the information being stored. Consequently, the lottery can pay some upfront costs to provide lottery staff with better access to the retailer sales information using new tools or systems, or it can continue to incur hidden costs and staff dissatisfaction because of the current system's lack of accessibility.


***Operational Deficiencies in the Service Request Process and the Help Desk Have Led to Dissatisfaction***

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The IMS division's goal is to help the lottery achieve its program objectives by delivering quality automated systems and reliable production services. Providing quality services is a critical business requirement because the other divisions need information technology to perform their jobs. However, current deficiencies in the IMS division's operations are causing dissatisfaction among lottery staff. Specifically, our interviews with lottery staff revealed dissatisfaction with the service request process and the Help Desk. Although the IMS division recommended improvements to its customer service processes in its January 1995 draft report, it did not implement them.

***The Service Request Process Fails To Adequately Meet the Needs of Lottery Staff***

The IMS division's service request process fails to adequately meet the needs of lottery staff in other divisions. Specifically, the IMS division does not adequately prioritize service requests (requests) and system problem reports (problem reports); lottery staff do not have access to information about their requests and problem reports; closure of requests and problem reports is not timely; and the automated Service Request System (SRS) does not adequately track the requests and problem reports. Further, the IMS division does not manually track or perform trend analyses on these requests and problem reports. In its January 1995 draft report, the IMS division recommended improvements. Further, the lottery's September 1996 report, *On-Line Gaming Project Baseline Assessment* (September 1996 report), concluded the service request process still needed improvement. Although the lottery has acknowledged problems in the service request process for at least two years, the same problems existed during the period of our review.


  
As of March 31, 1997, the IMS division had a growing backlog of 539 requests and 209 problem reports.



Other lottery divisions obtain services from the IMS division by submitting either a request or a problem report. A request is for new services or nonurgent modifications to an existing service or system. A request can be as simple as installing a phone, moving a personal computer, or providing access to a system. Other requests are more complex and may include writing an ad hoc report or programming a new feature for an existing system. On the other hand, a problem report requests immediate resolution of system problems. As of March 31, 1997, the IMS division had a backlog of 539 requests and 209 problem reports. During the

period July 1, 1996, through March 31, 1997, this backlog increased by an average of 43 requests and 18 problem reports per month.

Part of the problem lies in the IMS division's failure to prioritize requests and problem reports to meet lotterywide needs. The January 1995 draft report indicated priority-setting procedures for the service request process did not exist, and that other lottery divisions do not participate in the prioritizing decisions. Although the request and problem report forms allow the requester to assign a priority, many simply mark everything high-priority because they believe the large backlog of requests prevents the IMS division from working on anything but high-priority items. Consequently, the assigned priorities are essentially useless. The lottery needs to establish procedures for prioritizing service requests. These procedures should include input from the management of the other divisions. For instance, the IMS division could request the lottery's Business Planning Committee (BPC) to assign priority status to more complex requests that have lotterywide implications. Currently, the BPC's main role is to develop the lottery's Annual Business Plan, including the business reviews, objectives, and strategies. It is composed of the director, chief deputy director, chief counsel, and the division chiefs. As such, this committee has experience in addressing lotterywide issues. Routine requests of a simpler nature could be given an automatic designation of medium-priority. The new procedures should also consider the IMS division's current workload to decide which requests and problem reports can be accepted for completion, and which need to be postponed through negotiation with the requesters. However, as discussed in an earlier section of this chapter, the IMS division does not currently use a consistent process to track or measure its workload.



  
*The IMS division does not notify requesting staff that their projects were received and assigned, nor does it communicate progress.*

The January 1995 draft report also indicated the IMS division does not adequately inform other lottery staff about the status of their requests and problem reports. For instance, the IMS division does not notify the requesting staff if their requests or problem reports were received and assigned, nor does it consistently communicate the progress made on them. Further, lottery staff outside the IMS division do not have access to the automated SRS to obtain this information. In fact, many lottery staff commented in our interviews that requests and problem reports appeared to get lost in the IMS division, a belief attributed to a lack of communication. The January 1995 draft report recommended the IMS division consult with requesters to clarify needs, formulate solutions, and provide an estimated completion date. However, lottery staff reported this consultation does not occur. Instead, the IMS division tends to complete the request or problem report without truly

understanding what the requester really needs. This lack of communication has led to significant discrepancies between the requester's expectations and the services provided by the IMS division.

***The Information Management and Services Division Does Not Ensure Timely Closure of Requests and Problem Reports***

The IMS division does not effectively manage and maintain its service request process. Specifically, the backlog contains requests and problem reports that appear to have been completed or relate to obsolete systems, the IMS division cannot determine how long it would take to clear the current backlog of 539 requests and 209 problem reports, and the automated SRS does not enable the IMS division to adequately track requests and problem reports.



  
*Our interviews with staff revealed frustration with the IMS division due to untimely resolution of requests; some so late that the need no longer exists.*  


Our interviews revealed frustration among lottery staff because the IMS division often takes too long to resolve requests and problem reports, even to the extent that the requesters' original needs no longer exist. In fact, the March 31, 1997, backlog contained some outstanding requests and problem reports from fiscal year 1993-94, while others related to applications the lottery no longer uses, such as Keno. Further, many simple requests within the backlog, such as installing a phone or providing access to systems, were over a year old. Because many of these simpler requests are critical to lottery staff's job performance, these requests may already have been completed but are simply not shown as closed on the automated SRS. The IMS division also needs to take the requests and problem reports related to obsolete systems off the automated SRS. The January 1995 draft report recognized the need to periodically review the backlog for cleanup and close-out, which the IMS division began doing. However, the last review was in January 1996, so the IMS division needs to improve its maintenance and administration of the automated SRS. In addition, the inaccuracies that result from this lack of maintenance preclude the IMS division from determining how long it will take the division to clear the current backlog of 539 requests and 209 problem reports.

Part of the difficulty in managing the service request process is the failure of the automated SRS to adequately track requests and problem reports. Specifically, the automated SRS cannot group separate requests and problem reports associated with the same project, cannot link requests and problem reports that require assignment to more than one unit in the IMS division, and has only limited sort and analysis capabilities. Although

the January 1995 draft report recognized the need to group and link requests and problem reports, the IMS division has not enhanced the automated SRS to add these capabilities. Grouping and linking requests and problem reports could help ensure more timely closure. For example, grouping requests would prevent the IMS division from repeating the same procedure on related requests. The current automated SRS has only a limited ability to sort requests and problem reports to provide statistics. Consequently, the IMS division must use a personal computer spreadsheet to perform any further analyses.

***The Information Management and Services  
Division Needs To Track Additional  
Statistics To Measure the Performance  
of Its Service Request Process***

  
*Data is not collected on how long it took to complete a request, the extent of requester satisfaction, or suggestions for improved services.*  



The available statistics from the automated SRS do not help the IMS division assess the effectiveness of its response to service requests. The IMS division needs to track the types of requests and problem reports received, the time spent to complete requests and problem reports, and requesters' satisfaction with the results. Tracking the types of requests and problem reports it receives could help the IMS division identify software applications that need enhancements or an overhaul. For example, numerous problem reports for similar, minor, recurring problems on a specific application could indicate that a larger problem exists. Tracking how long it took to complete a request and analyzing the types of requests and problem reports received, could assist the IMS division to identify training needs or software problems. For instance, if requests related to a specific software application take longer than others to complete, the IMS division staff may need further training on this application. Finally, the IMS division does not adequately communicate with the requesters regarding their needs, level of satisfaction, or suggestions for improving the services provided.

Without input from the lottery staff, the IMS division cannot accurately measure its performance in responding to requests and problem reports. The only reliable measure of success is essentially the requester's satisfaction with the results. Currently, lottery staff have expressed dissatisfaction, which suggests this process needs improvement. The lottery's fiscal year 1997-98 Annual Business Plan includes an action plan for the Systems Analysis Department to review and implement an improved service request process.

### ***The Help Desk Does Not Effectively Assist Lottery Staff With Questions and Problems***

The Help Desk's scope of service is to provide prompt service to the lottery staff's questions and problems with the lottery's personal computers, local area network, wide area network, mainframe applications, system access, and maintenance of systems provided by a vendor. The IMS division's January 1995 draft report revealed problems with the Help Desk that preclude it from adequately providing this assistance. Rather, the draft report characterized it as a call-referral service that assigns resolution of the calls to other IMS units. Specifically, the Help Desk staff are not properly trained, the current help desk software is insufficient, and the Help Desk does not adequately track calls and perform trend analyses. Additionally, the lottery's September 1996 report concluded that the Help Desk still needed improvement. Although the lottery's two internal reports recognized problems and made recommendations for improvements, our review found that the recommendations were not implemented and the same problems still exist.

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*Although an effective help desk can resolve most calls without referral, the lottery's cannot directly resolve approximately 75 percent of its calls.*

An effective help desk resolves most calls directly, referring only a few complex calls to other appropriate personnel. In contrast, the lottery's Help Desk cannot resolve approximately 75 percent of its calls directly because the staff lack adequate training. Currently, the Help Desk is located in the Computer Services section of the IMS division with computer operators answering calls. However, the computer operators' primary responsibility is to monitor the computer room, and they are not specially trained to answer Help Desk calls from lottery staff.

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In fact, we found the computer operators received virtually no technical training. Because all lottery staff received little training in fiscal year 1996-97 due to anticipated lower revenue, we only analyzed training for the computer operators during fiscal years 1994-95 and 1995-96. Although they received some relevant customer service training (such as stress management and dealing with conflict), only 3 of the 15 computer operators received any technical training. Moreover, the technical training they received did not relate to any systems within the Help Desk's scope.



### ***The Help Desk Software Package Does Not Provide Adequate Features***

SMARTrac, the current help desk software, cannot effectively support the operation of the Help Desk. The January 1995 draft report noted that SMARTrac has only 5 of 16 key features needed for an effective software package in this area. Table 3 shows the 16 key features; those available to the lottery are shown in bold type.

***Table 3***

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#### ***Key Features of an Effective Help Desk Software Package and Those Available to the Lottery***

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**Call history**  
**Call reporting**  
**Case tracking**  
Customer callback  
Escalation management  
Hardware and software maintenance management  
Inventory management  
Work orders issued to information services technical staff  
On-line solutions database accessible by Help Desk staff  
On-line solutions database accessible by end-users  
On-line hardware/software configuration information  
Problem routing and dispatch  
Response prioritizing  
**Reports**  
Statistics on problem frequency  
**Time-stamped call tickets**


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Not only is the Help Desk limited by SMARTrac's lack of features, but also some of the features the package does provide are inadequate. For instance, the reports feature does not generate useful reports. However, the Help Desk does use SMARTrac's "current active log" reports to determine which calls still need resolution. These reports include the receipt date of calls so the Help Desk can determine if calls open for an extended period of time need to be escalated for closure. However, our review of a current active log from March 1997 revealed unresolved calls from over a month prior, so proper escalation and timely closure may not be occurring. Consequently, many lottery staff express dissatisfaction with the Help Desk's inability to resolve calls quickly.

SMARTrac's lack of key features illustrates the need for more useful help desk software. The IMS division originally budgeted for a new help desk software package in fiscal year 1996-97, but postponed the purchase because of the loss of revenue from Keno and Scratcher vending machines. However, the IMS division plans to purchase a new software package during fiscal year 1997-98 and has included the purchase in the proposed budget.

### ***The Help Desk Does Not Perform Trend Analyses***

The Help Desk does not perform any trend analyses because it does not have adequate statistics. Specifically, the Help Desk does not track and sort calls by type, system, or caller name. It also does not keep a history of how calls are resolved once they are referred to another section of the IMS division. Because SMARTrac cannot adequately track and sort calls, the Help Desk staff use a manual log to classify the calls received into three categories: Stratus mainframe, IBM mainframe, and "other" phone calls. This log also splits these general categories into slightly more specific issues, such as terminal, local area network, or printer problems, and "miscellaneous." Then the staff enter and sort this information on a personal computer spreadsheet. Though these categories appear useful for trend analyses, too many calls are placed in "miscellaneous" to draw any meaningful conclusions. In fact, from January 1996 to March 1997, the number of calls categorized as miscellaneous ranged from 276 to 519 per month, comprising approximately 43 percent of all calls received monthly.



*Capturing more useful data—such as the types of calls received, the systems involved, or the callers' names—would provide valuable management information.*

More useful categories, such as types of calls received, the systems involved, and callers' names would result in more useful trend analyses. These analyses would help the IMS division identify where it could provide the best assistance. For example, a lottery unit with a high volume of calls for assistance may alert the IMS division that this unit's staff need more training. Further, if a high volume of calls relates to one software application, the IMS division may need to enhance the application to make it easier for the lottery staff to use, or it may need to provide a training class for that application only.

Tracking how calls are resolved by other sections of the IMS division and developing a database of this information could assist the Help Desk increase the number of calls it resolves directly. The January 1995 draft report suggested keeping a better call history to allow the IMS division to develop a database of troubleshooting information for the Help Desk staff. Moreover, providing the other divisions with access

to this database would enable staff to resolve more of their own problems without calling the Help Desk. In both instances, the quicker resolution would increase the other divisions' satisfaction with the IMS division. However, the IMS division has been unable to develop this database because it lacks adequate historical information on resolution of the Help Desk calls.

