



**REPORT OF THE
STATE OF NEW JERSEY
COMMISSION OF INVESTIGATION
On The
PRICE WATERHOUSE
COMPUTER CONTRACT WITH
N.J. DIVISION OF MOTOR VEHICLES**

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June, 1986**

TO: The Governor and the Legislature

The New Jersey State Commission of Investigation herewith submits this Final Report on the Division of Motor Vehicles, assessing the performance, collapse and recovery of the DMV computer system under its contract with the accounting firm of Price Waterhouse. This transmittal is made under Section 10 of L. 1979, Chapter 254 (N.J.S.A. 52:9M-10), of the Act creating the Commission.

Respectfully submitted,

Henry S. Patterson, II, Chairman
William S. Greenberg, Commissioner
James R. Zazzali, Commissioner
Paul Alongi, Commissioner

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REPORT ON THE PRICE WATERHOUSE COMPUTER CONTRACT WITH N.J. DIVISION OF MOTOR VEHICLES

INTRODUCTION

This report covers the final phase of the Commission's investigation of the Division of Motor Vehicles (DMV). On April 30, 1985, the Commission announced an extensive investigation of the DMV's agency system. As part of this investigation, and in response to a legislative request, the SCI concluded within 30 days, as required, an inquiry into the award by DMV of a state contract for photo drivers licenses to Sears, Roebuck & Co. and William F. Taggart and the "propriety of the concealment of Taggart's participation in the contract." This initial phase of the SCI's overall investigation was requested by Assembly Concurrent Resolution 180, enacted on May 2, 1985, and concluded with a public report issued on June 2, 1985.

After completing its DMV-Sears-Taggart report (which condemned the manner in which contract specifics were concealed), the Commission widened its investigative focus to encompass the operations of DMV's 50-odd motor vehicle agencies, their administration by DMV headquarters and the adverse impact of the system's deficiencies on the public and on law enforcement. This probe culminated in a public hearing on December 18 and 19, 1985. The results of the hearing and numerous recommendations for reform of the DMV and its agency system were reported in the Commission's 17th Annual Report, issued in March, 1986. The present Attorney General, W. Cary Edwards, whose department includes DMV, and the new DMV Director, Glenn R. Paulsen, have been in the process of making changes in keeping with a number of the SCI's recommendations, including the abolition of the political patronage system for the selection of DMV agents.

While preparing for the public hearing on the agency system, the Commission began the final

phase of its DMV investigation—an inquiry into the failure of the new DMV computer system being implemented by Price Waterhouse, a "Big Eight" accounting firm, pursuant to a time and expense contract not to exceed \$6.5 million. When the new computer system went on line in June, 1985, DMV operations all but collapsed because the system could not process hundreds of thousands of transactions or otherwise function at an acceptable level of effectiveness.

The Assembly Law, Public Safety and Defense Committee conducted limited hearings concerning the computer crisis in September and October, 1985. The Commission subordinated its investigation to that of the legislative committee, which heard from 15 witnesses during six days of testimony and issued an eight-page report on January 13, 1986. The committee divided along party lines with two Republicans "strongly" opposing the conclusions and recommendations of the four Democratic members. The Democratic majority concluded that there had been an "abuse of the discretion in waiving bids which is exercised in a loose manner." They also concluded that "there is a strong appearance that [Price Waterhouse] had a relationship with the Kean Administration wherein the firm would continue to receive hefty non-competitive State contracts in return for sizeable campaign contributions." The dissenters deemed release of the committee report to be inappropriate before a report by this Commission or the conclusion of hearings by the new Assembly Select Committee on DMV.

During the final phase of its DMV investigation, the SCI heard from 30 witnesses during many more full days of testimony. In addition, it examined virtually every document accumulated by Price Waterhouse (PW) and by DMV and other

state agencies, among other private and public sources, during the computer probe. More than 200 exhibits were marked in the record.

The Commission found that the computer project was unnecessarily rushed to accommodate DMV's desire to achieve a significant DMV/computer initiative prior to the 1985 gubernatorial election. It further concluded that DMV improperly precluded competition from firms other than PW, a decision which Administration officials merely rubber-stamped. Moreover, the SCI determined that DMV was incapable of effectively managing PW's performance on such a highly technical and complex project.

Regarding PW, the Commission established that it unnecessarily risked the success and financial viability of the project by improper utilization of an advanced programming language. In addition, PW's contributions to three annual Republican fund-raisers at the time of these events tainted the public's perception that its performance would be judged without favoritism. Furthermore, the Commission found that PW failed to adequately document and account for its allocation of employees' hours between tasks included within the \$6.5 million job and extra work for which PW argued it was entitled to additional sums. Finally, the SCI questioned PW's judgment in charging numerous inappropriate expense items to the State, even though the total amount of such expenses was minor in comparison to the total contract price.

The SCI developed serious concerns as to DMV's inability to deal with each of these problems and has, therefore, proposed in this report a number of recommendations to improve the State's system for doing business with professional and technical consultants.

ORIGINS OF COMPUTER FIASCO

The Long Range Master Plan

The New Jersey Division of Motor Vehicles (DMV) in 1981 awarded a contract to Price Waterhouse (PW) for a "long range master plan" to

modernize its management and computer operations. The \$88,000 contract was awarded after a "waiver of advertisements for bids, with limited competition." Only "Big Eight" accounting firms were invited to submit proposals. These firms were approached because state officials believed their experience and credibility would ease DMV's task of justifying funding for the project. An informal request for proposals was issued on August 27, 1981. An informal bidders' conference was held on September 4. Seven of the Big Eight firms submitted proposals by the September 15 deadline.

A technical support group, composed of system-oriented individuals from DMV, the former Division of Systems and Communications (SAC) in the Department of Law & Public Safety (L & PS), the former Division of Data Processing and Telecommunications in the Department of Treasury, and the New Jersey Institute of Technology reviewed the proposals. The group recommended four firms for final interviews with a steering committee. Based on a number of performance factors and the fact that, of the four firms interviewed, it offered the lowest price, PW was recommended. After obtaining the necessary Treasury Department approvals, the contract was awarded to PW in December, 1981.

The master plan, which PW delivered to DMV on March 22, 1982, contained recommendations for vast improvements in data processing, office automation, organizational structure, employee development and driver rehabilitation programs.

In the data processing area the plan recognized that necessary modernization would require the purchase of additional processing hardware. In addition, the plan noted that "entire reliance on outside [data processing consultant] assistance would probably multiply the estimated costs by three or four times." Therefore, the plan indicated that a "mix" of consultants and additional staff for SAC—the state agency then providing computer support for DMV—"provides the most practical solution." As will soon be evident in this study, DMV and PW itself should have followed this advice.

The consensus at the time the master plan was commissioned was that DMV would be unable to handle its increasing workload (involving over 20

million transactions per year for approximately 5 million licensed drivers and 5 million registered vehicles) without marked improvements in its data processing capabilities. DMV's old system—designed, developed and implemented by SAC in the 1960s—could still handle all of the transactions anticipated in the short term. However, by current standards of computer technology it was cumbersome and slow. Most important, it utilized a "vertical data base" which made it incapable of "connecting" various files to allow automated searches for all information relating to a particular driver or vehicle.

Price Waterhouse initially estimated that enhanced DMV and SAC staffs would accomplish substantially all master plan tasks over a five-year period at a cost of approximately \$5 million, inclusive of equipment, state personnel and some private sector assistance. These estimates assumed that work on the tasks would start in mid-1982. (Note: Under the PW-dominated implementation program finally selected, DMV has yet to fully achieve the data processing portions of the plan, and the cost of those portions alone is expected to exceed \$15 million).

Implementing the Master Plan—Phase Two

Implementation of the plan was delayed while DMV searched for sources of funding. The plan had anticipated that yearly appropriations from the Legislature would fund it and SAC would implement it. However, the funding proposal was rejected by the Legislature. DMV and SAC therefore proceeded to the next step with limited funds scrimped from existing budgets. A bid waiver for \$700,000 was obtained, and a contract for that amount was awarded to PW by SAC in January, 1983, to achieve specific master plan projects. These included a "requirements definition study," a systems design for the computerization effort and a plan for implementing word processing technology. The idea was to have SAC work over at least a three-year period to design, program, test and implement a new system while receiving consultant services from PW.

No competition was invited for the second phase of the DMV modernization effort. This was a questionable decision, even though it made sense to limit the negotiations to large accounting firms for the previous master plan project that

dealt with numerous aspects of DMV operations besides computerization. Nonetheless, when the overall project moved into a second stage requiring significant data processing expertise, the transaction should have been exposed to broader competition. To the contrary, only PW was considered, to the exclusion of all other large accounting firms, as well as major computer industry giants.

Representatives of DMV, SAC and PW served on a steering committee to coordinate the second phase implementation, including PW's performance of its new \$700,000 contract. PW's "requirements definition study" was to provide "user specifications," or an opportunity for DMV to tell PW what it would like the new computer system to do. The contract also required PW to monitor the detailed system design, for which SAC was to bear the primary responsibility. PW would not under the contract assign any of its own staff to perform design tasks.

At the beginning of the second phase, then SAC Assistant Director Robert J. Meybohm served as the project manager. This assignment comported with the usual practice of having the State's technical experts supervise computerization projects.

Roy E. Levi, a senior manager of PW, advised the steering committee on February 1, 1983, that PW would not know what additional staff SAC would need for the design work until after completion of the requirements definition study. That study was not formally delivered until June 24, 1983, following the submission of a partial draft on May 23. Even before the draft was in hand, however, DMV sought to substitute PW for SAC as the party primarily responsible for designing and programming the new system.

RUSHING THE JOB

The master plan required careful staging of system improvements. Former Director Joan H. Wiskowski, who left DMV in March, 1982, shortly after the master plan was delivered, testified at the SCI that she envisioned a distinct design and requirements stage between the master plan "blueprint" or "wish list" and the final stage of full implementation. Such an orderly process never ma-

terialized because of two suddenly improvised deadlines. One deadline was set by the Legislature for a new DMV program and the other was dictated by DMV's desire to achieve a Republican Administration accomplishment prior to the 1985 gubernatorial election.

New Program Mandate

In February, 1983, the Legislature and Governor Kean approved the Automobile Insurance Reform Act and the Automobile Full Insurance Availability Act. These laws mandated that, effective January 1, 1984, and pursuant to a New Jersey Merit Rating Plan, DMV collect driver license fee surcharges from motorists with poor driving records in order to finance a Joint Underwriters Association, which replaced the old assigned risk system. Since the success of the surcharge program would depend on the accuracy and timeliness of DMV's violation and accounting systems, it became increasingly desirable for the DMV to completely revitalize its computer operations.

In April, 1983, DMV obtained legislative approval to finance the new surcharge program by borrowing from the Unsatisfied Claim and Judgment Fund. This money was to be paid back at current interest rates from the 20 percent of the surcharge collections that was earmarked for DMV to cover its administrative and computer costs.

Although PW's master plan projected a five-year time lapse (1982-1987) for the design of the entire system, the surcharge collection deadline and other factors caused DMV to seek faster implementation. A desire to integrate the surcharge system with the new computer program and a hope for budget savings contributed to DMV's request that PW make the essential features of the system "installed and operational" by July 1, 1985.

Unrealistic Deadline

The Commission is convinced, based on testimony and other investigative evidence, that a purely political objective primarily motivated the decision to seek the July 1 commitment. Early in 1983 officials at DMV indicated that they wanted a showplace accomplishment during the gubernatorial election year of 1985. In a

memorandum to PW's files, dated January 27, 1983, even before the surcharge legislation became law, PW project manager Levi related DMV's intention to accelerate the performance of the master plan (based on a meeting between himself and DMV Special Assistant Patrick R. Brannigan) as follows:

[DMV Director Clifford W.] Snedeker wants entire master plan implemented during 1985; complete schedule needs to be developed.

* * *

DMV plans to complete a "visible" project each quarter to demonstrate to legislature and press that progress is being made; i.e., customer service telephone system, agency automation, remittance processor, photo licensing.

At a November 28, 1984, meeting with Richard Kauffman of Applied Data Research (ADR), Ranjit R. Advani, PW's "engagement partner" for the DMV job, declared that then DMV Deputy Director Robert S. Kline "sold" the system to the Attorney General and the Governor and wanted it with full state-of-the-art implementation before the November, 1985, election.

PW's William J. Driscoll, who served as the "client partner" or principal contact between PW and DMV, was questioned by SCI Deputy Director Robert J. Clark on the relationship between the project and the upcoming election:

Q. Do you recall talking to Mr. Kline about that subject, getting the implementation completed prior to the 1985 gubernatorial elections?

A. I am sure that that was mentioned.

Former SAC Director Donald Bianco testified at the SCI that DMV officials expressed the desire to have a major accomplishment prior to the end of Governor Kean's first term:

Q. And did Mr. Snedeker indicate to you that that was the deadline for completion of the DMV system, sometime before the end of the first four-year term?

A. Very definitely, they wanted to . . . have significant accomplishments during their term, yes.

Q. *This is what Mr. Snedeker indicated?*

A. Words to that effect, yes.

* * *

Q. *Are you saying that . . . Mr. Snedeker, [then First Assistant Attorney General Thomas] Greelish and [then Attorney General Irwin] Kimmelman all indicated to you that the computerization system should be completed before the end of the first four years?*

A. No, I can't say that.

Q. *What one did, if any?*

A. I think—when you say “completed,” again, the specific word is difficult to place in somebody's mouth three years ago, but Snedeker certainly indicated to me that he wanted it done in this Administration during his tenure here, and, you know, that's without question, and so did Kline. I don't remember the General or Greelish really saying it that way. They—you know, my recollection of their comments or their attitude during this time was much more attentive to the . . . process.

In his testimony at the SCI former DMV Director Snedeker also acknowledged the role of politics in the selection of the mid-1985 deadline:

Q. *Were there any discussions at which the election was discussed with relation to the time when the implementation had to be completed?*

A. Yes, I'm sure there were.

Q. *Were you a participant in those discussions?*

A. I'm sure Mr. Kline and I had discussed it, yes.

Q. *With whom?*

A. I'm sure we discussed it with Mr. Bianco. I'm sure we discussed it with a number of our staff that we would like to get it completed before the election period.

Q. *And what reason did you have in mind for completing it before the election?*

A. Certainly you wanted to get a project done that would be a benefit to an Administration and that was a major project and we felt it could be done by that period of time and Price Waterhouse did when they signed the contract.

Under questioning by SCI Counsel Charlotte K. Gaal, Kline admitted that the upcoming election played a role in the timing of the project:

Q. *. . . We've heard from several different entities, individuals, that the election of '85 was mentioned, including from yourself.*

A. Sure.

Q. *And I think even Mr. Snedeker . . . indicated, that's what we're driving at here.*

A. It was a factor but it also coincided with what we felt at the time would be our departure from the Administration. And, accordingly, therefore, we wouldn't be in state government for six years or eight years to see this thing through. So there were several reasons for it and obviously that was one.

Q. *But, I gather from what you are saying, you didn't get any indications from Price Waterhouse that it was not doable?*

A. Never, never at all.

COMPETITION RULED OUT

Waiver of All Competition Not Justified

The SCI believes that DMV selected Price Waterhouse to implement the new DMV computer system at a cost not to exceed \$6.5 million without fully exploring other and possibly better alternatives that competition might have provided. Indeed, it is incomprehensible to the Commission that DMV even failed to determine if such a huge contract could have been awarded in stages.

During its in-house deliberations, DMV promoted a waiver of formal advertising partly because the contemplated services ostensibly fell within the statutory exception for technical and professional work. As a matter of policy, however,

waivers are not to be routinely granted for technical and professional services unless the following justification is verified by the using agency:

Competitive specifications, placing all potential bidders on an equal footing, cannot be developed because the scope of work is highly complex, technical, unique or specialized and/or sufficient lead time to develop the bid specifications is not available.

The SCI found no objective record to support the utilization of this exception. Although it obviously helped to convince Administration decision-makers to opt for a bid waiver without competition, the exception was not cited on any of DMV's bid waiver documents.

DMV also embraced in-house the statutory exception allowing a waiver of advertising when "more favorable terms can be obtained from a primary source of supply." DMV's Snedeker stated in a memorandum to then Deputy Chief Governor's Counsel Kenneth D. Merin, dated June 7, 1983, that this exception "supports contracting with a consultant who has already provided preliminary work and who therefore has knowledge which another vendor would have to spend extra time (and cost) to obtain." No factual record is available to indicate that other sources could not have performed as well as or better than PW. And again, this exception also was not cited on any bid waiver papers.

One of the more strident arguments proffered by DMV for avoiding formal advertising for bids was that it would take up to a year to develop specifications for a request for proposals, to review the bids and to award a contract. DMV contended that such delay would cost approximately \$3 million of savings anticipated under the new system (anticipated, however, without considering the additional resources needed to implement the Automobile Insurance Reform Act). DMV therefore maintained that the "public exigency" exception to advertising for bids was applicable and made this exception the official ground for the bid waiver request.

Time pressure arose from the Legislature's mandate that the surcharge system take effect by January 1, 1984. This pressure actually began in February, 1983, when the law was enacted. On

February 25, 1983, for example, Snedeker circulated an "action plan" which called for "a joint task force to 'fast track' all the departments involved," and for the State to "commit to a major effort, utilizing outside contractor assistance, to reduce from 40 months to 24 months the Price Waterhouse timetable for the development and implementation of a DMV . . . 'state of the art' computer-based support system." The action plan stated that the "cost to adopt this approach . . . will approximate \$15,264,455 over a 24 month period." This total included the figure of \$7,900,000 for "outside contractors" of SAC.

Thus, with a funding mechanism in the legislative hopper and an action plan calling for substantial private assistance, DMV and Administration officials knew by early March, 1983, that an expedited DMV computer modernization project was to be conducted. However, when the bid waiver was circulated for Treasury Department approvals, it stated that the date on which the Law & Public Safety Department "first realized the need for this . . . service" was July 11, 1983. By that time over four months—during which period other firms could have been asked to submit proposals—had been allowed to pass. Obviously, the "public exigency" excuse for a bid waiver was a matter of contrivance rather than of substance.

Moreover, the record contains no proof of DMV's contention that development of the complex and costly comprehensive computer system had to coincide with that of the surcharge system. Indeed, the surcharge program was scheduled to operate for 18 months with the old system before the new system went on line.

The Commission therefore is convinced that any urgency pertaining to the comprehensive system chiefly resulted from an arbitrarily-imposed 1985 political deadline. The only "public exigency" was DMV management's desire to finish the project before election day, 1985. Administration decision-makers failed to sufficiently examine the justification offered for the exclusion of competition and adherence to pre-election deadlines.

Waiver Process—Final Decisions

As set forth in detail below, a host of officials in the Attorney General's Office, Governor's Office, Treasury Department, DMV and SAC re-

viewed the request for a waiver of competition on the major contract prior to its formal signing in November, 1983. Certain officials raised concerns while others did not adequately explore those concerns. Yet others supplied misleading support for the waiver. Finally, those who pressed substantial objections were, at best, treated with polite condescension and, at worst, chastised as obstructionists. The bottom line was that justifications were not subjected to adequate scrutiny and a rubber stamp attitude prevailed in favor of an unrestricted waiver.

Negotiations were conducted primarily by DMV Deputy Director Kline and PW's William Driscoll. PW originally requested \$9 million to do the job. Eventually the price was negotiated down to a maximum of \$6.5 million. The contractual project that resulted did not include every task called for by the master plan. It did include the new surcharge system, which was not a part of the master plan.

A bid waiver request for the third and final phase, calling for PW to design and program the surcharge and comprehensive systems, was submitted on July 11, 1983, for \$5,995,000, not including expenses which PW also indicated it intended to bill. At a meeting with several other State officials on July 27, 1983, then State Treasurer Kenneth R. Biederman recommended that the second phase contract with PW be cancelled since by that date only \$200,000 out of \$700,000 authorized had been expended and since virtually all tasks to be performed under the earlier authorization would be accomplished under the proposed waiver. As a result, it was agreed that the \$500,000 remaining on the second phase contract would be rolled over into the third phase contract.

Biederman directed DMV to modify the request for a waiver of advertising to include a figure for the out-of-pocket expenses which would be incurred by PW on the project. This modification increased the request for a waiver from \$5,995,000 to \$6.5 million, an increase that roughly equalled the remainder of the second phase contract.

A day later, on July 28, 1983, PW submitted a one-page supplement to the proposal with the new price and an indication that it included out-of-pocket expenses. The initial waiver had not in-

cluded such a figure, and the expense issue was apparently pressed by PW when faced with cancellation of the balance of the second phase contract. The expense supplement served as a justification for the rollover of approximately \$500,000 from the second phase contract to the final contract.

PW's proposal indicated that little of the heavy participation work required for the comprehensive system would be done until the interim surcharge system was completed. PW planned not to produce a complete "conceptual systems design" until the middle of the second quarter of 1984. In analyzing PW's proposal for Leroy E. Weber, Director of the former Division of Data Processing and Telecommunications, Henry J. Murray, then supervisor of the Bureau of Data Processing Management, stated in a memorandum dated July 18, 1983:

This will be a very complex project, and I don't know what alternatives we may have relative to the proposal and the timeframe projected for completing the Surcharge System and the redesign of the entire Motor Vehicle system. My opinion is two separate waivers would be a better direction, but at a minimum we should firm up the actual dedication of personnel from Price Waterhouse on the Surcharge System by category of personnel and task as well as the comparable personnel requirement and any other hardware/software resource required from DMV and the Criminal Justice Data Center. [Emphasis added]

Witnesses at the SCI have provided no adequate explanation why a firm that had successfully competed for an \$88,000 contract should have had a lock on a \$700,000 second phase or a \$6.5 million third phase, particularly since several qualified potential competitors were available, including large firms specializing in data processing. There has also been no convincing evidence that such firms would not have been able to "quick-study" the technical requirements in order to submit acceptable bids and competently perform the work. Moreover, for a project of this complexity, the bidding process itself, if utilized, would have given the State valuable insights into the feasibility of various approaches, including

PW's. The State might have avoided the problems encountered in developing the present system if it had had the benefit of analyses in alternative proposals.

Even if a formal advertisement for bids for the third phase contract was not utilized, no adequate explanation appears in the record for excluding even limited competition which also might have provided realistic alternatives for consideration. Such a procedure would have been more expeditious than formal bidding and would perhaps have provided the State with another—and lower cost—option.

The governing Procurement Circular, effective March 1, 1981, cautioned all agencies to seek as much competition as possible in the purchase of goods and services:

Informal competitive bidding among multiple suppliers is encouraged for all purchases even if a waiver of formal advertising is granted.

* * *

Agencies are required to seek as much competition as is reasonable and practical under the circumstances of each waiver requested. The information should include, (1) the number of firms contacted, (2) the method used in choosing firms to be contacted (i.e., industry data, previous experience, telephone directory, etc.), (3) the number of proposals received including prices, and (4) the reasons for selecting the recommended vendor.

The results of all inquiries, including proposals, price quotations, denials, etc., must be attached to the waiver request form.

Apparently because of continuing laxity by state agencies in seeking out competition, the first paragraph of the above was amended in December, 1984, to state, more strongly:

Informal competitive bidding among suppliers must be obtained for all purchases even if a waiver of formal advertising is granted. Sole source requests must be fully and completely documented.

The record reveals no attempts by DMV to contact potential competitors, and the decision to award a contract to PW on a sole source bid waiver even surprised PW. William Driscoll, PW's primary contact with the State, testified before the Assembly Law, Public Safety and Defense Committee:

Through this process, from the time of our being involved in the requirements definition study and then the surfacing of the requirement to put up a surcharge and the ongoing desire to build a comprehensive system, the fact or even the possibility that this would culminate in a large contract under a waiver, was something that was astonishing to me.

Although he was pleased with their work on the master plan and the second phase contract, SAC Director Bianco would not have advocated PW for the technical data processing implementation. Under questioning at the SCI, Bianco testified:

Q. . . . Was it your intention to have that [program writing and specific technical task] work performed by personnel at SAC with some assistance from an outside consultant?

A. Yes.

Q. Did you intend at that time to recommend [PW] to be that outside consultant?

A. No.

Q. Did you have any particular company in mind?

A. I had a couple of the types of companies . . . that specialize in technical systems analysis and technical data processing programming.

Q. Data processing speciality firms, is that correct?

A. Yes.

Q. At that point you contemplated, is it correct, that the accounting firms would not be involved as outside consultants?

A. I would not put them in this category of outside help. I would not have considered them, no.

That doesn't make me a hundred percent correct, you know, but that's the way I felt at the time.

Apparently, some concern developed within the Administration as to whether it should proceed with more caution in awarding such a tremendous responsibility to an outside vendor. In a memorandum dated June 15, 1983, Deputy Chief Governor's Counsel Merin asked Gregory Stevens, Gary S. Stein and W. Cary Edwards (then respectively Governor's Chief of Staff, Director of the Office of Policy and Planning and Chief Counsel) to review memoranda in which DMV Director Snedeker proposed that a bid waiver be obtained for PW to have primary responsibility to complete the surcharge and comprehensive systems. In his memorandum, Merin stated:

Both Cliff [Snedeker] and [DMV Deputy Director] Bob [Kline] feel that [SAC] possesses neither the number of personnel nor sufficiently capable personnel to update the DMV software. The alternative to SAC is an outside consultant that would be most likely be hired through a bid waiver process. Questions have been raised regarding the propriety of a bid waiver in the amount that will be necessary to implement the necessary software modifications. [Emphasis added]

Stein responded that "the responsibility for making a recommendation . . . should be delegated to" the office of Alfred F. Fasola, then Director of the Governor's Management Improvement Program "since [he] can draw upon the computer expertise of Science Management Corporation in evaluating the problem." Stein noted, "This would give us the advantage of objective evaluation from people outside [DMV] and unconnected with [SAC]."

Dennis J. Clark of Science Management, a computer consultant working for Fasola, subsequently reported that "outside assistance" to SAC from PW would be the "logical first choice." Clark pointed out:

• Because of the size, duration and cost of the project, a blanket waiver for the entire implementation may not be in the best interest of the state.

• Within the department of Law and Public Safety, the appropriate divisions must assume the management responsibilities in the project consistent with their charter. [Emphasis added]

SAC's Bianco was not given an opportunity to discuss these recommendations with then Attorney General Kimmelman or his staff. On June 30, 1983, Kline told SAC's Assistant Director Robert Meybohm that the Administration had decided to award PW primary responsibility for implementation of the surcharge and comprehensive systems. At a well-orchestrated, simultaneous but separate meeting, Snedeker confirmed for Bianco, the other main objector, essentially the same information about PW and the contract. Bianco had already learned of this decision from Kimmelman.

Kline told Meybohm that "SAC would have secondary responsibility throughout the entire project." An attorney by profession, with no computer or technical experience, Kline said he "would manage the project and oversee [PW]'s involvement." The day-to-day duties of the position were delegated to DMV Senior Assistant Director Christine R. Cox, another data processing novice. Assigning such responsibility to computer amateurs broke with the well-founded practice of state government in past technical projects. Indeed, in a memorandum of July 18, 1983, to Leroy Weber, the state Data Processing and Telecommunications director, Henry Murray, Supervisor of the Bureau of Data Processing Management, stated:

I recommend this division be part of a working management control team to assure each task is monitored and any changes in the proposed project plan [are] agreed-upon and adequately and accurately measured to the possible end completion of both [the surcharge and comprehensive] projects.

In the past SAC had typically performed the project manager role on complex technical projects. Now SAC found itself performing a support function without control over technical decisions. The only other technical experts routinely on the job were the vendor's—PW's—employees. As a result, the State's lay project managers, Kline and

Cox, deferred to the private vendor's judgment in all of the important technical decisions—with disastrous consequences.

PW FAVORED OVER STATE'S COMPUTER EXPERTS

With little or no deliberation or consultation, and over the objection of in-house and consulting computer experts, DMV's recommendation that PW, instead of SAC, design and implement both the surcharge and comprehensive systems was approved.

