



United States  
General Accounting Office  
Washington, D.C. 20548

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Accounting and Information  
Management Division

B-271913

July 2, 1996

Mr. Jack Shipley  
Director, Financial Management Division  
Environmental Protection Agency

Dear Mr. Shipley:

This letter responds to your February 9, 1996, request for an interpretation of the statement in Title 7, "Fiscal Procedures," of GAO's Policy and Procedures Manual for Guidance of Federal Agencies requiring certain supervisory/administrative approvals when processing vouchers for payment. Specifically, you asked if it would be permissible to eliminate supervisor approval of staff travel vouchers if alternative controls that provide the same level of assurance are implemented. As described in your letter, the Environmental Protection Agency (EPA) is replacing its existing temporary duty travel (TDY) system with a new, fully automated one to streamline operations and reduce the cost of government.<sup>1</sup> We support initiatives to create a government that works better and costs less. At the same time, we believe that agencies have the responsibility to protect the government's interest.

In your letter, you mentioned that you had requested a waiver from the General Services Administration's (GSA) requirement<sup>2</sup> that a supervisory or administrative review of travel vouchers take place prior to payment. Your staff informed us that GSA subsequently granted a conditional waiver subject to our concurrence.

To supplement the information in your letter, we contacted your staff to discuss the proposal in more detail. However, we did not test your current system or the new one being designed and implemented. Consequently, our response only addresses your proposal conceptually.

As discussed in the following sections, we identified concerns regarding your proposal and offer three control procedures to alleviate the concerns. Based on our understanding of your proposal, we have no objection to its

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<sup>1</sup>The Joint Financial Management Improvement Program (JFMIP) established an interagency team in 1994 to address travel reengineering. The obstacles, suggested improvements, and specific recommendations for TDY and relocation travel are documented in JFMIP's Improving Travel Management in Government, December 1995. You may wish to refer to JFMIP's document as your travel system design progresses.

<sup>2</sup>GSA is responsible for issuing employee travel regulations, which are published in its manual entitled, Federal Travel Regulations.

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implementation provided the three controls we suggest are effectively implemented.

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## EPA's Proposal

As explained in your letter, the primary control in EPA's new travel system would be the approval by a supervisor or a comparable official of a travel authorization document. Your staff explained that the approval would (1) affirm that the trip (including location, mode of carrier, and duration) is necessary and (2) set the limits on the amounts for per diem, transportation, lodging, and other related incidentals.

After a trip, a traveler would electronically input data onto a voucher for testing within the automated system. The system would compare amounts claimed to related amounts authorized. If amounts claimed in any category exceed authorized levels, the system, as designed, would suspend processing the voucher until (1) the original travel authorization is amended for the exceeded amounts and approved by the supervisor and (2) the new amounts are entered into the automated system. Your staff explained that the supporting documentation, such as paid hotel bills, would be retained centrally in the traveler's program office for the proper retention period.<sup>3</sup>

If the amounts claimed on the voucher do not exceed the authorization, the system would perform numerous edit routines comparing the amounts on the voucher against travel regulations (such as per diem limits for travel to certain cities) to ensure that each voucher is valid (proper, legal, accurate, and correct). If any regulation is not adhered to, the system would suspend further processing of the voucher until the amounts in question are adjusted to adhere to the regulations.

Your staff explained that after travel vouchers are fully processed and travelers are paid, a statistical sample of the universe of all vouchers processed would be selected for testing to help provide assurance that the system is working as intended, the claims are adequately supported and valid, and the travel actually took place.<sup>4</sup> The program office would be asked to forward the supporting receipts for those vouchers selected in the sample to the travel office for detailed review to ensure the claims

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<sup>3</sup>The retention period and the storage procedures will follow the requirements in Title 8, "Records Retention," of GAO's Policy and Procedures Manual.

<sup>4</sup>EPA is currently developing a statistical sampling plan to include the frequency of the samples, the level of confidence to be used, and changes in the procedures that may occur over time. The plan will follow the requirements of Title 7, "Fiscal Procedures," of GAO's Policy and Procedures Manual and will be implemented at the same time as the new travel system.

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were substantiated. Any discrepancies would be researched and resolved by the travel office. The results of the sample and the supporting documentation would be retained at the travel office for the proper retention period, as specified in Title 8 of GAO's Policy and Procedures Manual.

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## GAO's Assessment of the Proposal

The supervisor's approval of travel vouchers is usually required as part of a system of controls to help ensure that all claims are valid when certified. Generally, the supervisor's approval of a travel voucher serves two main purposes for the certifying officer: (1) to indicate that the claims on the voucher seem reasonable and (2) to verify that the travel actually took place. While the first of these purposes would be achieved under your proposal, we are concerned that payment would be made before verifying that travel actually took place. We are also concerned that the electronic signature techniques used under your proposal would not ensure data integrity.

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## Determining the Reasonableness of Claims

Indicating that the claims on the voucher seem reasonable would be achieved under your proposal when the automated system subjected the voucher to edit routines which would compare amounts claimed to limits set by regulations, thereby helping to establish the validity of all claims. If any regulations are exceeded or not adhered to, the system would suspend processing the voucher until the discrepancies are resolved. Only then would payment be made.