### ***Poor Strategic Planning Has Contributed to the Information Management and Services Division's Problems***

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Many of the inefficiencies and delayed projects described earlier in this chapter can be attributed to an overall lack of planning. In our August 1996 report, *California State Lottery: Opportunities Exist To Improve Planning, Reduce Administrative Costs, and Increase Sales Efficiency*, we criticized the lottery for not developing an adequate long-term strategic plan for its operation as a whole. During this phase of the audit, we determined that the lottery is also lacking a strategic plan for its information technology system that supports the lottery's operational goals. However, the IMS division is planning to develop one in fiscal year 1997-98.

Since its inception over 11 years ago, the lottery has limited its long-term planning to a five-year vision document and a two-year operational plan that it created during fiscal year 1993-94. While the vision document laid the groundwork for developing the lottery's long-term goals and objectives, it did not include the elements necessary to provide a path to reach those goals and objectives. Further, the two-year operational plan addressed only the components of the lottery's internal operations, but did not include specific sales goals for the lottery.

—◆—  
*Although the lottery established a July 1995 completion date to develop an information technology plan and to implement identified strategies, it has not completed this project.*  
—◆—

The lottery itself recognized the need for a strategic plan specific to the IMS division in its January 1994 planning document, *Lottery '94, The Next Step*. This plan was supposed to identify the IMS division's mission and function, scope of responsibility, authority and expertise, action plans for the present, and directions for the future. Only then could the IMS division begin to assess existing and needed resources and effectively measure its performance. Once the strategic plan was fully completed and approved, the IMS division's decisions could be measured against the approved strategic plan. Although it established a completion date of July 1995

for developing an information technology plan and for implementing the identified strategies, the lottery did not complete this project.

The lottery's September 1996 report also recommended completing the long-term information technology strategic plan. As of May 30, 1997, the IMS division has requested funding in the fiscal year 1997-98 budget for outside consultants to prepare a plan for the IMS division. Further, the lottery asserts that this process will be a component of its annual business planning process.

The lottery needs an information technology plan to increase the value and return on investment of all its technology projects. However, merely having a plan will not guarantee increased value. To be successful, the lottery must integrate its technology and strategic business plans, periodically update its plans for changes in technology, and use the technology plan to set appropriate priorities. The plan must address a variety of elements, such as organizational changes, technological changes, regulatory requirements, and staffing. Finally, the lottery needs to ensure that it implements effective information technology through ongoing monitoring and evaluation of its activities.

### ***Conclusion***

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Most units within the IMS division do not use a complete and consistent method of planning. The IMS division, as a whole, does not schedule workload, estimate due dates or hours, or assign work consistently. Consequently, as additional service requests, system problem reports, and projects are submitted throughout the year, the IMS division is unable to effectively meet the needs of the lottery.

Benchmarking to measure performance can be time-consuming, but the IMS division is capable of gathering the needed information. For instance, the IMS division already tracks some vital statistics, accumulates actual costs when necessary, and has gathered data on customer satisfaction. The possible rewards from measuring performance warrant the IMS division taking the time to develop a benchmarking approach. Not only will the IMS division be able to focus better on its strengths and weaknesses, but it will also be better prepared to meet the needs of the lottery as a whole.

Although the IMS division recognizes it must improve lottery staff's access to retailer sales information, it is not giving enough attention to options other than merging the current information

system structure. For instance, the division's objective in the fiscal year 1996-97 Annual Business Plan focused on consolidating the primary retailer master file with the Sales Information System (SIS), a process which will not improve accessibility. Rather the IMS division needs to improve or replace the SIS database management system.

The IMS division's service request process and its Help Desk are not meeting the needs of the other lottery divisions. Dissatisfaction with these services stems from slow service and a lack of communication between the IMS division and other divisions. In response, the IMS division is currently reviewing ways it can improve these services, including replacing the automated Service Request System and purchasing a better software package for the Help Desk to replace SMARTrac. The Systems Analysis Department of the IMS division is also attempting to determine the best organizational placement for the Help Desk.

Finally, the lottery and the IMS division recognize the need to develop strategic plans for both the lottery, as a whole, and the IMS division, specifically. However, the lottery has not yet devoted the staff or the money to this process.

## ***Recommendations***

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To justify its staffing levels and ensure projects are appropriately prioritized and completed, the IMS division should take the following actions:

- Develop unit and division annual plans. These plans should incorporate the estimated staff hours to complete all of the division's workload, including periodic gaming system loads, service requests, system problem reports, monitoring major gaming contractors, operating the lottery's data center, and completing special projects.
- Implement a timekeeping system to develop a historical base for planning and tracking the completion of work.
- Implement appropriate project management techniques to manage its projects. These techniques should include project planning, tracking, oversight, and evaluation.
- Review its practices and determine ways to accomplish its work more efficiently.

To measure its performance, the IMS division also needs to develop a benchmarking approach that includes routinely tracking its workload statistics, accumulating actual costs, and soliciting formal feedback from other divisions on a project-by-project basis.

To provide the other divisions with better access to retailer sales information, the IMS division should hire a consultant to develop the best solution. Also, the IMS division must consider the lottery's long-term business outlook, staff needs, the information technology strategic plan currently under development, and the cost-efficiency of the chosen solution.

To fulfill its responsibilities to the other divisions, the IMS division should improve its service request process and the role of the Help Desk through the following actions:

- Establish procedures for prioritizing service requests and system problem reports that emphasize communication among management about competing priorities and consider its existing workload.
- Develop open lines of communication with other divisions to reduce discrepancies between the results of the services provided and the requesters' original needs.
- Provide adequate training to Help Desk staff to enable them to directly resolve the majority of calls received.
- Acquire more useful software packages for both the service request process and the Help Desk. Purchasing decisions should consider current industry standards.
- Track how Help Desk calls are resolved and establish a database of helpful hints that is accessible to all staff.
- Track the types of requests and problem reports received, the length of time needed to complete them, and the level of satisfaction with the results.

To ensure its information technology structure can support its long-term organizational goals, the lottery should develop a long-term strategic plan for its IMS division.

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# Chapter 2

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## ***Poor Lottery Decisions on Scratcher Automation Led to Unnecessarily Incurring at Least \$7.5 Million in Contract Dispute Costs***

### ***Chapter Summary***


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On July 23, 1992, the California State Lottery (lottery) signed a contract with High Integrity Systems, Inc. (HISI) to develop a Scratcher automation system. The Scratcher automation system entailed development and installation of a central system, including hardware and software, and low-volume terminals capable of performing both instant ticket and on-line game functions. Also, Scratcher automation was developed to allow retailers to automatically validate any Scratcher ticket through an on-line terminal or instant ticket validation machine, and be reimbursed for payment of any prize less than \$600, regardless of where the player purchased the winning ticket. Although the time frame to implement the Scratcher automation system spanned the period from November 1991 through December 1996, the most critical lottery decisions occurred during October 1992 through July 1995, under the direction of several previous lottery administrations. Specifically, beginning with the issuance of the Request for Proposal (RFP), the lottery made a number of poor decisions that led to its terminating the contract on April 21, 1993, suing HISI, being counter-sued, and eventually reinstating the contract with HISI by stipulated agreement on July 21, 1995. While the lottery's Scratcher automation system became fully operational on April 8, 1997, in retrospect, the lottery should not have incurred millions of dollars in dispute-related costs.

Due to poor contract management, unfair expansion of the scope of work, and the questionable decision to terminate the HISI contract, the lottery incurred at least \$7.5 million in direct dispute-related costs. Because the lottery has limited project management and does not have a system in place to track costs incurred for a specific project, we were only able to identify approximately \$7.5 million in costs incurred from the date the contract was terminated to the date the contract was reinstated on July 21, 1995. These costs include legal services fees and costs, personal services, travel expenses, and technical consultant costs.

### ***The Lottery Failed To Heed Concerns Raised Before the Contract Was Signed***

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*Despite questions raised  
by staff concerning the  
financial viability and  
necessity of the project,  
the lottery chose to  
continue it.*

Serious concerns were raised about the Scratcher automation project before the contract was signed. Specifically, potential bidders raised concerns about some of the provisions included in the draft RFP and lottery staff raised concerns about the financial viability and necessity of the project. Nevertheless, the lottery chose to continue the project.

In December 1991, the lottery solicited bids from qualified vendors to provide a comprehensive, fully automated instant ticket gaming system including hardware, software, and low-volume terminals to perform both instant ticket and on-line game functions. The automated instant ticket gaming system, now referred to as Scratcher automation, would allow any retailer to automatically validate a Scratcher ticket and be reimbursed for payment of any prize less than \$600, regardless of where the player purchased the winning ticket. Scratcher is the California lottery's registered name for its instant ticket game.


The primary objectives of the automation project included developing an expanded distribution network for low-volume retailers and developing the Scratcher automation project to (1) allow players to purchase, cash, or claim any lottery product at any retail location, (2) reduce the lottery's handling cost by using less costly technology, (3) meet retailers' Scratcher inventory, security, and accounting needs, (4) implement a computer system with components from more than one company, and (5) share risks and profits with the selected vendor.

Bidders were required to project total future sales for both on-line and instant tickets, project the portion of sales generated from low-volume retailers, determine their investment cost for the project, and then determine their needed return on investment for the fixed-contract period as a percentage of sales. Finally, bidders were required to determine their desired profit margin and compute the percentage of sales to be bid by year. As a result, the selected vendor would share in the relative risk and profits of the project.



***Potential Bidders Question Technical Specifications and Timelines in the Draft Request for Proposal***

The bidders raised concerns about some provisions in the draft RFP for the project on November 21, 1991, two weeks before the final RFP was issued. Specifically, the lottery held a bidders' conference where the bidders questioned the lottery about the draft RFP. During the conference, bidders commented the draft RFP lacked detail about the technical specifications and the time frame was too short. For example, the lottery's responsibilities and those of its on-line gaming and Scratcher automation contractors were ambiguous. Also, bidders claimed the implementation schedule to install the Scratcher automation system within 120 days of signing the contract was too short. This meant the contractor would have to design and acquire hardware and software to operate the project in less than four months.

  
*Although an extremely aggressive implementation schedule was acknowledged by lottery officials, the final RFP was issued without much modification.*

The former lottery director and other key lottery personnel acknowledged the tight implementation schedule. Later, Battelle Memorial Institute (Battelle), the lottery's consultant for the technical specifications and requirements of the RFP and original contract, confirmed the implementation requirement was extremely aggressive. Despite these concerns, the RFP was issued as "final" on December 3, 1991 without much modification of the draft. At this time, the lottery could have delayed finalizing the RFP while it explored options to ensure the bidders' various concerns were addressed, but it chose not to.

On January 27, 1992, the lottery received proposals from AmTote International, Inc. (AmTote), GTECH Corporation (GTECH), and HISI in response to the RFP. HISI was announced as the successful bidder in February 1992. At the lottery commission's March 25, 1992 public meeting, and after considerable discussion on the merits of the various Scratcher automation bids, the commission approved the lottery staff's recommendation to award the contract to HISI. Shortly after the contract award, AmTote and GTECH, the lottery's on-line gaming contractor, protested. The protests proceeded through the lottery's review process and into Sacramento Superior Court where they were dismissed in late April 1992. The original contract between the lottery and HISI was signed on July 23, 1992.

### ***Lottery Staff Raised Concerns About the Project's Financial Viability and Necessity***

Lottery staff also raised concerns about the project before the contract was signed. For example, the lottery's Finance Department raised serious concerns five months before the contract was signed about both the cost and necessity of the project. Specifically, the chief of the lottery's Finance Department questioned lottery management's rationale for adding 10,000 terminals to its existing network. The lottery's former director of IMS had justified the Scratcher automation system by stating the lottery could provide a cost-effective expanded distribution network for California's diverse tradestyles, achieving a 30 percent increase in Scratcher sales and a 10 percent increase in on-line game sales.

*Questions were raised about cannibalizing sales from existing terminals due to oversaturating the market.*


In addition, lottery staff raised questions about the potential loss of sales from saturating a specific region with on-line terminals. As noted in a memorandum dated February 11, 1992, the lottery's adding 10,000 terminals would not necessarily increase its incremental sales significantly. Rather, the additional terminals would "cannibalize" sales from existing terminals. Cannibalization of sales occurs when a player who normally purchases tickets from a retailer three miles from home chooses to purchase tickets from a more convenient location with a new terminal one mile from home. As a result, the introduction of more terminals has the tendency to cannibalize sales from existing terminals, resulting in minimal sales increases.

Further, the lottery's Finance Department raised concerns about the lottery's ability to remain within its mandated spending authority. Specifically, with the passage of Proposition 37, the State Lottery Initiative Constitution Amendment and Statute (lottery act), in November 1984, the lottery is allowed to use no more than 16 percent of total annual revenues to pay the expenses of running the lottery. These administrative expenses consist of game costs, which vary proportionally with changes in sales, and the operating expenses of the lottery, which include employee salaries and benefits, advertising and sales promotions costs, contracted professional services, and other expenses.


During fiscal year 1991-92, the lottery had exceeded its spending authority by 1.5 percent, or \$20.3 million, and was in real danger of exceeding its spending authority in the following year. As a result, the lottery's Finance Department voiced concerns about continuing the project as early as five months before the contract was signed. For example, in a memorandum dated May 12, 1992, the lottery's Finance and

Administration Division suggested canceling, or greatly limiting, the Scratcher automation project because of the lottery's fiscal uncertainties. An unexplained drop in sales of \$773 million during fiscal year 1991-92, coupled with the introduction of a new complement of lottery games, further increased the likelihood of the lottery exceeding its spending authority for fiscal year 1992-93. Despite budget reductions in all areas of administrative expenses, the lottery was barely under its authorized spending cap, with administrative expenses equaling 15.98 percent of total revenues during fiscal year 1992-93.