Turnkey Operation vs. Joint Effort?

In promoting the \$6.5 million PW contract over a SAC operation with outside help, DMV touted the advantages of a "turnkey operation"—despite considerable disagreement as to what DMV meant by that concept. PW representatives preferred that the project be considered a "team effort" rather than a turnkey operation.

Kline testified at the SCI that DMV "felt that logically it was best to get somebody in to do a turnkey operation and let them run the [computer] operations on a day-to-day basis." Kline added that "turnkey" meant

everything from soup to nuts. You have a consultant come in from the outside, he does the design, the requirement study . . . the programming, the coding, the testing, the implementation, the training, everything, and turns it over at the end to the client, the user.

William Driscoll, who was the partner in charge of PW's management consulting department at Morristown, testified that "turnkey" is a term that is "abused by a number of people." He testified that PW did not plan to provide a turnkey operation for DMV, because SAC would have to provide the hardware to run the system and would maintain the system after it was programmed by PW. SAC would also purchase from other vendors certain data base and programming software to be utilized by PW in its designing and programming work.

Contrary to Driscoll's understanding, DMV's justification for the bid waiver to retain PW to design and implement the new DMV system stated:

The system to be developed by Price Waterhouse would be "turnkey operations." Price Waterhouse would provide comprehensive user documentation and training to enable DMV and SAC to operate and modify the systems after the consultants leave.

As noted, this view of PW as the dominant provider of a complete product differed sharply from PW's own vision of its role. Driscoll testified:

The complexity of [the DMV] environment means that you just can't go in there and operate without a lot of guidance and consultation with SAC. These are statements that were made very early on. And this is why the concept or the idea of this, "a turnkey system" or "turnkey job," it's a misnomer, because, in fact, a contractor or a consultant could not come in and do a turnkey job for Motor Vehicles operating in the SAC environment without the full cooperation and a lot of advice and consultation from the people at SAC.

PW's view of the project as a team effort comported with the language of the written agreement. Until the contract was signed four months after the waiver process was initiated, there was no exploration of realistic turnkey options. DMV sold PW's proposal as a turnkey operation but contracted with PW to be the dominant member of a team effort.

SAC Capabilities Misrepresented

In the bid waiver request for the creation of the surcharge and comprehensive systems, DMV stated:

Neither the Division of Motor Vehicles nor the Division of Systems and Communications have the personnel resources to complete this project while continuing to maintain day-to-day operations. In addition, the technical detailed systems and data base design require additional expertise which neither DMV nor SAC possess.

Months earlier, DMV officials had expressed this same concern about the quantity and quality of SAC expertise. At that time, however, they appeared content to deal with the situation by providing funds to SAC to increase its staff and to hire outside consultants to provide assistance where necessary. In a January 27, 1983, memorandum summarizing a meeting with DMV's Brannigan, PW manager Levi stated:

DMV has serious reservations about SAC doing system design—SAC needs to be beefed up with state-of-the-art people; Snedeker has the power and the dollars to do this.

DMV finally opted to substitute PW for SAC as the organization with primary responsibility for creating the new computer system, and no funds were made available to improve SAC's resources. The process of hiring additional SAC employees to backfill the slots of experienced SAC staff that would work on the DMV project never began. DMV now turned to persuading the Administration to adopt the PW panacea.

Prior to the waiver request, DMV Director Snedeker had submitted two memoranda to Deputy Chief Counsel Merin arguing that SAC could not implement the DMV master plan by June 30, 1985. Both memoranda were prepared by several members of Snedeker's staff under his and Kline's direction.

One memorandum dated June 7, 1983, noted that SAC "has assured DMV that the normal bureaucratic processes will be able to complete the master plan project by July, 1985." It concluded, however, "I have serious reservations about SAC's ability to deliver on its promise." Nonetheless, former DMV Special Assistant Brannigan, a primary drafter of the memorandum, testified that, while "I think my preference was to go out to bid to Price Waterhouse," SAC could have done the job with sufficient funds and commitment "from the top." Brannigan told the SCI that his "personal feeling" was expressed in the following language of the June 7 memorandum:

If the Division of Systems and Communications is assigned primary responsibility for the design, programming, testing, conversion and implementation of the DMV Master Plan,

then a detailed schedule and evaluation system must be established. The Governor's Office must take a direct role in reviewing the progress being made by the Division . . .

A Snedeker memorandum of June 15, 1983, cited outdated and irrelevant funding situations in an effort to make his point. It also used strong rhetoric to deride SAC personnel as "carry-over employees or civil service employees" and to belittle SAC management. The SCI's investigative record contains no objective information challenging the competency of SAC personnel. All except Director Bianco were career civil service employees, and he was a merit appointee of a former Republican attorney general and served four other attorneys general as a computer professional. Bianco referred to the Snedeker memorandum as a "Pearl Harbor letter." Under questioning by SCI Counsel Gaal, Brannigan testified about the unfairness of such generalized characterizations:

Q. *Have you had any conversations with SAC people or others about that kind of language, what that kind of language in this memo has resulted in, in terms of repercussions?*

A. That kind of language personalizes things and makes it—looking back from hindsight, it's unfortunate. I have had a 10-year relationship with Don Bianco dating back to—I am one of the principal authors of the Public Advocate reports [on DMV], so I have been interested in the reform of Motor Vehicles for a long time, dating back through the Byrne Administration, and I spoke far harsher things about the Byrne Administration's operation of Motor Vehicles than I have against the Kean Administration. And one of the results of the second Public Advocate report was the establishment of an interdepartmental task force by Attorney [General] John Degnan, and I served on that and so did Don Bianco, and he was always most helpful in trying to facilitate and resolve problems and was always looking at the point of view, from a state perspective, state government perspective, so I had a very good working relationship with Don Bianco.

* * *

Q. *Is there any question, or was there then, as to whether Don Bianco or anyone else at SAC*

would put their shoulder to the wheel and do the best they could to implement the project? Because certainly the language of "carryover employees" implies more than just that they are Civil Service, but that we have a new Administration and we might not get this thing done on time.

The Division's operations will begin to fall apart just about the summer of 1985. This will give the motoring public the impression that this Administration has failed to improve the Division of Motor Vehicles.

SAC Better Than Portrayed

- A. When those words were put in there there wasn't much thought given to them, and I think everyone would like to pull those words back and have them disappear. I think it was an unfortunate choice of words, and I think particularly with people like Don Bianco and Bob Meybohm, they enjoy the professional respect of everyone around there. I think really the real issue shouldn't be the individuals, but was this too big a burden to put on SAC and the time frame involved in it and I think that was the driving force.

Other officials outside of DMV's top management told the SCI that SAC was a respected, full-service data processing center providing adequate services to the Department of Law and Public Safety and other criminal justice-related agencies within the State. Former DMV Director Wiskowski testified, for example: "There was nothing that was a priority to me that [SAC] didn't get done." SAC was accustomed to programming and operating complex computer systems. Indeed, former SAC Acting Director Meybohm testified at the SCI that the main reason SAC had assumed it would eventually supervise and perform the application programming for the new system "is the fact that we always knew that we would be the responsible agency for the . . . ongoing maintenance and enhancement of whatever system was put in."

In addition to citing data in misleading contexts, the June 15 memorandum flatly declares that SAC could not perform, in part because it "must design and implement the Insurance Surcharge System by January 1, 1984 . . . [using] between 80 and 85 percent of SAC's resources." This was an extraordinary statement since it was known at DMV that design and implementation of the surcharge system was to be part of the contract to be awarded to PW.

The assumption changed when SAC Director Bianco began talking with Snedeker and Kline about the possibility of an outside vendor providing a turnkey operation. Bianco was finally told that PW had submitted a draft proposal. When he objected, Bianco was given a mere three days to prepare a counterproposal explaining how SAC would do the job. The SAC proposal consisted of an oral presentation with outlines and slides to Greelish, Merin, Snedeker and Kline, on June 9, 1983. SAC officials estimated that SAC could complete the design and programming of the new system at a cost of \$2,096,000—counting additions to its own staff (16 programmers or analysts) and contracts for outside consulting assistance. Another \$410,000 would have to be added for second year salaries for the 16 additional SAC employees. SAC also estimated that hardware would cost an additional \$3,250,000.

The Commission particularly questions Snedeker's assertion that the "floundering project to automate the Motor Vehicle agencies" was further justification for preferring PW to SAC. During its investigation of the DMV agency system, the SCI confirmed that the key factor in the delay of agency automation was the extremely tardy approval of lease sites for automated agencies. As Brannigan testified, the Snedeker memoranda were solely "designed to support the DMV position" that the Price Waterhouse route was the way to go.

The representations concerning SAC's shortcomings, although misleading and presented with almost no opportunity for rebuttal, were crucial to the decision to give PW the pivotal role in the overall project. Note the political irony of Snedeker's "bottom line" admonition in his memo as to the consequences if PW were not given the job:

The SAC presentation was put together on such short notice that it could not fairly be construed as in competition with PW's proposal. Yet this is exactly how DMV officials characterized the SAC document. Bianco testified at the SCI that, in hindsight, the SAC estimates might have been approx-

imately \$1 million short of a realistic figure. After including this additional amount, the potential savings of over 50 percent in comparison to the cost of the PW proposal (which did not include millions of dollars for necessary hardware) was so great that the SAC alternative should have been given much more serious consideration. There should have been more of an opportunity for further SAC input.

Bianco was not informed of Snedeker's June 15 memorandum denigrating SAC. Only after hearing about its existence and obtaining a copy from another source was Bianco able to respond. He characterized Snedeker's critique as "nonsense" in a memorandum to Attorney General Kimmelman on June 27, 1983. Bianco further noted that SAC had designed, developed and implemented numerous complex computer systems for state government. By that time, however, DMV's pro-PW decision was a fait accompli. Bianco was questioned by SCI Commissioner William S. Greenberg about why he did not more aggressively pursue his points with the Attorney General. The testimony:

A. . . . A more cogent argument was provided in some of the justification, I think even in Snedeker's letter to Merin, that the system needed overhaul and the service would deteriorate to such a point if we didn't get them done in two years we would be in a terrible situation; therefore, we had to act quickly.

* * *

COMMISSIONER GREENBERG:

Do you agree with that conclusion?

A. No.

COMMISSIONER GREENBERG:

I know you didn't want to do a letter and so forth. I can understand that. But did you tell him why you thought it was nonsense or did you tell anybody that you didn't think the system was going to collapse in two years?

A. Well, you know, you want me to be perfectly honest with you?

COMMISSIONER GREENBERG:

Yes.

A. The first couple of weeks after this happened I was concerned as hell about the job, as a matter of fact. I went to Greelish a couple of days later and I said, "Tom, do I still have a goddamn job?" I wasn't about to stand up at that point in time under that kind of pressure.

* * *

COMMISSIONER GREENBERG:

I don't expect you to.

A. I mean, it was a difficult situation at the time. I had an entire organization that had to support this effort and under circumstances which were less than desirable, put it that way, under lousy circumstances. No, I never said—I told Fasola, I said, "You know, we got an accident on the way to happen there, you know." But, we get crises all over the state, so you take them in order.

COMMISSIONER GREENBERG:

I understand.

A. I don't enjoy being here and [saying] "I told you so" and being a Monday morning quarterback. I don't.

On June 27, 1983, Snedeker forwarded to Greelish a list of "responses to questions which you raised concerning the implementation of DMV's Master Plan." The responses gave additional support for previous criticisms of SAC by Snedeker. Although the SCI's investigation indicated that SAC would have had convincing replies, it was again denied the opportunity to respond.

In a memorandum to Greelish on June 28, 1983, Kline listed several "key questions concerning SAC's ability to deliver complete implementation of the DMV master plan by July 1, 1985." Although the answers to the questions might have contributed to a correct decision, and could have been provided expeditiously by SAC, the verdict reached the next day was to go with the PW proposal without further consultation with SAC. DMV's one-sided input was reviewed by Stevens, Merin, Kimmelman, Greelish, Snedeker and Kline at a meeting on June 28, memorialized in a memorandum from Kimmelman and Snedeker to Stevens on June 29, and a bid waiver in favor of PW was recommended on June 29, 1983.

On July 1, 1983, Attorney General Kimmelman submitted a memorandum justifying the PW bid waiver to the Division of Budget and Accounting. Kimmelman noted that Kline would serve as Project Manager and "coordinate the activities between the Office of the Attorney General, SAC, DMV, all other State agencies and the consultant." Stevens and Edwards of the Governor's Office received copies. On July 14, the Division of Budget and Accounting gave approval for DMV to retain a consultant for the project. PW submitted its 292-page formal proposal on July 14. On July 19, 1983, a formal request for waiver of advertising was signed and forwarded by Kimmelman to Treasury officials for signatures.

PW Not a Panacea

PW did not, however, live up to the degree of perfection ascribed to it in DMV's formal and informal representations. PW obviously was not immune from problems that would have plagued any organization, public or private, attempting to complete the DMV project within the arbitrarily constricted timeframe established by DMV management. Testimony in the record at the SCI demonstrates also that DMV decision makers, with little supporting data and a great deal of apparent bias, too readily accepted the notion of SAC's fallibility and PW's infallibility.

Although PW had a large and experienced data processing organization, it had never done a system design implementation job of the magnitude of the DMV project for any other state. Some of the PW staff on the DMV project were only recently hired by PW and some had only limited experience on a large scale implementation project.

Based on SCI analyses of PW records, between April 30, 1983, and July 1, 1985, 68 PW employees, from the rawest programmer to the most seasoned partner, worked on the DMV project. Twenty-seven of the 68 were hired by PW after April 30, 1983. Twenty-two of the 27 new hires—or more than 81 percent of those employed for the most critical project work—were in the consultant/programmer category. Four were managers and one was an accountant. PW experienced a high degree of turnover of staff assigned to the project. In a routine "second partner review," Norman Statland, a PW principal and data processing expert, wrote on September 26, 1984:

There is overall concern with morale throughout the project staff and, specifically, the Violations subsystem team. The reasons are related to the resignations and turnover in key personnel, and the situation that replacements have not been delivered within a short time period. Furthermore, management has not always recognized and adjusted the implementation schedule to reflect that when replacements are assigned, there is a start-up time during which they are essentially non-productive.

Statland further mentioned that he had noted

significant mistakes in entering and manipulating data within the respective data base files, by inexperienced [PW] data base personnel who have each had significant learning curves and considerable turnover—i.e., seven changes in the data base administration function, within the course of the project.

Statland testified, regarding the team assigned to data base design, that PW was "victimized by circumstances beyond our control, that there was a continued succession of change in that particular position." He explained that the person principally responsible for the data base function was replaced for inability to get along with other staff members. His replacement married and then left New Jersey after only two months on the project. A third person, hired specifically for the project, was replaced because his work was not of sufficient quality. His "understudy" replaced him but shortly thereafter left for a better job offer. Yet another replacement worked a few months but also left for another job. The project was completed finally by a sixth employee. As a result of these problems, at Statland's recommendation, PW had to make additional revisions of its data base design. Statland described a specific example of the adverse impact of turnover on the project in his second partner review of January 17, 1985:

My review indicated that we will indeed have a small over-run on the over-all budget, with the exception of the Revenue Reporting area, where essentially we have had to write off over 1,000 hours of effort put forth by two employees who left the firm prior to comple-

tion of their work. Because of this situation—i.e., their work was taken over by less knowledgeable staff—system testing for the revenue reporting area should be much more extensive than provided in other areas.

One major “unplanned turnover” occurred when PW’s project manager on the DMV job, Henry Fryd, left PW to take a job with another firm in September, 1984. Fryd had replaced Roy Levi in January, 1984, as a “planned rotation” to bring in a project manager with more technical experience. Levi in his SCI testimony indicated that he knew nothing about his so-called rotation:

Q. *Were you surprised when you were transferred off the project?*

A. Was I surprised? Yes, I was a little bit surprised.

Q. *Did you have any difficulties in any area prior to your transfer?*

A. Not that I was aware of, no.

Q. *Did you find out that you had any?*

A. No, I did not.

Q. *Were you ever given any particular reason or basis for that transfer?*

A. As I recall, the reason was to give a manager who was, perhaps, with one year less experience than I did, some experience at becoming a project manager.

Q. *And would that be Mr. Fryd?*

A. Yes, it was.

PW partner Driscoll testified at the SCI that “there were some periods of time when we did have some heavy turnover, non-characteristic turnover I would call it, during the summer of 1984 when we appeared to be the target of a particular executive recruiting firm that stole a number of people from us to a client of theirs in New York City.” Although Driscoll insisted that PW’s overall staff turnover on the project was normal for the industry, the particular turnover problems PW encountered were similar to the problems that prob-

ably would have faced SAC on account of classified civil service requirements. As described by former SAC Assistant Director Meybohm:

Civil service doesn't really put constraints on you in hiring people. . . So it's not the problem of hiring as much as keeping. In other words, as a manager of a line organization of state government, the problems you have with civil service is retaining your qualified people, not so much hiring them. . . So civil service is an operational problem for line managers in state government but it is not—it is not an obstacle that prevents us from accomplishing our jobs.

PW’s turnover difficulties are noted to indicate not only their adverse impact on the DMV project but also to show that PW had to deal with the same kind of problems that would have faced SAC in implementing the project. Obviously, DMV intended to promote PW by convincing decision makers that only SAC would face turnover and other personnel problems. DMV’s readiness to assume PW’s superiority regarding staff and management continuity derived, in part, from PW’s own representations. The PW proposal states that, in order to meet the requirements of the project, one of its aims was to “provide continuity of staff at the engagement management level (partner and manager) over the twenty-four month project life cycle.”

One official who finally realized that PW did not deliver all it had promised was DMV’s own Robert Kline. He testified on this subject under questioning by Counsel Gaal:

Q. *Price Waterhouse[’s turnover] was high?*

A. Yes, it was high. Well, I talked to them about that, and they have the same problem, I think, that we all have with state government, a law firm, or private industry; when a person gets a better opportunity, they go, and you can’t restrain them physically. So in the case of their project managers, they would get jobs with banks, or whatever, and they would go. What are you going to say, no, you have to hold that man here?

Q. *The reason I’m asking you is because in the early letters [to the Governor’s office], particu-*

larly the one that Mr. Snedeker wrote evaluating SAC, I believe it's mentioned in there how Price Waterhouse, one of its selling points was management, project management, whereas SAC has high turnover, and so forth. It seems that in reality, or at least on this project, Price Waterhouse also had the same management problems and turnovers.

- A. You're absolutely correct. Again, I think that is a far cry from what was promised and what was delivered, and I would state to any state agency to tread very, very carefully when dealing with a consultant, because they promise you the world, and hindsight is 20/20.

DMV's Christine Cox testified that DMV officials were sufficiently concerned about the level of turnover to discuss the subject with PW's Driscoll and Advani. She testified that such discussions took place so that DMV could "reemphasize the level of commitment to the project that we expected from Price Waterhouse."

The quality of PW's job performance—perhaps as a result of turnovers—was frequently questioned. For example, PW's system design was far more complex than the application requirements of the project called for, including coding that sometimes ran as deep as 16 levels. This situation prompted a technical observer from Applied Data Research (the State's system software vendor), to write, "I cannot help but wonder how this system is to be maintained in the future." SAC's JoAnn Rue testified that she believed the PW system's excessive use of central processing capacity derived from inadequacies of design and "the way they coded their programs" as well as inadequacies of the programming language which PW selected for the job.

G. Bruce Jones, Deputy Administrator of the Office of Telecommunications and Information Systems (OTIS), which now serves as the umbrella organization for all the State's computer centers, testified at the SCI about his own review of PW work:

Again, my observation, having come from an environment [at New Jersey Department of Labor] where we had stringent management over the consultant, and that was agreed [to]

from the Commissioner on down, I've noticed [in PW's work] an absence of standards or conventions, what we call naming conventions, usage conventions of the way the IDEAL tool is used. It looks to me just in having gotten involved and looked at what went on that there wasn't an awful lot of standardization in the use of the language. I think it was misused in many occasions. I think it was poorly managed. And there was no standardization so that as new people were brought on and other people left, they all seemed to do their own thing.

An indication of PW's staffing inadequacies was its need, at critical times, to seek outside help. On one occasion, as the 1985 computer crisis erupted, PW billed the state approximately \$20,000 for the subcontractor services of Telecommunications Tech, Inc., on the project. Although the DMV-PW contract provided that PW could not subcontract work "without the prior written approval of the state," PW did not obtain such advance written approval before hiring and billing (as out-of-pocket expenses) for the services of Telecommunications Tech. However, DMV's Christine Cox testified at the SCI that PW representatives did mention that they had hired outside assistance at the weekly status meetings. (Note: Just as SAC officials pointed out that SAC would have to hire outside consultants to assist it in performing the job, the contract with PW recognized that PW might have to bill the state for similar assistance).

Earlier, in April, 1984, PW's engagement partner, Ranjit Advani, and project manager, Henry Fryd, solicited proposals for assistance from two firms experienced in the design and implementation of IDEAL and DATACOM/DB applications: Decisions Support, Inc., and DBD Systems, Inc. Neither firm was hired but, interestingly, Robin Gillett, the person selected by DBD's president as the account manager for the proposed assistance, was later employed by PW to assist in the remedial work at DMV.

PW's internal documents indicate that the company was concerned about the experience levels of its own project staff. In a second partner review, PW principal Statland noted on September 14,

1983, that the programmer productivity factor estimated by project planners was "optimistic," based on the fact that "most of the staff is unknown, and that the programmers will be recent graduates of" PW's specialized training program. PW's detailed work plan for the comprehensive system, dated July 27, 1983, assumed that such graduates would be used as programmers starting in January, 1984. Moreover, additional "learning curve" time was required for PW staff to learn how to use a new data base and related software at the beginning of the project.

PW was warned early on not to promise that the new DMV system would be operational before the November, 1985, election. In a tone sharply contrasting with the puffery utilized by DMV upper management to tout PW's ability to deliver the new system within arbitrary deadlines, PW's Statland commented in his second partner review in September, 1983:

The key issue then for completion of the contract revolves around our ability to bring up three major subsystems . . . by June 1985. In my opinion, it is not possible to bring up three major subsystems such as are encompassed in Licensing, Registration, and Violations within a three-month period and expect everything to go smoothly. Therefore, I strongly advocate that the firm not commit contractually to bringing up all of the system prior to the end of 1985.

DMV's Kline, once the most forceful advocate for PW to do the project, testified under questioning by SCI Counsel Gaal about his heavy reliance on PW's reputation:

Q. *Did you rely, to a large degree, on the professional reputation and the name of Price Waterhouse?*

A. And the fact—yes, and the fact that they had done the master plan.

Q. *But the master plan is not a technical plan, is it? It's really a wish list, isn't it? There is nothing there to implement, there is no hardware or software or anything else laid out in the master plan, is there?*

A. That's true, but it's the blueprint that you then go out and do your requirements definition study and everything else from. There was no reason for us not to think that [PW] could do it. I have yet to hear anybody give me a reason why they felt that [PW] couldn't do it, and I think their reputation does have a lot to do with it. I mean, I could see if we were going out and getting Joe Schmaltz, you should have a lot of questions, but we went out and got [PW], and I contend that that reputation means a lot when you're dealing with the taxpayers' money. True, the results didn't come out, and I'm just as annoyed and disappointed as everyone else, even more so, but we did get a reputable firm. And I think if there is anything that's a shame or should be looked at is how firms like [PW], who holds themselves out as consultants, and related software houses like ADR [Applied Data Research], can make promises to government entities to do this and then don't deliver. Maybe we should be looking at that in the sense of, you know, how do we hold them accountable for that, because it seems to me that it's a very lucrative area for consultants and yet the promises far exceed the deliverables, and I think that's something that's a real shame on the part of the taxpayer.

WHO'S IN CONTROL? WHO WILL DO WHAT?

Confusion of Roles and Tasks

Even before DMV contracted with PW on November 9, 1983, and before formal contractual roles and relationships were established, all parties began to work on the overall project. As a result, it was agreed that PW could submit bills under the authority of its second phase contract until after the new contract was signed. DMV meanwhile turned over responsibility for final technical decisions to PW rather than to the more experienced in-house data processing managers at SAC. As noted, DMV's Kline became "project manager" even though neither he nor Christine Cox, DMV's day-to-day coordinator for the project, had any significant data processing experience. The only experts readily available to them were the people at PW or SAC, but there was confusion over who was responsible for what.

From the start, in fact, the project was plagued by concerns as to what roles and tasks would be performed by PW and SAC. Minutes of a meeting held on July 7, 1983, attended by representatives of DMV, SAC and PW, indicate that DMV and SAC were described as "working users." Although PW was apparently to have "responsibility for the design and implementation of the Surcharge System," the minutes note, "... it is difficult to spell out this primary responsibility in great detail." Kline is quoted as saying that the "primary responsibility rests with Price Waterhouse," but PW representatives raised concerns that only SAC knew the current system "well enough to make significant modifications" and to "do the programming necessary to access SAC's files" in time to meet the surcharge system deadline.

The minutes state that the group had to "work out and wrestle with" various roles, but that "the main concern right now is that Mr. Kline wants to be sure that the justifications for the waiver are met." Levi, PW's initial project manager, suggested that the "relationships must be clarified before PW can submit a [formal] proposal." Kline's summary is set forth: "PW will be running the show in conjunction with SAC and DMV, and the Administration will be relying on SAC's expertise throughout the project." However, as pointed out below, SAC's advice was not followed on the most crucial technical decision of the project: selection of the programming language.

The programming language, IDEAL, was a software product purchased from Applied Data Research of Princeton by SAC. Since it was to be used at PW's direction on the DMV project, ADR representatives dealt primarily with PW in defining and refining the capabilities of the IDEAL language and other ADR software utilized during the engagement. Because PW was ADR's principal contact regarding technical concerns, ADR's cautions concerning IDEAL's limitations were communicated primarily to PW. In addition, PW was chiefly responsible for assessing such cautions and deciding if they justified any changes of course. ADR was in a difficult position. Its contractual relationship was with the State, through SAC, but it had to deal primarily with a third party when detailed applications of its products were assessed. Thus, a private party, PW, made the decisions on whether the State should take tech-

nological risks and more technically informed State representatives had little or no input.

A number of meetings were held between ADR and PW representatives without including anyone from SAC. JoAnn Rue, Director of Technical Services and Data Base at OTIS, and at the time of these events a SAC liaison with ADR, was questioned by SCI Deputy Director Clark about details of the primary role played by PW and the secondary role played by SAC in coordinating with ADR:

Q. Now, did you ever have to, by you, I mean anyone from SAC/OTIS, have to invite yourself to any of the meetings between Price Waterhouse and ADR?

A. Yes. . . One in particular was a meeting that was taking place in Dallas, and I believe it was in August of '84, which I found out about, I don't even remember how at this point in time, but it was to be a meeting where design reviews were to take place by ADR. . . . Price Waterhouse had additional contacts within ADR that we, the State of New Jersey, were not privy to those contacts.

Q. You mean with different individuals?

A. Yes. They had names and phone numbers that they could call that we did not have as people that we could call.

All Team Members Not Equal

When it came to technical concerns, it was made apparent to SAC that PW had the dominant voice. In late 1983, Robert Meybohm as Acting Director of SAC criticized PW's coding documentation during the programming of the surcharge system. Partly in response to such criticism and to SAC's apparent reluctance to accept PW's role of primary responsibility on certain technical aspects of the project, and partly to encourage the participants to work together, Attorney General Kimmelman held a meeting of all parties. The testimonial record shows that the meeting was scripted by DMV's Kline to have the Attorney General focus on the importance of SAC cooperation. Under questioning by SCI Counsel Clark, Meybohm described the meeting:

Q. *You were critiquing the procedures that were being followed during the programming?*

A. That's correct. But that was pre-IDEAL, though. Understand, . . . that would have been in the fall of '83 and that was in the process of the implementation of surcharge, and our conversations and our tests and so on and so forth relative to IDEAL [the programming language] did not come until the spring of '84.