Although automated controls, provided in the edit routines in your proposal, can play a major role in determining the validity of a claim, they cannot determine whether the claim is properly documented. Nor can they fully replace the role of a human reviewer. In order to supplement the automated controls, the statistical sampling you propose will help to further ensure that the claims are properly documented and that the system procedures and controls are operating as intended.

If detailed automated edits of the voucher against all regulations were effectively implemented, supplemented by an effective statistical sampling methodology as you propose, the supervisor would not be required to determine the reasonableness of the claims. Such detailed edits and sampling methodology would alleviate the need for a "reasonableness" verification by the supervisor.

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## Verifying That the Travel Actually Took Place

As explained by your staff, a statistical sample of vouchers planned under your proposal would help verify that the travel actually took place. Your staff stated that the statistical samples would include a review of all receipts for the selected vouchers including hotel receipts, which would be used to help validate that the travel actually occurred. We believe, however, that it is important to verify that the travel actually took place on each voucher prior to payment.

Several alternative procedures could be implemented to verify that travel actually took place without requiring a supervisory approval. For example, employees could be required to use the agency designated charge card for hotel and rental car costs. When the travel voucher is being processed, the automated system could compare the information on the actual charges processed by the charge card company to those claimed on the voucher. When a “match” occurs, a verification of the actual trip would be made. Where no such match is found, the travel office could request the hotel receipts to verify out-of-town lodging costs. Properly implemented, this approach provides reasonable assurance that a trip occurred. According to your staff, the cost-effectiveness of various procedures to verify that travel actually occurred before payment is processed will be assessed as the design progresses with a view toward implementing one before the system is fully operational.

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## Ensuring Data Integrity

Since your new travel system would be fully automated when implemented, many important records would be maintained in electronic format. As we previously reported,<sup>5</sup> any system, regardless of the technology used, must incorporate adequate controls to ensure data integrity. Your proposed system would require electronic signature for the traveler, supervisor (when approving the travel authorization), and the certifying officer to ensure data integrity for all the information approved. We believe that proper electronic signatures<sup>6</sup>—which follow the National Institute of Standards and Technology’s (NIST) requirements<sup>7</sup> and are effectively implemented—would ensure data integrity for electronic records.

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<sup>5</sup>Electronic Imaging (GAO/AIMD-95-26R, November 10, 1994).

<sup>6</sup>To ensure data integrity, an electronic signature must be (1) unique to the signer, (2) under the signer’s sole control, (3) capable of verification, and (4) linked to the data covered by the signature in such a manner that if the data are changed, the signature is invalidated. (See generally 71 Comp. Gen. 109 (1991).)

<sup>7</sup>Under the requirements of the Computer Security Act (15 U.S.C. 278g-3), NIST is responsible for establishing standards for federal computer systems that process sensitive but unclassified information.

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As explained by your staff, your system design would incorporate a commercial system containing a signature module. This commercial system is similar to ones we have assessed in other agencies under similar requests. Based on our experience with these systems,<sup>8</sup> the electronic signatures do not fully comply with the criteria contained in 71 Comp. Gen. 109 (1991) or NIST's requirements. Specifically, the electronic signature generation and validation processes do not incorporate the algorithm, validation techniques, and implementation guidance set forth in NIST's requirements.

As we have discussed with your staff, we have not sanctioned electronic signature modules using algorithms and techniques not meeting the requirements of NIST.<sup>9</sup> We have explained to your staff some improvements—including compliance with NIST standards and signature verification techniques—that we believe are needed in the electronic signature module of your system to ensure data integrity.

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### Certain Procedures Would Alleviate Internal Control Concerns

Although Title 7 gives agencies flexibility to implement payment systems that best suit their needs, the two potential problems we have identified could arise under your proposal. Including the following three procedures or controls in your new system would address these problems and minimize the risk of irregularities and errors:

- when the new system is fully designed and implemented, verifying that authorized trips were actually taken by employees prior to payment on travel vouchers;
- implementing an effective electronic signature generation and validation process that complies with NIST requirements and satisfies the previously mentioned criteria for the signature of the traveler, approving official, and certifying officer; and
- for the first year the system is operational, emphasizing its review during the annual internal control reviews under the Federal Managers' Financial Integrity Act.

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The contents of this letter were discussed with Joe Dillon and Krista Wright of your staff. If you have any questions or would like to discuss

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<sup>8</sup>Three examples are DOD's Reengineered Travel System Efforts (GAO/AIMD-96-62R, March 8, 1996); Air Force Automated Travel System (GAO/AIMD-95-74R February 14, 1995); and Employees' Travel Claims (GAO/AIMD-95-71R, February 6, 1995).

<sup>9</sup>RCAS Authentication (GAO/AFMD-93-70R, May 4, 1993).

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these matters further, please contact Bruce Michelson, Assistant Director, at (202) 512-9366.

Sincerely yours,

A handwritten signature in black ink that reads "Robert W. Gramling". The signature is written in a cursive style with a large, looped initial 'R' and a long, sweeping tail on the 'g'.

Robert W. Gramling  
Director, Corporate Audit and Standards

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