



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

Accounting and Information
Management Division

B-260927

May 23, 1995

Mr. Ronald M. Scroggins
Deputy Chief Financial Officer/Controller
Nuclear Regulatory Commission

Dear Mr. Scroggins:

This letter responds to your January 30, 1995, request for a waiver from the prohibition in Title 6, "Pay, Leave, and Allowances," of GAO's Policy and Procedures Manual for Guidance of Federal Agencies against employees recording and maintaining their own time and attendance (T&A) data. As described in your letter, the Nuclear Regulatory Commission (NRC) is replacing its existing payroll and personnel systems to streamline operations while downsizing its workforce. As part of this streamlining process, you propose to permit staff to record and maintain their own T&A data. 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.

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 or proposed system and, consequently, our response only addresses your proposal conceptually.

We are currently reviewing the requirements in Title 6 with a view toward allowing self-maintenance of T&A data if internal controls assure accuracy.¹ We identified two 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 implementation provided that the three controls we suggest are effectively implemented.

¹In the near future, we intend to revise selected provisions of Title 6, one of which is the restriction on self-maintenance of T&A data.

NRC'S PROPOSAL

Your proposal calls for the payroll and personnel systems, which currently are separate and only partially automated, to be replaced with one integrated and fully automated system. Presently, T&A data are recorded, maintained, and certified manually. The new system, when fully implemented, would perform these functions electronically.

As we understand it, NRC employees now work either a regular schedule (ten 8-hour days) or a compressed schedule (generally eight 9-hour days and one 8-hour day with one day off). While these schedules will continue, the proposal calls for an exception based reporting of T&A data. Employees would submit a permanent work schedule to be approved by their supervisors, filed by the timekeeper, and maintained in the automated T&A system. Your staff also explained that (1) exceptions of 15 minutes or more from the approved schedule must be entered to document the actual arrival and departure times--unless the employee is absent for the entire day--or (2) if there are no exceptions, at least 1 regular day of the pay period must be recorded to affirm the T&A data. Your staff said that the exception reporting under the proposed procedures differs from the current practice of timekeepers recording the data daily on time cards for each employee. The new system, when fully implemented, would result in savings since the timekeepers would no longer need to record daily T&A data for each employee.

Your staff also emphasized that under the proposed system, as under the current procedures, supervisors would be responsible for obtaining reasonable assurance that employees are working when scheduled. They stated that supervisors generally work the same hours as their staffs, but, when hours deviate, supervisors would be responsible for applying other techniques such as determining the reasonableness of work output for time spent or having other supervisors or timekeepers observe the presence of employees.

As explained to us, when the new system is fully implemented, employees would enter their T&A data electronically, using unique identification numbers. At the end of the pay period, supervisors would approve the T&A data electronically, also using unique identification numbers. When an employee is absent, a timekeeper would enter the employee's T&A data based on information supplied by the employee or supervisor.

Your staff stated that, once the new system is fully implemented, all leave balances would be maintained

electronically and could only be adjusted by the automated system (for adding earned hours) and by payroll staff. Your staff further explained that planned leave of over 3 days will still require a Standard Form 71, "Application for Leave," to be approved by the supervisor and retained by the timekeeper. Planned leave of 3 days or less and unplanned leave will be documented by recording those exceptions to the preapproved schedule on the electronic T&A forms and as otherwise may be required (such as a physician's note for sick leave exceeding 3 days).

Moreover, your staff stated that an additional control would exist to ensure that the T&A data approved by supervisors are the actual T&A data from which employees were paid. A Post Certification Report would be prepared for each supervisor listing the detailed T&A data upon which payroll payments were made for each staff member for the preceding pay period. The supervisor would be required to reconcile the data on the report to the T&A data approved for each employee.

GAO'S ASSESSMENT
OF THE PROPOSAL

Regarding T&A systems, your proposed procedures raise two internal control issues: (1) whether it is acceptable for employees to record their own T&A data and (2) whether the automated signatures used by the employee and the approving supervisor contain the necessary controls to ensure data integrity.

Employees Recording
Their Own T&A Data

Regarding the first issue, the primary objective of the T&A system is to ensure that the time worked and absences of employees are accurately recorded and reported for purposes of computing pay, leave, and allowances. In the absence of compensating controls, the Title 6 restrictions on self-maintenance of T&A documents are intended to prevent opportunities for errors or irregularities, thereby helping to ensure that accurate T&A data are recorded and reported.