Q. *So it was at that point that you really learned that Price Waterhouse was in charge?*

A. Oh, yes.

Q. *And how was that expressed to you?*

A. I think the best way to maybe describe that is that after the meeting, Bob Kline apologized to me that he had to do that to me today.

Q. *Who did the talking during that meeting?*

A. Well, there was Kline and the Attorney General.

Q. *What did the Attorney General tell you?*

A. Well, he didn't talk to me specifically. He said, "This project will be a success. This is the largest waiver in history in the State of New Jersey and we will be successful, and Meybohm, it's your job to see to it that it's successful." And, you know, "You are to do nothing that is going to hamper these [PW] people from being successful."

Q. *Did he use the word "obstruct"?*

A. I don't remember.

Q. *What was your response to that?*

A. "Yes, sir."

Q. *Despite that meeting, you still felt that you could, at the time you conducted the tests involving the IDEAL language, go to Mr. Driscoll, Mr. Kline and Ms. Cox and indicate your reservations concerning that language?*

A. Yes.

Q. *So you did not feel entirely bound not to criticize the implementation; is that correct?*

A. No, no, not at all. But I understood in no uncertain terms who the boss was, and basically the boss was Bob Kline with regard to the implementation of [Division of] Motor Vehicles. So I had an obligation to Kline to make him aware of my reservations, and I did such.

Q. *Was that meeting in Mr. Kimmelman's office in response to any complaints by Price Waterhouse about your criticisms, that you know?*

A. I don't know what the genesis of that meeting was. I was told to be there.

Q. *Did you understand after that meeting that it was the consultant, Price Waterhouse, that was in control and would say what procedures would be followed during the implementation programming?*

A. I understood very clearly that Price Waterhouse and [DMV were] calling the shots, and that my role was to see to it that they had the resources and the wherewithal to be successful.

Meybohm apparently was not completely subjugated by Kimmelman. Indeed, PW's Driscoll told the SCI that Kimmelman also instructed Meybohm to—as Driscoll put it—"hold [PW's] feet to the fire" during the project. As a result, Meybohm adopted a low key approach in attempting to persuade PW about his concerns, although he had no control over PW's decisions. In a memorandum in November, 1983, Driscoll wrote to then PW project manager Levi about an occasion when Meybohm tried to advise PW:

Bob [Meybohm] continues to express concern to me (on a confidential, low key basis) about the experience level of PW people writing code. He knows they work hard, i.e., long hours and weekends, but is concerned that they are not working smarter. Not so much a problem now, with only 10 programs, four people writing code and accessing the machine, but when the comprehensive system programming gets underway with 300 plus programs and 15 plus staff writing code and

the same computer configuration we have today (until January, 1985), there could be some difficulties arising with response time as well as the timetable. Consider this just a cautious warning message.

PROGRAMMING LANGUAGE CRISIS

Selection of Language

PW selected the IDEAL programming language for the DMV project—a decision that was to cause serious performance problems for the firm. This language was newly released to the public in October, 1983, by Applied Data Research. (A programming language is computer software which is utilized as a tool during the application programming of a system). After a competitive search, SAC had purchased data base software for the new DMV system, DATACOM DB, another ADR product. SAC also decided to purchase IDEAL as part of a package discount offered to the state by ADR since IDEAL was the only “fourth generation” language compatible with DATACOM DB. SAC later concluded for various reasons that IDEAL was not yet a “mature” enough language to utilize for its various jobs, including the new DMV system. PW nonetheless specified in the 1983 contract that IDEAL was its language choice for DMV. IDEAL became available to the project for training in January, 1984, and for testing in April, 1984 (the testing release being available from ADR three months later than SAC had promised PW).

Although IDEAL is easier to use and maintain than less sophisticated programming languages, such as COBOL, it is—in computer jargon—“inefficient on the hardware.” That is, IDEAL requires more machine power, or computer cycles, in order to keep the processing times for transactions within reasonable bounds. Its exclusive use initially in the DMV project was the primary cause of the system’s collapse in mid-1985.

The essence of PW’s defense of its selection of the IDEAL language was that DMV wanted a “state-of-the-art system” and IDEAL was the only fourth generation programming language that

could be used with the data base software that had been selected and put into place by SAC. Although its contract gave PW authority to select any data base software for the new DMV system, PW’s position was based on what the SCI regards as a faulty assumption that a fourth generation language is necessary to achieve state-of-the-art performance. According to expert testimony at the SCI, it is technically naive to say, that “state-of-the-art” means that every component of a system is at the cutting edge of available technology and that there is no room for artful combination of both mature and emerging technologies. For example, OTIS’s Bruce Jones said:

Fourth generation language is not appropriate to all solutions. Fourth generation language, at this point in time, certainly isn’t appropriate for a system of this size to do the kinds of things of the production load of [the DMV] system because fourth generation languages within the computer are very inefficient. They are not intended to be a solution to systems of this magnitude. I would venture to say you would be hard pressed to find a system with this transaction load, with this file size, with this kind of requirements for overnight updating anywhere else in the country using a fourth generation language . . . Fourth generation languages are state-of-the-art in terms of people productivity that are trying to convert a need to a machine solution. But they’re not state-of-the-art by any stretch of the imagination in terms of machine performance or system performance.

PW officials realized that they were assuming certain technological risks by utilizing IDEAL. As PW’s principal, Norman Statland, stated in his February 8, 1984, second partner review:

It should be noted that the key to the successful completion of the programming and unit testing activities is heavily dependent on use of IDEAL as a program report generator, which will—hopefully—give us the ability to reduce the currently scheduled 15,700 hours of programming activity to something under 10,000 hours. At this point in time, it appears that the only significant problem we could have in this engagement is some unexpected

problems with IDEAL. A prototype program will be generated and tested in March to determine if there are any problems other than known limitations present in IDEAL. The set of restrictions related to use of IDEAL will have to be adjusted to by the staff.

The reference to anticipated reduction of programming hours relates to one of the major incentives available from using IDEAL. Its code could automatically perform several steps which a programmer using a less sophisticated language would have to perform himself through additional instructional coding. Since programmers using IDEAL may write shorter programs and in less time than would be required with other languages, application programming for computer systems can be developed faster and at substantially less cost.

These features would not only give the state an easier system to maintain but also provide PW with certain productivity advantages. For example, the successful use of IDEAL might possibly have prevented PW's billings on the project from exceeding the contract's \$6.5 million cap and also might have saved PW from having to devote non-billable resources to the project. Richard Kaufman, ADR's vice president, testified that approximately 600 customers use IDEAL and that surveys of these customers indicated up to a four-fold improvement in productivity for IDEAL over less sophisticated, though more mature, programming languages.

Driscoll testified at the SCI that PW partners John B. Singel, Ranjit R. Advani, Norman Statland and himself participated in the PW decision to select the IDEAL language. Asked if any of these individuals considered whether IDEAL might prevent PW billings from exceeding the \$6.5 million cap, Driscoll testified:

A. I believe that some people did give some consideration to that.

SCI DEPUTY DIRECTOR CLARK: Do you know who?

A. I don't—I would not—I don't know who specifically, but I know that that was a consideration.

Q. That was part of the discussions?

A. Put on the table, yes.

Statland testified that programming productivity savings anticipated by using IDEAL were not his own belief but reflected the judgment of "others" at PW.

PW's insistence on using IDEAL for all application programming until the time when the system finally proved unworkable was its major failure. ADR's Kaufman testified that other customers commonly used a "mix" of tools in their applications:

It's quite common in business data processing to mix your programming tools or programming languages as appropriate. Some language in some cases you would develop applications where the resource consumption was not so great and so it was perhaps more important to have a maintainable application or one that could be developed more quickly. In other cases there were instances where the performance that can be achieved with a more primitive language might be the mitigating factor that would cause you to go that way.

The Risks Increase

In a memorandum on April 24, 1984, Statland accented PW's early recognition of the risks associated with the use of IDEAL:

This leads to my other concern, which is the proposed total use of IDEAL as the program generator. While IDEAL has many facilities in terms of its macro functions, which will help with on-line data entry, screen and report production, I am concerned that the use of IDEAL for the complex processing will make it very difficult to debug, particularly because of the limited debugging aids that are available with the use of IDEAL. We have agreed that we will revisit this question after the beta test of the IDEAL program development takes place in May.

These tests in May or June, 1984, involved writing a program in both IDEAL and COBOL

languages and comparing the run times. According to Statland, the results revealed that the program produced with IDEAL code ran 25 to 30 percent slower than the program produced with COBOL code. At the time of the test, this meant to PW that a COBOL-based eight-second response time would instead take 10 seconds. In any event, these figures included a three-second delay estimated for the statewide communication network. However, PW expected to receive a new release of IDEAL in the summer of 1984 that would reduce this response time. Finally, PW believed that the scheduled purchase of a larger computer would handle the workload more rapidly. But, as Statland testified, PW experienced some surprises:

As it turned out later, we found out that the way IDEAL works, the PA2 [testing] monitor was unable to give us the complete information so that some of the overhead processing attached to IDEAL was not included in the PA2 statistics. And, therefore, we did not have a complete picture of what IDEAL would do in a real-life environment. Secondly, we ran some stress tests [in May of 1984] . . . Now, our stress tests did not reveal the Achilles heel, if you will, of IDEAL, which was the way IDEAL handles the use of main memory within the central processing unit under peak load conditions. And what happens is that IDEAL, essentially, reserves each of the program requests for input or output data into a slot and as it turned out later it actually, in the so-called multi-user facility, otherwise called MUF, it keeps it there for an average of about up to eight seconds.

While OTIS' Jones testified that the PA2 monitor is universally accepted, OTIS' JoAnn Rue testified that PW's methodology prevented it from receiving important feedback during tests:

One of the ways a monitor works is by having identification characteristics to hang on to. In other words, every transaction that comes into the system has a unique identification. The way the system was initially put together [by PW] and tested in early stages, you have the ability within IDEAL that everything takes on a uniform IDEAL transaction identification. One of the specific requests that SAC had

made to Price Waterhouse was would you please break up into unique identification so that we can track right down to a specific program what is happening. That was refused. And it was refused in the fact that it was not done, that there was not time to do it. This was not done until much, much later, and, in fact, was still being requested by SAC after the implementation of the project.

As Statland pointed out, PW eventually discovered that an otherwise desirable feature of IDEAL was contributing to the response time delays,—but it did not learn how to cope with this problem until June, 1985:

Ideal has a feature in it called CBS, which stands for compound Boolean selection. And it's a very nice feature for this system since in many cases data is retrieved from the system under compound conditions which include, let's say, a driver identification as well as a vehicle identification. Well, what was not determined until June of 1985 was that the CBS feature, which is a very time consuming and very delaying feature, could be circumvented by use of COBOL programs . . . In effect, in the remedial program we have done just that and that has produced most of the significant improvement in the run processing times on the batch side . . . [Since the CBS feature need only be used 30% of the time] . . . you circumvent it the majority or the time . . . thus saving a lot of processing time, and that's been able to get us to get the batch processing time down to the area we were searching for.

On November 2, 1984, Statland noted in a second partner review the significant problems experienced as a result of PW's use of IDEAL:

[IDEAL has] proven to be replete with software bugs and has produced object code that is somewhat slower than object code produced by comparable COBOL source code.

Statland pointed out that considerable time had been expended in meeting with ADR personnel and in running tests to prove that IDEAL was generating "slow-running code." He continued:

The end result of all this is that whatever productivity benefits we might have gained from the use of IDEAL, which were expected to be approximately 25 percent of the time spent in coding and unit testing, have been largely dissipated.

Limitation of Terminals

In the area of on-line performance, PW tests conducted on November 27 and December 11, 1984, revealed that as few as 200 active user terminals would result in serious response time problems with PW's system using the IDEAL language entirely. It should have been clear to all concerned, however, that DMV envisioned a system with at least 400 direct access user terminals at the outset—569 by the end of 1986. Several hundred additional terminals would be part of high-volume networks linking the agencies, law enforcement, insurance companies and the courts. Although the agreement between the state and PW does not specify the number of terminals that the system must be able to accommodate, DMV's Kline testified that the approximate need was well known:

COUNSEL GAAL: Do you recall what numbers were discussed in terms of minimums?

A. We talked about a thousand. Four hundred at the Division, and then you had some 200 municipal courts, and then law enforcement. You're talking about a thousand terminals.

Q. *To whom would you have talked about that?*

A. Price Waterhouse partners. . .

Q. *From the beginning?*

A. From day one, from day one.

Q. *In your mind, there is no dispute?*

A. There is absolutely no question in my mind, or anyone affiliated with this project, that they knew the volume. I mean, to suggest that we can only support 200, 220 terminals that we are supporting now, when you have 400 terminals in the Division, is absolutely ludicrous.

Under questioning by SCI Commissioner Greenberg, PW partner Driscoll described the terminal issue as of December 10, 1985:

I don't think there's any question in the mind of Price Waterhouse that the number of terminals which are available for DMV to do business today is inadequate. We haven't questioned that. As a matter of fact, we've agreed we're going to improve that situation and that's what we're working towards right now.

Driscoll testified that this difficulty arose specifically from the use of the IDEAL programming language:

Well, the core issue here is that the concern for limited availability of terminals results from the use of the IDEAL language and that limitation, which became apparent only late in the game, forces this to become an issue.

Problems With Terminal Response Time

Response time is the time that passes before a system provides information on the terminal screen to an inquiring user or the time that passes before the system accepts updated information from a user performing direct on-line maintenance. Total response time is the sum of "internal" response time and "external" response time. Internal response time involves the time it takes for the central computer to pick up the transaction and process it. External response time involves the time it takes for the communications network, which links the user terminals to the central computer, to transmit and return the data. PW partner Driscoll maintained that the programming language affects the internal response time and not the external response time. According to Driscoll, ADR, based on test results, was satisfied that the internal response time involving IDEAL's working with the data base was reasonable but that the network or external response time was unsatisfactory. According to OTIS, the external response time depended in part on the PW-designed programs and terminal configuration.

It was DMV's expectation that terminal response time for on-line users should be three to five seconds, whether for inquiry only or for

maintenance (updating of information). The 1983 agreement states, rather ambiguously, "Both [PW] and [SAC] will work to achieve satisfactory response time." PW partner Driscoll testified that the many variables involved in achieving a satisfactory response time prevented contractual commitment to a specific figure in seconds:

COMMISSIONER GREENBERG:

As we understand it, Motor Vehicles believed it was going to get a three-to-five-second response time on all transactions that were part of your enterprise. Is that your understanding? Is that what you promised to give them?

A. We did not promise to give them three to five seconds.

COMMISSIONER GREENBERG:

What was it?

A. I would say it would be in the norm of five to seven, five to eight seconds.

COMMISSIONER GREENBERG:

Was it the understanding between you and DMV that it would be five to eight seconds and not three to five seconds?

A. No, my understanding is what was the language in the contract, that we had to work together to achieve an acceptable response time.

COMMISSIONER GREENBERG:

And did you?

A. And this requirement that specified on May 20th, 1985, is the first time that somebody put it down on a piece of paper to say that it should be three to five seconds.

* * *

COMMISSIONER GREENBERG:

What was the response time as of May 20th, 1985?

A. As of May 20th, the response time is sporadic, at best.

COMMISSIONER GREENBERG:

What does that mean?

A. Sporadic means at certain times you might hit this but most of the time you weren't and some of the time the response time was in excess of a minute or two minutes.

For several months after the system went on-line DMV personnel performing certain tasks each had to utilize two terminals. This expensive and cumbersome system had to be used because the slow response times for IDEAL-based transactions prevented expeditious movement between different data files through the main "menu." Ultimately, reprogramming of the system from IDEAL to COBOL would eliminate the extra terminals.

Initial Sign-On Delays

Under questioning by the SCI's Clark, PW's Driscoll described another problem with delays in initially signing on to the system:

Q. Now, the terminals in order to come on line have to be brought through a sign-on procedure, is that correct?

A. That's correct.

Q. And we've heard information that that takes as much as ten minutes and sometimes an hour for a sign-in to occur. Are you aware of that situation?

A. The signing on procedure with IDEAL language is inordinately long.

Q. And those figures, ten minutes to an hour, are an accurate range?

A. I don't know about an hour but I know the ten minutes is not unreasonable.

PW COUNSEL: All the time?

A. It varies at different times of the day. There is a fast sign-on procedure in which you can put a lot of terminals up in the morning before everybody shows up but then there are, because of the two terminal aspect, that's the best way to describe it, if I want to not have two terminals but do the same thing as the two terminals do separately but do them with only with one terminal, that means signing off and

signing on within that terminal during the day so I would have that waiting time to sign on.

Q. *That would be another justification for using two terminals to avoid that delay as well?*

A. That's correct.

Q. *And Price Waterhouse is working on the solution to that problem in addition to the others?*

A. That's correct. By taking IDEAL out of the on-line system, we eliminate the sign-on problem.

Slow Batch Run Times

PW staff conducted tests of IDEAL's batch run time capabilities in August or September, 1984, and determined that, in comparison to COBOL, IDEAL run times were 15-20 percent slower. According to Joseph Farrelly of ADR, the first time that PW was advised by ADR that complete reliance on IDEAL might not be appropriate was in late September, 1984. At least one PW representative realized at an early stage that PW should not rely entirely on IDEAL. PW's principal Statland wrote in his September 26, 1984, second partner review that the project's implementation schedule had slipped, in part as a result of

use of the IDEAL software which has had numerous technical problems associated with it during the course of the last few months—and now still has some pronounced performance problems, which require that all I/O [input/output] handler activities be rewritten in COBOL. . .

ADR representatives did not communicate their early concerns regarding the use of IDEAL for the entire application directly to state representatives because PW was ADR's primary contact for the DMV engagement. It was PW's prerogative to decide how many times to seek ADR's advice, what type of assurances to demand and what course to follow based on the ADR response.

SAC Opposition Overruled

Increasing recognition of the problems with IDEAL caused PW to try to shift responsibility for resolution of the problems to SAC, which had cer-

tain technical support responsibilities. Although SAC was required to assist in resolving software-related problems, the decision to use IDEAL in the first instance was—as previously noted—entirely PW's. The 1983 contract stated that SAC "shall provide [PW] with . . . appropriate software tools, as specified by [PW]," including "ADR/IDEAL." Indeed, PW's decision, which was supported by Project Manager Kline of DMV, overruled SAC's advice to use the more mature, though less sophisticated COBOL programming language.

When PW finally realized that its reliance on IDEAL created severe performance problems, it adopted the simplistic position—in the view of this Commission—that if IDEAL was part of the technical support for the project, and SAC was responsible for technical support, then SAC should be responsible for any problems with IDEAL. This posture ignores two key facts: PW made the decision, against SAC's recommendation, to utilize IDEAL in a complex groundbreaking application, and PW assumed the role of the primary contact party with IDEAL's creator, ADR.

A review of IDEAL by SAC in March, 1984, caused SAC to defer use of IDEAL for its own non-DMV projects. Even PW partner Driscoll, in a letter to Kline on March 30, 1984, acknowledged the validity of SAC's concern:

ADR had made representations as to certain software features and functions which, in fact, do not exist in the installed software but are scheduled for delivery in future versions. A few of these yet to be delivered features and functions are technically significant, and give rise to justifiable concern on the part of SAC as well as PW.

* * *

Quite naturally, SAC is reluctant to rely completely on software which lacks risk free stability and could be operationally disruptive, when it has a lower risk option of doing business using existing software. Therefore, the decision to defer further ADR software installation is based upon technical reasoning as well as business judgment on their part.

SAC had advised PW and DMV to use the more mature COBOL language instead of IDEAL. Kline

however, overruled the State's technical experts in deference to the State's outside vendor, PW, which assured the project manager that any deficiencies could be overcome. As Driscoll's March 30 letter insisted:

The use of IDEAL as the programming language is most important from the standpoint of the significant productivity gains anticipated during the coding and testing phases of the system development process. At this time, PW is satisfied, the uncertainties associated with the use of IDEAL represent an acceptable risk when measured against the significance of the potential benefits. We believe SAC management understands the basis for PW's decision and does not disagree with our judgment regarding the planned use of IDEAL in the development of the On-line System.

Contrary to Driscoll's statement that SAC acquiesced in the PW judgment concerning IDEAL, the SCI's investigative record demonstrates that SAC disagreed and was being ignored for the most part by client partner Driscoll and engagement partner Advani of PW. In any event, tests of IDEAL by SAC in April, 1984, crystalized its opposition to the use of IDEAL, but PW and DMV failed to heed SAC's further warnings. The SAC tests confirmed that IDEAL-based programs took four times as many computer resources as COBOL-based programs to perform the same functions. SAC's Meybohm testified, under questioning by SCI Commissioner Paul Alongi, that he reported his concerns based on these test results to officials at PW and DMV:

COMMISSIONER ALONGI:

Did you talk to anyone at Price Waterhouse or at the DMV about the use of IDEAL now?

A. Yes, I did.

COMMISSIONER ALONGI:

And who did you talk with?

A. I have had extended conversations with Mr. Driscoll, and I have detailed my reservations on the use of IDEAL in this environment.

DEPUTY DIRECTOR CLARK: Did you talk to people at DMV concerning these tests?

A. Yes. And then I scheduled a meeting and had a meeting with Kline and Cox from [DMV] and expressed similar reservations on the use of IDEAL.

* * *

Q. And then were you going to DMV and Price Waterhouse with that information in an effort to convince them also not to use it?

A. That's correct.

Q. When you spoke to Mr. Driscoll, did he indicate whether he was persuaded?

A. I obviously didn't persuade him.

Q. Did Mr. Kline or Ms. Cox indicate that they would attempt to persuade Price Waterhouse not to use IDEAL?

A. No. I think they listened to me, they listened to me very attentively, they listened to my rationale and my reasons, and basically they said that, you know, but they would have to defer the final opinion to Price Waterhouse who in turn were their experts who they have hired to do this project.

* * *

Q. If you had been in charge of implementing the DMV computer system, your decision would have been not to use the IDEAL language; is that correct?

A. That's correct.

Q. And in effect you were trying to persuade the people who did have control of the implementation that they should also not use IDEAL; is that correct?

A. That's correct.

COMMISSIONER ALONGI:

To the best of your knowledge, had Price Waterhouse used IDEAL any time before this?

A. To the best of my knowledge, they had not. IDEAL was a brand-new product.

COMMISSIONER ALONGI:

So you had experience over them already with IDEAL.

A. We had a little bit of experience with IDEAL. As I said, we had acquired it and we worked with it and tested with it. I sent some people to training and we trained some of my professionals on it. They in turn came back and wrote some programs. We evaluated the performance of those programs, and it was based on those evaluations that I came to the conclusion that it was not appropriate for our environment. Now, let me qualify something. I think probably IDEAL and languages like IDEAL are the things of the future. I think that someday IDEAL will be an excellent product. What I'm really saying is at this particular point in time, in my professional judgment, IDEAL was not mature enough for the environment that Price Waterhouse wanted to use it.

DEPUTY DIRECTOR CLARK: How many times did you talk to Mr. Driscoll about these concerns?

A. On a number of occasions, but when it comes right down to it, there was one occasion where we set aside a meeting to discuss that one particular subject.

Q. *How would you characterize that discussion, as an argument?*

A. No. It's a very open-ended type of a discussion. Now, understand here and this is a—this is a professional judgment call and because I might—you know, the circumstances, you know, it's all very easy to have 20-20 hindsight. In this particular case I happened to be right. I could have been 100 percent wrong also. So I mean this was a professional discussion amongst qualified professionals. Price Waterhouse had a different opinion. Price Waterhouse's opinion was based on—they had their opinion. They were talking directly with ADR. They had their own consultants who, you know, are highly qualified technicians who had talked with ADR. They were convinced in their opinion that this was not only prudent and practical, but appropriate direction for them to go, an appropriate direction for [DMV].

* * *

Q. *And Mr. Driscoll assured you that he would be able to make the IDEAL language work; is that correct?*

A. No. He didn't really say that. He listened and so on and so forth, and then he gave me some of his side of the story. I mean when we got all finished, it wasn't necessarily the shootout at the O.K. Corral.

Q. *There was no acrimony . . .*

A. No. Oh, no.

COMMISSIONER ALONGI:

What was the result, though, of the meeting?

A. Well, the net result is that the—a technical decision was made on the part of Price Waterhouse to go and implement a Motor Vehicles system with IDEAL. So from there they began to write programs using the IDEAL language and they have basically written Motor Vehicles' system using the IDEAL language.

* * *

DEPUTY DIRECTOR CLARK: Did you provide written results of those tests to Mr. Driscoll?

A. No.

Q. *Did he ask for them?*

A. No.

Q. *Did you offer them?*

A. No. . . . the idea was to convince him what I had said; number one, make him aware that in my professional judgment I was not going to use IDEAL for the SAC data center, and, secondly, I thought that he was putting . . . Price Waterhouse, Division of Motor Vehicles, Department of Law and Public Safety and the State in jeopardy by using IDEAL for the implementation for this grandiose project.

Q. *And you expressed it to him in exactly that way?*

A. Exactly.

Other IDEAL Deficiencies

Meybohm testified about further details of his assessment of the IDEAL language during his conversations with PW's Driscoll and DMV's Kline and Cox:

... I'm on record having two discussions, one with Price Waterhouse and one with Division of Motor Vehicles management, and it seems like it gets buried that we only talked about performance, and I want to go on record it was more than performance. Index processing was one [thing discussed].

Index processing is a function of the DATACOM DB system software which allows storage of pertinent data along with the index that facilitates access to the general data base. Meybohm explained that he opposed the use of IDEAL in part because it would not support index processing, a feature which significantly reduces the amount of searches of the entire data base necessary to obtain limited answers from the system. Meybohm continued:

A. Secondly, IDEAL did not support a computer-to-computer interface. Now, why is that important? That is important in the sense that the environment at SAC had to support more than just DMV. That was not a DMV stand-alone environment. So our environment at many of the counties had their own county computers, and the [police] terminals up in Bergen County interfaced with the Bergen County computer, [which] in turn, interfaced with the State computer. So, in other words, behind that Bergen County computer you might have 50, 60, 70 local municipalities in Bergen County, sheriff's office . . . and IDEAL did not support that interface where it was a computer to a computer.

DEPUTY DIRECTOR CLARK: And you discussed that with Mr. Driscoll . . . the person from Price Waterhouse?

A. That's correct.

Q. *And with Ms. Cox and Mr. Kline from DMV?*

A. Yes.

Q. *And you specifically remember discussing those three things, the performance, the indexing and the interfacing?*

A. Yes. There's more.

* * *

Q. *Go ahead.*

A. IDEAL, and my statement to them prefacing all of this, in other words, what I really said was that IDEAL was not a mature enough software product for this environment, and this environment was the SAC environment, 24 hours a day, seven days a week . . . [Also] the fact that it did not—for an application development environment, IDEAL had no backup and recovery capability . . . That particular version [of IDEAL] that was available at that time did not support logging and error recovery and backup and restart . . . That's a lack of functionality within the product from an operational standpoint that caused me to make a decision that I would not use it in my environment.

Q. *And you communicated all these factors to Mr. Driscoll?*

A. Yes.

Q. *And all these factors to Ms. Cox and Mr. Kline?*

A. Yes.

SAC's JoAnn Rue described still another factor which Meybohm testified he discussed with Driscoll, Kline and Cox:

IDEAL did not support sequential processing. It only supported random processing. [With IDEAL] you could go through the file one record after the next, but each time you would have to go out [to the data disk] and get that record and bring it back in, rather than getting a group of records which now saves you an enormous amount of time. And that [feature] was very important to me, along with the index processing. . .

DMV's Kline confirmed that he had received warnings from SAC's Meybohm about the use of the IDEAL language. Under questioning by SCI Counsel Gaal, Kline testified:

Q. *At any time did you get any indications or red flags or concerns expressed by SAC or OTIS people?*

A. About what specifically?

Q. *About anything in connection with the project, that there may be programming problems,*

there might be response time problems, there might be support problems.