Lottery management was also concerned about the desirability of implementing the Scratcher automation project. In May 1992, the lottery's Finance and Administration Division informed the lottery director that without implementing the new Keno game, there was good reason to question the financial feasibility of Scratcher automation from the standpoint of the lottery's staying within its spending limitation. However, at a December 2, 1991 public commission meeting, lottery management promoted the project as a way to increase revenues. Specifically, the commission was told that because sales in the past year had declined significantly, the Scratcher automation system was critical to meet the lottery's immediate and future needs.



*We believe the lottery's projected \$1.9 billion in Scratcher sales was excessive given that total sales from all games barely exceeded \$2.6 billion in its best year.*



The lottery's former IMS director informed the commission that without Scratcher automation, California was losing approximately \$1.9 billion per year in potential sales from all lottery retailers. However, the lottery's Finance Department questioned the accuracy of the sales projection and believed it was completely unrealistic without Keno. The Finance Department had no role in developing these projections. Based on sales at the time, the Finance Department expected Scratcher automation to optimistically generate around \$150 million per year in incremental sales, in contrast to the \$1.9 billion per year figure presented to the commission. We also believe the \$1.9 billion sales projection for Scratcher sales was excessive, given the lottery's sales from all games had barely exceeded \$2.6 billion in its best year. As a result, it appears the commission was led to believe the Scratcher automation project had far more sales potential than it actually possessed.


Finally, prior to signing the contract, HISI and the lottery talked about changes and additions (discussed in more detail below) the lottery wanted to include in the system specifications. Specifically, two weeks before the contract was signed, the lottery and HISI project managers met to talk about a new timeline for the project, calling for delivery of a system to the lottery in 163 days rather than the 120 days required by the

unsigned contract. According to depositions and a letter dated November 13, 1992, HISI and the lottery agreed that rather than having the lottery amend the proposal, the work scope changes and extended implementation schedule should be handled after the contract was awarded by processing formal written notices documenting the requested changes. Although HISI prepared the appropriate notices after signing the contract, the lottery informally agreed to changes but never documented them. As a result, neither the additional work nor the new timelines were included in the contract.


### ***The Lottery's Actions Impeded High Integrity Systems, Inc.'s Progress***

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Since the implementation schedule was very aggressive, it was imperative that delays of any kind be minimized. However, numerous actions taken by lottery staff impeded HISI's progress in implementing the Scratcher automation project. For example, the lottery's former director replaced the original project management team and chose to make the installation and implementation of the Keno game the number one priority of both lottery sales staff and GTECH, the lottery's on-line gaming contractor. Furthermore, the lottery failed to make key policy decisions and to freeze its system requirements; thus, it expanded HISI's scope of work. Finally, the lottery changed its strategic direction.

  
*Because it failed to make key policy decisions and freeze system requirements, the lottery expanded the scope of work and hindered HISI's progress.*

From the signing of the contract through late October 1992, HISI and lottery staff began working on the project under the original project management team that included the lottery IMS director, the project director, and the contract manager. The original project management team was involved with this project from its inception and had worked closely with HISI. In the fall of 1992, lottery consultant Battelle's interviews of lottery staff indicated the project was stalled. On October 23, 1992, the lottery director replaced the original project management team with a new "quality assurance review" program manager (project manager) for this specific project because she believed the team had misled her about delays. On the same day, HISI was informed this project manager would lead a special quality assurance task force responsible for the Scratcher automation project. The task force would also serve as a key link between HISI and the lottery for all project implementation issues and concerns. However, HISI was concerned about the replacement because it believed the removal of skillful and knowledgeable personnel would negatively affect progress of the project.



*At the expense of the Scratcher automation project, two months after signing the HISI contract the former lottery director decided to make Keno the top priority for sales staff and GTECH.*




HISI's progress was also impeded by the former lottery director's decision to make the installation of Keno the top priority of both lottery sales staff and GTECH. This shift in the lottery's priorities occurred in September 1992, two months after the contract with HISI was signed. Because HISI's on-line game system had to operate through the lottery's hardware, which is controlled by software from GTECH, HISI needed to obtain technical information from GTECH so HISI's engineers could prepare an interface code to process transactions through GTECH's system. In turn, GTECH needed to develop its own interface code to provide information to HISI. The lottery, which did not have the necessary technical information available at the time it issued the RFP, assumed GTECH would share the information willingly. However, delays in acquiring this information resulted in significant schedule setbacks for HISI. For example, the interface between GTECH's and HISI's systems was scheduled for implementation on September 21, 1992. However, on three occasions, GTECH delayed providing HISI the interface code. The code was not obtained until November 16, 1992.

Because Keno was its first priority, GTECH dedicated its resources to that project at the expense of the Scratcher automation project. Further, we found minimal evidence to demonstrate that the lottery compelled GTECH to cooperate with HISI, nor did the lottery take steps to expedite the completion of the interface in time to allow HISI to meet its original implementation schedule. These and other actions discussed in more detail below lead us to question the lottery's commitment to fulfill its contractual obligations to HISI.

### ***Focus on Keno Delayed Recruitment of Scratcher Network Access Processor Retailers***

The lottery's decision to make Keno the Sales Division's top priority negatively affected its ability to identify retailers for the Scratcher Network Access Processor (SNAP) terminals HISI was to provide. SNAP terminals were designed to automate the Scratcher product, allow winning tickets to be paid by any retailer regardless of where the ticket was purchased, and provide low-cost terminals for on-line wagering that would be profitable when placed with retailers whose on-line sales potential does not support the higher cost of a clerk activated terminal (CAT). The contract between HISI and the lottery required the lottery to provide HISI with 10,000 retailers where HISI could install SNAP terminals. As early as February 1992, the lottery's Finance Department raised concerns about the lottery's ability to identify 10,000 committed retailers to support

this project. Compounding this potential problem, the former lottery director instructed the Sales Division to focus instead on recruiting retailers for Keno.

  
*The lottery identified only 6,429 of the 10,000 retailers it was contractually required to provide for HISI.*

In March 1993, near the termination of the contract, the lottery had identified only 6,429 retailers for SNAP installation. The delays in identifying 10,000 committed retailers significantly impeded HISI's progress. Moreover, the lottery did not provide HISI with a complete list of pilot test SNAP retailers so that HISI could order the telephone lines needed for the SNAP terminals until March 31, 1993, although HISI had requested this list as early as September 23, 1992. Telephone companies required at least eight weeks notice before installation; therefore, this delay was critical. Telephone lines had to be installed as soon as possible to allow the SNAP terminals to communicate with the central Scratcher system. As a result, the lottery prevented HISI from meeting its contractual obligation to install the SNAP terminals by November 23, 1992. Because HISI's revenues were directly linked to the percentage of sales generated by these terminals, the lottery's failure to comply with its contractual obligations significantly affected HISI's potential profit.

The decision to put Keno ahead of Scratcher automation also diverted the lottery's limited technical staff from completing needed technical information to support the Scratcher automation project. For example, the manager of the Quality Assurance section for the lottery was told he would not have to conduct quality assurance tests for the Keno game. However, in early October 1992, he was directed to assume primary management responsibility for Keno testing in order to meet the November 15, 1992 implementation date. In addition, according to the contract, 14 days after signing, the lottery was also responsible for providing HISI with specifications for the SNAP terminals, which would inform HISI of what the Scratcher Back Office system (SBO) must do in processing a SNAP transaction. Although the lottery's original project management team developed the initial SNAP specification requirements, these changed drastically after the lottery replaced the team in late October 1992. To comply with the contract requirements, the lottery should have finished defining its policies by August 1992, nearly four months prior to when it actually furnished the information to HISI.

Some lottery and State Controller's Office (SCO) staff also questioned the lottery's ability to simultaneously implement more than one major gaming project with its existing staff. In fact, some staff were particularly concerned that the lottery could be on a collision course in attempting to implement two new major gaming operations between January 1993 and

October 1993. One project, which was in the RFP stage in January 1993, called for the complete replacement of the existing on-line gaming platform by mid-October 1993. This project was to be concurrent with the Scratcher automation project. Serious questions surfaced about whether the lottery had the resources to enforce testing of these major projects in such a short time frame. Without a rigorous and controlled testing environment, there was little assurance that the new system would meet the lottery's and the SCO's payment system requirements. In addition, during the latter part of 1992, the lottery was primarily responsible for providing support and technical information for numerous activities, including the following:

- On-line gaming functions for the SNAP terminal
- Scratcher specifications for the SNAP terminal and the SBO system
- Expansion of the on-line retailer network
- Recruitment of retailers for Keno

However, despite these and other concerns, the lottery decided to continue as planned.

### ***The Lottery Failed To Make Key Policy Decisions and To Freeze Its System Requirements***


The original contract required the lottery to manage the Scratcher automation project. However, the lottery's indecision over various policies and its inability to freeze the technical requirements necessary for the design and implementation of the Scratcher automation project negatively affected HISI's ability to perform.

First, the lottery failed to make timely policy decisions about whether to retain its guaranteed low-end prize structure, which discounts the price the retailer pays for Scratcher tickets for prizes less than \$25. Without a decision, HISI had to design the system to both retain and eliminate the low-end prize structure, a procedure which required significant technical work and further delayed programming.


The lottery also delayed finalizing the guidelines and specifications for collecting lottery retailer accounts through electronic funds transfers, although the lottery was contractually

required to provide the guidelines to HISI one month after the signing of the contract. Further, the lottery delayed its decisions on whether to keep nonautomated Scratcher-only retailers and whether to allow retailers to deactivate Scratcher tickets, which would make them a nonnegotiable instrument. The lottery did not make any final decisions on these and other policy issues until October 30, 1992, more than three months after the contract was signed.

We believe that the lottery's failure to freeze its system specifications to provide baseline requirements for HISI delayed HISI's ability to implement the system and largely contributed to the ultimate demise of the project. In essence, HISI was aiming at a moving target. System requirements for a major project like this must be frozen at a specific point in time. When all requirements are agreed upon and no further changes are made, the contractor can then complete its work.



*We believe the lottery's inability or unwillingness to freeze its system specifications required HISI to aim at a moving target.*



Because the lottery failed to freeze its requirements, HISI was unable to develop a fully operational system. Further, because the lottery's RFP was the source of the technical uncertainty, the lottery was responsible for the problems resulting from the uncertainty as well as the delays in policy decisions. In depositions, lottery staff admitted that without these and other policy decisions, HISI would be unable to provide a fully operational Scratcher system.

Based on documents we reviewed, HISI personnel were apparently trying to respond to what they believed were the lottery's shifting demands. Lottery staff, in turn, believed HISI misunderstood the lottery's needs and failed to perform under the contract because it had missed various deadlines. In essence, the lottery failed to control its staff's definition of the fundamental requirements; consequently, the lottery failed to meet its contractual obligations. The culminating effect of the lottery's delayed policy decisions ultimately kept HISI from completing the project.


### ***The Lottery Expanded High Integrity Systems, Inc.'s Scope of Work***

Our review of documents and depositions disclosed that the lottery in effect expanded HISI's scope of work by adding unanticipated tasks and numerous system enhancements. For example, the lottery was obligated to provide HISI the terminal specifications for the CAT terminals within 14 days after signing the contract. However, because lottery staff did not have the accurate and updated CAT terminal specifications and were unable to obtain them from GTECH, the lottery and HISI agreed




to work together to develop the specifications by taking the program-source code from a CAT that had training software in it, and working backwards to the terminal specifications.

No one anticipated this additional, very complicated, work when the contract was signed. Consequently, it significantly lengthened HISI's implementation schedule and expanded the scope of work HISI was to provide. Furthermore, the lottery did not approve the final version of the terminal specifications until December 1992, thus precluding HISI from meeting its deadline of November 23, 1992.



*Although the lottery knew GTECH had previously failed to provide timely information, it did not compel GTECH to provide specifications to HISI.*




The lottery's failure to compel GTECH to provide specifications to HISI also impeded HISI's ability to complete the project. The lottery could have assessed penalties or other damages against GTECH for its failure to provide the needed information. In fact, the lottery was aware that GTECH had previously failed to provide timely technical information. Therefore, some of the delays attributable to GTECH should have been anticipated by the lottery.

The lottery also made requests for system enhancements, such as changing the display size, enhancing printer capabilities, and designing a better keyboard layout. These changes were agreed upon by the lottery and HISI before the contract was signed. However, because the lottery failed to approve these changes when HISI submitted them as change orders, the lottery unfairly burdened HISI with obligations it could not meet under the existing deadline.

### ***The Lottery Changed Its Strategic Direction***

Under the direction of a former lottery director, the lottery defined an initial reason for implementing Scratcher automation: to foster a computer gaming system composed of components that could be provided by various vendors. The lottery intended to achieve its independence from lottery vendors; however, this strategic direction appears to have changed after the appointment of a new lottery director in October 1991.

Our July 1994 report, *Restrictive Implementation Schedules Effectively Limited Competition for the California State Lottery's New On-Line Gaming System*, states at some point between June 1992 and October 1992, lottery management moved away from owning and operating its on-line gaming system. Instead the lottery would contract with a single vendor to provide a new system, including a new central data system, software, and lottery terminals, entirely replacing the old. According to the

  
*The former director  
believed lotteries’  
business is to develop,  
market, and sell products;  
not to own and operate  
their own systems.*

former lottery director, the change was seen as a way to increase on-line gaming sales. Also, the former director believed lotteries’ business is to develop, market, and sell products; they should not own or operate their own systems.