Your staff indicated that the basic responsibility of the supervisor and timekeeper to monitor the presence and absence of their staff, as exists under the current system, would continue to be the primary control to ensure that accurate T&A data are recorded. However, for employees recording their own T&A data in the exception-based system, your proposal poses greater risks than under your present system because the timekeeper would no longer record work time. We

believe the risk is accentuated when new procedures are first being followed. For example, exceptions to a preapproved standard work schedule may occur and go unrecorded for various reasons, ultimately resulting in errors or irregularities.²

When employees maintain their own T&A data, supervisors and timekeepers who approve and verify the data need to pay closer attention to staff's arrival and departure times to ensure that all exceptions (under the exception-based system you propose) are recorded accurately and promptly. Also, if the supervisor currently obtains assurance of employees' work time through assessment of work output or through other means, he or she would need to pay closer attention to the fact that such assessments or other actions will help provide the basis for approval of T&A data since timekeepers would no longer record T&A data. We believe supervisors and timekeepers should be (1) required to verify that employees record exceptions to the preapproved work schedule as soon as reasonably possible either before (if exceptions are known in advance) or after they occur and (2) reminded of the need for closer monitoring, especially during the first few months of implementation of the proposed system.

Automated Signatures

As we understand your proposal, the unique identification numbers of staff, supervisors, and timekeepers will constitute the automated signatures in the proposed system. The primary objective of all signatures in T&A systems is to ensure integrity of data by helping to guard against errors and irregularities. Title 6 requires that automated signatures be made by entering designated codes into the automated system under safeguards to prevent unauthorized entry.

The unique identification numbers do not satisfy the Title 6 requirement. To prevent unauthorized entry, the automated signature must be (1) unique to the signer, (2) under the signer's sole control, and (3) capable of being verified.³ The unique identification numbers in your proposal fail to

²One reason may be that exception entries are more conveniently made at the end of the pay period, rather than when they occur. Employees having several exceptions, especially during 1 day, may not be able to recall all of them, and hence inadvertently err in recording the exception.

³See 71 Comp. Gen. 109 (1991).

meet these criteria since they may be obtained by other users in your system and, therefore, are not under the sole control of the signer.

The unique identification numbers also fail to ensure data integrity because they are not linked to the data in such a way that, if the data are changed, the unique identification numbers are invalidated. Because of the nature of electronic documents, it is difficult to ascertain whether there has been tampering unless the signature of the electronic document is linked to the data in the document in such a way that the signature will be invalidated whenever any data are changed.

The National Institute of Standards and Technology (NIST)⁴ has established procedures for the evaluation and approval of certain automated signature techniques⁵ to ensure the integrity of data and compliance with the three criteria. We believe the signatures should contain those necessary control features and should also use algorithms and techniques approved by NIST.⁶

Certain Procedures
Would Alleviate Internal
Control Concerns

Improvements to replace or streamline employee T&A systems should be made only within a framework of adequate, cost-effective controls that reasonably ensure that pay, leave, and allowance transactions are properly recorded and approved and that sufficient records of these transactions are maintained. Although Title 6 allows flexibility to permit agencies to implement payment systems best suited to their needs, the preceding discussion suggested two potential problems that could arise under your proposal.

To address these potential problems, and to minimize the risk of errors and irregularities, your proposal should ensure that:

⁴Under the requirements of the Computer Security Act, NIST is responsible for establishing standards for federal computer systems that process sensitive but unclassified information.

⁵These procedures are contained in the Federal Information Processing Standard.

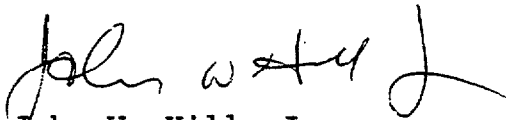
⁶RCAS Authentication (GAO/AFMD-93-70R, May 4, 1993).

- Timekeepers and supervisors are reminded of their responsibility to more closely monitor staff work time. (This reminder can be provided several ways, for example, through modifying existing training or providing formal notification.)
- Timekeepers and supervisors are required to verify exceptions to the standard schedule to ensure that employees are recording the exceptions promptly.
- The automated signature generation and validation process, upon full implementation of the new system, complies with NIST standards, ensures data integrity, and satisfies the three previously mentioned criteria for the signature of the supervisors.

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Our position was discussed with Ms. Helen Irving of your staff. I hope our comments are helpful as you look for ways to streamline your administrative processes and reduce the cost of the government. If you have any questions or would like to discuss these matters further, please contact Bruce Michelson, Assistant Director, at (202) 512-9366.

Sincerely yours,



John W. Hill, Jr.
Director, Financial Management
Policies and Issues

(922216)

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