- A. The only thing—there was nothing specific. What SAC and Mr. Meybohm, who really was the most involved, spoke about was the fact that IDEAL was a fourth generation language and he was reluctant to use it throughout Systems and Communication which supported State Police and other agencies and that he would want to see it in operation before he would go to that. It was a professional opinion that he had with no hard basis in evidence to support not using it. And because we were paying Price Waterhouse millions of dollars for this, both Director Snedeker and I decided that they were the consultant and we would go with their expertise and listen to them.

In September, 1984, after a number of batch run programs had been written by PW using the IDEAL language, SAC conducted some tests to compare batch run programs written in IDEAL and COBOL. SAC's JoAnn Rue described the batch program tests and her recommendation to reprogram the high volume programs.

- A. We did that COBOL program in a couple of ways. There was no question . . . that the difference in time was significant, was very significant . . . The difference in time was such that if we used ADR's most efficient processing method [sequential processing], which we already established that IDEAL could not use, the internal time within the machine I think came out to something like seven seconds to process these 300,000 records was all it took. If we used the random method [used by IDEAL], but, again, using random in COBOL, the internal time within the machine, . . . [it] was somewhere in the 20-second range internally to process 300,000 records. The internal time to process with IDEAL came out in the minutes time frame. So when I say there was a significant difference, we went from some number of seconds up to over a minute.

DEPUTY DIRECTOR CLARK: And this information was available to Price Waterhouse?

- A. It was available to Price Waterhouse and to ADR. We demonstrated to ADR people, who

were brought on site for the purpose of this demonstration, how much faster we could process in COBOL than we could in IDEAL.

Rue further testified that PW's Advani and others had the information. The questioning continued:

Q. *And from ADR who had it?*

- A. From ADR the person that was sent to lead the ADR team was a person by the name of Lee Adamski, with their CICS expert. It was followed up later by ADR which sent in one of their specialized people from Dallas.

Q. *Now, whose recommendation was it to reprogram the [high volume] programs?*

- A. Are you talking about on record to Price Waterhouse?

Q. Yes.

- A. I certainly said it during all of those discussions.

Q. *You said it?*

- A. I said it at those discussions. . .

* * *

Q. *And what was the response from Price Waterhouse?*

- A. Response at that time was there are other things going on in the machine, that ADR was going to come in and do something with the way you could read records in IDEAL, so forth and so on.

Limitations of IDEAL Ignored

PW also attempted to shift responsibility for the limitations of the IDEAL language to ADR. PW contended it was advised of problems "late in the game" and that SAC and ADR were responsible for resolving the problems.

PW personnel determined that any drawbacks involving IDEAL or other ADR software utilized on the project could be overcome through close consultation with ADR representatives. Meetings were

held on May 21 and 22, 1984, with ADR representatives, including CEO John Bennett, to discuss alleged technical problems with ADR software and to solidify ADR technical support during the course of the project. DMV's Kline testified at the SCI that he sought assurances from PW at the conclusion of one of those meetings:

... I remember in the parking lot speaking to Mr. Driscoll, and I said to him, "Now, are we all right, I mean, is this what you wanted, you're the consultant, now, consult, or should we be looking somewhere else and be doing something else," and he assured me this is fine and everything is going to be okay. . .

In a letter, dated February 19, 1985, to Alfred Bochese, then manager of SAC's Criminal Justice Information Center, Joseph W. Farrelly, ADR's vice president and director of research and development, referred to the discussion at a meeting in DMV Deputy Director Kline's office in December, 1984:

It is my understanding that the state is very much concerned with the capacity of ADR's . . . products to handle a large network of approximately 400 terminals running several applications that are scheduled for implementation during 1985.

* * *

We at ADR have been aware of this requirement since early in 1984 through discussions with both State of New Jersey and Price Waterhouse personnel. ADR has expressed the concern that the state will be among the first customers to attempt such a workload using IDEAL programs, and that there is risk of shortfalls in planned system performance associated with being among the first.

* * *

The question remains . . . as to whether the new [release of IDEAL] will perform acceptably by the summer, and ADR remains unable to provide a definitive answer to this question. In addition, there are many other variables that impact system performance which are beyond ADR's scope of activity and responsibility . . . Thus, ADR will never be in

a position to provide guarantees regarding the performance of the State's entire application.

The SCI found a transcript of a technical meeting between representatives of PW and ADR at ADR's Dallas facility between January 11-13, 1984. The transcript demonstrated that even at that early date PW expressed its desire to use IDEAL. The transcript also confirmed that ADR had pointed out at the time the trade-offs of using IDEAL and the complexities associated with IDEAL. ADR representatives clearly confirmed, according to the transcript, that the development of IDEAL would be a gradual process.

Farrelly stated that on September 25, 1984, he and others from ADR assembled with PW partners and other employees at the Hyatt Regency in West Windsor for a breakfast meeting. Farrelly recalled he told PW's representatives that if PW intended to use IDEAL exclusively for the DMV system programming, "This meeting should end right now." As a consequence of those discussions, ADR arranged for PW personnel to receive training in the COBOL language. This training is added evidence that ADR tried to convince PW not to use IDEAL exclusively on the project. Further, in a communication dated September 29, 1984, from ADR's Jeffrey Worthington to Patrick Magee of ADR, Worthington described IDEAL-to-COBOL reprogramming recommendations provided to PW.

PW was initially reluctant to embark on a reprogramming course because, according to PW testimony, it was unsure whether there was sufficient time to rewrite part of the application using a different programming tool. The record indicates, however, that PW would have saved the state and itself tremendous effort and expense—and public discomfit as well—had it begun the rewrite work when warnings were first sounded.

SAC's primary liaison with ADR, JoAnn Rue, testified as to the circumstances surrounding later warnings from ADR representatives:

DEPUTY DIRECTOR CLARK: When is the first time that anyone ever can recall ADR sounding any warnings about the entire use of IDEAL?

* * *

A. The earliest I remember was after the large nighttime testing that took place, and that was November, I believe it was the November time frame of 1984. And it was after that, and to be more specific, after SAC presented to ADR and to Price Waterhouse their interpretation of how well that testing had gone, and by that I mean their interpretation, we asked—we identified what transactions we had seen in the machine while that testing was taking place. . . We were able to put a response time, average response times to those transactions, and it was on the presentation of that information and a subsequent test that took place after, that was the first, that I heard ADR make any kind of warning statements.

* * *

Q. And to whom [was] this concern expressed?

A. It was expressed to all parties in the room at the time, which included SAC people and Price Waterhouse people.

Q. Who from Price Waterhouse?

A. Ran Advani was there, Steve Clifford was there, Rick Harris was there, and I cannot remember at this point who else might have been there.

ADR viewed its IDEAL customers as pioneers in the use of state-of-the-art software. At the time it sold IDEAL to the state for use on the DMV project, as subsequently requested by PW, ADR had no data to indicate that even 400 terminals could be supported by IDEAL software. ADR emphasized that it never sold IDEAL as a performance product for the user, but rather sold it as a development tool. ADR was not a designer of custom software for use in a specific application. IDEAL was an "off the shelf" product offering generalized solutions to requirements commonly encountered in data processing. The terms of ADR's contract with the state and the amount of compensation it received indicate that ADR's role was intended to be limited.

PW recognized the gradual upgrading aspect of ADR's advanced software, a weak spot which PW built into the foundation of its DMV system, as PW's Driscoll noted on his correspondence with Kline:

It should also be pointed out, the concerns which SAC has raised regarding the features and functions referred to previously which are not yet available, can only be corrected by ADR. They cannot be addressed by SAC technical staff without the specific expertise and exclusive knowledge of ADR support staff.

PW placed too much emphasis on upcoming programming language developments as the solution to problems with the system, according to ADR's Vice President, Richard Kauffman:

The technical people with Price Waterhouse were very much advised that their implementation and our implementation schedules were quite different and that there was no reason for them to believe that we would get certain things that they would like to see in our product put there at the time that they would [like to] receive it.

ADR viewed the IDEAL language as a sophisticated but complex tool. Its users would have to be knowledgeable enough to determine where it could be used with best advantage after considering a multitude of variables, including the volume of transactions, the number of terminals, the size of the central processing unit, the particular application system, the telecommunication lines to be used, the tool environment in which the system would run and the operating system within the computer. ADR's Farrelly described the uncertain situation within which PW was, to the state's detriment, content to operate with total reliance on IDEAL:

Q. Did you understand what the problem was?

A. We did not have detailed information about the application that was being built around our product. However, we were aware of the performance characteristics of the application and, therefore, we knew how it was functioning or operating.

COMMISSIONER GREENBERG:

Well, that's not the answer. What was the problem? Were there not problems, more than one problem?

A. The general problem was that the system wasn't performing fast enough. My hesitancy, if I'm not being direct enough, is [ascribing] the problem to IDEAL or the application. ADR made the product IDEAL and sold the product IDEAL to the State of New Jersey. We had nothing to do with the application. We had no responsibilities for developing the application.

COMMISSIONER GREENBERG:

You knew what it was going to be used for, didn't you, Mr. Farrelly?

A. Very generally we knew it was to be used by [DMV], but the specifics of building such an application is always done by our clients. It's not done by ADR directly. We just give a product and it's like a tool to build things with.

CRISES AND CORRECTIVE ACTION

"Functional Success But Technical Compromise"

PW finally recognized that complete reliance on IDEAL would produce a system that it euphemistically characterized as a "functional success but a technical compromise." PW therefore proposed to DMV, on January 8, 1985, a "modified system implementation approach." Under this approach certain on-line inquiry-only users at DMV offices would be switched to the COBOL-based inquiry mechanism being utilized by certain outside users of the system. Meanwhile, the number of terminals capable of performing on-line updating transactions programmed in the IDEAL language would be limited to 200 (an "initial compromise," PW noted). In addition, certain programs in the new system would be reprogrammed in COBOL. Finally, implementation dates for two "non-core" functions—driver rehabilitation subsystem and compulsory insurance and security responsibility subsystem—would be delayed from September 1 to November 1, 1985.

PW Sought More Money

For "dealing with and compensating for the technical problems in IDEAL" and in anticipation of work to be done "in accordance with the

proposed approach," PW requested "additional compensation authorization" for up to \$600,000 for fees and out-of-pocket expenses "at the approved rates in effect for the project." The request for additional funds was properly denied by DMV's Kline. He did accept other aspects of the "modified" approach but reserved the state's rights under its contract with PW, including withholding acceptance of the system for warranty purposes, "until the limitation of terminals is lifted or mutually resolved." Since the DMV system was the only sizable project utilizing IDEAL, the agency was, in the words of a more circumspect Kline, a "guinea pig" in this new software's development. (PW's request for more money and DMV's denial will be reviewed later).

PW belatedly recognized the extent of the problems resulting from exclusive use of the IDEAL language and agreed in November, 1984, to use the COBOL language for certain major batch programs. The IDEAL-based application programs were supposed to process all of the new transaction information submitted by some 50 DMV agencies on a daily basis. Despite PW's reprogramming efforts, a substantial batch backlog developed as new subsystems were brought on line in early 1985. The processing (run) times of certain programs still coded in IDEAL were too long to allow complete updating of the data base to occur every night.

Computer Crisis Jolts Public

By mid-May, 1985, the system's inability to perform as promised reached notorious proportions. Terminals were limited, nightly batch updating of files was impossible, response time to terminal users was nowhere near the desired 3-5 seconds, access to different subsystem files was cumbersome, users were delayed in signing on to the system each day, and duplicate terminals were required to allow DMV employees to expeditiously switch from file to file. By September, 1985, there were transaction backlogs exceeding 1.4 million, nearly 1 million more than the planned backlog necessitated by the conversion of the agencies from the old data base to the new data base. Transactions that were "batched" from the agencies could not be processed in the nightly "window of time" available for the insertion of data from the batched transactions into the central computer.

This so-called "unprocessed transaction" backlog was finally reduced to 100,000 by December 3, 1985, primarily as a result of recoding certain "work horse" programs from IDEAL into COBOL, and has been eliminated. At the time, however, it created chaotic conditions for DMV, the motoring public and police because current information was not in the system, even though members of the public were able to walk out of agencies with documents reflecting their DMV transactions. The old DMV system had at least processed this information every week.

Another backlog involving "error corrections" also developed. Rigorous "edits", which are desirable when realistic, had been programmed into the system. By means of such edits a transaction containing information contradicting facts already in the data base would be temporarily held apart in an error correction file until the information could be corrected or reconciled. Diligent inquiry of the data system and recognition and correction of discrepancies at the agencies did not take place when the new system was first implemented. According to PW's Driscoll, this resulted in part from the state's delaying until September, 1985, full implementation of data access capability at the agencies, after the new central system software had been implemented by PW. In addition, however, PW's system design required greater than expected supervision and training of agency employees (the responsibility of DMV and SAC) in order to deal with the errors at the agency level and avoid the error backlog at DMV Central.

The reasons for the error backlog were concisely summarized by OTIS' Bruce Jones, under questioning by the SCI's Clark:

Q. We've talked about the fact that there are error files, and that those files are created when data is shunted off by the system to the error files on account of edit criteria being too stringent, and I have the concern as to whether the design, the specific designs of the Price Waterhouse system, created such large error files or were responsible for it.

A. Yes, they were, but it's a shared responsibility. In retrospect, it seems to me to have been a system that was built without a lot of searching

questions or a lot of conscience. It was the ultimate system in terms of [an attempt to obtain] clean data, however, it had little regard for the people that had to operate that system, and the ways that you would resolve those kinds of problems and the labor effort necessary to do that, the procedures necessary to do that with the people that are operating it in the field . . . I don't think the system was realistically designed. I don't think it had enough input from the people in the agencies.

PW's Driscoll testified that 60 to 70 percent of the error backlog was to be eliminated mechanically by using the computer to retrieve cross-referenced files to match information and make corrections. He further testified that the balance would be eliminated by calling up the transactions at DMV and making judgments as to what information must be changed. PW's planned contribution to the elimination of the error backlog was to modify the on-line portion of the new system to allow better response times and the addition of more terminals devoted to correcting errors. PW was to relax some noncritical edits or cross references so that certain data which previously would have been edited out and placed in the error file would get into the new system.

Regarding the problem of slow response time for the on-line system, PW opted to recode some of the programs in COBOL and to "rearchitect" the on-line system. Rearchitecting involves redesign of the programs to provide more efficient access to various subsystems. To aid in the reprogramming, "cross-compiler" software was obtained which automatically converted IDEAL-based applications into COBOL. This software produced some immediate efficiencies during the remedial effort.

COMPUTER FAILURE'S HUGE COSTS

During the height of the computer crisis, by letter of August 15, 1985, J.F. Williams of PW offered to move ahead with a year-long IDEAL-to-COBOL/DL-conversion program in return for additional compensation of \$625,000-\$750,000. In a strongly worded reply on August 26, 1985, then

First Assistant Attorney General Michael R. Cole demanded that PW "commit to remedy the system and to put it into proper working order in accordance with the contract and at your [PW's] expense, and in the circumstances to replace IDEAL language with COBOL language."

In a response to Cole, dated August 30, 1985, PW agreed to undertake the remedial project, and to pay for it. The PW letter said that:

... We commit to "remedy the system ... expeditiously," within the terms and conditions of our existing contract with the Division. Under this commitment, we are prepared to replace the IDEAL language with COBOL language at our expense. [Emphasis added]

From all indications, according to the SCI record, PW's computer fiasco has become a multi-million-dollar headache. To correct problems with on-line system response times, help reduce the error backlog and redesign, reprogram and test the new system, PW has had to employ at least one partner (for substantial part-time work), a couple of outside consultants and several full-time PW staffers. PW also hired Pinkerton Computer Services and Treecom to perform extensive COBOL programming under PW supervision. In all, remedial costs to PW alone are estimated at least at \$2 million to date. Sooner or later the state and PW must negotiate acceptance procedures and criteria for the repaired system.

Increased Hardware Costs

As previously noted, the \$6.5 million contract covered only estimated software needs and excluded hardware costs which the state was to assume. Hardware was to be purchased by SAC according to PW's specifications of its computer system's needs. As of October 16, 1985, the cost of all hardware utilized to run the system had ranged up to \$5.8 million, already in excess of estimates even though additional hardware still had to be purchased. Whatever the ultimate total cost of the DMV project, it can be stated without question that PW's implementation performance imposed a severe added-cost burden on the State.

Increased Central Computer Costs

While it is difficult to specify how much additional hardware expense will be attributable to PW's work, the SCI's record points to some obvious added-cost areas. One of these is the drastic increase in cost of the system's central processing unit (CPU), the capacity of which determines how fast instructions or transactions required by the system's users can be handled. (Such capacity is measured in "MIPS," millions of instructions per second). Although PW originally estimated, in April, 1984, that its system would require a CPU capacity of 7.5 to 10 MIPS, it narrowed this requirement in September, 1984, to from 7.6-8.4 MIPS. As it turned out, however, a CPU of at least double the minimum capacity originally called for by PW has proven necessary to operate the system effectively—at an additional hardware cost to the State of about \$3 million.

PW's initial processing capacity estimates led SAC to purchase a 16-MIP CPU to cover both DMV needs, as projected at the time by PW, and SAC's other processing needs. However, it became apparent, as noted, that PW had underestimated the required DMV central processing capacity. Thus OTIS-SAC is acquiring another central processing unit dedicated solely to DMV usage. Some excess capacity is expected with this acquisition but most of the added MIPS capability need over and above PW's initial projections can be attributed directly to PW's design. The additional cost for this, therefore, can also be blamed on PW.

Excessively large hardware costs, particularly to handle massive central processing functions, were due to PW's reliance on a central processing system rather than a "distributive" processing system. SAC had already adopted the distributive format in its previous computerization work for DMV and elsewhere but, as previously noted, its technical input into the PW operation was arbitrarily restricted. Bruce Jones, OTIS deputy administrator, testified that such an acceptable alternative was ignored by PW:

The Motor Vehicle agencies today have mini-computers in residence. These mini-computers have capacity to contain logic and perform decisions on data and produce all of the

business of the Motor Vehicle agencies without bothering a central processing unit. The design that [PW] chose to pursue said, "No, we're not going to use that tool which is out there, we're just going to forward it all and let the central processing unit do it," which in fact is a waste of resources which exist today in the Motor Vehicle agencies. The systems that are out there are called D.P.S. 6s.

They're a Honeywell mini-computer. They are not being utilized to anywhere near their capacity, not even close. They're probably about five percent [utilized, at the same time] we had a central processing unit that was being driven at over a hundred percent [capacity,] and we need[ed] more.

Jones described why he felt that PW should have designed a "distributive processing" system instead of one relying entirely on central processing:

It's my conclusion that [the old system] worked and the basic concept which they were using, which we call distributive processing, was the right way to go. Distributive processing means that at each of those agencies you had a mini-computer which housed some of the logic, some of the program which allowed that agency to do its business autonomous of the central processing unit . . . That is a concept that was really ahead of its time when they started to implement that, because what that does, it builds a system so that you don't have all your response time failures due to everything trying to come into the central office. You don't have line contention. Every screen, for instance, that's generated out in the Motor Vehicle agency, (the screen is the thing that comes up and tells the operator "to do a license fill in these blanks") in the old system that data, the words that were on the screen were stored right there, there at the agency on that mini-computer. At the end of the day it had an ability to dump all its files into the central processing unit and you had better audit trails by doing it that way. The [PW] design flaw, I think, was taking that mini-computer, turning it into what we call a dumb terminal with no logic . . ., housing

everything at the central processing units. And now when the central processing unit is down or slow, it affects everybody. So when I say I think it has to be done over, I say that it's a violation of what was there prior to [PW] coming in. That was the right, right way to go. That's the way technology is still moving today, to distribute function out at the site, not to do it all in one big central place.

Jones estimated at the SCI that the additional expense of "having to take what was intended to be a turnkey system and analyze it for its problems and assist in the" correction of those problems would amount to "several million dollars."

In addition to the added costs noted above, DMV's FY1987 budget request calls for \$2 million to conduct a "Business System Planning Study" to identify priorities and service levels appropriate for the "retail" operations concept envisioned by the current attorney general, W. Cary Edwards, and to redesign and recode the software for a "distributive"-type system. Finally, another \$3 million is in the proposed budget to augment the Honeywell hardware in the agencies, that OTIS's Jones testified had been ignored in the PW design of the new system.

Increased Cost for Data Storage

A computer system's hard disk storage capacity is expressed in "gigabytes." PW originally estimated DMV's storage needs to be 16 gigabytes in March, 1984. To satisfy more than a minimal requirement, SAC ordered hardware to provide 20 gigabytes of on-line storage. In September, 1984, PW's revised capacity planning study showed that the system's storage needs had increased to 30-35 gigabytes. PW's revised estimate called for the purchase of additional hardware costing between \$800,000 and \$1 million more than had been planned.

Increased OTIS Personnel and Consultant Costs

OTIS' staff calculated the billings of outside consultants and the value of OTIS staff resources devoted to rectifying problems encountered in PW's new DMV system from May 1, 1985, through October 17, 1985. The total cost of consultants

was \$258,985. The consultants included Pinkerton Computer Consultants, Inc., Sycomm Systems Corporation, IBM and ADR. By adding the value of OTIS personnel, the total cost of OTIS involvement in DMV projects during the period amounted to \$758,204. Not all of these resources were devoted to correcting problems in the PW system. Nonetheless, an additional \$735,000 was obligated through June, 1986, for consultant services from Systems/Software Engineering—paid for on behalf of OTIS by the State-funded New Jersey Educational Computer Network, Inc. This money was to be used substantially to help identify and correct problems in the PW system. The Commission, therefore, conservatively concludes that over one million dollars in New Jersey's own data processing personnel resources have thus far been diverted to the corrective effort.

In order to assist PW in redesigning and rewriting of many of the comprehensive system programs from IDEAL to COBOL and to support DMV in the system tests of the rewritten programs, OTIS has had to reassign its seven DMV project programmer/analysts from working on DMV change requests and enhancements. Three OTIS Department of Labor programmers also helped the DMV project people to design and program the necessary "bridge" allowing access to the backlogged transactions via the old data base. Over various periods of time approximately 20 OTIS employees had to work on corrections for the DMV system at the expense of other State data processing projects. OTIS funds earmarked to hire OTIS staff to work in other data centers were instead used to pay overtime for people diverted to the DMV system from other projects. All this caused OTIS to fall behind in achieving its goal of tying all State data centers together through a single telecommunications link in order, among other aims, to substantially reduce the State's overall computer expenses.

Disruption of DMV Budget and Operations

As a result of problems with the new system, DMV was forced to pay approximately \$160,000 per month for about two months in overtime alone to process information at night. DMV's Christine Cox testified that at the time of her SCI appearance costs for overtime and temporary hires attributable to poor performance of the PW's system

had amounted to approximately \$300,000. As of March 31, 1986, her office estimated that DMV's overtime and temporary employee costs "for eliminating backlogs" would soar to \$1,048,207. It is difficult to pinpoint what portion of this figure is attributable to errors by PW alone, but there is no question in this Commission's mind that much of it can be blamed on PW. In any event, the touted savings for DMV that were to have resulted from PW's new system certainly have evaporated.

Excessive "Recovery Time"

The November 9, 1983, contract pointed out that any system designed for [DMV] must operate in an environment where the computer resources are shared with other users of the Criminal Justice Data Center. The environment of this data center calls for an around-the-clock operation with a premium on system availability. Therefore, any system designed to operate in this environment had to include the special features such an environment demanded.

As of November, 1985, if the data base of the new system were to have "gone down" because of power fluctuations or mechanical failure, no recovery could have been achieved for at least 60 hours. This meant that the entire DMV system would have been inactive for an amount of time unacceptable for an agency required to function 24 hours a day seven days a week. OTIS' Jones testified that PW's design had not provided for the easing of the impact of any system failure by segmenting files over separate hardware devices.

PW contended that the projected recovery time was adversely affected by the fact that DMV failed to develop criteria to "purge" or "achieve" data more than four years old. PW representatives maintained that the resulting excess amount of data in the system added significantly to the time required for recovery of the data base from a mechanical failure. However, this factor alone did not account for the excessive recovery time, as OTIS's Jones pointed out in his testimony:

I think [the extra data] has a significant but not the only effect. And I really truly believe a significant factor in recovery time is the way the file is segmented. You can recover, for instance, a single disk drive. It may take 20

minutes to recover or it may take, the range might be from 20 minutes to 40 minutes, dependent upon how much is on there. But when you have your data base spread across multiple drives and you really don't know where it is, it is just randomly out there, you have to recover the whole thing, so it's more appropriate to design than it is to the actual volumes of data that are in the system.

DMV's Cox testified that as of the end of March, 1986, OTIS personnel calculated that, as a result of PW's remedial efforts, it now would take seven hours to recover the system. According to SCI records, OTIS believes this time lapse might be acceptable for all but vital law enforcement functions, which should be operable within an hour or so.

ABRUPT SHIFT OF RESPONSIBILITY

As a result of the operational chaos created by the PW system, the Administration was forced to take extreme measures to seek remedies. In May, 1985, OTIS took control of the project away from PW and project manager Kline. OTIS was created on October 17, 1984, by executive order to absorb SAC and to be the umbrella organization responsible for the operation and management of virtually all State computer centers. In late 1985 OTIS requested that the PW engagement partner, Ranjit Advani, be replaced. He subsequently was transferred to another project.

Jones was asked by the SCI's Clark about the OTIS demand for Advani's ouster:

Q. *Were you concerned about Mr. Advani's technical competence?*

A. Yes.

Q. *In what way?*

A. Mr. Advani did not take any direction from the technical people, qualified technical people whom I respect at both the Law and Public Safety data center and people that later came to OTIS and were part of the OTIS organization, in terms of problems that we found and

identified and the way they were reacted to by Price Waterhouse, or not reacted to by Price Waterhouse. We just weren't getting any of the changes made that we felt had to be made, and we also had a problem with Mr. Advani continuously dealing with the DMV people and saying, "Don't worry about what the people, the technical people are telling you, we will fix it. It's not your concern and don't listen to them." It was that kind of environment.

Kline belatedly realized that he had relied too much on Advani's advice and assurances that all was well despite evidence to the contrary. Kline testified at the SCI that he finally concluded that "it came to the point where he had no credibility with us."

DMV "Lacks Necessary Expertise"

On October 1, 1985, W. Cary Edwards, then Chief Counsel to Governor Kean and now Attorney General, advised William C. Ridgway, III, OTIS' administrator:

OTIS, as the division of State Government with the expertise in computer systems, has primary responsibility for the successful completion and subsequent operation and maintenance of the new DMV computer system. The Division of Motor Vehicles does not have the necessary expertise to assume that responsibility. The Administration is relying on OTIS to supervise the correction of the computerization problems currently existing in the Division of Motor Vehicles system. In that regard, OTIS must ensure that the DMV computer system performs to the specifications set forth in this State's contract with Price Waterhouse.

Since OTIS is largely supervised and populated by the same personnel who managed and staffed SAC when PW was chosen over SAC to bear primary responsibility for the DMV project, these new roles represent a paradox. Robert Meybohm, then assistant director and acting director of SAC, is now Director of Network Services for OTIS. Donald Bianco, then director of SAC, is now executive director of OTIS. The PW experience appears to have finally overcome the prejudice concerning in-house expert competency—as primar-

ily reflected by DMV's Snedeker, Kline and Cox—but only after great cost to the taxpaying and motoring public.

POTENTIAL INFLUENCE OF POLITICAL CONTRIBUTIONS

Initial Political Inactivity

Political contributions made by Price Waterhouse contemporaneously with certain events surrounding the computerization project leave open to question the independence of State officials' decisions regarding PW's contractual obligations. Even such future decisions as whether to accept the PW system or to sue for damages will be tainted by the appearance of favoritism created by the contributions.

Unintended political irony marks DMV Director Snedeker's June 7, 1983, memorandum to the Governor's Office touting PW for the job of designing and programming the new system. Snedeker noted that PW began its association with the DMV project in the Democratic administration of former Governor Byrne, and continued:

It is our understanding that the principals in the [PW] firm were not active in Governor Thomas H. Kean's campaign for governor. In addition, neither Deputy Director Robert S. Kline nor myself had any business dealings with [PW] prior to our taking office at [DMV].