This change in strategic direction directly influenced the necessity for implementing the Scratcher automation project. In fact, the contract stated the lottery would be responsible for operating the system. Further, the contract stated the lottery would acquire ownership of all software developed and all equipment provided to support Scratcher automation. These contract requirements conflicted with the lottery’s new strategic direction, leading us to question whether the lottery withdrew its active support of the project much earlier than the date of contract termination.


### ***High Integrity Systems, Inc. Failed To Meet Some Critical Performance Criteria***

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The original contract required the lottery to perform acceptance testing of the system developed by HISI. Specifically, the lottery, with the assistance of HISI, was required to create test procedures and schedules and to determine “pass/fail” criteria for all critical components of the system, based upon the specifications in the contract. The acceptance testing was originally scheduled to last eight weeks. However, the lottery’s Quality Assurance Review (QAR) team, with the assistance of Battelle Memorial Institute (Battelle), required HISI to first demonstrate its system’s readiness in two separate phases. The first phase, referred to as “pre-acceptance testing,” would determine whether the Scratcher automation system contained all the elements of an effective system and whether the quality assurance requirements of the lottery were fully satisfied. During the second phase, the lottery would conduct “comprehensive acceptance testing” to ensure the system contained all the programs and operations required to support the instant ticket validation and on-line gaming functions. The lottery insisted HISI’s failure to provide a system that satisfied the quality assurance requirements during pre-acceptance testing could result in a decision not to proceed with the Phase II testing. Though the first phase differed from a more traditional approach, the lottery believed the additional testing was necessary because HISI was new to the lottery industry, the

Scratcher automation project was dependent upon an unproven system, and the pending implementation depended on a wide range of new software.

Although the original contract did not contemplate the lottery's conducting pre-acceptance tests to prove the viability of HISI's system prior to formal acceptance testing, HISI cooperated with the ongoing testing efforts of the lottery's QAR team. However, during the QAR team's pre-acceptance testing, the lottery identified several areas where HISI's system was deficient. Specifically, on April 19, 1993, the lottery cited a total of 14 deficiencies in the SNAP terminal, SBO software, HISI's quality assurance testing, and security.



*The Quality Assurance Review team cited 14 deficiencies during the pre-acceptance tests of the viability of HISI's system.*




Some of these deficiencies were more serious than others. In particular, the deficiencies in security were considered the most critical. For example, HISI had not yet demonstrated or provided documentation showing how a Scratcher or on-line transaction could be followed from the SNAP to the Scratcher or on-line host and then back to the SNAP. The lottery insisted on seeing an audit trail for Scratcher and on-line transactions before entering into the second testing phase. Further, HISI had not yet completed that portion of the security-plan document which dealt with data security issues. The lottery wanted HISI to complete the data security portion of the security plan before progressing with testing.


The QAR team also identified deficiencies in the documentation of the SBO software. HISI was required to provide a complete SBO testing environment consisting of both agent and game data before the lottery's acceptance testing could begin. However, HISI had not demonstrated the successful data conversion, which was required before the lottery's walk-through to view terminal screens. Also, HISI had not yet provided information the lottery needed to independently operate the Scratcher automation system.

The former lottery director was also concerned about HISI's failure to follow System Development Life Cycle (SDLC) methodology to govern the process of developing, acquiring, implementing, and maintaining computerized information systems and related technology. HISI had promised to use the SDLC in its contract. However, the lottery's legal counsel believed that HISI later attempted to escape this promise by claiming that the lottery allowed HISI to abandon the use of the SDLC or never agreed on the type of SDLC required.

Finally, the lottery's former director questioned HISI's inability to meet previously established implementation schedules. For example, the contract calls for SNAP terminals to be activated by November 23, 1992. However, on September 11, 1992, HISI informed the lottery the terminals would be activated on December 28, 1992, four weeks later than the contract required. Battelle, the lottery's consultant, determined the delivery of a working, tested system by the end of December 1992 was very unlikely and suggested extending the schedule by at least 60 days beyond the end of December 1992. HISI then developed another work plan in October 1992 that revised the implementation date to April 19, 1993. Although the lottery believed these delays were HISI's responsibility, the lottery's own indecision, as described earlier, significantly contributed to these and other delays.



*Although it believed that certain delays were HISI's responsibility, the lottery's own indecision significantly contributed to several delays.*



The lottery's former director asserted the delays negatively impacted the lottery's revenue base and its relationship with retailers who had committed to obtaining SNAP terminals. Specifically, the former director estimated the delay in implementing Scratcher automation and the network expansion resulted in over \$300 million in lost sales and also caused the lottery to lose credibility with retailers who had been told they would receive the new SNAP terminals by November 1992.

While the deficiencies noted above were serious, we believe the issues could have been resolved between HISI and the lottery given sufficient time and attention. Further, the April 12, 1993 report on the Scratcher automation quality assurance review and pre-acceptance test analysis recommends that HISI respond to the lottery within two working days with a schedule addressing the completion of the identified deficiencies. Although the lottery and HISI met to discuss the details of the deficiencies on April 16, 1993 and April 19, 1993, the lottery's former director terminated the contract on April 21, 1993.

***The Timing of the Former Lottery  
Director's Decision To Terminate  
the Contract Is Questionable***


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According to the lottery, the contract required HISI to have a complete Scratcher automation system ready for acceptance testing within ten weeks prior to Phase I operation, or by September 14, 1992. After several months of mutually agreed upon schedule extensions, the date was moved from December 28, 1992 to April 11, 1993. However, according to a letter from the lottery's former director, HISI's system was still not ready for testing in April 1993, nine months after contract

execution. For this reason, and because HISI failed to deliver on time a system that met the integrity standards of the lottery act, the former lottery director terminated the contract for default on April 21, 1993. On the same day, the lottery commission announced the termination of the contract at its regularly scheduled meeting. Five days later, on April 26, 1993, the lottery filed suit against HISI for breach of contract. HISI filed cross-complaints against the lottery on May 7, 1993, for breach of contract, breach of warranty, breach of the covenant of good faith and fair dealing, declaratory relief, and *quantum meruit*, a claim based on the concept that no one who benefits by the labor and materials of another should be unjustly enriched.

Based on our review of depositions and documentation generated by both the lottery and HISI, we question the timing of the former lottery director's decision to terminate the contract for several reasons. First, by the time of termination, some of the reasons used to justify the need for the Scratcher automation project no longer existed. For example, on January 27, 1993, the lottery approved the release of an RFP for its new on-line gaming system, designed to include the installation of a new vendor-owned central data system, a new backup data system, and all the related software. The new system also called for replacing existing lottery-owned terminals with 12,000 new vendor-owned terminals, creating an ability to display winning Keno numbers, and providing other Scratcher automation capabilities. The vendor was required to implement this new on-line gaming system by October 14, 1993. On April 21, 1993, the former lottery director awarded a contract to GTECH to provide the new on-line gaming system—the same day she canceled the lottery's contract with HISI for the Scratcher automation system. According to internal memoranda, some of the lottery's managers believed the expanded functions offered through the new on-line gaming procurement, which included Scratcher automation capabilities, lessened the need for the Scratcher automation project provided by HISI.


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*On the same day she canceled the HISI contract, the former lottery director awarded GTECH a contract to provide the new on-line gaming system.*

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Second, the lottery was in real danger of exceeding its 16 percent administrative cap by the time the former lottery director terminated the contract. As mentioned previously, during fiscal year 1992-93, the lottery nearly exceeded its spending authority even though it had cut its expenditures in several areas. For this and other reasons, by January 1993, both the lottery's Finance Department and the SCO worried that continuing the Scratcher automation project would seriously drain the lottery's available resources. Further, by January 1993, some of the lottery's managers and the SCO were discussing and analyzing the possibility of buying out the HISI


contract because of the lottery's fiscal crisis, and because the project was no longer economically desirable given that many Scratcher capabilities could be obtained through the new on-line gaming system. Calculations on what the buyout would cost and how it would be implemented were analyzed internally. However, the lottery never followed through on that buy-out option, a fact which later became a key issue in the lawsuits.

Third, because the contract required HISI to provide all system hardware, software, and procedures for operating the Scratcher automation system, HISI had invested \$57 million, assuming the system would eventually produce sufficient revenue to justify the investment. The decision to terminate the contract for default meant that the lottery would be relieved of the payment of any consideration to HISI related to sales after the termination. The default clause in the contract required any loss or damage sustained by the lottery in obtaining any services that HISI had agreed to supply to be HISI's responsibility. Consequently, the lottery would deduct the amount of the loss or damage from any sum due HISI for its costs up to the effective date of termination; and the balance, if any, would be paid to HISI upon demand. However, the contract also included a clause which states that neither HISI nor the lottery would be liable to the other for any delay in or failure to perform if the contractor's performance is prevented or delayed by actions or omissions of the lottery or a third party. As discussed earlier, both the lottery and HISI contributed to various delays in implementing this project. Therefore, we believe that it would have been more appropriate to extend the period of performance to the extent necessary to satisfactorily complete the project.

Fourth, the timing of termination appeared questionable because the project was approaching acceptance testing and because the contract does not permit termination once testing begins. In addition, had the former lottery director not terminated the contract in April 1993, the lottery would have been limited either to terminating the contract for convenience and compensating HISI for its costs, or continuing a contract it no longer desired or needed. The second option could have put the lottery over its spending authority for a second consecutive fiscal year. We believe the lottery's former director may have used the default rationale for termination to avoid continuing a contract that no longer made economic sense.




*The timing of termination is questionable since the project was nearing acceptance testing and the contract prohibited termination once testing began.*




Finally, the lottery did not provide HISI with time to cure its deficiencies despite the fact that a "cure provision" had been negotiated in the contract. Specifically, the contract states that prior to termination, the contractor will be notified of the

default or the basis for anticipated default and will be provided an opportunity to fix problems. The time to cure should depend upon and reflect the nature of the breach and be reasonably related to the time needed for prompt correction of the default. Though the lottery notified HISI on April 16, 1993 about the details of the deficiencies used to justify the termination, which primarily focused on SBO software and security issues, it terminated the contract only five days later on April 21, 1993.



*Despite a provision to allow the contractor an opportunity to fix problems, the lottery did not provide HISI time to cure its deficiencies.*




The lottery's apparent position was that the extension of the timeline from December 28, 1992 to April 11, 1993 provided HISI the opportunity to fix its failures and meet the original deadline. Though HISI accepted some responsibility for failure to deliver the system at an earlier date, HISI contends it had delivered the system to the lottery for acceptance testing on April 2, 1993. The deficiencies used by the lottery's former director to justify the termination were identified by the lottery's QAR team as part of its pre-acceptance testing in mid-April 1993, and HISI was notified of these deficiencies only five days before termination. Given these circumstances, we do not believe the lottery provided HISI sufficient time to cure the deficiencies.

### **The Lottery Decides To Pursue Contract Settlement**

As shown in Appendix B, in May 1993, there was an informal attempt by both parties to settle their litigation. These attempts failed, however, and serious settlement negotiations did not begin again until January 1995. By April of the same year, the parties agreed to a settlement in principle and in July 1995, a detailed settlement agreement and a reinstated contract were signed. Although delays and disputes continued under the reinstated contract, the Scratcher automation system became operational in December 1996 and has generated \$63.4 million in cumulative sales.

In March 1993, prior to terminating the contract, the lottery sought counsel from the State Attorney General about the possibility of suing HISI. The attorney general authorized the lottery to retain outside counsel to advise the lottery and to represent it in any litigation. On April 20, 1993, one day before terminating the contract, the lottery engaged the services of the law firm of Downey, Brand, Seymour, and Rohwer (DBSR), to provide legal advice and representation on a potential lawsuit against HISI.

  
During May 1993,  
questions were raised  
about the strength of the  
lottery's case.

According to a May 28, 1993, memorandum, there was an early, informal attempt by both parties to settle their litigation. During the same month, the commission was advised that statements made by lottery staff in informal interviews raised questions about the strength of the lottery's case. However, the lottery and HISI were unable to agree on the technical scope and financial terms for a settlement. In late June or early July of 1993, approximately ten weeks after it terminated the contract, the lottery made an oral \$27 million cash settlement offer to HISI. If accepted, this settlement would have terminated all litigation and provided the lottery with title to most of the contract assets, including the SNAP terminals. HISI rejected the offer and submitted a counteroffer totaling \$43 million. At this point, settlement discussions apparently ended, and any effort to resolve the difficulties through settlement was sidelined.

Meanwhile, the lottery was assessing its strategic approach to obtain Scratcher automation capabilities. The project manager compared the project payment, scope, and terms of the HISI contract to the GTECH contract signed on April 21, 1993. The project manager concluded the HISI contract was a lease-purchase contract where the lottery would acquire ownership rights to all contract equipment and software at the end of the five-year fixed term. In contrast, the GTECH contract was a straight lease contract, with compensation based on a percentage of on-line sales; the lottery would never own any contractor-operated gaming equipment or software. Apparently, the lottery chose to extend its nonownership philosophy to any new Scratcher automation procurement.

During the latter part of 1993, the lottery began developing a new Request for Proposal (RFP) for Scratcher automation that would reflect the lottery's new strategic direction. As shown in Appendix A, a new interim lottery director replaced the lottery's former director in November 1993. At the lottery commission's May 23, 1994 public meeting, the lottery sought authority to issue the new RFP for a new Scratcher automation system. During the meeting, HISI management warned the commission it would be inappropriate to authorize the release of an RFP for a new Scratcher system because the system HISI furnished in April 1993 was identical, in most respects, to the system the lottery sought in the new RFP.