Soon after, however, Kline did talk with PW partner Driscoll. According to Driscoll's SCI testimony, Kline asked him if PW principals had been politically active:

DEPUTY DIRECTOR CLARK: . . . Prior to the Governor's Ball, is it correct that in 1983, neither Price Waterhouse nor its principals were active financial contributors to public candidates in New Jersey?

A. That's correct.

Q. *Now, just before the bid waiver came out on this comprehensive and surcharge system, the new DMV system, just before that was announced, which I believe took place some time in late July of 1983, is it correct that the deputy*

director at that time, Robert Kline, asked you to determine if Price Waterhouse or its principals were active contributors to the Kean Administration or those connected with the Kean Administration?

A. That request was made of me in late June or early July.

Q. *Did Mr. Kline give any reasons for that request?*

A. Yes. His concern was that at the time that the bid waiver would be announced, that there would be a press release and questions might be raised as to whether Price Waterhouse had been an active contributor to the Governor's campaign.

Q. *Those were the only reasons that he gave?*

A. I believe so, yes.

Q. *Did he say who might raise those questions?*

A. Well, I think—I believe he said that he wanted to be prepared if, in fact, during this press conference that he intended to hold, if that question were raised, that he would have a response for it.

As a result of Kline's request, Driscoll on July 22, 1983, wrote to 40 partners of PW in the New York-New Jersey areas to determine the extent of their financial support for Republican campaigns. Driscoll further testified that the responses indicated that neither PW nor its principals were or had been active financial contributors to Republican candidates in New Jersey and that he reported these results to Kline.

PW's subsequent political contributions most pertinent to this investigation involved the annual Governor's Ball, an event sponsored by the Republican State Committee during Republican administrations to raise funds for Republican Party candidates.

The first Governor's Ball of the Kean administration was held in the fall of 1982. Snedeker testified that he personally paid \$1000 for two tickets—at \$500 each—for himself and his wife.

He subsequently learned that the Ball Committee made arrangements for free admission for State government division directors and their guests. Snedeker testified that in 1983 he accepted two free tickets from the Committee and sat at a table with friends. He testified that in neither 1982 nor 1983 did he sit with anyone from a firm doing business with DMV.

1983 Governor's Ball

PW first became involved with the Governor's Ball in 1983. During that year PW partner Driscoll was a member of the Ball Committee (an honor which he testified was unknown to him until he saw his name on the program) based on the Committee's simple formula that he had purchased at least two tables.

Driscoll testified at the SCI that he received a letter, dated August 12, 1983, from J. Fletcher Creamer on behalf of the New Jersey Republican State Committee. The letter came just prior to active contract negotiations between the State and PW concerning the DMV project; however, it made no mention of any business dealings between PW and the State. The letter stated: "A table of ten is \$5,000. Both personal and corporate checks are acceptable. You may be sure your participation will be very much appreciated."

Creamer sent the letter to Driscoll after contacting Clyde Folley, a former PW partner, to find out whom he should contact at PW regarding possible participation in the Governor's Ball. Folley learned from PW partner Gary Dornbush that Creamer should correspond with Driscoll. After receiving Creamer's letter, Driscoll sent a memorandum, dated August 18, 1983, to PW partners in charge of policy for the metropolitan area. This notice stated that he had talked with DMV's Kline, "our primary contact on the DMV engagement," after speaking with PW partner Donald F. Chandler "about the desirability" of PW's purchase of a table. Driscoll's memorandum continued in part:

Kline, a candid, young lawyer, who demonstrated he is a masterful strategist in dealing with the State Government bureaucracy during the process which resulted in our sole source contract, made the following points:

1. *Although PW's participation in the Governor's Ball would have no impact on the present DMV contract with the State, because of the size of the contract he thought, as a practical matter, it would be good business to do so.*

2. *After researching the question, he identified three CPA firms [Peat, Marwick & Mitchell; Deloitte, Haskins & Sells and Touche Ross] who had already reserved two tables each in addition to a number of prominent law firms and investment firms.*

3. *He also commented it was common practice, if one purchased tickets, to include as guests acquaintances who are members of the Governor's administration.*

"Taking all this into consideration," Driscoll's memo went on, he had recommended on August 17 that PW "should and would stand out with the purchase of three tables (\$15,000.00)" . . . Driscoll said he sent a check to the Ball Committee for \$15,000 on August 17, 1983.

Under questioning by SCI's Clark, Driscoll elaborated on his conversation with Kline that preceded the memorandum:

Q. *Now, you indicated that you asked Mr. Kline if he thought that it might be appropriate or—*

A. *I believe I said would it be inappropriate for us.*

Q. *What was his response to that question?*

A. *His response was, you know, that's a judgment you have to make in terms of whether you think it's good business to do so.*

Q. *Now, Mr. Kline got back to you with some information; is that correct?*

A. *Yes.*

Q. *Did you ask Mr. Kline to obtain information concerning the level of participation by other Big Eight companies?*

A. *I don't really recall whether I asked that or whether he volunteered it.*

Q. *In any event, he got back to you with the information that three Big Eight firms had already reserved two tables each; is that correct?*

A. That's what I have written here, yes.

Q. *Did he say where he got that information?*

A. I don't recall.

Q. *Did you discuss with Mr. Kline whether you should purchase more than one table, which was your original intention?*

A. I don't believe so, no.

Q. *After your conversation with Mr. Kline, you decided to recommend to Mr. Williams, Jeffrey Williams of Price Waterhouse, that Price Waterhouse purchase three tables; is that right?*

A. That's correct.

Kline testified before the Assembly Law, Public Safety and Defense Committee he did not tell Driscoll that it would be good business to purchase seats at the Ball. Kline also testified that he did not obtain information for Driscoll concerning the level of participation by other Big Eight firms. Kline summarized his version of the conversation with Driscoll:

As [Driscoll] testified, he did contact me. He did ask me my opinion, and I expressed to him that it was a decision of Price Waterhouse and Price Waterhouse alone. He further asked me as to how the Ball worked. In other words, what was it like, who attended, and I told him that it was very, very diversified. You would have all kinds of businesses, law firms, accounting firms, investment firms, doctors, dentists, etc. He then asked me as to, you know, "Did the Administration participate in that? Were people present from the Administration?" In other words, who else attended besides public individuals? I told him yes, members of the Administration did attend and did participate. That was the extent of the conversation.

Kline's denial that he advised PW its participation might be good business was more in line

with Driscoll's testimony on his recollection of the conversation than with Driscoll's memorandum on the subject. Although Kline also denied imparting information to Driscoll concerning the level of participation of other firms, Driscoll held to his position that he received this information from Kline.

These are minor disputes. They would be more important if PW representatives took the position that participation in the Ball was suggested as a quid pro quo for obtaining the DMV contract or for enjoying smooth relations with the State during its performance. However, the SCI here is concerned with the perception that such influences might occur, despite the expressed good intentions of the participants.

Driscoll testified that PW still had a policy not to make political contributions during this period. He contended that the Ball participation was not a "political contribution" but rather "attendance at activities which were fund raisers" so that PW could become acquainted with actual or prospective clients and be visible in the community. The SCI concludes, however, that participation in the Ball clearly was a political contribution in a meaningful sense. In addition to increased visibility among existing and potential clients, PW obviously sought the gratitude of the Republican Administration by its participation.

Driscoll testified that he subsequently learned that the Ball Committee would assign people from the Administration to a table with complimentary places. That is, the firm that purchased the seats would not itself select those people from the Administration who would sit at its tables. Driscoll testified that he learned this from Mark Husik, executive director of the Ball Committee, when he contacted the committee to indicate who he preferred to sit at his table. Indeed, Driscoll testified that none of the three people that he suggested in his memorandum—and later to the Ball Committee—as possible PW invitees actually sat at a PW table. However, there were occasions when State officials did sit at tables purchased by contractors who did business with their agencies.

1984 Governor's Ball

By the time the 1984 Governor's Ball occurred, PW's total reliance on the IDEAL language for the DMV project had become a controversial issue

among various State agencies and officials. Hence, it was in the midst of this internal dispute that Driscoll wrote a memorandum, dated September 6, 1984, to PW Policy Board partners summarizing PW's political involvement in the 1984 Ball:

In early August, after reaching an agreement with you both on the level of support which I thought was appropriate for Price Waterhouse for this affair, we made a contribution of \$10,000 (two tables). . . .

Driscoll recalled that on September 5 he received a call from Mark Husik, who told him that the "final tally" of participation among the "Big Eight" firms was two tables each by Peat Marwick & Mitchell, Arthur Andersen and Touche Ross; one table each by Deloitte Haskins & Sells, Arthur Young and Coopers & Lybrand, and none by Ernst & Whinney.

Driscoll's memorandum now became pointed:

Husik reminded me that PW led the list last year with three tables, and could repeat this year if we believed it was a good business decision to do so. I suggested to him that, if we bought three tables again this year, he might very well be using up next year's allocation for support. He replied that we would worry about next year when it rolls around. Unable to reach both Luhmann (on vacation) and Williams (out of town), I called Don Chandler to discuss whether we should reconsider maintaining last year's level of participation. We decided it could not hurt to repeat last year's level of support in order to: 1) lead the list of Big Eight firms, 2) perhaps buy some insurance on the DMV job, and 3) continue for one more year a highly visible role in this event. [Emphasis added.]

Chandler gave me a go ahead to purchase an additional table, which I did on September 6.

In 1984, as Driscoll observed under questioning by the SCI's Clark, PW apparently had more to say about who would be sitting at its tables than in 1983:

Q. *Regardless of final say, did you have a voice in who would sit at the table?*

A. I am sure I made suggestions.

* * *

Q. *Now, Mr. Husik, you have indicated, contacted you in 1984, that's the executive director of the Governor's Ball?*

A. That's correct, yes.

Q. *He talked you into buying a third table?*

A. That's correct.

Q. *What did he say to you to talk you into buying a third table?*

A. He appealed to my ego.

* * *

COMMISSIONER GREENBERG:

Could you elaborate on this appeal from Mr. Husik?

A. I think it's well stated here in the memorandum, where he suggested that we still lead the list [of Big Eight firms] with the purchase of a third table . . . And he told me at that time, by firm, how many tables they had committed to and three of them had committed to two tables, so if we wanted to lead the list we could commit to three again this year and hold that position.

* * *

Q. *Aside from what you have indicated in the memorandum, did you feel pressured in any way by Mr. Husik to make this additional contribution?*

A. In what sense?

Q. *In terms of anything that he said to you during the conversation.*

COMMISSIONER GREENBERG:

Other than his appeal to your ego?

A. No, he is a good salesman. I wouldn't call it pressure. I would call it appealing to my basic instincts.

* * *

Q. Now, during this conversation, did he, at any time, remind you of the amount of work that Price Waterhouse did for the State?

A. Not at all, and I don't think he had any knowledge of that with any specificity. It never appeared to me like he knew what we were doing in the State with regard to work and he was never asked about it.

Driscoll testified before the Assembly Committee that his use of the expression, "perhaps buy some insurance on the DMV job" was intended to be "synonymous with the maintenance of good client relations with the State of New Jersey." He further testified that "it was a very poor choice of words on my part, and regardless of how you want to characterize it and draw some further implications, the implications just are not present."

Regarding the procedure for state guest admission to the 1984 Governor's Ball, Donald Bianco, who at the time was with the Office of Management and Budget in the Treasury Department, pending his subsequent appointment as OTIS Executive Director, gave an example. He testified that he was asked by PW partner Driscoll whether he wanted to attend. Bianco stated that he initially declined but later changed his mind:

Two or three weeks after that I decided it probably would be a good idea to go. I called [Driscoll] back and asked if his offer to go to the ball was still good. He said yes, and that's about what I remember. I remember I didn't get a ticket, either in '84 or '85, and that I was told, you know, just show up and you'll get your table assignment when you get there.

1985 Governor's Ball

As the next Governor's Ball approached in 1985—the year of the PW-DMV computer collapse—the Department of Treasury adopted an outwardly commendable official stance. In a memorandum to all division directors, then State Treasurer Michael M. Horn stated:

Pursuant to the provisions of the Department of Treasury Code of Ethics, I have determined that it would not be appropriate to accept tickets to the upcoming Governor's Ball from any person or entity which does business with the Department of Treasury.

The Treasurer's letter only applied to Treasury Department employees. Thus it could not guard against political influence being exerted upon DMV employees. In addition, the Treasurer's letter did not prevent indirect accomplishment of the same end result. As Bianco testified under questioning by SCI Deputy Director Clark:

Q. Now, the 1985 Governor's Ball, what procedure did you follow?

A. There were a number of invitations, as I remember it, or—how to put this. I knew that we would be able to go to the Governor's Ball, but word came out, or a letter came out from the Treasurer that we weren't to accept invitations to the Governor's Ball, but that we were to express to the Treasurer's Office our desire to attend the Governor's Ball and that's the way it would be handled.

Bianco indicated that nonetheless, various officials were recommended to be guests at certain tables and did sit at these tables.

PW Political Activity Reduced in 1985

Although extremely serious computer performance problems materialized as the July 1, 1985, deadline approached for completing core functions of the new system, DMV officials continued to approve PW bills for payment. As late as June 20, 1985, Senior Assistant Director Cox directed the Assistant Director for Administrative Services "to have outstanding approved payments through March to Price Waterhouse processed and available for them to pick up the checks at DMV by July 8."

These payments, amounting to about \$1 million, were subsequently delayed by higher officials in the Attorney General's office. However, the public could reasonably question whether the payments advanced through the bureaucracy as far as they did because of the favored position

held by PW on account of political contributions—although the SCI does not have evidence to support any such suspicion. Cox testified that she pushed for payment because the bills related to work performed during January, February and March, 1985, a period when the subsystems being implemented were functioning satisfactorily. She testified:

There was no controversy over that work. But by the time we got to early July, there was an overall system problem with this last piece that all the work wasn't going to get done. So a hold was put on these processed bills. They had everybody's approval on them and any bill subsequent to that didn't even go through an approval process. Any bills submitted after that haven't had a look at them. They've just been put aside for a final accounting.

Checks to pay the bills that were approved for payment but not paid were secured in a safe. However, the SCI is concerned that State officials came so close to paying the bills at a time when unusually serious computer project performance problems were occurring.

By the time preparations for the 1985 Governor's Ball were underway, the Governor's Office had replaced DMV with OTIS as manager of the DMV project. At this time also, relations between PW and the State were not nearly as amicable as they had been in 1983 or 1984. Coincidentally, in 1985 PW reduced its financial participation in the Governor's Ball from \$15,000 to \$5,000 (three tables to one) and Driscoll was not reappointed to the committee.

Under questioning by the SCI's Clark, Driscoll described the details of PW's reduced participation:

Q. Why did you reduce your participation to one?

A. Well, the partners in my organization felt that due to the state of affairs of the Motor Vehicle system, that it would not be appropriate for Price Waterhouse to have a high visibility at the Governor's Ball.

Q. By state of affairs, you mean what?

A. Well, the fact that we were having some difficulty with the implementation, and, in fact, a month before that, we had started our discussions with the Attorney General's office with regard to the recovery program.

Will State Officials Act Without Favoritism?

When efforts to remedy problems with the new system are finally completed, PW will request payment of \$1.4 million in outstanding billings submitted in early 1985. At the same time the State will determine whether it should offset liquidated damages against such sums for PW's failure to deliver a workable system within the contractual timeframe. Under the November 9, 1983, agreement, liquidated damages on the comprehensive system would amount to \$50,000 by September 1, 1985. An additional \$50,000 per month would become assessable on the first of every month thereafter. The State also will have to decide if actual damages should be offset against amounts payable or if it should sue PW for damage amounts not satisfied by a setoff.

Contractual provisions governing these decisions are ambiguous in some instances, leaving room for considerable discretion by state officials charged with interpreting or enforcing them. The 1983 agreement states:

In the event that because of an . . . act of governmental instrumentality . . . ; failure of technical facilities; . . . or other cause of similar or different nature beyond the control of [PW], [PW] is unable to complete the tasks . . . , the State will not enforce [liquidated damages] provisions.

The SCI cannot perceive how the public is to be reasonably satisfied that PW's political contributions will not unduly influence these important future decisions. This perception will remain despite then First Assistant Attorney General Cole's strongly worded notices to PW on August 26 and September 5, 1985, that the State would require PW to correct, without charge, all deficiencies in a reasonable period of time and would review its position on liquidated damages in light of the extent and timing of PW's remedial efforts.

The State has not yet invoked the liquidated damages provision, although as noted it is still withholding payments to PW. The contractual provisions governing warranty and liquidated damages leave altogether too much room for discretion and interpretation. The warranty provision, for example, states that the warranty "shall be implemented only by the correction of errors in the Systems software by [PW]." The State should assert an expansive interpretation of this clause during any future litigation or settlement of PW's system restoration obligations. Similarly, the key task for producing a functioning system—implementation and turnover—is not included in the list of tasks which must be completed to avoid assessment of liquidated damages. Moreover, none of the listed tasks are expressed in strong "quality" terms such as "operable," "workable" or "functional."

This Commission believes the public must be confident that public officials will require full contractual performance protecting public interests and funds and that such officials will assertively interpret such ambiguous provisions as do exist in the public interest. The political contributions tarnish such expectations in this case.

BILLING OF FEES AND EXPENSES

Introduction

In the SCI's review of professional fees billed by PW, an analysis of data obtained from both the firm and DMV has shown that a total of 3,361 hours of PW project staff work were transferred by project partner Advani and project manager Trakimas and were billed to DMV for extra payments outside the \$6.5 million contract. According to the SCI's breakdown, the hours originally shown on the staff time sheets for such extra work, as enhancements, totaled 1,275. However, PW management subsequently transferred a total of 1,770 hours from the same time sheets and charged these hours to enhancement work. In addition, 1,591 hours of staff work on these same sheets were re-listed by Advani and Trakimas from contract work hours to delay hours, unknown to the staff. Such transfers were important to PW

since, at the time they took place, the firm had either approached or exceeded the contract's \$6.5 million cap. PW could not be paid for contract work exceeding this cap. Enhancement has been defined as work requested by DMV or OTIS/SAC which was not specified in the project's design and requirement definition studies and this was considered to be outside the DMV-PW contract. Delay has been defined as the period of time caused by the interruption of scheduled work at the behest of DMV or OTIS and which required PW staffers to occupy themselves with training or other non-essential employment, not contemplated within the contract cap.

Contract Requirements

The 1983 agreement between PW and DMV included a July 28, 1983, letter from PW (signed by partner Driscoll) to DMV Director Snedeker. This letter supplemented a July 12, 1983, proposal to provide for a "contract amount not to exceed \$6,500,000.00, including out-of-pocket expenses" that "will not exceed 8.8 percent of professional fees."

The agreement itself provided that PW would be compensated on a monthly basis for actual services performed in an amount not to exceed \$6.5 million without specifically mentioning the limitation on expenses contained in the July 28 supplemental letter. Each monthly billing was required to include the time and expense charges for services performed during the preceding month. The agreement continued:

The billing shall be detailed in accordance with procedures and formats prescribed by the State so that the bills may be processed properly through the State's systems for payment, cost distribution, and job monitoring.

A supplement to the July 12 proposal, dated July 21, 1983, which was also incorporated by reference into the contract, expands on billing requirements:

[PW] will bill the State on the fifteenth of each month for the professional time and out-of-pocket expenses incurred during the preceding month. The billing will include a detailed

breakdown of hours and expenses incurred and will be supported by a written progress report.

Elusive Expense Limits

The contract limited expenses to 8.8 percent of total hourly billings. However, Assistant DMV Director for Internal Audit Divock and DMV Audit Manager Ying F. Yee reported on December 13, 1984, to Senior Assistant Director Cox that expenses billed were running over the cap, adding: "We merely want to bring this to your attention, and realize that Bob Kline had previously decided not to question the nonadherence to this portion of the contract, as long as total billings do not exceed \$6,500,000."

The SCI's expense calculations, after adjusting for expenses not included within the terms of the general contract, reveal that through May of 1985 PW had billed the State \$695,496 for expenses, or 12.3 percent. (Auditor Yee testified he also estimated the expense excess at over 12 percent). If the contract limited expenses to 8.8 percent of fees billed, the maximum amount that the State would have been obligated to pay would have been \$525,735. Thus, with one month left to perform, PW had already exceeded the cap on expenses by nearly \$170,000. The SCI's accounting staff calculated that it cost more than the cap amount—approximately \$565,000—just for lodging, transportation, meals, etc., to bring and maintain PW's workforce at the DMV project from December, 1983, through May, 1985.

PW's own project supervisors disagreed on how expenses should be treated. PW partner, Driscoll, testified that out-of-pocket expenses were not to exceed 8.8 percent of the total fees billed. Nonetheless, he knew of no steps being taken by PW personnel to keep an account of expenses so that PW could determine at what point the expenses might exceed the cap. On the other hand, the day-to-day supervisor or "engagement partner," Ranjit Advani, believed that there was no percentage cap required for out-of-pocket expenses. Advani elaborated under questioning by the SCI's Clark:

Q. Is it your understanding that the expenses were to be limited by the contract to 8.8 per-

cent of the fees that were billed by Price Waterhouse?

A. No, that is not my understanding . . .

Q. Fine. Go ahead.

A. The 8.8 percent figure was mentioned in the letter of July 28, 1983, I believe. That was a letter that was prepared by Mr. Driscoll and I had seen it. Following our discussions with Mr. Kline where we were discussing the fees and expenses arrangement, at that time we had only talked about \$6 million in fees in round numbers.

Advani continued to describe the negotiations, noting that he had wanted to add 15 percent for expenses but that Kline had rejected that figure and requested a letter in which PW would agree to a \$6.5 million cap. Advani testified that he protested to Kline and DMV's other principal negotiator, former Special Assistant Patrick Brannigan, that he believed the 8.8 percent limitation was an error and received a commitment that the issue would be addressed in the final negotiations before a contract was signed. When Advani saw that the contract incorporated the proposal letter containing the 8.8 percent limitation, he claimed that he was convinced that Brannigan and Kline would adopt his interpretation of the contract to eliminate the 8.8 percent requirement. The testimony on this point:

Q. It is my understanding that you did not, then, when you saw the contract, go back in and ask Mr. Brannigan for any clarification with regard to the cap on expenses?

A. If I went back and asked him specifically as to whether that specifically removed the 8.8 percent cap, once again, no, I did not ask that question because it was removed or just left out of the compensation paragraph, and that had been discussed between Mr. Brannigan and myself, and Mr. Brannigan had also indicated to me that he had reviewed that and discussed that issue with Mr. Kline. There was no reason for me to go back and ask him the same question.

Q. *Did you yourself review and discuss that issue with Mr. Kline at the time of the signing of the contract?*

A. I do not recollect my asking Mr. Kline or discussing that directly with Mr. Kline during the contract negotiations. The contract negotiations were with a number of people in the room and we all discussed a number of issues. I do have a vague recollection of my discussion in the hallway at DMV with Mr. Kline soon after my discussion with Mr. Brannigan on this subject. I was joking about, "Well, you guys better start on the right foot and don't add the things you don't want to add," and making the reference to 8.8 percent. And I told him at the time as to how I thought we could correct that or change that 8.8 percent limitation or remove that 8.8 percent limitation because I definitely saw the need to remove that 8.8 percent figure out of this whole issue.

Q. *That was earlier at the time that you first saw that second supplement letter; is that correct?*

A. That is correct, soon after that.

Q. *Did you get assurances from Mr. Kline that that 8.8 percent limitation would be dropped?*

A. I recollect his comments along the line, "Fine, go ahead, let's do it. We are working with a 6.5 million cap, just if your expenses go over 8.8 percent or whatever, make sure you realize that you are not getting a penny more than 6.5 million, because that's what you are working with." That's my recollection.

Brannigan testified, under questioning by SCI Counsel Gaal, that the percentage cap on expenses was never lifted:

Q. *Getting back to that 8.8 percent cap, was that cap ever lifted, to your knowledge.*

A. Not to my knowledge.

Q. *Did you ever have any discussions with anyone from Price Waterhouse, and in particular, Mr. Advani, wherein you lifted the cap on the 8.8 percent?*

A. No. In fact, theoretically, it would have been impossible for me to do that, because of my role. I was an assistant and had no jurisdiction or authorization to do that. That was very clear, you know, that I had no authorization. . . . I have no recollection of lifting of any caps. To do that is a significant event. You have to go through—it's a contract, so you have to go through the contract procedures, which involve a number of people including the department level and Treasury and a lot of formal ways.

Q. *It couldn't be done orally?*

A. That's right. And to be very honest, I would not attempt to do that because of my relationship with Director Kline. He made very clear what my role was and it was not to make decisions.

CHAIRMAN PATTERSON:

The question really is, you didn't know of anybody—

A. —lifting the cap?

CHAIRMAN PATTERSON:

Whether it was you or anyone else in the Division of Motor Vehicles?

A. No.

Kline took a completely different position from that held by Advani. Under questioning by SCI Counsel Gaal, he testified:

Q. *At any time was that cap lifted with respect to the limitation on expenses, on the contract work, being 8.8 percent of the professional fees?*

A. No.

Q. *And I want to go a step further. Have you ever indicated to anyone informally or formally during discussions or conversations from Price Waterhouse, that the cap would be lifted?*

A. No.

Q. *The reason I'm asking that is that during our investigation we have gotten information from*

the Price Waterhouse side, or some people at Price Waterhouse, that that cap was lifted.

- A. No, the cap was never lifted. And, again, I don't know who at Price Waterhouse has represented that I or anyone at the Division lifted the cap. In fact, to date, my understanding of the amounts paid to Price Waterhouse have not exceeded the 8.8 percent. I also understand that they have in effect billed certain bills at a rate in excess of the agreed upon 8.8 percent, but those bills have not been paid.

CHAIRMAN PATTERSON:

So if they had an understanding that the cap had been lifted, it's a one way understanding, it was something that they, for lack of a better word, invented without going to DMV and getting an agreement?

- A. That's correct, Mr. Chairman. . . . At no time did I or anyone, to my knowledge, represent to anyone at Price Waterhouse that the 8.8 percent figure for expenses would be lifted. It was always our understanding that the contract price, aside from any type of enhancements that would be done, would not exceed six and a half million dollars. So any conversations I have, I have had with Mr. Advani, would have reflected that understanding.

* * *

- Q. *Just one more on that, did anyone from Price Waterhouse ever ask that this 8.8 percent be lifted or can you recall any request in that area?*
- A. I never received a request from anyone at Price Waterhouse.

As to the issue of monitoring PW billings to ensure that expenses would not exceed the 8.8 percent figure, Kline testified:

- Q. *During our examination of the facts and the figure related to the contract, we have seen the total billings approved to be paid exceed \$700,000 for expenses.*
- A. You're incorrect. Total billings exceed \$700,000, but what's been paid is five hundred and something, and that comes out to 8.73

percent. This is based upon what my assistant director in charge of administration provided to me when this question came up before the [legislative] committee.

- Q. *We asked that question of Mr. Yee and we got a different answer. We got an answer of 12 or 13 percent.*

- A. That we paid out or were billed?

Q. *Billed.*

- A. Well, there is a distinction. They can bill us whatever they want. That doesn't mean we are going to pay it. We haven't paid it. We have paid out 8.73 percent.

Q. *Will they be paid or is it that the expenses are now capped out?*

- A. They will not be paid anything more than what was agreed to in the contract.

DMV's Assistant Director for Administration, Salvatore F. Marcello, testified, under questioning by the SCI's Gaal, that expenses should not have been billed after the 8.8 percent figure was reached. Nonetheless, he also observed that DMV was not paying much attention about whether the cap had been reached.

Q. *What can you tell us about . . . how it came to be that the bills exceeded 8.8 percent?*

- A. They were billing us with regard to their actual expenditures, which I think were running 13 percent at some given point in time. We weren't looking at the picture of whether or not their expenses were running 13 or 14 or even 15 percent, we had a contract that said 6.5 million, of which [expenses can be no more than] 8.8 [percent] of the total. We weren't really paying attention to the number, other than they had to get us from A to Z for a certain contract amount.

Q. *At some point, then, they would get to the 8.8 percent cap?*

- A. At some point, they would, yes.

Q. *What was to occur, as you understood it, if they were to reach the 8.8 percent cap on expenses?*

A. They would have to stop.

Q. *Stop what?*

A. Billing expenses—they would have to stop billing expenses, and from my perspective, any other expenses would have to be borne by the company.

Q. *Now, at any time, was that ever changed? Was that cap ever lifted? Was the 8.8 cap ever lifted on expenses on the contract work?*

A. Not to my knowledge, no. It was never lifted. It was never negotiated. It was billed at more than 8.8 percent.

Q. *Your feeling was that at some point—*

A. At some point in time, there had to be a final accounting.

Despite DMV's consistent declarations interpreting the contract as imposing a cap of 8.8 percent for out-of-pocket expenses, PW billings for expenses far exceeded that cap. The SCI is concerned that DMV managers appeared—by their actions in approving payments—willing to wait until the point that total billings approached the \$6.5 million cap before attempting to resolve the expense issue. Had the Attorney General's office not ordered that payments of PW bills be withheld until problems with the system were remedied, the payments for out-of-pocket expenses would have significantly exceeded the amount which DMV officials claimed to be PW's contractual obligation. Checks were drawn to pay PW's last bills without anyone at DMV raising the fact that the 8.8 percent cap had been exceeded. The SCI criticizes DMV's failure to monitor this issue.

DMV Lacked Expense Policy

After the bid waiver for the surcharge and comprehensive systems had been approved, but before the formal contract with PW had been executed, DMV and PW created a system to account for fees and expenses billed by PW on the project.

DMV's Assistant Director Marcello sent a letter, dated September 30, 1983, to Roy Levi, then PW's DMV project manager, asking PW to follow its own guidelines regarding support for fee and out-of-pocket expense billings or, in the absence of a company policy, to utilize Treasury's guidelines. PW opted to use its "New York Office Time and Expense Policies" as confirmed in a letter, dated October 4, 1983, from Levi to Marcello. A document containing these policies, dated July, 1983, was supplied to the SCI by PW.

Although Levi's letter indicated that a copy of the New York Time and Expense Policies was attached to the October 4 letter, it was not actually forwarded. Marcello testified as to what happened when he pointed this out to PW's Advani:

I told him we did not get the policy and he said to me, okay, we will take care of it. But then in some subsequent conversations, we talked about it some more. He said, "was it actually imperative that we had the policy." I said, "it's not critical that we do have it here in our possession, what's important is that it exists and there is some place that we can review it."

Marcello's testimony, under questioning by the SCI's Gaal, confirms the Commission's view that DMV management paid no attention to its obligations to ensure that PW complied with the guidelines that were to govern the project:

Q. *Did you contemplate, at DMV, conducting an audit at some time, a complete audit?*

A. If necessary, yes. The purpose of the letter and the purpose of trying to get this policy was to make sure that if we—to create an audit trail, to go back and examine what was being submitted as far as expenditures were concerned.

Q. *There wasn't any way for you to compare what was being submitted with the policy, was there? You didn't have the policy?*

A. No, we didn't have the policy. If we had to do an audit, we would have to go to the New York [PW] office and review the policy.

Q. *That was my next question. Did anyone go to the New York office to review [the policy]?*

A. No, not to my knowledge.

Q. *To your knowledge, did anyone ever go to the New York office and actually look at their records, the Price Waterhouse records?*

A. To my knowledge, no.

Marcello confirmed, under questioning by SCI Chairman Henry S. Patterson, II, that one reason DMV representatives did not press for the promised copy of PW's policies was the deference shown to a Big Eight accounting firm:

CHAIRMAN PATTERSON:

I don't understand why Motor Vehicles didn't ask for the policy. I would be awfully curious, if somebody said, "here is the policy" and then didn't attach it, and then you had a conversation with the man in charge and he said, "Oh, we will send it to you," then he said, "Oh, do you really need it." I would be very curious why somebody didn't follow-up and say, "yes, we want to see it." I would just be suspicious. I would assume they were hiding something.

A. We did not look at it in that fashion.

CHAIRMAN PATTERSON:

You did not?

A. That's correct.

CHAIRMAN PATTERSON:

Because it's Price Waterhouse?

A. Because they are a Big Eight accounting firm.

One-time PW project manager Raymond Trakimas testified that he never saw or heard of a document containing the New York Office Time and Expense Policies. A team leader on the DMV engagement, John Hencinski, testified that he also did not recognize the document. Interestingly, the client partner for the engagement, Driscoll, who worked out of PW's Morristown, New Jersey office, testified that he never read the New York Office Time and Expense Policies until the SCI asked for them in its investigation.

DMV's day-to-day manager of the project, Cox, testified that she was not aware that Advani had not provided the PW policies to Marcello. She further testified that she knew of no one at DMV who evaluated the PW policies to determine whether they were adequate to protect the State's interests. Nonetheless, Cox stated that the State would be bound by those policies, having accepted them for use on the engagement:

A. Quite honestly, I have mixed feelings about [whether certain expense items are appropriately billed], because if that's an appropriate reimbursement in the company policy, we, as the State, accept their reimbursement policy. We have accepted that.

COUNSEL GAAL: Coincidentally, you haven't seen their policy and Mr. Marcello says he never got a copy of that?

A. Yes, that's correct.

Q. *For several years [you] have been proceeding with a policy that DMV has never seen?*

A. That's right.

Q. *If these expenditures were inconsistent with the company policy, that would cause you more concern?*

A. Yes, I would expect the company to audit that and find that out.

Trakimas testified that the staff on the DMV engagement utilized a memorandum from Advani, dated April 12, 1984, which set forth some brief details regarding per diem and meal allowance charges. It did not, however, contain any guidance concerning the recording of other types of expenses or billable hours.

Individual Time and Expense Sheets

PW kept twice monthly time and expense (T&E) sheets for each employee and informed DMV that they would be available at PW's New York office for auditing by state representatives. Bimonthly T&E sheets are a standard PW record used for payroll purposes to bill clients. They show the number of hours that an individual worked in any

given day and provide space in which to indicate codes designating the particular projects the person may have worked on during that time. There is no space for indicating more specific breakdowns of hours by task. The T & E sheets are required to be signed by the individuals who fill them out. (The SCI found that seven percent were not).

Raymond Trakimas, testified that as a project manager he merely spot-checked the T&Es of employees working on the DMV project. PW's initial project manager, Roy Levi, who served on the DMV engagement from July, 1983, through December, 1983, testified that the T&Es were forwarded to him so that he could prepare manual records as source documents whose numbers were utilized by PW office staff in preparing the monthly bills. Levi further testified that he did not review the time sheets for accuracy.

Expense Reporting

PW's monthly bills specified the hours worked for each project employee. PW also itemized individual out-of-pocket expense records in four categories—transportation, lodging, meals and "other." Certain expenses not allocated to any particular person were also listed. These included expenses for cars and apartments used by more than one person during a billing period.

After PW's Roy Levi left the project, PW returned to its typical practice for large engagements of using bimonthly T&E sheets to prepare computerized "work in process" (WIP) statements. These were substituted for Levi's system of recording T&E information on manual logs. The WIP records, generated by the PW data center in Florida, were intended for use in preparing the monthly billings. Delays in the preparation and forwarding of time sheets and underlying expense documentation (vouchers or receipts) prevented the immediate reconciliation of bill amounts with time and expense sheets and other documentation in existence at any given time.

The WIP statements did not delineate the individual categories of out-of-pocket expenses. Rather, they calculated the total expenses for each person. Although that total would be billed, it would not necessarily conform to verified,

categorized expenses based on underlying documentation obtained at a later date.

In January, 1984, Project Manager Kline reported to First Assistant Attorney General Cole that the expense breakdowns proposed by PW were reasonable "and are appropriately documented and available for audit at Price Waterhouse." Kline indicated that requiring PW to submit detailed documentation of the expense breakdowns with each monthly bill would require "significant extra effort" to develop a system to provide such data. Cole responded to Kline on February 15, 1984:

I see no reason to put Price Waterhouse to extra effort in furnishing a detailed breakdown of expenses, so long as we do in fact audit their expense figures before final payment on the contract. The audit report will provide the detailed breakdown as well as a basis for the disallowance of any inappropriately charged expense item.

Despite the leeway afforded by Cole, PW, which had recorded the detailed information on a personal computer, said it intended to continue the monthly detailed individual breakdown of expenses. DMV's Cox informed Assistant Director for Internal Audit Divock that "it is understood, however, that these breakdowns may not exactly reconcile with the final bills, because certain submissions may occur after the billing period has ended."

In a letter dated February 6, 1984, PW's Driscoll reviewed with PW partner Advani and project manager Fryd the desirability of the more detailed breakdown of expenses:

With regard to expense reporting in general, I am aware of the dialogue which has been going on between PW, DMV and the AG's office. I have read the memo from Kline to M. Cole on the subject and do not totally agree with our proposed solution, even though it appears to satisfy Kline's wishes. While I recognize your concerns regarding the potential maintenance of a double set of records, I believe the compromise to bill in summary invites the probability of a State internal audit. Although the records will undoubtedly

support the billed amount, the time required to do this, after the fact, could well exceed the effort required to submit additional detail on a current basis. Regardless of the arrangement, I also believe, billing each month in large summary totals will in turn raise questions each month regarding more details. I might also point out if the details of my expenses for October, 1983 (attached) reflect the general level of accuracy of this submission in total, we certainly will not make an impression (underwhelm in Kline's terminology) with regard to our bookkeeping and reporting expertise.

Separate Time Control System

In an attempt to ensure that the engagement stayed on course, PW established a separate internal control system, not related to its billing system, for the tracking of hours devoted to particular tasks. (Control systems are routinely created by PW in managing its projects, the particular format and procedures varying from project to project depending on size and complexity.) PW proposed for the DMV project a control system that would report hours spent, by task, on a weekly basis.

Weekly control time sheets were filled out by individuals assigned to the engagement. These sheets indicated the tasks performed by a given individual and the hours spent on each task. They provided more timely progress information than the bimonthly T&E sheets prepared for billing purposes. Designated tasks conformed to the project phases. Task codes were supplied by PW's management personnel. The control sheets were supposedly filled out by the individual workers and were reviewed weekly by each person's team leader.

Copies of the control sheets then were turned over to team leader Hencinski. He had created the time control system used during the DMV engagement and was responsible for entering the data from the individual sheets into a personal computer. Hencinski supplied hard copy reports for review by PW project managers, team leaders and partners. The original weekly control sheets were retained by the team leaders.

Hencinski testified at the SCI that project control reports were reconciled periodically with WIP reports used for billing purposes. Hencinski could not recall whether the work papers created during these reconciliations were retained. He testified further:

COUNSEL GAAL: Would you have normally kept [such records]?

A. Not necessarily.

Q. Why not necessarily?

A. Well, because, essentially, what we were looking at is trying to make sure that in terms of the sum of total hours on these reports, that we were at least consistent with what was being reported on the WIPs. The significance of doing the reconciliation above and beyond that didn't really warrant the retention of any adjusting documents because, again, we are looking at this from the standpoint of trying to monitor our progress, especially through phases like programming. So it didn't have any significance above and beyond that.

The project control system was PW's only system of breaking down an employee's hours by task. Certainly the State's representatives were under the impression that this detailed task breakdown would be available to allow state auditors, if necessary, to trace an employee's efforts on particular extra work assignments. From time to time PW personnel seem to have regarded the control system as an adjunct to the billing system, even though the firm now steadfastly denies any such connection.

The SCI's view that there was some relationship between the billing and control systems is bolstered by the fact that periodic attempts were made to reconcile the data in the two systems. In addition, PW project manager Trakimas testified that he would consult the project control system during his attempts to summarize and allocate hours between general system work and extra work not governed by the \$6.5 million contract cap.

Hencinski testified that for the reports from March 29 through April, 1985, the individual sheets and the reports were submitted every two

weeks. Ironically, from January through March, 1985, the project control system was not in operation because Hencinski was so involved in other duties he had no time to enter the data. During this period a manual system was in operation to keep track of hours posted from the individual sheets. In June, 1985, when the engagement was winding down, project manager Trakimas approved of the discarding of various copies of weekly or biweekly sheets used as time documentation. Trakimas testified he was not aware of any PW record retention policy that would have precluded discarding such documents. He stated that "it was a decision arrived at between myself and [Hencinski] just for purely space considerations and their usefulness to us in the project; they were no longer useful to us." Under questioning by Counsel Gaal, Hencinski testified:

Q. *Did there come a time when there was some discussion about discarding [the weekly sheets]?*

A. My practice was this. As I indicated earlier, I would receive copies of the weekly time summaries for the purposes of entering the hours into the project control system. And the practices that I had was to retain the copies for a period of a week or two after the reports had been distributed back to the individual team leaders and to the project manager and after that time period simply discard those copies by virtue of the fact that they had an opportunity to review the report itself, and going on the assumption that if there were any problems, those could be addressed within the confines of the report.

Q. *In other words, you were discarding them throughout—*

A. There was no real formal process. It was sort of a periodic thing. I'd hang onto them for a little period of time.

* * *

Q. *The actual copies of the weekly time summary you had been discarding throughout?*

A. Yes. So it's not as if I had a complete stack or a comprehensive volume of weekly time

summaries itself. Basically, I had duplicate copies of reports that had been previously distributed.

Superficial Review of Fees and Expenses

The contract with PW set forth guidelines for State audit and inspection of time and expense records on the DMV project:

[PW] shall maintain accounting records and other evidence relating to the time devoted to and expenses incurred on the projects which are the subject matters of this Agreement and shall make its time and expense records available to the State at all reasonable times during the contract period and for three (3) full years from the date of final payment. These records are subject to audit by the State.

Under present procedures, once a bid waiver is approved by the State Treasurer the using agency is responsible for monitoring the work. Therefore Yee, the DMV audit manager working in the Internal Audit section, was assigned to review the PW billings. His primary task was to check their arithmetic for accuracy. On a monthly basis Yee would question the reasonableness of a particular expense item or ask for substantiation of it. Copies of back-up documentation would be forwarded to him from PW. Yee never visited PW offices to review original documentation since he was not authorized to do so.

Yee testified that he was never given a copy of PW's New York Office Time and Expense Policies to aid in his assessment of the reasonableness of PW billings. In addition to reviewing the PW bills, Yee had to perform a multitude of audits and reviews of DMV agencies and bureaus. After Assistant Internal Audit Director Divock left DMV in early 1985, Yee also had to supervise the audit unit. Even though this left little time for him to perform more than a cursory assessment of PW's bills, Yee was a still an effective auditor.

The reasonableness of hourly billings was also reviewed by DMV assistant directors with responsibility for certain projects on which PW staffers were working. In addition, through November, 1983, SAC Acting Director Meybohm would in-

dicade whether the hours billed for PW employees working at SAC facilities seemed in order and in agreement with sign-in, sign-out logs maintained at SAC. In November, however, as a result of PW objections, Meybohm had to discontinue his attempts to require that PW employees sign in and out at SAC facilities. Meybohm testified regarding the circumstances surrounding his decision:

DEPUTY DIRECTOR CLARK: Did any person from Price Waterhouse or supervisor from Price Waterhouse indicate that there would come a time when they were not going to utilize these sign-in sign-out sheets?

A. No. In other words, my clerical person who was handling that, you know, it just became very evident that people weren't signing and yet I knew the people were there. Yet if I were to look at the time sheet, there would only be a few people there. So then we got to the point where that was brought to the attention of Motor Vehicles and they didn't seem to be concerned.

Q. *Who brought it to the attention of Motor Vehicles?*

A. I did.

Q. *Who did you speak to at Motor Vehicles?*

A. I spoke very specifically to Bob Kline.

Q. *Anyone else?*

A. I don't know that Chris Cox might have been there. This was in the course of some of those meetings that we would have.

Q. *And what response did you get back?*

A. I didn't get any.

Q. *Did [Kline] ever address the concern that you expressed?*

A. Not to my knowledge.

* * *

Q. *So, in effect, he really made no decision?*

A. That's right. I don't think there was a conscious decision that someone said Price Waterhouse, you don't have to do that.

Q. *They just didn't do it, as much as you would have liked them to, then you raised the concern about that with Mr. Kline, and then you heard nothing back, and then Price Waterhouse discontinued doing it altogether?*

A. That's correct.

* * *

Q. *Did you ask anyone from Price Waterhouse to improve their sign-in sign-out activity?*

A. Early in the game, but, you know, early in the same game this was at the exact point in time when I was told that I was being [an] obstructionist to the project and I should get with it and stop being [an] obstructionist and cooperate.

Q. *So you didn't pursue it?*

A. Just dropped it. . . . Basically, we would sign off in the sense that they seemed to be reasonable and that those people were at SAC. Whether they were there for 132 hours or 148 hours, we couldn't [tell].

Meybohm and his successors as Acting Director of OTIS/SAC, Alfred L. Bochese and Ralph Bencivengo, testified that they conducted little more than mathematical checks of the bills submitted by PW. At the present time all OTIS' consultants, except PW, sign-in at the State locations where they work.

Too Much Reliance on Big Eight Reputation

Essentially, DMV officials in charge of the project counted on PW to provide reliable bills. They assumed, without adequately satisfying themselves through inquiry and examination, that PW recordkeeping would be sufficient to resolve any questions that might arise during any audit at the conclusion of the project.

In part, this lack of vigilance by DMV resulted from the belief that any problems could be dealt with when the project was finally audited. This

notion was based on the faulty assumption that sufficient underlying documentation would be available, and on the further assumption that an audit, although allowed by the contract between the State and PW, would automatically occur. The lack of vigilance was to some degree attributable to the assumption by DMV managers that PW would, by virtue of its reputation and standing in the national and international business community, meet high standards of accountability without doubt. DMV's Kline testified in hindsight:

Well, I think, unfortunately, that the State may have been somewhat naive in dealing with Price Waterhouse. I think one of the things that we relied on was their reputation, I think that's one of the things that we felt very good about. It was one of the Big Eight firms, it had a national reputation. And I think that to a great extent we relied upon that to our detriment.

DMV's Cox echoed this reliance on PW's reputation:

COUNSEL GAAL: Did you have a certain degree of confidence, if I can use that term, in the company?

A. Yes, absolutely.

Q. Did you feel you approached Price Waterhouse differently than you would have approached a different company in terms of confidence in their integrity and keeping track of their hours and so forth?

A. To a certain extent, yes.

BILLINGS BEYOND THE CONTRACT CAP

Agreement Permitted Certain Extra Charges

The 1983 agreement provided for payments to PW in excess of the \$6.5 million cap if changes were made in the scope of the project. The agreement also limited the scope of the comprehensive system "in terms of functions and features" to

descriptions contained in the requirements definition studies dated June 24 and September 30, 1983. It continued:

The State recognizes that changes to these requirements may result in increased costs and delays in the completion of the project and agrees to assume full responsibility for such additional costs (consultant's fees and out-of-pocket expenses) and delays subject to the approval of the State Treasurer.

Increased fees and expenses were also allowed for State-imposed changes in the insurance surcharge system. In general, the agreement stated that if government acts, failure of technical facilities "or other cause of similar or different nature beyond the control of [PW] . . . result in delays and additional costs, a further reasonable amount of compensation may be agreed upon, subject to the approval of the State Treasurer." A key aspect of such provisions was the requirement that extra work be performed "subject to the approval of the State Treasurer." Undoubtedly, this condition was inserted to impress upon PW the fact that a presumption of competition underlies State work, and that only the State Treasurer or his designee can override that presumption through a waiver process. In addition, the condition created a mechanism to insure the availability of funds.

In the early stages of the project it was not anticipated that PW would have much responsibility for enhancements of the new system. However, PW eventually assumed responsibility for enhancements and certain tasks because SAC remained understaffed and because PW staff were more knowledgeable about the details of the design and programs of the new system. PW employees thus could do these tasks more efficiently. In addition, even though SAC received numerous extra responsibilities to support the new project, required personnel had not been provided.

Separate Waivers Not Obtained

For its earliest substantive extra work PW estimated enhancement charges of \$125,000 (\$110,400 in fees and \$14,600—about 13% of fees—in expenses) in order to meet the requirements of legislative amendments to the insurance

surcharge program. On February 15, 1984, DMV's Kline instructed PW to proceed with the enhancement. Meanwhile, DMV applied for a supplemental bid waiver to accommodate these changes. First Assistant Attorney General Cole wrote Kline on March 14, 1984, directing DMV to accumulate such requests and submit them as a group at the conclusion of the project. Cole explained in the memorandum:

It has been suggested that there is no need to process a supplemental waiver at this time because the full amount of the contract, \$6.5 million, has not yet been exhausted and will not be for some time. That being so, it seems reasonable to withhold processing of this supplemental waiver until a point near the end of the contract, when the supplemental waiver can be processed together with any other supplementals, should they become necessary because of subsequent, legislative enactments.

Delaying waiver approval did not, however, mean that PW billings for extra work were delayed. PW submitted bills for such work as it occurred. For example, in the case of the surcharge system enhancement, PW billed the State \$124,966 (\$114,545 for fees and \$10,421 for actual expenses). DMV's Cox testified about her interpretation of Cole's ruling:

I took [Cole's memo] to mean, in fact, do what has to be done and then get the approval for the payment—the whole philosophy at that time was, six and a half million dollars isn't going to be reached for another 18 months. Don't worry about an addition to six and a half million now, worry about it when you are going to reach the six and a half, in order to get the authorization beyond that. That was the gist of it.

By delaying State Treasurer approval until near the end of the contract period, jobs totaling a substantial amount of money were performed and billed without the evaluations that would normally accompany the waiver process. PW's Driscoll, under questioning by the SCI's Clark, described the billing procedure followed by PW for extra work:

Q. So . . . is it correct to say that there were billings submitted which included these changes in the scope or enhancements, along with the billings that reflected performance under the \$6.5 million contract?

A. That's correct, and they were so identified.

* * *

Q. The intention was to, at the end of the contract, identify the total of those separate billings and enter into a further waiver with the State in which the State agreed to pay those amounts?

A. The contract supplements the amount of those approved changes, yes.

Q. Those payments would have been made over the course of months as the bills were submitted by Price Waterhouse; is that correct?

A. That's correct.

Q. So that the payments that would finally have been totaled in this separate agreement at the end of the implementation would merely confirm in writing the amount that would previously have been paid under the billing procedures; is that correct?

A. That's correct.

The work for which extra billings were submitted included jobs caused by DMV changes in scope, PW performance of tasks originally assigned to DMV or SAC and "additional time charges incurred by Price Waterhouse as a result of delays caused by factors beyond its control." Since no waiver request was planned for extra work until the project billings approached \$6.5 million, and since PW was billing and receiving payments for such work as it was performed, DMV bore a heavy responsibility to ensure that the extra work was both necessary to produce an effective computer system and reasonable in price.

DMV also was responsible for determining if any of the extra work could have been performed with formal or informal competition. At least one project—development of bid specifications and bid evaluation support for a microfilm index retrieval system—seems to have involved tasks for

which PW was not singularly qualified. PW was paid \$29,426.73 for this without any official determination that competition might have resulted in a better job at a lower price.

Inadequate Accountability for Extra Work

DMV's Christine Cox estimated on May 2, 1985, that PW's total extra charges would add up to between \$1 million and \$1,200,000. PW submitted a total of \$271,895 in billings for enhancement work and \$136,928 for delay work through May, 1985. At the request of Project Manager Kline, the extra billings were to be submitted to DMV on invoices separate from those for the overall project.

It was particularly important to determine precisely the amount of time PW devoted to specific contract work versus the amount of time devoted to enhancements, "extended support" or delays, because the contract provided for maximum billings of \$6.5 million. No such limitation or cap was imposed on billings for the extra work categories. Indeed, PW's Trakimas calculated the total billings for the general system to be approximately \$6.36 million with the inclusion of its May, 1985, bill.

PW submitted to the SCI a three-volume set of documents with supporting explanation in an attempt to respond to questions raised over its management's decision to transfer hours of the staff from work under the contract cap into extras such as enhancements. The request for and approval of enhancements was the responsibility of DMV and specific instructions were belatedly issued by Cox on March 25, 1985 in this matter. However, information in the aforementioned submission by PW revealed that there were approximately 500 hours of work on enhancements that had neither prior nor subsequent written approval except for after-the-fact memoranda by PW which explained that the extra work had verbal requests and approvals.

DMV relied upon OTIS/SAC to administratively verify the completeness of the enhancement work. Ralph Bencivengo, almost immediately upon becoming acting director, was charged with the responsibility of reviewing PW's enhancement work. Such verification for the months of January to

March, 1985, was done after-the-fact, with explanation from PW and with some review for reasonableness by Bencivengo's technical staff. The bills for April and May, 1985, were held up by him because the on-line system was not working.

Bencivengo questioned some of the time charged for enhancements but PW had more knowledge of the system than his people had and he had to accept PW's opinion in the matter.

Most of PW's extra work occurred during the first half of 1985. Until April, 1985, enhancement requests could be made by any number of DMV employees; there was no organized system to keep track of early enhancement activity. PW's Hencinski testified that in the spring of 1985, he and DMV's Cox designed a standard enhancement request form so that there would be some method of controlling enhancements. Cox approved some enhancements as obviously necessary while approval of others awaited review at weekly meetings of representatives of DMV, SAC and PW. The system required a DMV assistant director, as well as Cox, to sign off on any enhancement request before PW's time and expenses for the particular tasks could be submitted as extra bills outside the \$6.5 million cap. Cox, as noted above, instituted the system in a memorandum to DMV assistant directors, dated March 25, 1985. She testified that in some situations a memorandum would suffice to document an enhancement approval.

Under questioning by SCI Counsel Gaal, Cox described how approvals were often given to perform enhancements before cost estimates were provided by PW:

Q. In other words, they might get the go ahead before you would know what it was going to cost?

A. Absolutely.

Q. Did there come a time when you would find out what it was going to cost or would it be after the enhancement was completed?

A. Frequently it was after the enhancement was completed.

* * *

Q. *Just so we are clear, you would give them the go ahead and they would do the work and then come back and tell you what it cost?*

A. We used both. In some cases, they would come back and tell me it looks like it's going to take 60 hours, I would say okay. Other cases we are sitting around on a Thursday afternoon and it's a fix program or something that needs to be done right away, they would just go and do it and it would come back in the bill, but it was something we knew about. They might do a follow-up memo or I might have a follow-up memo from [a DMV] assistant director.

Bencivengo, who became acting manager for the OTIS/SAC data center on April 1, 1985, testified about Cox asking him to review the reasonableness of time anticipated or actually utilized to accomplish particular enhancement requests. Bencivengo, under questioning by the SCI's Gaal, described the difficulties connected with judging reasonableness:

Q. *Were there ever any substantial disagreements between you [and PW representatives]?*

A. There were, but it seemed as though they came on the upper hand all the time.

Q. *Is that because they had more information than you did?*

A. No, they had more knowledge on the system than our people did.

Q. *Because your people were, basically, not involved with the system, is that right?*

A. That's correct.

Q. *Did you feel that you were somewhat at a disadvantage?*

A. Yes, positively.

* * *

Q. *Why?*

A. Price Waterhouse knew more about the system than we did, which is the first, since I've been in data processing, that has been the first

time, to my knowledge, that this has happened. Usually our data processing people are on top of the project, which did not happen.

PW's Trakimas summarized the enhancement and extended support information in five memoranda to Bencivengo. PW contends improperly that Bencivengo's approval of Trakimas' memorialization of this work constituted a virtual audit by Bencivengo of the PW employee hours devoted to it. Actually, Bencivengo testified that he understood that all of the extra work listed in the memoranda had been previously approved by DMV's Cox. His approval of the memoranda represented nothing more than an acknowledgement that he had no information to refute PW's breakdown of time spent on various tasks.