During the same month, lottery management was advised there were serious risks to pursuing litigation against HISI because many significant factors against the lottery had been identified during discovery. For example, the RFP was vague, the implementation timelines it contained were inadequate, and the lottery's staff had admitted as much in their depositions.



After expending \$2.4 million in legal costs and the unappealing prospect of losing its case, in June 1994 management renewed its efforts to settle with HISI.

Moreover, by May 1994, the lottery had already incurred \$2.4 million for legal fees and costs. With the highly unappealing prospect of losing its case, lottery management renewed efforts to reach an agreement with HISI in June 1994. However, at this same time, the interim director was out of the office on extended medical leave and did not return until November 1994. As a result, although there were a series of letters between both parties' outside counsel, it appears that minimal progress was made during the remainder of the year.

### ***Both Parties Begin Serious Settlement Negotiations***

Serious settlement negotiations began in January 1995, when the lottery presented a written settlement offer to HISI. According to the settlement proposal, the lottery remained convinced it had properly terminated the HISI contract because of HISI's failure to meet deadlines. The cost of litigation and the desire to approach all decisions in a businesslike manner, nevertheless, made it necessary for the lottery to make this settlement proposal.


In March 1995, HISI responded to the lottery's settlement proposal, stipulating an up-front financial reimbursement as HISI's precondition to any agreement. The lottery and HISI agreed to use a mediator to facilitate negotiations. By April 1995, the parties agreed to a settlement, in principle. After further discussions and negotiations, both parties signed a detailed settlement agreement in July 1995, along with a reinstated contract. A detailed description of the work was finalized in November 1995, and a target date for implementation was set for May 1996.

### ***Pertinent Provisions of the Original High Integrity Systems, Inc. Contract and the Reinstated Contract***


As shown in Appendix C, we identified pertinent provisions of the original and the reinstated contract. However, the most significant provisions include the reduced number of terminals to be provided by HISI, ownership of the equipment, and responsibility for the telecommunications network. Specifically, the reinstated contract requires HISI to provide the lottery with 6,700 terminals, as compared to the original contract requirement of 10,000 terminals. According to the lottery, the 6,700 terminals reflect a more updated assessment of the number of terminals the lottery actually needed.

Under the reinstated contract, the lottery is responsible for all telecommunications costs and acquires immediate ownership rights to any hardware, software, documentation, technical manuals, and any other documents or information used to support the SNAP terminals and the Scratcher system as a whole. In contrast, the original contract required ownership of the hardware and software supplied by HISI to transfer to the lottery upon contract termination, or at the end of the five-year contract term. According to the then interim director, because the lottery now had immediate ownership of the equipment, if HISI could not fulfill the contract, the lottery could implement the system without HISI.

Also, the reinstated contract requires the lottery to operate the telecommunications network, including all the hardware necessary for communication between the terminals and the central Scratcher system. All the equipment was located in local phone companies where it had been since 1993. As a result, neither the lottery nor HISI knew how well it would work. However, the lottery assumed that, if the network had been close to working by the time of the contract termination as HISI has asserted, it should be in a fairly good state of readiness. HISI gave the lottery its plan for completing the network under the original contract and urged the lottery to review it. However, because there was still a high degree of distrust between the lottery and HISI, the lottery rejected HISI's suggestions regarding how to operate the network. In the interim, on February 6, 1996, the lottery allowed HISI to subcontract with GTECH to design the SBO.



*The lottery approved  
HISI's use of GTECH as  
a subcontractor.*




### ***Delays and Disputes Continued Under the Reinstated Contract***


In December 1995, HISI expressed concerns about whether the network would be ready to start testing in March 1996. In February 1996, the lottery informed HISI the network was not ready and blamed HISI for the problems because HISI had originally designed the network. This dispute over who was responsible for the network delayed the project. By spring 1996, HISI claimed the lottery was delaying the project because the network was still not ready for testing. The lottery did not dispute that conclusion but denied responsibility for the network's deficiencies.

In June 1996, a new interim lottery director was appointed. Shortly after, there was a meeting of the oversight committee. This committee had representatives from both the lottery and HISI and was established as part of the reinstated contract to resolve disputes, provide direction, and monitor the

project's progress. The meeting was called to review the state of the current breakdown. According to the new interim lottery director, the tone of the meeting was tense and antagonistic; no resolution was reached.



*An independent reviewer concluded that the network did not meet operational standards and the responsibility for delays rested solely with the lottery.*



Ultimately, the lottery and HISI agreed to seek the advice of an independent reviewer. On September 19, 1996, the independent reviewer concluded the network was the lottery's responsibility and, because the network did not meet the necessary operational standards, the responsibility for the delay rested solely with the lottery.

Because the network was not working, messages from the SNAP terminals to the central Scratcher system were getting lost, and the time for completing transactions was too slow, further delaying the project. As a result, the lottery could have been required to pay HISI damages for lost sales and interest on the delayed revenue stream. Further, the lottery's credibility with its retailers, who had been waiting for this system for years, was rapidly deteriorating.


To mitigate any further delays, the lottery told GTECH and HISI representatives they needed to help the lottery succeed by becoming actively involved in repairing the network. To foster a team approach to solving the problems, the former interim lottery director put in escrow a \$4 million incentive payment, provided for in the contract. The lottery met with HISI and its subcontractors to develop a solution to the technical problems. According to the former interim lottery director, after the meeting, HISI promised to have the system working in early December 1996.

The team approach apparently worked because the system began operating on-line games through the SNAP terminals, now referred to as LINK terminals, on December 2, 1996. On December 8, 1996, the lottery began operating the new SBO system. However, on December 11, 1996, the system crashed because of a problem with the operating system on the Stratus Continuum computer, manufactured by Stratus Computer, Inc. The lottery determined that, because of the operating system errors, some files had been disrupted, and as a result, various reports were not balancing. This problem had significantly affected the lottery's operations, including management of retailer accounts and Scratcher ticket distribution. Shortly after the system went down, the then interim lottery director contacted the president of Stratus Computer, Inc., who took responsibility for the problems.

On December 29, 1996, the lottery installed a new version of the operating system on the lottery's test system. The lottery then conducted tests to ensure the integrity of the system. On April 8, 1997, the Scratcher automation system started working again, and approximately 6,000 LINK terminals began selling on-line games. According to lottery officials, these terminals have generated \$63.4 million in cumulative sales, and the Scratcher cross-validation system is functioning successfully throughout the State. As a result, the reinstated contract has entered the phase in which HISI receives a commission based on a percentage of sales. In addition, the lottery plans to expand its network by adding 2,200 Scratcher validation terminals, manufactured by Automated Wagering International, Inc., at lottery retailers that do not offer on-line games.

### ***The Future of Scratcher Automation***

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*The lottery approved GTECH's proposal to take over operations of the Scratcher automation system and reduce its on-line game revenue in exchange for a five-year contract extension.*

In December 1996, GTECH made what the then interim lottery director characterized as an unsolicited offer. GTECH would take over operations of the Scratcher automation network and the SBO system and reduce its share of the on-line game revenue in exchange for a five-year contract extension. In January 1997, the lottery commission voted to explore that proposal and attempt to turn it into a contract. On March 7, 1997, the lottery commission voted to approve the new contract with GTECH, as amended, to reflect network management and liquidated damages to be paid by GTECH for any network failures. GTECH assumes its new responsibilities on October 13, 1997. In addition, the amended HISI contract stipulates that it will expire on October 13, 2003, the same expiration date as the on-line game contract.

The lottery plans to complete the automation of the retailer network by installing Scratcher-only validation terminals at all locations that do not have a CAT or a LINK terminal. However, implementation of this project is dependent on the timing of GTECH's proposed network reconfiguration.

### ***The Cost for Scratcher Automation***

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The original contract states payments to HISI would not begin until the successful implementation of Phase I. As a result, prior to signing the reinstated contract, HISI had not recovered any of the approximately \$57 million it spent under the original contract. However, the reinstated contract called for the lottery to make a lump-sum payment of \$25 million to HISI on the effective date of the reinstated contract, with interest accrued at the State's pooled-money investment rate from July 14, 1995

until the date of payment. According to lottery records, the total payment made to HISI on November 15, 1995, was \$25,490,949, with interest. The lottery asserts this payment was made to obtain immediate ownership of the 6,700 terminals, associated security devices, and software. HISI will recover the remainder of its previous investment and the ongoing expenses agreed to in the reinstated contract through commissions on sales from the LINK terminals over the course of the contract.

Further, during the period between contract termination and the reinstatement of the contract, the lottery incurred costs for legal services, consultant services, and its own staff. As shown in Table 4, these costs totaled at least \$7.5 million.

**Table 4**  
***Lottery Costs Incurred Related to Contract Dispute***

	<b>Total Amount</b>
Legal services fees and costs <sup>a</sup>	\$7,268,587
Lottery's personal services cost <sup>b</sup>	202,786
Travel expenses for Atlanta trip in June 1995	17,311
Technical consultant	15,126
<b>Total Settlement Cost</b>	<b>\$7,503,810</b>

<sup>a</sup> Legal services fees and costs include the costs of outside consultants used in the settlement process and \$88,000 incurred between the settlement of the HISI contract and the end of the legal services contract in September 1996.

<sup>b</sup> Lottery's personal services costs are for the following:


1. Twelve employees' time at depositions; however, it does not include their preparation time
2. Two employees to prepare for depositions, which were later canceled
3. Three internal legal counsels
4. Eleven employees and one commissioner who went to Atlanta to meet with HISI staff in June 1995

***The Lottery Did Not Aggressively Manage the Lawsuit***


According to the settlement agreement, each party is responsible for payment of its own expenses incurred in the lawsuit. Over a period of several years, the entire amount the lottery spent on this litigation was paid entirely from the lottery's administrative funds available within the allowable 16 percent. However, we believe that the lottery should have been more aggressive about managing the lawsuit, and possibly reaching a settlement earlier.

According to a letter dated April 9, 1997, the then interim director states Downey, Brand, Seymour, and Rohwer (DBSR) took depositions from October 1993 through February 1995, when the lawsuit ended. Depositions were often conducted simultaneously, and many of them were located out of state. Numerous employees and outside consultants were interviewed about each element of the project. By July 1995, both sides had taken more than 70 depositions, resulting in about 41,000 pages of transcripts. Further, between the termination of the contract and the time the case was settled, the trading of documents back and forth between the parties exceeded a million pages. The litigation was aggressive, requiring numerous motions on both sides, some of which were decided only after repeated court appearances. Discovery motions were made and protective orders were issued in other states, including Florida and Georgia. As a result, both sides reviewed and coded hundreds of thousands of pages of material.

Since the initiation of this litigation in April 1993, the lottery has paid DBSR \$7,268,587 under the legal services contract that expired on September 30, 1996. The total amount spent included attorney fees, nonattorney legal fees, technical consultant fees, and other costs such as videotaping, attorney travel, and per diem for attendance at depositions. The costs of copies and computerized indexing were also included. An outstanding balance of \$180,000 remains; the lottery has not authorized payment and is disputing these fees.



*Although the original contract for legal services was for \$85,000, by August 1994 it was increased to \$9.2 million.*



As shown in Table 5, the original contract for legal services was for \$85,000. Staff interviews conducted by counsel in May 1993 should have provided ample warning the lottery's case was uncertain. Yet, the lottery did not seriously discuss settlement until more than a year later, in June 1994, when the lottery authorized its counsel to contact HISI's counsel about reaching a settlement. Further, another six months passed without much progress toward settlement. By this time, the lottery commission had augmented the legal services contract several times and authorized the lottery to spend a cumulative total of no more than \$9.2 million.

Given the extraordinary expense of pursuing this litigation, we question why it took so long to conclude the lottery's legal position was not strong enough to prevail in court and to develop alternatives to minimize any further legal costs. Further, we also question why the lottery commission approved so many large increases to the legal services contract over a short period of time. For example, as shown in Table 5, the lottery commission approved three increases to the contract during the five months between March and August 1994, a

process which increased the authorized contract total from \$1 million to \$9.2 million. This decision is particularly disturbing because by June 1994, the lottery had committed to seeking a settlement; however, the legal services contract was increased by \$6.3 million in August 1994. While the lottery needed to continue preparing for a possible trial, we did not see sufficient justification for such a substantial increase. Further, the last four contract amendments the lottery approved extended the contract's terms, even though the contract had already expired.

**Table 5**  
**Downey, Brand, Seymour & Rohwer**  
**Contract for Legal Services**

Contract	Effective Date	Modification	Cumulative Total
Initial Agreement	05/07/93 <sup>a</sup>	\$ 85,000	\$ 85,000
Amendment No. 1	08/23/93	200,000	285,000
Amendment No. 2	11/02/93	add personnel	285,000
Amendment No. 3	11/09/93	215,000	500,000
Amendment No. 4	01/04/94	500,000	1,000,000
Amendment No. 5	03/08/94	500,000	1,500,000
Amendment No. 6	04/28/94	1,400,000	2,900,000
Amendment No. 7	08/18/94	6,325,000 extend term to 6/30/95	9,225,000
Amendment No. 8	09/26/95	extend term to 12/31/95	9,225,000
Amendment No. 9	03/06/96	extend term to 3/31/96	9,225,000
Amendment No. 10	08/05/96	(1,625,000) extend term to 9/30/96	\$7,600,000 <sup>b</sup>

<sup>a</sup>The original contract period was for April 20, 1993 to June 30, 1994.