Bencivengo had just assumed control of the SAC data center when he learned that he would have responsibility for verifying the time spent by PW employees on extra work. He received the first memorandum from Trakimas in early April, 1985. Moreover, the time lag between the dates when the work was performed and when the memoranda were submitted—up to as much as three months was too great for Bencivengo's review to be deemed realistic or accurate.

Aside from the memoranda to Bencivengo, the only document summarizing for DMV the so-called subcode 400, representing enhancements and extended support, was an attachment to a memorandum, dated May 2, 1985, from Cox to Salvatore Marcello, DMV's Assistant Director for Administration. This attachment accounted for only 1,496 of the 3,045 hours charged by PW to subcode 400. The SCI cannot determine how DMV was supposed to keep track of extra work for which PW may have been entitled to submit extra billings when it did not have a list of the extra tasks until well after the work was completed.

The Commission attempted to substantiate the actual hours worked by PW staff from time sheets. However, only 1,275 staff hours could be identified by SCI accountants as hours worked on enhancements of the 3,045 total hours PW listed for enhancements. Surprisingly, PW had no project control system for enhancements because enhancements were described as "ad hoc" requests. In its place PW, through Hencinski,

prepared a computer run for Enhancement Billing Summary, which information was admittedly incomplete, concerning enhancements from February to May 1985. It was difficult for the SCI to determine the exact purpose of the Enhancement Summary Billings, since all the estimates of hours for each enhancement had, with one exception, the same figure for actual hours worked. It appeared to be another after-the-fact document to substantiate the billings of about 40 enhancements to DMV.

PW explained in their submission how requests and approvals from DMV totaled the 3,045 hours billed on enhancements. PW has submitted only after-the-fact memoranda from PW to DMV to substantiate these hours.

Expense Limitation Increased Without Clear Agreement

PW informed the State in a letter from Advani to Kline on March 15, 1985, that it intended to bill out-of-pocket expenses for the extra work at a flat rate of 13 percent of fees billed. On the overall project, as noted, expenses had been limited by the agreement to actual expenses up to a maximum of 8.8 percent of fees. On the \$125,000 surcharge system enhancement PW had billed actual expenses, which amounted to approximately 9 percent of fees charged. On the first phase of the microfilm index retrieval system enhancement, PW had also billed actual expenses, which amounted to less than 5 percent of fees. PW introduced its 13 percent expense levy for extra work for the first time when it billed for additional time charges in January, 1985. PW billed the unsubstantiated 13 percent figure on the second phase of the microfilm index retrieval system enhancement, even though actual expenses for the first phase had amounted to less than 5 percent of fees.

The 13 percent ratio now was utilized regardless of the actual expenses incurred. PW's Driscoll testified that since certain expenses might be incurred on behalf of an employee working on both the general system and enhancements, the figure resulting from the 13 percent calculation would be credited against the expenses billed on the general system.

Kline testified that the 13 percent figure for enhancement expenses was determined unilaterally by PW rather than negotiated with the State:

Q. Are you saying today that even on enhancements they cannot get paid at a higher rate than [the contract cap of] 8.8 percent?

A. I can't answer for the Attorney General. But as far as my understanding, that is correct. It has never been discussed as far as specifically their bills. It's my understanding that the agreed upon expenses were 8.8 percent. It has never been discussed that there would be a different type of payment for enhancement, at least not with me. Again, I haven't dealt with the enhancement side of this.

Q. Who did?

A. Christine Cox, who is the Senior Assistant Director. Now, if there is some other type of understanding, it was not done by myself.

Q. Let me throw a number at you, 13 percent on enhancements for expenses.

A. The only time I remember 13 percent is that in their original proposal, going back to July, [1983,] they had asked for anywhere from 10 to 13 percent for expenses, and, of course, that was dismissed, and you had the whole philosophy with putting the amount of expenses into the [total] waiver [amount].

Cox testified that PW dictated the 13 percent figure:

Q. You have that figure from their end, from Price Waterhouse saying [they were] going to bill at 13 percent?

A. Right. It was more of "Here is how we are going to do it." I don't remember honestly focusing on it to say, yes or no, but there was no explicit approval that it was okay to do that at 13 percent.

Q. But the billings get paid at 13 percent or get approved?

A. The billings went through and got approved with that on it, yes . . . It's my impression that top management at Price Waterhouse wasn't aware of that 13 percent either.

Q. *By top, are you speaking [about] above Advani?*

A. Yes.

* * *

Q. *Where have you gotten the impression that top level people were unaware of that figure?*

A. From discussions with Bill Driscoll.

Q. *Was he aware of the figure?*

A. Again, my impression was that he was not.

The above excerpts from testimony by Kline and Cox illustrate the confusion that prevailed among DMV's lay managers of the computer project, particularly in regard to such critical issues as enhancements and what was to be paid for such extra work.

The hourly billing rates for time spent on the extra work were to be the same as those effective July, 1984, for the general project (partner-\$165, senior manager-\$135, manager-\$85 and consultant-\$75). However, the rates were to be increased by 7 percent on July 1, 1985, "to reflect the annual firm-wide increase in our staff billing rates." In addition, the staff programmer rate of \$50 per hour for contract work would not apply to enhancements. Instead, the higher "consultant" rate of \$75 per hour would apply to all such non-managerial staff time. DMV's Cox testified that she did not specifically recall the change in billing rates for staff programmers for enhancement work:

COUNSEL GAAL: Did you ever discuss that on enhancements the minimum would be \$75 an hour whether they were programming or consulting?

A. Not in that context, not in the money context. In the context that consultants would also do the programming, both tasks [designing and programming] and not split it.

Q. *Prior to our raising this to you, were you aware that individuals on enhancements were getting no less than \$75 an hour?*

A. If you would ask me that, I would say I don't have specific knowledge of that. I am not pinning myself, but, yes, conceptually, I do remember the discussions about using a consultant to do both of the tasks, but to say, there was never going to be any programming cost per se in an enhancement, no, I would not have recalled that being agreed to.

Elusive 2,500 Hours

In a letter to Kline on January 8, 1985, PW's Advani described work that he maintained should be billed as extra charges beyond the \$6.5 million cap. This concerned the "modified implementation approach" proposed by PW to resolve problems encountered in its use of the IDEAL programming language:

To date, we have spent 2,500-plus staff hours of effort in dealing with and compensating for the technical problems in IDEAL. In addition, we expect to spend in the range of 2,000—3,500 additional staff-hours to modify, test and implement the system in accordance with the proposed approach. This additional effort totaling 4,500—6,000 hours is being expended by PW as a result of the technical problems with ADR software, a factor clearly beyond our control. It was not anticipated as part of our planned system development activity and was not included in our project estimates. Therefore, I am requesting additional compensation authorization for this effort of an amount not exceeding \$600,000 for our fees and out-of-pocket expenses to be billed at the approved rates in effect for the project.

Kline flatly rejected payment of extra amounts to remedy the problems stemming from PW's use of IDEAL. Nonetheless, the "2,500-plus" hours mentioned by Advani had already been billed (in 1984) to the State as part of the original work on the system. Unless the State were to eventually approve extra bills for these hours, and others devoted to the remedial efforts, they would be

added to the hours applied to the capped billings. This would threaten PW's ability to remain within budget and achieve a desirable profit on the engagement. Unless the State determined which of the hours billed had been rejected by Kline, it could be overcharged by as much as 2,500 hours (\$200,000 at an average hourly rate of \$80).

Under questioning by the SCI's Gaal, Kline described the procrastinating manner in which DMV dealt with billings inflated by the disapproved extra charges:

Q. The last sentence of that paragraph [in Advani's memorandum], "The 2,500 additional hours already expended by Price Waterhouse as a result of ADR technical problems encountered to date is a sunk cost regardless of the alternative selected." What does that mean, it's a sunk cost?

A. I assume it meant that they—it was done, it was billed.

Q. It was billed?

A. We were going to pay for that. Again, my position on that was that remained to be seen. So we could always get that back if, in fact, it were proven.

CHAIRMAN PATTERSON: Excuse me, you use the expression "it was billed." It wasn't billed at that point, was it?

A. I don't know. See, that's a term that they used. In my way or reading this it may have been billed. As far as my thought about this, was that it was something that ultimately would be decided. There's various ways that we could have approached this. If, in fact, it had been billed, we could then withhold payment later to compensate for that. If, in fact, it hadn't been, that would be something somebody determined.

DMV's Cox testified that she believed the 2,500 hours had not been billed as they occurred:

Q. Is it your understanding that those hours were billed to the State under the contract at that point and Price Waterhouse is asking for additional compensation as an enhancement?

A. No. My impression was that those hours had not been billed, that they had accumulated them. They know what they are, they know what they did during that time. That's the way I interpret it. They were putting us on notice and getting, I will call it, approval to submit those bills.

Kline wrote a strong response denying PW's request for additional payments for coping with the problems arising from use of IDEAL in the DMV project. Nonetheless, he failed to ensure that the State could identify the billings attributable to such problems and to demand that PW refrain from submitting such bills.

In her memorandum of May 2, 1985, regarding the \$1 million to \$1.2 million worth of enhancements which PW had informed her it would bill to the State, Cox noted: "Some of these items have already been billed for and others are estimates for potential billing." One item reads, "Estimate of 1984 technical support charges (to be billed in April 1985) . . . \$200,000." Another item reads, "System enhancement and extended support charges billed for December 1984—February 1985 . . . \$107,000." The \$200,000 figure obviously relates to the 2,500 hours worked in 1984 which Kline rejected for payment. Thus, PW did not consider that Kline had decided the matter. Instead, PW clearly intended to continue to bill extra charges outside the contract for coping with problems strictly associated with its misguided use of the IDEAL language.

Haphazard Time Keeping

PW partner Driscoll testified that for billing purposes the DMV project utilized the primary billing code assigned by PW to the State of New Jersey, as well as subcodes to identify particular projects for New Jersey, including DMV. Different subcodes were assigned to work within the scope of the 1983 agreement (surcharge and comprehensive systems) and work outside of the scope of that agreement (enhancements and delays). Accuracy in allocating of hours and expenses to categories within or outside of the contract scope was important for billing purposes because of the contractual cap on fees and expenses for work within the scope of the agreement.

During the initial period of performance of work outside the scope of the original agreement, PW employees accounted for time spent on such activities by noting a 400 subcode (enhancement) on their T&E sheets instead of the 200 subcode utilized for regular contract work. A 100 subcode was utilized for work on the insurance surcharge system. A 300 subcode was used for the enhancement PW provided for DMV's microfilm retrieval project. A 500 subcode was utilized by PW management to designate delay charges.

Former PW project manager Levi testified that in the early stages of the project, before extra work was performed, employees allocated the hours recorded on their bimonthly T&E sheets for surcharge and/or comprehensive systems as appropriate. However, this accurate method of allocating hours was later perverted when PW superiors began reallocating time and tasks without adequate consultation with the employees who actually had filled out the T&Es.

Undoubtedly realizing the importance of individual accountability for time spent on tasks that could be billed in excess of the \$6.5 million cap, PW project manager Trakimas wrote a memorandum on April 1, 1985, to PW team leaders and staff noting the new system imposed by DMV's Cox to keep track of enhancements. The memorandum concluded, "All enhancements work should be charged to code 400 [enhancements]. All staff members must maintain an accurate log of all time charged to code 400. Copies of the log sheets along with the System Change Request Form [developed with Cox] should be forwarded to John Hencinski to facilitate billing."

Trakimas testified that compliance with his instructions was incomplete; that is, certain of the hours devoted to enhancements were not recorded by the staff members under the 400 code on their time sheets. He contended that certain employees tended to charge to enhancements only the time that they had spent on actual programming, rather than include time spent discussing the details of the assignment, design work and test efforts. Due to this alleged unreliability of the hours recorded by PW staffers, PW supervisors overrode many of the time allocation decisions of their employees and eventually changed the sys-

tem to take the individual employees altogether out of the allocation process for time and tasks.

Trakimas testified that in May, 1985, PW discontinued the 200/400 subcode T&E sheet notations used to allocate hours worked on the general system, enhancements and delay. Instead, PW employees were orally instructed to insert the 200 internal billing code on their T&Es, regardless of whether the work was performed within the contract scope or on an enhancement. Interestingly, T&E sheets reveal that Advani and Trakimas themselves, as well as four subordinates, continued to designate subcodes in May and beyond. In describing this system, which operated during the period when billing activity outside the cap was most frequent, PW's Trakimas stated in a memorandum on June 14, 1985, to DMV's Cox:

After the reporting period, this time is discussed with each staff member by the Price Waterhouse project manager. The staff member indicates what tasks were accomplished and reviews the associated project deliverables.

The project manager, in preparing the billing, determines what time will be charged to the new DMV system project and what time will be charged as extended support above and beyond the scope of work for the new DMV system as defined in the contract.

* * *

In practice, the use of the 200 and 400 subcode [to capture at that timesheet level the two types of work] has been discontinued since the individual staff members often did not record all of the time including meetings, design, programming and testing, in addition to, the updating of documentation for enhancements they worked on at DMV management's request.

This procedure deviated substantially from the PW New York Office Time and Expense Policies which DMV had been told would govern this project. Those policies emphasize timely recording by knowledgeable employees of the hours they spend on a project:

The key resource of any professional organization is the time of its professional and administrative staff. Further, the integrity and financial performance of the firm are directly related to the diligence with which each staff member accounts for his or her time charges, especially with respect to clients. Thus, the importance of accurately measuring time charges as they relate to client activities is, or should be, obvious. This must always be the case—there can never be an exception.

The formal record for charging time spent on professional activities starts with the Diary-Manual where we expect that each day's efforts will be recorded by you while the activities are fresh in your mind. The daily recording of time by activity and client (including appropriate subclient code) and the accurate preparation of time sheets are the personal responsibilities of each staff member. We must all remember that the firm relies on each staff member's representations to defend its time records. Once you sign the time sheet it becomes the formal acknowledgement by you—and you alone—of your efforts expended and the clients to be charged.

The admonitions of this policy became particularly pertinent where, as under the DMV-PW contract, there is a cap on the billings for a project that may only be exceeded if hours are properly allocated to enhancements, delays, extra support work and the like. Trakimas's description to Cox of the method of allocating hours substituted after-the-fact guess-work by PW supervisors for precise allocations by employees who actually did the work. Under such a system the employees' signatures on their T&E sheets, certifying that they accomplished the particular tasks indicated, were meaningless.

Despite Trakimas's descriptions to the contrary, Cox under questioning by the SCI's Gaal testified that she had expected PW to maintain, for later review by state officials, the underlying documentation on which PW employees would accurately record the time they personally devoted to enhancements:

Q. *Did you expect [PW] to have records supporting the hours on the enhancements?*

A. Yes.

Q. *Did you ever discuss that with them?*

A. No, not that I recall, no.

Q. *Was there any reason that you didn't discuss it?*

A. No.

Q. *Was it because you were so satisfied with the detail?*

A. I assumed the record keeping was exactly what I had seen before and was being handled in accordance with their company's needs as well as in accordance with laying out what they were doing for our project.

Q. *... If ... you [decided to audit the hours of a particular PW employee], what kind of backup documentation [would] you expect to find in Price Waterhouse?*

A. I would expect to find what I will call a basic time sheet ... some kind of, I will call it, a project control sheet indicating where they were and what they were working on ... I would also expect then for those number of days working on the DMV project, some level of detail in accordance with what the company needed as to what they were doing during that time, whether it was programming or analysis or design or development or operations or whatever.

Q. *Do you expect it to indicate that they were working on enhancements. ...?*

A. Given that this billing was beyond the initial contract, I would expect that that would be noted, in some way, with an asterisk or in some other way noted.

Q. *When you say noted, you expect to find these items in writing, I take it?*

A. I would expect that, yes.

Q. *Not verbally?*

A. As to who worked on what, and whether it was an enhancement?

Q. *Right.*

A. I would expect it in writing, yes.

Q. *When you mentioned the progress control sheet earlier, what were you referring to specifically?*

A. I was referring—you asked me what I would expect?

Q. *Right.*

A. Conceptually, I would expect some kind of, I think I used the word project control, a delineation of what kind of work was being done. See, I understand clearly that the same person . . . could have worked for three hours in the morning [on] something which was part of the six and a half million dollar basic system and [on] an enhancement for two hours in the afternoon.

Q. *That's exactly the question. What is your understanding in terms of the backup or supporting documentation that should exist to justify the enhancement bills?*

A. I would expect that that would be somehow annotated, even if it was just a notation on a time sheet for seven hours or eight hours, three of those were enhancements, I would think that was necessary for billing purposes.

Q. *Do you expect that to be on the employee's time sheet, when you use the term time sheet?*

A. I would expect it to be in one of those backup documents, again something that feeds into the billing, to be able to know how many of the hours were spent on enhancements.

Cox could not know the degree to which the procedure described by Trakimas deviated from PW's own policies because, as previously noted, DMV never received a copy of those policies. In addition, Trakimas's assurances that "time is dis-

cussed with each staff member by the Price Waterhouse project manager" proved false. Trakimas testified that he did not review each individual's T&E sheets but only spot-checked them from time to time.

Trakimas testified that team leaders, the project manager or the engagement partner utilized various sources (their individual records or recollections, addenda to T&E sheets, formal change approval forms, and a log) to decide how hours for an individual employees would be reallocated. The necessary paper work was then completed to effect the changes. Conspicuously absent from this reallocation effort were timely and systematic consultation with employees who did the work. Hencinski testified under questioning by the SCI's Gaal about the method used as of March, 1985, when he became a manager and leader of a PW team on the DMV project:

Q. *How did you arrive at the hours, number of hours [to be allocated to [enhancements]]?*

A. The number of hours that were worked?

Q. Yes.

A. Basically, through recollection at the time.

Q. *Would it be done in a group meeting or an individual meeting, formalized meeting?*

A. Ray [Trakimas] and I would sit down, I'm not sure you would call it a formal meeting, and discuss the status of events that had taken place over the past couple of weeks.

* * *

Q. *Were there any occasions where this occurred for individuals whom you supervised on your team?*

A. Yes.

Q. *And were they handled similarly?*

A. Yes. I would try to get an accounting of their time with respect to the various types of issues or activities that they were working on.

Q. When you say try, what would they utilize, the same things you would utilize?

A. Yes.

Q. Which would be, essentially, your notes or recollection?

A. Yes, primarily recollection.

* * *

Q. How many of these meetings where the time changes were discussed can you recall?

A. They were approximately monthly. So I would say about three or four.

Q. And can you put it in a time frame for us?

A. Again, it would be commencing about April—March, April, May [1985], that time period.

Q. Would you have been the only person with Mr. Trakimas at the time or would all the team leaders have been together in sort of a group meeting?

A. The way I understood it, there was no formal policy established with respect to who was represented. It was not their worse situations where other team leaders were present.

Q. When you were there?

A. Yes.

Q. Did it ever occur more frequently than once a month?

A. I seem to recall that it was a monthly practice.

Q. Would it have occurred like two times a month or three times a month?

A. I don't believe so.

The "practice" described by Hencinski deviated from PW policy as described in the standard PW Diary Manual:

Prior period adjustments—this section appears on the back of the Time Sheet and is

used to report adjustments to time and expense charges made on time sheets and expense reports filed in previous time periods. . . . The net change resulting from the adjustments must be shown on the front of the time sheet, even if zero.

Engagement partner Advani acknowledged that some PW employees on the project utilized prior period adjustments. He testified that "there is no such requirement" that a staff member be told that his or her hours were reallocated by supervisors. Advani interpreted the prior period adjustment policy narrowly:

It's not a formalized procedure in Price Waterhouse. It's one of the ways in which it can be done. In most instances, the procedure is used when the time is erroneously charged to a different client. So for transferring or reflecting the time or transferring out the time from one client code to another client code, that procedure is used. For transfer of time charges or expenses that might have been erroneously coded on the same client but on different subcodes, that procedure can be used, however, most often another procedure is used where the change is made directly to the WIP adjustment without requiring individual staff members to resubmit the time sheets.

Trakimas testified that he used T&E sheets, work-in-process (WIP) reports from the PW computer center in Tampa, Florida, and weekly time-sheets from the project control system to prepare worksheets maintained on a personal computer. The work sheets were used to prepare the monthly bills submitted to DMV. After the hours which individual employees had allocated to the general project were reallocated by PW management between the general project and other work, Trakimas submitted memoranda to PW's New York office indicating the hours which were to be adjusted for each employee on the WIP ledger (computerized compilation of data from T&E sheets). Thus, the billings for general project versus other work would, in theory, be reconciled with Trakimas's summaries.

Meanwhile, the first level of underlying documentation, the T&E sheets, reflected the total

hours spent on all DMV work. In addition, certain PW staff members continued to use prior period adjustments and to allocate their time sheet hours between the general work and extra work. This information also eventually wound up in the WIP ledger. Thus, there ultimately was a disparity between the WIP ledger and the Trakimas summaries. Therefore, the Trakimas summaries coincided with the bills, but the WIP ledger did not. This disparity is troubling since PW representatives repeatedly asserted that the WIP ledger was the "bible" when it came to billings.

PW representatives have strenuously asserted throughout this investigation that reallocations of hours by knowledgeable supervisors was an established practice and resulted in accurate billings. They have aggressively maintained that this method of reallocating hours was allowable under the New York Office Time and Expense Policies. Indeed, a so-called ET-14 procedure was utilized by Trakimas to submit T&E changes to the WIP system. PW has maintained that "if there are multiple corrections to be processed (and where, therefore, corrections on the time sheets are administratively burdensome)," the preferred practice to correct allocations of hours is to use the "Time and Expense Corrections Form ET-14." The ET-14 procedure is provided for in PW's Administrative Information Manual (AIM). The relevant section of the AIM states:

An office may use Form ET-14 to transfer incorrectly coded time and expenses of its own staff to the proper project code. However, it is preferable to have such corrections made by the staff member via the time sheet . . . Use of Form ET-14 is suggested when multiple changes are required.

PW has contended that the use of prior period adjustments by the staff member who actually did the work was preferable only "because this method of data input will result in the corrected charges being reflected more readily in certain internal manpower summaries and in our [WIP] ledgers at the billing rate in effect at the time of the original charge."

In a submission to the Commission, PW has offered the following explanation, in part, as to why PW management reallocated staff's hours on the DMV project:

It was hoped initially that the staff's extended support time charges could be captured using the normal time recording means in semi-monthly time and expense reports. However, in the environment of intense activity on the part of as many as 30 PW personnel, at a time when many of the PW staff worked simultaneously on multiple tasks—some called for by the basic contract and others constituting extended support tasks—it soon became apparent that it was not possible to identify all the time fairly applicable to extended support with any reasonable degree of accuracy solely by using this normal means. Many project team members were uncertain as to which specific programming, testing or support services were within or beyond the basic contract's requirements. Some staff charged only programming activity to the enhancement 400 code, overlooking such necessary related activity as testing, user meetings, documentation and the like.

Driscoll of PW testified at the SCI on the same subject:

I don't know whether the SCI fully appreciates how hectic it can get in the stages of implementation of a very large system and the fact that the client will be asking you to do everything, including sweep up and clean up the place when you turn the lights out at night.

It's very, very hectic time and there is a lot of pressure, and these things—I am fully aware that that's the kind of environment that these people were operating under when this enhancement question came up.

Also, project partner Advani of PW in testimony before the SCI elaborated on why he felt PW staff was unable to properly allocate their time on their time sheets on this project:

Well, this was a unique situation in the sense where people were involved in performing a number of things simultaneously. They were working on the basic system activities, they were also working on a number of specifically requested enhancements, programming enhancements at the time, and at the same

time, they were also responding to a number of, you know, requests for help in the face of crisis or anything else.

The time sheet was the last thing on their mind at the time. They were just looking at the time sheets, the preparation of time sheets as an administrative item that they were trying to get out of the way on the dates when the time sheets were due.

The SCI cannot demonstrate—nor does it even allege—that PW fraudulently misallocated hours. Neither can this Commission say that PW's interpretation or situational modification of its own policies was an attempt to create a system tolerant of excessive misallocations. Nonetheless, the Commission is disturbed that two admirable principles, which are even contained in PW's official policies, were disregarded during the DMV project. These are: 1) the requirement that each professional personally participate in the decision to allocate his hours a certain way, and 2) the requirement that each professional personally participate in the documentation of those allocations. These principles were especially important for the DMV engagement. Because of the \$6.5 million cap for general work and the budding dispute between DMV and PW concerning the amount of work properly allocated to extended support and enhancements, any deficiencies in employee participation and documentation of time changes and charges rendered the reallocation system unsatisfactory.

A review of certain audit guidelines and procedures used by State and Federal auditors reaffirms that the individual employee time-keeping record is fundamental to time billing accountability. Without employee approval a time sheet should not be changed after the employee has signed it and turned it in to his supervisor.

The SCI has been informed that auditors in the Office of the State Auditor of New Jersey would, in most circumstances, take exception to estimated time allocations prepared by persons other than the individuals doing the work. When confronted with estimates by those not actually performing the task, auditors require that during interviews the individual employees confirm the time they expended. The Guidelines for Com-

prehensive Audit of Labor Costs by the Defense Contract Audit Agency conclude that "audit evidence obtained from managers or supervisors regarding employee time charges is indirect information and is not as reliable as information obtained directly from the employee and corroborated with written documentation of the employee's work."

DMV, instead of insisting on obtaining a copy of PW's policies, chose to remain ignorant of PW policies containing these principles of individual reconciliation and documentation. Nor did management at DMV apparently feel a need to insist on a system which incorporated such principles. However, regardless of DMV's or PW's confidence in the accuracy of the extra billings, PW did not provide a system of accountability appropriate for a complex project involving massive public funding.

Although PW relied upon individual employees to supply detailed records by task for the project control system, these same employees were deemed incapable of properly determining time allocations between general work and extra work. However, at one time PW supervisors had more faith in their employees' ability to reconcile the detailed task reports of the project control system with their T&E information. Trakimas's memorandum to the DMV project staff, dated October 17, 1984, stated, "Staff members should ensure that hours reported on the Price Waterhouse Time and Expense Sheets are the same as reported on the weekly interval project [control] time sheets."

No serious attempt was made to retain informal records or notes that served as the basis for supervisors' reallocation of hours. As Advani testified:

Those kinds of documents were really not necessary after those tasks were completed, the enhancements were satisfactorily implemented, they were no longer necessary and those would have been discarded in the normal course.

Altogether, the ET-14 method was used to reallocate the hours on 36 monthly time sheets. Ten employees had their hours transferred two or more times in a monthly period. One of these 10,

in fact, had his hours changed four times in one month. Meanwhile, from January through May 1985, six employees transferred a total of 286 hours from general system work to enhancement work using prior period adjustments. During the same period one employee used prior period adjustment to move 85 hours from enhancements to the general system.

The adjustments to the WIP reports did not differentiate among particular enhancement tasks. Neither did the T&E sheets make any such distinction. Nonetheless, PW was able to supply complete breakdowns of hourly allocations among other work categories for each PW employee working on the project. Trakimas recorded these allocations of hours in his personal computer spreadsheet.

From January through May, 1985, PW employees allocated 1,275 hours on their T&E sheets to subcode 400 enhancements and extended support. In that same period PW management reallocated an additional 1,770 hours to subcode 400. Thus, approximately \$155,000 in extra work was billed based on poorly-documented supervisor estimates in reallocating hours.

Delay Billings Questioned

Between March and May, 1985, DMV was billed almost \$137,000 in fees for five PW employees because they were "delayed" from working on the Comprehensive System. Although not enhancements, these amounts were also billed outside of the \$6.5 million cap.

Regarding delay billing (500 code) Trakimas testified that DMV approved such billings when DMV asked PW to delay some phase of contract performance "because of some timing problems that the client was having pulling pieces together . . ." Trakimas continued:

Now, these people were on site. Now, what to do with those hours. Well, those hours were spent in doing additional things like additional training, answering extra questions, providing examples for training classes, those type things, that if we were to go up on target, on time, they wouldn't have gone and done those extra additional things, but be-

cause the implementation was delayed, those hours would be captured and billed under a delay category and so we would see delay bills.

In addition to PW's billing delay hours at its normal-for-profit rate, the SCI noted that the hourly billing for a programmer on the general project was \$50 but if that same person was delayed from such work the time would be billed at the higher consultant rate of \$75 per hour. Under questioning by SCI Counsel Gaal, however, DMV's Cox testified that this was news to her:

Q. It's our understanding, looking at the records, that individuals whose time was billed for delays were billed at the higher rate, . . . and we are interested in how that came to be.

A. I don't have any knowledge of that.

Q. If you had known, at the time, that you were approving a bill that an individual was being billed for delay at a higher rate than their regular rate when they are working [on the general contract work], would that have caused you some concern?

A. For the same time period, yes, it would have, yes, it would have.

Through May, 1985, Trakimas calculated that delay billings amounted to \$136,928 for 1,591 hours of work. Records indicate that at least 200 overtime hours (hours beyond those worked in a typical month) were billed for delay work. DMV's Cox testified that she was not aware that overtime hours were being billed as delay, or that some "delayed" employees were working as much as 12 hours a day, seven days a week. Having its employees work overtime while on delay is inconsistent with the generally accepted, good faith practice of minimizing a client's cost in such situations. The SCI is equally distressed with DMV's role in allowing such a one-sided arrangement at the expense of the taxpayers.

Remaining Extra Work

When OTIS took over management of the project in May, 1985, enhancement work was halted until the comprehensive system could be made to

function properly. OTIS Deputy Administrator Bruce Jones testified that from that time until the present "more than 900 man-weeks of change effort have accrued." Jones elaborated as to the source and impact of this substantial change effort:

These are changes which DMV would like to make to the system because in seeing it perform, there are things which were not in the original specifications that they now see don't work quite the way they want them to, so 900 man-weeks of analysis time to see how that fits to the existing Price Waterhouse system is a significant workload. So if [OTIS] were to support this system as it exists [in May, 1986], continue to run it operationally, yes, we're ready to do that, we would have no problem with that. In terms of applying those changes, we really can't intelligently say until we analyze them, get them and, as I said, there's 900 man-weeks by a combined estimate of both the DMV and the OTIS people of what those changes would entail to the existing system. And to date we have no budgeted positions to handle that workload.

It should be noted that the estimated 900 man-weeks to make changes represent about 45 percent of the total of 81,060 hours which PW originally proposed to complete the whole project.

Jones indicated that the FY1987 budget proposal requests 18 DMV funded staff positions to support the new DMV system. This new DMV budget also would provide for \$2 million for a study of the DMV system, including the necessary software. An additional \$3 million is budgeted for computer hardware.

QUESTIONABLE EXPENSES

A number of PW employees were brought in from distant locations to work on the DMV engagement. Instead of lodging them in motels, PW leased up to 18 apartments in the Plainsboro area. The rentals for these apartments were included in out-of-pocket expenses charged to the State. In addition, in order to supply its employees with motel-type services, PW purchased 18 television

sets as well as household items and cleaning services which were billed to the State. Furniture rentals were also included in the expenses. PW gave the State a credit when security deposits were repaid. The television sets, each of which cost approximately \$278 new, were sold to PW employees for \$75 each and the sale amounts were to be credited to the State. Finally, cars were rented at State expense for use by team members.

PW contended it saved approximately \$200,000 in expenses by renting cars and apartments for extended periods instead of utilizing more expensive auto rentals and motels. On the other hand, DMV's former Special Assistant Patrick Brannigan testified that it surprised him to learn that so many apartments had to be rented. He stated he had anticipated that only a relatively few high level experts—not the day-to-day programmers who occupied many of the apartments—would have to be brought in from afar. Brannigan further testified that he put PW in touch with a real estate agent so that houses could be rented and occupied by a number of people at less expense than individual apartments. He stated that PW decided instead to utilize its own contacts and rent apartments.

Some questionable expenses were billed to the project. Although the amounts are relatively small, the SCI is concerned with the type and number of such expense items.

A PW internal audit, conducted *after* the SCI began its investigation, resulted in a total of \$7,328.15 in disallowed project expenses, including \$2,289.35 in per diem expenses, \$944.66 in telephone charges and \$801.15 in transportation charges. PW maintained that it had always intended to conduct its own internal audit of expenses on the DMV project. Indeed, in July, 1984, an audit was proposed by New York area partners. Nevertheless, these early plans were not implemented until the new DMV system failed to function properly and the Legislature and SCI began to probe various DMV activities. An internal memorandum from PW partner Edward F. Miller, III, dated May 8, 1985, explains PW's belated move to conduct its own expense audit as a result of unfolding controversies at DMV:

The contract [with the State] does not detail what types of expenses are allowable which makes any expense charged subject to differing interpretations.

As this is a government job, the governmental agencies involved have a right to audit, and may in fact audit the expenses charged to the engagement. Moreover, the Director of the DMV has recently resigned amid allegations concerning an unrelated, but contemporaneous, contract. It therefore seems prudent that we now undertake a comprehensive review of the charges to the engagement, before they are reviewed by some governmental "watchdog."

The Commission is primarily concerned with approximately \$4,800 in expenses—for more than 100 items—which demonstrate a rather cavalier attitude toward the State. Many of the judgments which resulted in these expenses being charged to the client were made by PW's supervisory staff including engagement partner Advani and project manager Trakimas. The fact that Advani and Trakimas lacked proper judgment regarding expenses is particularly troubling considering that they were the two individuals most responsible for reallocation of the much more costly billed hours between the general project, which had a price cap under the contract, and extra work, which had no cap on what could be charged to the State. The SCI is concerned that PW's unprofessional lack of care in charging for expenses may have continued when PW turned to reallocating hours that the company could bill for extra work—and money—beyond the \$6.5 million contract cap.

The expenses disallowed under PW's 1985 audit had been were charged to the State in violation of PW's own policies. The New York Office Time and Expense Policies, which PW informed DMV would govern its billings, set reasonable criteria for justifying billing expenses to a client. These policies included standards regarding meals, refreshments, entertainment and gifts which were violated during PW's performance.

For example, Advani testified at the SCI that he was not sure whether the \$263.52 cost of a PW-only breakfast held on October 11, 1984, at the Hyatt Regency in West Windsor was billed to the

State or billed with at least corresponding downward adjustments in the PW employees' per diem allowances. PW partner Driscoll testified that PW policy precluded billing clients for meals attended solely by PW employees to build morale of engagement teams or to discuss company issues. Trakimas testified that the breakfast included a short session "to convey to the project partners and the visiting partners what the status of the [DMV] project was." Some of the testimony suggested an unprofessional flexibility about specific standards of conduct. Although no State official was present at the breakfast, Advani testified that in his opinion the expense was properly billed to the State. Not only would such a result contradict PW policy, however, but the cost of the breakfast was misrepresented in the expense billing as "Staff Supplies." Advani could not explain this.

PW policies regarding per diem and meal allowance charges were issued to staff on the DMV engagement in memoranda from engagement partner Advani and project manager Trakimas, dated April 12, 1984, and October 17, 1984, respectively. Both memoranda stated:

Per diems and meal expenses should not overlap among two or more staff members, i.e., if someone else paid for a staff member's breakfast or dinner, he/she should not charge full per diem for that day. Appropriate adjustments . . . should be made in the per diems claimed.

As a result of failures to make such required adjustments, a total of \$2,289.35 in per diem expenses were improperly charged to the State.

Numerous expenses involving specific references to consumption of "drinks" or "refreshments"—a number attributable to high-level PW project executives—appear as charges to the State. For example:

| Date & Am't | Description |
|------------------------|--|
| 10/3/83 \$16.50 | Drinks Project Team Leaders ... Hyatt ... to discuss project status/problems |
| 1/24/84 \$11.00 | Refreshments ... |

| Date & Am't | Description |
|----------------------|--|
| 2/23/84 \$53.75 | Hors D'Oeuvres & drinks— Project Team at Hyatt Regency re: DMV Project Progress... |
| 2/26/84 \$10.00 | Titles and Insp. Team Meeting —Drinks and Hors d'oeuvres ...at Hyatt Regency |
| 6/28/84 \$65.25 | Project team N.J. DMV— drinks & Hors d'oeuvres at Hyatt Regency |
| 7/5/84 \$56.18 | Project Team N.J. DMV meeting/drinks hors d'oeuvres E.J.P. (new)—RMS (leaving)... |
| 9/7/84 \$32.50 | Drinks (DMV Project Team Members) |
| 10/10/84 \$266.93 | Refreshments & Dinner with DMV project managers ... |
| 12/4/84 \$95.45 | DMV Project Team meeting at Joe's Mill Hill Food & Drinks |
| 6/5/85 \$11.03 | Refreshments ... |

Gifts and professional or client relations expenses also were improperly charged to the State, also involving PW's project managers:

| | |
|--------------------|--|
| 4/25/84 \$18.00 | Flowers for Secretary |
| 5/1/84 \$24.00 | Flowers from NJ DMV Project Team to Mark ... & wife & new baby |
| 9/15/84 \$24.91 | Flowers from Project Team Steve & Tracy ... Baby Girl |
| 9/15/84 \$43.41 | Princeton Flower Shop/Project Gift [record indicates employee's last day on the DMV job] |
| 2/27/85 \$23.17 | Prof. relation |

| Date & Am't | Description |
|--------------------|---|
| 5/15/85 \$60.52 | Secretary's Day gifts to DMV Secretaries |
| 6/20/85 \$85.00 | Client Relations |
| 6/20/85 \$10.00 | Client Relations |

Sixty lunches attended solely by PW staff members also were charged to the State in violation of PW's expense policies.

In one situation PW partners Driscoll and Advani had lunch on February 10, 1984, in New York City for a designated purpose, "to discuss proposal." The cost of this luncheon, \$109.20, was billed to the State. PW's New York Office Time and Expense Policies would not permit the billing of such an expense to a client, a violation that was aggravated by its extravagant amount. Upon learning of this expense, DMV's Cox testified: "February of '84 would have been [around the time of] their proposal to do the surcharge modifications, and it sounds to me like they were very hungry."

Certain lunches with State personnel, at which the project was discussed, were also charged to the State without the State's permission. Since client representatives had not requested that the State be charged, these meal expenses eventually were disallowed under PW's own policies.

On eight occasions at least the State was billed, and paid, a total of \$3,600 for Trakimas's expenses for his wife and himself to travel to their home in Pittsburgh. Trakimas testified that he received approval from PW's Advani for reimbursement of his wife's travel expenses. Advanti testified that he did not believe the State had to be notified before such an expense was incurred and billed to the State.

An exchange between SCI Chairman Patterson and counsel for PW illustrates the Commission's concern that the questioned expenditures, although often minor, can undermine public confidence both in the integrity of firms doing business with the State and the vigilance with which the State monitors abuses. The testimony:

CHAIRMAN PATTERSON:

I understand that [we are not talking about large amounts], but, as I said before, it's not what I perceive, it's what I think the public is going to perceive, that a very large accounting firm, working for the State of New Jersey, could hire somebody with a responsible job who would think it would be proper to charge \$18 worth of flowers to the State of New Jersey. It's not the amount, it's the principle of the thing. The question then comes, in the public's mind, "okay, where does the \$18 stop, what else is there that someone in that position could charge to the State of New Jersey that you or we have not yet found out about?"

I don't, in any way, want you to believe that I think that it's very important or that there is anything of [a fraudulent nature], but I think we have to make sure that, as best we can, we have to answer the questions that we know the public is going to ask.

MR. HUPPER: I understand. All I am saying it's not surprising to me in a job of this length and over a year and a half, people away from home under a great deal of stress, where there are some errors, absolutely good faith.

CHAIRMAN PATTERSON:

Error in judgment.

MR. HUPPER: Error in judgment.

The record shows that State oversight of PW's expense practices was not militant. DMV's Assistant Director for Administration, Salvatore Marcello, candidly acknowledged that there was no intention at DMV to obtain a copy of PW's policies and conduct a thorough audit of the billed expenses or hours as long as the project proceeded smoothly:

A. You asked me earlier was it planned to conduct a full audit?

COUNSEL GAAL: Yes.

A. Not to my knowledge.

Q. Do you think a full audit should be conducted on a project like this; and my second [ques-

tion] is, would DMV have the facility or staff to do something like that?

A. You have to look at whether or not you get the deliverables. If the deliverables are there, there is not a need to do the full audit. When the deliverables fail, you have to look and see what happened.

Q. If it had been a successful project—

A. If it had been a successful project, we probably would not have done full audits, other than what we were doing from month to month, the sporadic checks.

After reflecting on DMV's difficulties in obtaining time and expense policies and in monitoring fees and expenses on the project, DMV's Cox recommended a different system:

Maybe I am jumping the gun here, but if I learned anything from all of this, I would make a strong recommendation that [the Division of] Purchase and Property, one, have uniform policy on expenses for all consultant contracts, period; and that they have, meaning Purchase and Property—because any one unit like in Motor Vehicles, we happen to have internal audit. A lot of operations don't have that kind of a staff to spend—How much time did your people spend—to do that kind of in depth work [on expenses], and if the State wants to do that, I think the place to do it is Purchase and Property and have an arm that does nothing but that and to start off in all consultant contracts with a fixed percentages not having different consultant contracts handle expenses differently. I am being very, very honest with you. It was something we had never had to deal with in this scale.

CONCLUSIONS AND RECOMMENDATIONS

Commission Findings

As this report demonstrates, the Commission's investigation confirmed mismanagement by DMV and professional misjudgment by PW in the implementation of the \$6.5 million DMV computer contract.

DMV's managerial deficiencies resulted in establishing a dangerous course for the project from its outset. The Division, as the SCI's probe record illustrates, avoided competitive bids that might have provided more alternatives and options assuring the project's success. Instead, it decided to rely solely on the so-called "Big Eight" repute of its project master planner PW, arbitrarily dismissing in the process the available expertise of in-house technicians who already had achieved major computer successes elsewhere in State government. Further, DMV insisted on "managing" the computer project itself, a highly technical burden that more appropriately is assigned to technical experts. And, as the project's "manager," DMV decided to add to the Administration's political laurels by setting an all but impossible deadline—the gubernatorial election of 1985—for completion of the drastic makeover of its complex procedures for regulating the motoring public.

PW, in this Commission's opinion, deserves even more criticism than DMV.

Even though its contract with the State emphasized a "team" operation in handling major technical problems, it joined DMV in ignoring the technical talent available—and eager to contribute—in the State's telecommunications and data processing offices.

Indeed, disregarding the warnings that came from these experts, PW opted for excessive utilization of innovative software, hoping to complete its work within the \$6.5 million cost limitation by DMV's political deadline—with disastrous results to the motoring public. When PW belatedly realized that it could not rely on the IDEAL programming language alone for the new DMV system, which by then was fragmenting, it sought to evade full blame for its software misjudgment in an apparent effort to avoid the cost of correcting the problems its misjudgment had caused.

PW can be faulted in other areas, according to the Commission's findings.

PW not only agreed to meet an unrealistic deadline for completion of the work, but certain of its conduct throughout the project was surprisingly unprofessional.

PW assigned a large percentage of recent hires to the project, it misrepresented its ability to maintain staff continuity and it failed to adequately manage its project staff.

Further, PW billed at least \$170,000 more for out-of-pocket expenses than its contract with the State allowed without obtaining any formal approvals from DMV. PW forwarded no copy of its official time and expense policies to DMV, as requested. It then charged several thousand dollars of expenses to the State in violation of those policies. It also unilaterally increased expenses on enhancement work to 13 percent of fees billed, regardless of actual expenses, without gaining DMV approval.

As to reallocation of employee billable hours between the work within the \$6.5 million cap and enhancements, which are not governed by the cap, PW failed to adequately account for the time devoted to enhancements. Individual employees were expected to keep elaborately detailed records of time spent on specific tasks for the project's internal control system and were, on at least one occasion, admonished to designate task subcodes for billing purposes. Nonetheless, as billings for enhancements dramatically increased, PW orally abandoned employee designation of the enhancement subcode on their time sheets. Instead, supervisors estimated enhancement hours, long after the performance, without consulting with the individual employees who had done the work as had been promised to DMV. Informal records that allegedly served to refresh the after-the-fact recollections of PW supervisors were discarded. Only summary documents, whose conclusions proved impossible for State auditors to adequately review, were available for audit of hours reallocated from general work to enhancements. In addition, overtime hours were billed for PW employees working in the delay category. Finally, while charging \$75 per hour for the lowest category of staff working on enhancements or delay, PW charged only \$50 per hour for such staff doing the general work.

The Commission is dismayed that such a litany of improprieties must be voiced against so highly reputable an institution as Price Waterhouse. It certainly demonstrates that if the State of New Jersey, as in the past, intends to continue its re-

liance on such giants of the private sector for consulting work, State government must arm itself with statutory and regulatory safeguards against the repetition of the mismanagement and misjudgments that have plagued the computer project. Additional safeguards must be imposed against the influence of political contributions by firms doing business with the State. To these important ends the Commission proposes a series of recommendations that it hopes will receive the immediate attention of the Legislative and Executive branches.

Recommendations

As amply indicated by the serious deficiencies in DMV and PW conduct highlighted in this report, the State's controls over the award and performance of technical and professional contracts must be expanded and strengthened. Projects as complicated as DMV's new computer system present a formidable challenge to the State's policy makers and managers. Any innovative generalist may conceive a grand scheme to improve an agency's performance with relative ease. The management challenge arises principally during implementation by private contractors. The State cannot afford to:

- 1) lose the benefits of competition;
- 2) take undue risks with emerging technologies;
- 3) relinquish firm and knowledgeable control of projects;
- 4) set ambiguous performance standards in its contracts;
- 5) fail to adequately develop its in-house expertise;
- 6) allow the impression that political contributions have influenced project decisions; or
- 7) neglect to ensure proper accountability for vendor billings.

The Commission therefore recommends a number of changes in the way the State does business with its professional and technical vendors in order to avoid the deficiencies in these areas which occurred during the DMV project.

Mandate Informal Competition in Bid Waiver Situations

There are no apparent deficiencies in the statutory exceptions to the rule that State contracts shall be awarded only after formal advertisements for competitive bids. However, when conditions for a waiver of formal advertisements have been satisfied, informal proposals should still be solicited from potential competitors.

The former Division of Purchase and Property took a step in the right direction when it changed the language of the governing procurement circular to mandate informal competitive bidding in bid waiver situations. Procurement Circular 25, effective March 1, 1981, stated, "Informal competitive bidding among multiple suppliers is encouraged for all purchases even if a waiver of formal advertising is granted." Just over one year after the Price Waterhouse \$6.5 million contract was awarded, this provision was revised, effective December 3, 1984, to read:

Informal competitive bidding among suppliers must be obtained for all purchases even if a waiver of formal advertising is granted. Sole source requests must be fully and completely documented.

On April 24, 1985, James J. Rosenberg, Director of the Division of Procurement and Central Services (formerly Division of Purchase and Property), issued a memorandum to key agency officials forwarding a further revision. This new policy requires that waivers "for consultant/professional services be granted only when competition has been received from at least three (3) or more firms" using a request for proposals developed jointly by Treasury officials and the using agency.

The SCI endorses these regulatory reforms but recommends that they be added to the bidding statutes in order to have the greater force of law.

Reveal All Public Exigency Sole Source Contracts for Public Inspection

Informal as well as formal competition may still be improperly bypassed, as in the case of the Waterhouse contract, by abusing the public exigency exception to competition. Since genuine

emergencies do occur, this exception must continue to exist. Procurement circulars 25 and 25A use identical language to provide standards for the public exigency exception to competitive bidding:

As a matter of policy, waivers are granted for public exigency when the following conditions prevail and are documented by the using agency:

- *Competition is not practical or cannot be obtained.*
- *A potential health or safety hazard exists.*
- *A critical agency mandate, statutory or operational requirement must be fulfilled.*
- *Competitive specifications, placing all bidders on an equal footing, cannot be developed because sufficient lead time to develop bid specifications is not available.*

Agencies should describe the above circumstances with pertinent detail and focus the justification on the consequences of nondelivery of the item of services within the time frame specified by the using agency.

The Commission does not see how these standards can be improved. The key to avoiding the elimination of competition on the basis of flimsy justifications is critical analysis by the officials in the Treasury Department. The department head requesting the waiver signs a certification which reads, "I certify to the accuracy of the above statements." The "statements" include identification of "the program consequences of not meeting the delivery date" and the "date your agency first realized the need for this item/service." This certification has little value, since evaluation of the program consequences may be highly judgmental and since the information on the form may be supplied by many subordinates. It would be naive to expect the requesting department to provide anything other than a result-oriented justification.

There is no way to guarantee proper invocation of the public exigency exception. The ultimate watchdog role must be performed in the Treasury Department. When the Governor's Office gets be-

hind a proposal, as happened in the case of the Price Waterhouse contract, the ability and willingness of Treasury to ask the tough questions and to say "no," if necessary, is subtly compromised. Nonetheless, it is inappropriate to remove the Governor's Office from important policy decisions affecting the pursuit of Administration initiatives.

Charging a bipartisan commission or committee with the watchdog role would unduly encumber and embroil a procedure which, by definition, must be swift. On the other hand, casual use of the public exigency exception would be sufficiently discouraged if public officials knew that their justifications might be examined, exposed and criticized at a later date. If justifications were truly flimsy, officials would tend to avoid using the exception. Accordingly, the Commission recommends that summary details of all public exigency sole source contracts awarded by the State, including the statements of when the agency first realized the need for the service and the program consequences of not meeting the delivery date, be forwarded on a regular basis to the Office of the State Auditor in the legislative branch and be made available for public inspection.

Continue Experimentation With Exclusivity Policy

In his April 24, 1985, memorandum to key agency officials, Director Rosenberg of the Division of Procurement & Central Services instituted a policy requiring, where feasible, that consulting firms providing the "needs analysis and/or feasibility studies" for a project accept an "exclusivity clause which will void their right to bid on the actual design and implementation" phases. This policy was patterned after a program adopted by the federal government, and it was intended to encourage competition on the later, more expensive stages of projects, because potential bidders would not feel that the vendor on the planning stages would have the inside track to receive contracts on subsequent stages.

Another advantage of an exclusivity policy is its potential to discourage consulting firms from submitting unrealistically low discounts on the initial stages of a job in order to get the inside track on subsequent phases that it could perform at much

higher prices. Price Waterhouse did not do this on the DMV job, but the practice has been noted in other contexts.

In a memorandum, dated March 24, 1986, Purchase Bureau Supervisor Giulio Mazzone advised Director Rosenberg that the new program "does not detract from the level of competition desired by the State." Mazzone further advised that rates obtained under the new policy were competitive with rates obtained on jobs without exclusivity. He concluded that the State "should continue to include [the exclusivity] provision in several other projects before we make a final policy determination." The Commission recommends that this experiment continue.

Clearly Specify Limits on Expense Billings

The Commission's investigation has revealed haphazard treatment of out-of-pocket expenses in the DMV computerization contract. In situations where formal or informal competition is appropriate, the SCI recommends that the State require, where possible, that expenses be included in the prices or fees contained in vendor proposals. This would provide a more uniform basis of price comparison among vendors.

When competition is not available or appropriate, a clear cap on expenses should be required in the contract with the vendor. Whether the cap is expressed as a percentage of fees billed, a total dollar amount or another method, the cap should be plainly stated in the contract. When competition is appropriate and expenses cannot be included in the basic prices or fees, requests for proposals should clearly specify limitations on expenses.

Adopt Uniform Standards for Expenses

The Commission recommends that the Treasury Department adopt uniform standards to govern the payment of expenses on State contracts for those situations where expenses are not included within the basic prices or fees. It is not acceptable to merely tell the vendor to utilize State expense practices or, alternatively, its own company policies. By adopting policies to be used by all State vendors, New Jersey would ensure that

proper standards are adhered to and would provide a uniform basis to guide vendors submitting proposals in competition.

Set Standards for Audits and Documentation

The Commission recommends that the Treasury Department adopt uniform standards regarding the documentation required of State vendors to account for time and expenses billed on State contracts. At a minimum, there should be a basic time sheet, certified by the individual actually performing the work, indicating the hours spent, by task, on any time contracts. The documentation required for expenses should also be specified. In addition, the place where the original documentation would be available for inspection and audit should be specified. Language requiring retention of the original documentation for a period of years should be included in each contract. The State's right to audit each contract should be specified.

Professional contract administrators within the Treasury Department or user agency staff, utilizing guidelines supplied by the Treasury Department, should conduct a review of each significant vendor's system of accountability and documentation in the early stages of State jobs. This review would note any deficiencies while there was still time to take effective corrective action.

Have OTIS Manage and Control Data Processing Contracts

The complexity and technical difficulty of data processing contracts require management of vendor performance on such contracts by a technically sophisticated and experienced State agency. The creation of the Office of Telecommunications and Information Systems (OTIS) in the Treasury Department provided an organization with the foundation of expertise to provide necessary controls and coordination. The Commission recommends that OTIS manage private vendor performance on all significant data processing contracts.

The SCI recommends that New Jersey continue to build OTIS into a first-rate data processing op-

eration with capabilities to maintain all State data centers, to build certain new systems exclusively with in-house resources and to supervise supplemental assistance by outside vendors according to coordinated data processing policies. Individual departments should not be allowed to maintain or develop significant data processing components independent of OTIS; however, OTIS should always work in close consultation with the departments that it serves.

The Commission recommends that OTIS participate in the negotiation and approval of all State contracts for data processing. This participation would ensure that clear performance and testing standards, precise scope of work, well-defined roles of State and private participation and clear guidelines for approval of payments for extra work would be provided for every data processing project. Contractual standards should be devised for acceptable response times, numbers of terminals, sign-on times, batch processing periods and the like.

Vendor Political Contributions

The Commission recommends that the New Jersey Campaign Contributions and Expenditures Reporting Act, *N.J.S.A. 19:44A-1, et seq.* be amended to require that firms and individuals doing business with the State pursuant to a waiver of advertising for competitive bids, or pursuant to any contract involving potential billings of more than \$25,000, report summary details of such work to the Election Law Enforcement Commission (ELEC) at the time of any political contribution of \$500 or more by the firm or individual. This reporting obligation should continue for at least one year following the completion of the State work. Finally, any individual or firm bidding on a job of more than \$25,000, or negotiating any contract involving a waiver of competitive bidding, should be required by statute to notify ELEC of any political contributions of \$500 or more during the year preceding the contract award date. Contract documents and requests for proposals should include form language notifying potential vendors of these obligations.

The knowledge that such contributions would be available for scrutiny in the full light of a given

firm's or individual's business dealings with the State would encourage private vendors and public officials to deal with each other at arm's length and to take steps to avoid any appearance that the contributions might influence decisions involved in such dealings.

Furthermore, some method of prohibiting vendors from providing free places for public officials at privately funded political affairs must be mandated. Such munificence, in the case of key officials who should exercise independent judgment in the disbursement of public moneys, can erode public confidence that such officials will act without favoritism. Therefore, the Commission urges that the Joint Legislative Committee on Ethical Standards and the Executive Commission on Ethical Standards consider proposing a statutory prohibition embodying the Commission's concerns through an amendment of the New Jersey Conflicts of Interest Law.

Referral to Attorney General

Despite the fact the PW has invested considerable effort in correcting the new DMV system, the Attorney General will have to make several difficult decisions regarding remedies which may be available to the State. These decisions are complicated by the lack of performance standards in the contract with PW and ambiguities in the terms relating to liquidated damages, warranties and the like. They are further complicated by the size and technical complexity of the project. Without making any judgment as to the appropriate course which the Attorney General should take, the Commission believes that its voluminous record will assist the Attorney General in making these difficult decisions. We will, accordingly, make this record available to his office.

(The SCI's investigative team for this report consisted of Deputy Director (and Counsel) Robert J. Clark, Counsel Charlotte K. Gaal, Special Agent Richard S. Hutchinson, Investigative Accountants Arthur A. Cimino and William V. Miller, and Secretaries Diana N. Lagay and Patricia M. Leach).