<sup>b</sup>Although the lottery was authorized to spend up to \$7.6 million, it actually spent \$7.2 million.

### ***Consultant Expenditures***

The lottery and HISI agreed to secure a mediator during the settlement negotiations; the cost was shared by both parties. The lottery's share of the costs was paid through DBSR. The lottery also secured an outside consultant to ensure its proposal was financially sound and its assumptions and calculations were reasonable and accurate. This cost was paid for solely by the lottery through DBSR. The lottery also paid approximately \$121,000 to retain the services of a legal-fees audit firm that reviewed the invoices from DBSR for December 1993 through July 1995. The audit firm identified \$188,024 in questionable legal fees and costs.

### ***Lottery Staff Expenditures*** ***Total at Least \$202,786***

As stated in Chapter 1 of this report, the lottery does not have a labor-cost system in place to monitor the number of hours employees spend working on specific projects. As a result, the lottery could not identify all of its expenditures for the Scratcher automation project. To calculate the cost of salaries and benefits for staff on the project from the contract termination in April 1993 to the reinstatement of the contract in July 1995, the lottery estimated time staff spent on depositions and testimony during the discovery period of litigation. The lottery also estimated the time its internal legal staff spent analyzing the lottery's case. However, the lottery did not provide estimates for the majority of time internal staff spent analyzing the financial and technical impact of the termination nor the time spent assessing the reasonableness of the settlement because detailed time records by project are not required. Furthermore, most key personnel are no longer lottery employees. As a result, the staff expenditure estimate is not complete. However, based on the estimates provided by the lottery, we concluded lottery personnel expenditures from the contract termination to its reinstatement were at least \$202,786.

### ***Conclusion***

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During the procurement and litigation of the Scratcher automation project, we found several areas where lottery decisions strongly contributed to the failure of the Scratcher automation project under the terms of the original contract. For example, we found that the lottery did not heed concerns raised by potential bidders about the technical specifications



and timelines in the draft request for proposal or concerns about the financial viability and necessity of the project raised by the lottery staff before the contract was awarded.

We also found that indecisiveness on the part of the lottery regarding various policy decisions and its inability to freeze the technical requirements that were necessary for the design and implementation of the Scratcher automation system impeded HISI's ability to perform. Similarly, in September 1992, the former lottery director's decision to make the installation and implementation of the new Keno game the number one priority of both lottery sales staff and GTECH, the lottery's on-line gaming contractor, negatively impacted HISI's ability to perform. Further, the lottery expanded HISI's scope of work which also lengthened HISI's implementation schedule. Although it appears that these and other changes were agreed upon between the lottery and HISI, the lottery never properly handled the scope of work changes through the lottery's change order process as specified in the contract. Finally, we found that the lottery was not aggressive in managing the lawsuit and may have been able to reach settlement much earlier, thus avoiding at least a portion of the identified \$7.5 million in contract-dispute costs.

## ***Recommendation***

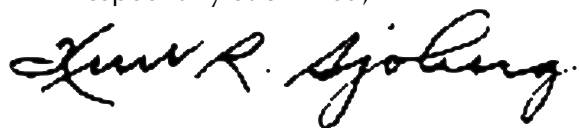
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To ensure that the lottery does not unnecessarily incur costs of this magnitude in the future, the lottery should improve its procurement process by taking the following actions:

- Critically review and address concerns raised by potential bidders and lottery staff during future procurements.
- Periodically reassess the impact of the lottery's strategic direction on current and future procurements.
- Consider the lessons learned from this project by attempting to resolve any future contract disputes through means other than litigation, whenever possible.

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 of this report.

Respectfully submitted,

A handwritten signature in black ink that reads "Kurt R. Sjoberg". The signature is written in a cursive, flowing style.

KURT R. SJOBERG  
State Auditor

Date: July 31, 1997

Staff: Elaine M. Howle, CPA, Audit Principal  
Nancy C. Woodward, CPA  
Kimiko Lauris, CPA  
Phyllis Miller, CPA  
Sylvia See  
Hitomi Sekine

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# Appendix A

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## Lottery Officials and Dates of Service

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### Commissioners

John M. Price	November 1984—November 1993
John Diepenbrock	November 1989—November 1994
Ed Lammerding	March 1992—November 1996
Dan Apodaca	May 1992—present
Richard Cramer	May 1992—May 1993
Bobbi Fiedler	November 1993—July 1994
Art Danner	August 1994—present
Lisa Hughes	October 1994—present
Robert Beverly <sup>a</sup>	June 1997—present
Ralph Ochoa <sup>a</sup>	July 1997—present

### Directors

Chon Gutierrez	July 1987—September 1991
Sharon Sharp	October 1991—November 1993
Del Pierce (Interim)	November 1993—June 1996
Maryanne Gilliard (Interim)	June 1996—May 1997
William Popejoy <sup>a</sup>	May 1997—present

### Chief Deputy Directors

James Barnett	July 1987—October 1993
Del Pierce	October 1993—November 1993
Eugene Balonon (Interim)	July 1996—present

### Directors, Information Management Systems

Joanne Ichimura-Hoffmann	July 1987—November 1992
Jonel Jorgensen	January 1993—January 1994
Robert Silva	January 1994—January 1997
William Brewer	March 1997—present

### Directors, Finance and Administration

James Barnett	July 1985—July 1987
Dennis Sequeira	August 1987—present

### Chief Counsels

Rollie Bowns	January 1988—January 1994
Catherine Van Aken	February 1994—May 1996
Melissa Meith	June 1996—present

### Directors/Managers, HISI Project

Joanne Ichimura-Hoffmann, IMS Director	April 1992—October 1992
Jane Owens, Project Director	April 1992—October 1992
Kirby Fukushima, Project Manager	April 1992—October 1992
William Perry, Quality Assurance Review Program Manager	October 1992—April 1993 <sup>b</sup>

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<sup>a</sup>Appointed by Governor Wilson, but has not been confirmed by the State Senate.

<sup>b</sup>Lottery's project management team stopped working on the project upon termination of the contract.

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# Appendix B

## Chronology of Key Events Related to the Scratcher Automation Project

Date	Event	Description/Implication
<b>1991</b>		
November 7, 1991	Lottery releases the draft RFP.	
November 21, 1991	Bidders' conference held.	Vendors claim the draft lacks details about technical specifications.
December 3, 1991	Lottery releases final RFP.	
<b>1992</b>		
March 25, 1992	Commission approves contract award to High Integrity Systems, Inc. (HISI).	Three bidders submit proposals. Two other bidders are GTECH Corporation (GTECH) and AmTote International (AmTote).
March 26 - April 28, 1992	Litigation brought by GTECH and AmTote protesting contract award to HISI.	Protest by GTECH and AmTote dismissed by Sacramento Superior Court.
July 23, 1992	Lottery and HISI sign contract.	<p>There is no specific contract amount. The contractor is to be paid 4.43 percent of instant ticket sales and 5.32 percent of on-line gaming sales.</p> <p>Deliverables original due dates:</p> <ul style="list-style-type: none"> <li>• September 3, 1992—all necessary documentation and procedures to operate the central system and Low Volume Terminals (LVTs).</li> <li>• September 14, 1992—install the Scratcher automation system.</li> <li>• September 14, 1992—provide three functional SNAP terminals.</li> <li>• September 22, 1992—provide security and disaster plans.</li> <li>• November 23, 1992—3,333 terminals.</li> <li>• December 28, 1992—3,333 terminals.</li> <li>• February 1, 1993—3,334 terminals.</li> </ul>

Date	Event	Description/Implication
July 29-30, 1992	HISI presents general design review for SNAP on-line gaming, Scratcher functionalities, and an overview of Scratcher automation.	
August 4, 1992	Lottery and HISI informally agree on the November 15, 1992 on-line gaming implementation date.	
August 14, 1992	Lottery hires Battelle Memorial Institute (Battelle) as a technical consultant.	Later, Battelle staff become part of lottery's Quality Assurance Review Team, formed in September 1992.
September 1992	Lottery director instructs installation and implementation of Keno as GTECH's and lottery's top priority.	Lottery's resources are dedicated to Keno rather than HISI project.
September 10, 1992	HISI presents SNAP on-line gaming applications design review.	
September 11, 1992	HISI submits written request to change on-line gaming Phase I start-up date from November 15, 1992 to December 28, 1992.	Lottery does not respond to this request in writing.
September 17, 1992	<p>Lottery informs HISI any changes to the contract must be in writing and signed by lottery director.</p> <p>HISI displays one nonfunctional SNAP mechanical model.</p>	<p>Lottery says most of changes discussed between the lottery and HISI are not in writing.</p> <p>The contract requires three functional SNAP terminals by September 14, 1992.</p>
September 22, 1992	Lottery forms Quality Assurance Review Team (QART), comprised of lottery, Battelle, and State Controller's Office (SCO) staff.	
September 24, 1992	HISI provides the first draft of on-line gaming functional specifications.	
October 1, 1992	GTECH requests a change in the October 1, 1992 delivery date for interface; the lottery accepts GTECH's request, moving the delivery date to November 9, 1992.	
October 5, 1992	HISI presents the review of SNAP on-line gaming screens.	
October 16, 1992	HISI presents the Scratcher project plan including the implementation date for the Scratcher system and on-line gaming.	

Date	Event	Description/Implication
October 23, 1992	<p>Lottery informs HISI by letter it is seriously out of compliance with contract terms. However, the lottery states its intentions to continue the project.</p> <p>Lottery director reassigns HISI project management to QART.</p>	<p>HISI responds to the lottery's letter on November 13, 1992, stating the lottery is responsible for all delays.</p>
October 27, 1992	<p>HISI presents revised project plan for Scratchers. Plan includes scope of work and milestone-based timeline for projection completion.</p>	
October 30, 1992	<p>Lottery decides a number of Scratcher policy issues necessary for the design and implementation of the Scratcher automation system.</p> <p>Lottery informally approves HISI project timelines for on-line gaming and HISI's revised project plans submitted on October 16, 1992 and October 27, 1992.</p>	<p>Scratcher policy decisions include:</p> <ul style="list-style-type: none"> <li>• Lottery retains Guaranteed Low End Prize Structure.</li> <li>• Scratcher cross-redemption will be available for all retailers from the beginning of Scratcher automation.</li> <li>• Electronic fund transfer sweep triggers based on ticket delivery date.</li> <li>• Tickets are active upon delivery to the retailer.</li> <li>• Retailers cannot deactivate tickets; only lottery personnel can.</li> <li>• Lottery continues to support non-automated, Scratchers-only retailers.</li> <li>• Telemarketing representatives continue to call retailers for ticket orders weekly.</li> </ul> <p>Some of these decisions, such as sweep policies, are required by contract to be made as early as August 22, 1992. As of this date, certain functions and requirements were yet to be determined by the lottery.</p>
December 1, 1992	<p>Internal Revenue Services' changes to 1099 reporting requirements necessitates a change to the Scratcher Back Office system.</p>	

Date	Event	Description/Implication
December 9, 1992	HISI informs lottery of on-line gaming interface delay and requests date when the retailer list will be provided.	HISI needs a list of 10,000 retailers to install telecommunications network to support retail outlets (per contract, lottery is to obtain 10,000 retailers for terminal locations).
<b>1993</b>		
January 5, 1993	HISI informally proposes a delivery date delay for retailer Phase I installation from April 19, 1993 to May 17, 1993.	Proposal is informally accepted.
January 6 - 7, 1993	QART trip to Atlanta.	Purpose of trip is to assess HISI's progress on Scratcher Back Office system.
January 14, 1993	Battelle's report on QART Atlanta trip claims a quality product will emerge, but delivery date of April 19, 1993 is unlikely.	
January 26, 1993	Internal lottery memo with limited circulation discusses potential buyout of HISI contract.	
February 5, 1993	Lottery sends letter to HISI questioning its ability to meet the April 19, 1993 deadline and refusing permission to begin telephone installations requested by HISI.	
February 8, 1993	HISI sends letter to lottery about misconceptions over project delays. It claims GTECH's coding problem delayed planned roll-out of the on-line gaming system.	
February 9, 1993	HISI proposes delay of Phase I installation to June 7, 1993. Instead, lottery requires HISI to pass pre-acceptance testing review during transition week of April 5, 1993.	Proposal is accepted with conditions.  HISI points out that pre-acceptance testing is not required by the contract. Nonetheless, HISI agrees to cooperate in testing.
February 11, 1993	Lottery informs HISI by letter it will decide by the end of transition week whether to allow acceptance testing to begin.	
March 12, 1993	HISI informs lottery that incomplete installation of Timeplex Wide Area Network (WAN) will delay the project implementation schedule.	Lottery is required to provide WAN.
March 25, 1993	HISI informs lottery that refusal to install telephone lines will delay project implementation.	



Date	Event	Description/Implication
March 25, 29, and 31, 1993	HISI demonstrates Scratcher Back Office system.	Lottery is pleased with the progress.
April 2, 1993	HISI turns over certain elements of the system to lottery.	HISI informs lottery by letter the delivered system is fully operational.
April 5 - 11, 1993	Lottery to decide, by the end of transition week, whether to permit the project to continue based on the results of pre-acceptance testing.	QART tests various functions of the Scratcher automation system to determine the readiness of the system for acceptance testing.
April 2 - 12, 1993	Lottery's QART summarizes its findings and discusses them with lottery director.	QART concludes the system is not ready for acceptance testing.
April 12, 1993	Lottery sends letter informing HISI the system is not ready for acceptance testing.	Acceptance testing was to begin on April 12, 1993.
April 14, 1993	<p>HISI sends letter to lottery disagreeing with the lottery's conclusion of April 12, 1993.</p> <p>Lottery warns HISI by letter HISI is proceeding at its own risk.</p>	HISI's letter claims the delivered system is production-ready and fully operational.
April 16, 1993	Lottery staff meets with HISI's CEO and staff.	Lottery and HISI review certain system problems. HISI claims such items are all process-oriented.
April 19, 1993	Lottery and HISI discuss 19 findings of pre-acceptance testing which prevents acceptance testing.	Based on the discussion, QART revises the findings and submits the updated list of 14 items to HISI on April 20, 1993.
April 20, 1993	<p>HISI offers to provide a full demonstration of the system to the lottery; however, the lottery does not accept the offer.</p> <p>HISI demonstrates SNAP terminal on-line and Scratcher functions to a representative of the Governor's Office.</p> <p>Lottery hires Downey, Brand, Seymour, and Rohwer, a private law firm.</p>	<p>Lottery is initially authorized to spend up to \$85,000. By July 1996, the contract amount is increased to \$7.6 million.</p> <p>Contract is amended ten times and continues through September 30, 1996.</p>

Date	Event	Description/Implication
April 21, 1993	Lottery notifies HISI it has terminated the contract on grounds of default. The termination is announced the same day at the commission meeting.	
April 26, 1993	Lottery files a legal complaint against HISI for breach of contract.	
May 7, 1993	<p>Lottery amends its complaint to include Equifax, Telecredit, and T.I. Holding as additional defendants. It adds a second cause for injunctive relief, and a third cause for collection on \$2 million performance bond.</p> <p>HISI files a cross-complaint against lottery alleging breach of contract and breach of warranty, among other claims.</p>	
May 28, 1993	HISI makes an initial offer to lottery. This offer will initially cost the lottery \$46 million.	<p>The offer includes:</p> <ul style="list-style-type: none"> <li>• Eleven thousand terminals for \$35 million.</li> <li>• Two Tandem computers for \$8 million.</li> <li>• Network equipment for \$3 million.</li> <li>• Leasing of Scratcher Back Office system for 1.3 percent of all Scratcher sales.</li> <li>• A \$750,000 monthly fixed fee to cover HISI's operating expenses.</li> <li>• A monthly fixed fee of \$1,050,000 for maintenance, software support, operations, and playslip and ticket stock costs for five years.</li> </ul>
May 1993	Commissioners are advised that statements made by lottery staff in informal interviews raised questions about the strength of the lottery's case.	
June 10, 1993	HISI delivers modification to the May 28, 1993 offer to the lottery.	The modification includes a reduction of the Scratcher Back Office fee to .99 percent, and an option to purchase the Scratcher Back Office computer and software for \$6.3 million, with a reduction of the fee to .41 percent of all Scratchers sales.

Date	Event	Description/Implication
June 11, 1993	Lottery issues a counteroffer. The total cost of the offer is approximately \$29 million.	The lottery's \$29 million offer includes 5,500 fully functioning terminals, 2,000 unassembled terminals for spare parts, system computers, telecommunications network, Scratcher software, and a telecommunications hookup to on-line gaming system that eliminates the need for the Tandem computers.
June 18, 1993	HISI issues a counteroffer to the lottery's counteroffer for a lump sum of \$43 million.	
June 29, 1993	Lottery meets with Peat Marwick consultants who advise not to settle until the lottery obtains critical financial information from HISI.	
July 16, 1993	HISI asserts by letter its stronger legal position.	
July 21, 1993	Lottery and HISI meet. HISI offers \$37 million to settle without equipment transfer to lottery.	Lottery rejects offer on September 3, 1993.
October 1993	Depositions begin.	Seventy-six people give depositions from October 1993 to February 1995.
<b>1994</b>		
May 1994	Lottery is advised that there are serious risks to pursuing litigation because many factors against the lottery's case have been identified during discovery.	Factors against the lottery's case include vague RFP, inadequate timelines for implementation, and the lottery staff's admission of such factors in depositions.  It is suggested that the case becomes weaker, from the 50-50 chance to more likely to lose.
July 8, 1994	Lottery again amends its complaint, asserting six additional causes of action and naming Scientific Games International, HISI's subcontractor, as a defendant.	
August 9, 1994	HISI demonstrates the SNAP terminal functionality to lottery.	
October 26, 1994	HISI urges lottery to finalize and deliver a settlement proposal and expresses continued interest in a settlement, but not in mediation.	

Date	Event	Description/Implication
<b>1995</b>		
January 24, 1995	Lottery issues a settlement proposal.	<p>The proposal includes, among other items, the following:</p> <ul style="list-style-type: none"> <li>• Lottery pays HISI \$5 million on execution of the Modified Agreement in addition to 4.43 percent and 5.32 percent compensation rates on instant ticket and on-line games sales, respectively.</li> <li>• HISI provides 5,000 SNAP terminals and 1,000 spare terminals.</li> <li>• Contract term of four years.</li> </ul>
March 8, 1995	HISI responds to the January 24, 1995 proposal.	<p>HISI requires lottery to do the following:</p> <ul style="list-style-type: none"> <li>• Reimburse all HISI's uncompensated project costs.</li> <li>• Compensate HISI's lost profits from the project.</li> <li>• Pay pre-judgment interest from April 26, 1993 until full payment.</li> </ul>
April 7, 1995	Lottery and HISI discuss another HISI proposal.	<p>HISI's proposal includes the following:</p> <ul style="list-style-type: none"> <li>• A cash payment of \$33 million for 10,000 terminals upon settlement.</li> <li>• \$15 million deposited into a HISI escrow account to cover costs incurred by HISI.</li> <li>• A blended rate reduction to 3.9 percent.</li> <li>• Contract duration extended to 66 months.</li> <li>• A buyout of the excess six months, at a discount.</li> </ul>
July 21, 1995	Lottery and HISI sign a detailed settlement agreement and the Reinstated Contract.	
November 1995	A detailed description of the product is finalized. The target date for start-up is set for May 1996.	
<b>1996</b>		
February 1996	HISI reports problems in the network and claims the lottery has delayed the project because of these problems.	

Date	Event	Description/Implication
December 8, 1996	Scratcher automation system is implemented.	
December 11, 1996	System failure of Stratus Continuum computer.	Scratcher automation system shuts down. Stratus begins working on the system to solve the problem.
December 29, 1996	Lottery installs a new version of Stratus operating system.	Certain operations still need repair.
<b>1997</b>		
April 8, 1997	Scratcher automation system becomes operational, with approximately 6,000 terminals selling on-line gaming tickets.	

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# Appendix C

## *Pertinent Provisions of the Initial and Reinstated Contracts*

This appendix provides a synopsis of pertinent provisions of the initial and reinstated contracts between High Integrity Systems, Inc. (HISI) and the California State Lottery (lottery). Direct comparisons cannot necessarily be made because the initial contract was the result of a competitive bid process and the reinstated contract is the result of a negotiated settlement process.

Issue	Terms in Initial Contract	Terms in Reinstated Contract
<b>Contract term</b>	July 1992 to July 1997 with an option of three one-year extensions.	No fixed duration for implementation; deadlines not specified. <sup>a</sup>
<b>Scope of work</b>	<p>Contractor to provide the following:</p> <ul style="list-style-type: none"> <li>• All hardware and software for the Automated Instant Ticket Gaming System (AITGS) later known as the Scratcher automation system.</li> <li>• 10,000 Low Volume Terminals (LVTs).</li> <li>• Terminal and system interface with the lottery's systems and communications network.</li> <li>• All system and application documentation.</li> <li>• System and application software development and maintenance for the AITGS host, LVTs, and network communications.</li> <li>• Technical consultation concerning the system, hardware, software, and terminals.</li> </ul>	<p>Reinstated contract includes substantial portions of the original contract's scope of work.</p> <p>Changes are limited to those resulting from:</p> <ul style="list-style-type: none"> <li>• Added games and promotions.</li> <li>• Changed interface requirements.</li> <li>• Changes to the Scratcher Back Office (SBO) system.</li> </ul> <p>The reinstated contract more clearly identifies roles and responsibilities of the lottery and the contractor.</p> <p>The contractor's responsibilities are to provide the following:</p> <ul style="list-style-type: none"> <li>• 6,700 LVTs, known as "LINKS" (a.k.a. SNAPs).</li> <li>• Application and operating system software for LINKS.</li> <li>• 10,000 Atalla ACTT security devices.</li> <li>• Application software for a Multiple Game Router (MGR) message switch.</li> <li>• Application software for an SBO system.</li> <li>• Agreed-upon documentation, testing, training, and software support.</li> </ul>

<sup>a</sup>Reinstated contract amended on March 7, 1997, to stipulate an expiration date of October 13, 2003.

Issue	Terms in Initial Contract	Terms in Reinstated Contract
	<p>The lottery's roles and responsibilities include the following:</p> <ul style="list-style-type: none"> <li>• Manage the AITGS, make strategic decisions, and determine tactical directions for system operation.</li> <li>• Review and approve all modifications to the system.</li> <li>• Operate the computer system, including the host computer.</li> <li>• Maintain the security and data integrity of the AITGS, LVT network, applications, and software.</li> <li>• Test software changes.</li> </ul>	<p>The lottery's roles and responsibilities include, but are not limited to, providing the following:</p> <ul style="list-style-type: none"> <li>• All hardware necessary to run the MGR and SBO application software.</li> <li>• A Wide Area Network and all related hardware.</li> <li>• Message formats and interface specifications for the lottery's existing on-line gaming system to allow HISI's system to transmit information to the on-line gaming host computer.</li> <li>• Communications link between MGR and on-line gaming and between MGR and SBO.</li> <li>• Retailer master file.</li> </ul>
<p><b>Change orders</b></p>	<p>Lottery may at any time, by written notice, make changes to the general scope of work.</p> <p>Change orders entitle the contractor to reimbursement of its costs, a reasonable profit, and an extension of the time required to perform such changes.</p>	<p>Scope of work is "frozen" throughout the implementation term.</p> <p>If emergency changes occur, lottery shall reimburse contractor's costs for time and materials, and additional fixed costs, plus 10% of those costs for time and materials.</p>
<p><b>Documentation</b></p>	<p>Documentation must adhere to the System Development Life Cycle standards.</p>	<p>"Mutually agreed upon" documentation shall be provided.</p>
<p><b>Number of terminals required by contract</b></p>	<p>10,000 terminals with an option to go to 20,000 terminals.</p> <p>It is lottery's objective to identify 10,000 retailers.</p>	<p>At least 6,700 terminals with an option to go up to 10,000 terminals.</p> <p>Lottery required to locate 6,000 retailers, most of whom are already selling Scratchier tickets.</p>
<p><b>Network/telecommunications costs</b></p>	<p>Contractor provides hardware and software to transmit data to correct platform, either AITGS or on-line gaming.</p> <p>Contractor uses and pays for public telephone network.</p>	<p>Lottery supplies and pays for all costs during term of contract, including network software, hardware, and installation of telephone lines, inside wiring at SNAP retailers, and terminal usage charges.</p>
<p><b>Ownership of system</b></p>	<p>Lottery acquires ownership upon contract termination or at the end of the five-year contract, whichever is earlier.</p>	<p>Lottery must pay \$25 million plus interest before ownership and license rights transfer from the contractor to lottery.</p>
<p><b>Equipment/hardware</b></p>	<p>Contractor provides all system hardware and software for operating the system.</p> <p>All hardware must be new when installed.</p>	<p>Lottery supplies and pays for all hardware for SBO, SNAP terminals, and MGR.</p> <p>Contractor refurbishes the existing terminals.</p>



Issue	Terms in Initial Contract	Terms in Reinstated Contract
<b>Deadline for terminal installation</b>	<p>At least one-third of 10,000 terminals must be installed and operational 120 days from contract execution.</p> <p>Second one-third within five weeks after Phase I completion.</p> <p>Last one-third within five weeks of Phase II completion.</p>	<p>First 3,000 must be identified before acceptance testing begins.</p> <p>Second 3,000 must be identified within 120 days of commencing the revenue term.</p>
<b>Revenue term</b>	<p>Through the end of the five-year contract with an option of three one-year extensions.</p> <p>No guarantees of terminal sales provided.</p>	<p>Sixty-six months from the date fully functional operations begin, or five weeks after acceptance testing completion provided the SBO is functioning, whichever is earlier.</p> <p>If the contractor has not completed SNAP terminal installation when the revenue term starts, lottery is entitled to a credit against revenue term.</p> <p>Lottery guarantees 66 months of revenues for each of 6,000 terminals for the percentage of the sales indicated below.</p>
<b>Share of revenue to vendor</b>	<p><u>Instant Ticket Sales</u></p> <p>4.43% from fiscal year 1992-93 through fiscal year 1996-97, initial contract years, for instant ticket sales.</p> <p>4.81% to 5.01% from fiscal year 1997-98 through fiscal year 1999-2000; three optional extension years.</p> <p><u>On-Line Games</u></p> <p>5.32% from fiscal year 1992-93 through fiscal year 1996-97; 5.83% to 6.03% from fiscal year 1997-98 through fiscal year 1999-2000; three optional extension years.</p>	<p><u>Instant Ticket Sales/On-Line games</u></p> <p>First 6,000 terminals: 5% of sales at SNAP retailer locations following acceptance testing, including sales prior to the revenue term.</p> <p>Excess SNAPs: 4.5% at SNAP retailer locations for sales in excess of the first 6,000 terminals.</p> <p>Spare SNAPs: 5% at spare SNAP terminals.</p>
<b>Incentive bonus</b>	None.	From \$1 million to \$4 million, depending on how quickly contractor completes the project.
<b>Reduction in revenue term</b>	Not specified.	If the contractor causes delay in acceptance testing or deploying terminals, and/or fails to maintain terminals, reduction will be made in the revenue term.
<b>Benchmark testing</b>	During the first month after contract award, lottery conducts benchmark tests to evaluate the transaction processing performance; contractor shall work with lottery to develop testing procedures.	Benchmark testing shall be conducted according to guidelines set out in scope of work.

Issue	Terms in Initial Contract	Terms in Reinstated Contract
<b>Acceptance testing</b>	Lottery conducts acceptance testing at least ten weeks prior to Phase I for eight weeks. If the system is not accepted, the testing process shall continue until all critical issues are resolved.	Lottery and contractor jointly conduct acceptance testing for an eight-week period.
<b>Pilot system</b>	None.	Lottery and contractor may agree to conduct a pilot test following the completion of acceptance testing.
<b>Performance bond</b>	<p>Contractor must maintain a bond equivalent to the annual payments to the contractor; the bond may have a term of one year, to be renewed annually for the contract life.</p> <p>Lottery will make a demand against the bond if the contractor fails or defaults in the performance.</p>	<p>Contractor must deliver the bond for \$10 million within 20 days after the implementation term begins.</p> <p>The contract is silent as to whether the lottery will make a demand against the bond if contractor fails to perform.</p>
<b>Special implementation provisions</b>	None.	<p>Ernst &amp; Young selected as technical adviser to lottery and contractor.</p> <p>Oversight committee established to resolve issues.</p>
<b>Dispute resolution</b>	Disputes shall be decided by lottery within 45 days from the day contractor presents a claim.	If the two parties cannot resolve issues, lottery and contractor request the oversight committee to attempt to resolve such issues. Where appropriate, they may jointly engage the technical advisor at any time during this process to assist with resolution. If any issue is still not resolved, either party may submit the issue to arbitration. If arbitration does not settle the issue within 30 days, it shall constitute a formal dispute.
<b>Litigation resumption</b>	None.	<p>Within certain time frames, either party may resume the litigation if:</p> <ul style="list-style-type: none"> <li>• A court ruled that the contract is invalid or unenforceable.</li> <li>• A court enjoined performance of the contract if the lottery fails to secure the removal of the injunction within 90 days from the date of the reinstated contract.</li> <li>• Any act or omission of the lottery or contractor caused a delay in performance or receipt of payments of more than 90 days.</li> <li>• Any other action or circumstance amounting to a material breach of contract occurs.</li> <li>• Lottery terminates for default.</li> </ul>

Issue	Terms in Initial Contract	Terms in Reinstated Contract
<b>Termination terms</b>	<p>Lottery can terminate for the following reasons:</p> <ul style="list-style-type: none"> <li>• Default: <ul style="list-style-type: none"> <li>⇒ Contractor furnishes a statement or representation that is materially false, deceptive, incorrect or incomplete.</li> <li>⇒ Contractor fails to perform per the contract.</li> <li>⇒ Lottery determines contractor does not perform satisfactorily.</li> </ul> </li> </ul> <p>For last two items, contractor shall be provided time to cure.</p> <ul style="list-style-type: none"> <li>• Convenience: <ul style="list-style-type: none"> <li>⇒ Lottery must give contractor 30 days written notice; lottery must pay contractor for services, products, costs, and expenses incurred.</li> </ul> </li> </ul>	<p>Lottery can terminate for default, limited to the following situations:</p> <ul style="list-style-type: none"> <li>• Contractor does not work on system for 60 days.</li> </ul> <p>Completion of acceptance testing extends beyond incentive payment period plus the five-month grace period, and system fails to pass critical system test for 60 days for reasons within the contractor’s control.</p> <p>Prior to termination, contractor shall have a 30-day period to cure.</p> <p>If the contract is terminated for default, any losses or damage sustained by lottery shall be paid by contractor. In addition, the lottery is entitled to recover lost revenues to the state education fund following a termination for default.</p> <p>Termination for convenience is not allowed.</p>

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# *Appendix D*

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## *Status of Issues Noted in Our Previous Audit of the California State Lottery*

In August 1996, we issued a report on the first phase of our comprehensive performance audit of the California State Lottery (lottery), titled *California State Lottery: Opportunities Exist to Improve Planning, Reduce Administrative Costs, and Increase Sales Efficiency*, Report 96107.1. In this appendix, we address the status of issues raised in that report.

### *The Lottery Can Improve Its Strategic Planning Process*

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In our previous audit, we noted several deficiencies in the lottery's strategic planning process. Specifically, in the lottery's fiscal year 1996-97 Annual Business Plan, we noted inconsistencies between the corporate plan and the divisions' plans, a lack of prioritization of the organizational objectives, and a lack of benchmarks to evaluate performance. Also, we noted some division plans failed to effectively address the specific resources that would be used. Finally, we found the lottery needed to develop an adequate long-term strategic plan.

Because the lottery did not issue its final fiscal year 1997-98 Annual Business Plan before the completion of our fieldwork, we are unable to determine if it has incorporated our recommendations. However, the lottery stated in its 60-day response to our previous audit report, that it will integrate major corporate and division objectives in that plan. Also, on our recommendation that the lottery develop an adequate long-term strategic plan, the lottery stated it has been working on a three-year strategic plan since October 1996. The lottery gave us its timeline for this project, with a completion date of July 1997. Because the three-year strategic plan was not finished before the completion of our fieldwork, we cannot comment on its adequacy.

***The California State Lottery Needs  
To Continue To Monitor and Reduce  
Its Administrative Costs***

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As discussed in the previous audit report, the lottery has a statutory limit for its administrative expenses of 16 percent of total annual revenues. We also noted that unless the lottery exercised more control of its operating costs, it ran the risk of exceeding this limit in fiscal year 1996-97. In addition, during fiscal year 1996-97, the lottery experienced significant reductions in revenue resulting from the loss of Keno and the Scratcher vending machines. With the uncertainty of its games' legality and the inherent uncertainty of sales forecasts, we found that the lottery's fiscal year 1996-97 budget provided little buffer for any unforeseen contingencies. Nevertheless, based on preliminary figures, as of June 30, 1997, the lottery's administrative expenses for fiscal year 1996-97 are approximately 15 percent of revenues.

Charges by the State Controller's Office (SCO) are a part of the lottery's administrative costs and totaled \$2.3 million in fiscal year 1995-96, although the SCO did not provide the lottery with sufficient detail to support these charges. Also, SCO's audit services were often late and of limited value. Furthermore, we concluded that the SCO audit plan for fiscal year 1996-97 included work that duplicated services already provided by the lottery's independent auditors. To address these issues, we recommended the lottery and the SCO ensure that an open line of communication exists between the two organizations. We further recommended the SCO provide the lottery with sufficient information to support its charges and to carefully assess its upcoming audit work to avoid duplicating work. For the first 11 months of the 1996-97 fiscal year, the SCO charged the lottery \$1.3 million dollars for its services. The SCO has provided the lottery with more detail to support these charges. In addition, both the lottery and the SCO have made efforts to ensure an open line of communication exists. Currently, the two organizations are developing a "Memorandum of Understanding" to provide a framework for conducting business together. Finally, according to the lottery, the SCO has taken steps to avoid duplicating audit work.

***The California State Lottery Can Increase  
the Efficiency of Its Sales Division***

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In our previous report, we noted the lottery's Sales Division sometimes operated inefficiently. Specifically, the lottery's use of its two primary sales forces, district sales representatives (DSRs) and telemarketing representatives (telemarketers), resulted in duplicated sales effort, increased product distribution costs, and inequitable sales incentive programs. To improve its sales programs' efficiency and equability, we recommended several alternatives: the lottery use telemarketers as the primary point of contact for the majority of its retailers and reduce the number of retailers routinely visited by DSRs; the lottery redirect the DSRs' responsibilities to target those retailers who show increased sales potential or are interested in selling lottery products; and the lottery modify its sales incentive programs to ensure equability. In its six-month response to our previous report, the lottery stated it will incorporate an automated instant ticket distribution system into its fiscal year 1997-98 plan. According to the lottery, this new system will allow the lottery to directly manage a retail location's inventory, and decrease instances of retailers' running out of stock, placing special orders, or returning tickets. Finally, the lottery stated in its 60-day response it is working with the Department of Personnel Administration on sales incentive issues as part of the bargaining process.

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**California Lottery**  
Headquarters  
600 North Tenth Street  
Sacramento, CA 95814

July 29, 1997

Kurt R. Sjoberg  
State Auditor  
Bureau of State Audits  
660 J Street, Suite 300  
Sacramento, CA 95814

Dear Mr. Sjoberg:

We are pleased to respond to the audit your staff recently completed of both the information technology functions of the California State Lottery and the contract with High Integrity Systems, Inc. (HISI). We appreciate the professional and thorough efforts of your staff in the compilation of the resulting report and recommendations.

When the Lottery was first established, it offered a single instant ticket game. The Lottery grew rapidly, as did the number and complexity of instant ticket games and on-line games. In an effort to build sales and increase revenue for public education, the less complex systems and processes which were already in place were simply modified or adapted to take advantage of marketing opportunities. In hindsight, however, we now know that this approach resulted in the use of patchwork or outdated technologies and less than efficient systems and processes. In the last several months, the Lottery has begun to evaluate Lottery core functions and processes. We have been in contact with other lotteries to determine how they are organized and operated, and have been studying successful strategies utilized by others in the industry. We are not limiting this evaluation to how we can do the things that we presently do better and more efficiently. The key to a more successful lottery may include new processes and/or discontinuing some functions which are not critical or mandated by law.

The foundation of the 1997/98 Annual Business Plan approved in June 1997 by the California State Lottery Commission includes improved prize payout structures, streamlined operations, reduced expenditures and increased revenue for public education. The Lottery's 1997/98 budget reduces its administrative expenditure ratio from 16% to 14.5%. Moreover, the Lottery is committed to reducing its administrative expenditure ratio to 13.5% by the 1999/2000 fiscal year.

An integral element of this effort will be the assessment of information technology services, planning methodology, efficient use and tracking of resources, project oversight and evaluation, and long-range strategic planning which is closely coordinated with the Lottery's overall strategic plan and business needs. We welcome the findings and recommendations contained in your report and our recently appointed Information Management and Services Division director will use this information in conjunction with the improvement efforts already underway. We are confident that the Lottery can make significant strides towards improved planning and documentation in the immediate future.

The California State Lottery fully expected criticism for how the HISI contract was handled. While we cannot go back in time to avoid the problems associated with the HISI contract, the Lottery has learned a great deal from the procurement, the conduct of the project under the original contract, the disputes which arose subsequent to the termination of the contract and the implementation of the reinstated contract.

As your report noted, HISI also failed to meet some critical project performance requirements. HISI freely entered into a binding contractual relationship with the Lottery knowing many expectations were not yet clear. Accordingly, HISI must bear some portion of the responsibility for the subsequent problems.

Despite earlier difficulties, as pointed out in your report, we are pleased that the intended product of the HISI contract, the Scratcher Automation System, is now fully operational and successfully generating significant revenue for public education. Over \$63 million in sales have been achieved through this system since December 1996.

Some of the lessons learned through the experience with this project directly relate to information technology efforts — better planning, more clearly defining actual needs and technical specifications, and certainly more aggressive and consistent project management, oversight, documentation and clear communication. Other key learning we have gained includes a better understanding of the advantages of utilizing alternative means of contract dispute resolution, rather than litigation. Please be assured that the lessons of the HISI contract will be firmly incorporated into our future procurement efforts.

We respectfully take issue with the report's implication that the Lottery's decision to pursue litigation preparation at the same time it pursued settlement was incorrect. It would have been irresponsible for the Lottery to drop its litigation preparation efforts prior to such time as a settlement was actually agreed to by both parties.

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\*California State Auditor's comment on this response is on page 83.

Kurt R. Sjoberg  
July 29, 1997  
Page 3

The trial date and other deadlines continued to loom and in the absence of an approved settlement, it was necessary that parallel preparation efforts continue in the event that settlement efforts were unsuccessful.

The diligence of your staff throughout this audit is truly appreciated and the results of their work will be fully considered as part of our already ongoing efforts to streamline Lottery operations, reduce costs, and improve overall effectiveness in support of our mission to provide increased revenues to public education.

Sincerely,

WILLIAM J. POPEJOY  
Director

***California State Auditor's Comment***

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- \* We do not imply that the lottery's decision to continue preparing for litigation was incorrect. Rather, as stated on page 55 of the report we acknowledge the necessity for the lottery to continue preparing for a possible trial. We do question, however, the sufficiency of the lottery's justification for increasing the legal services contract by \$6.3 million, an increase of more than 200 percent.

cc: Members of the Legislature  
Office of the Lieutenant Governor  
Attorney General  
State Controller  
Legislative Analyst  
Assembly Office of Research  
Senate Office of Research  
Assembly Majority/Minority Consultants  
Senate Majority/Minority Consultants  
Capitol Press Corps