Air Traffic Services
Planned Labor Distribution Reporting

Federal Aviation Administration

Report Number: FI-2002-016
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Memorandum

Subject: **ACTION**: Report on Air Traffic Services
Planned Labor Distribution Reporting, FAA
FI-2002-016

Date: October 30, 2001

From: Alexis M. Stefani
Assistant Inspector General for Auditing

Reply To
Attn Of: Meche:x61496

To: Federal Aviation Administrator

This report presents the results of our audit on the adequacy of the Federal Aviation Administration (FAA) labor distribution systems being used or developed to record the time of Air Traffic Services' employees. Air Traffic Services is one of FAA's six lines of business. Labor distribution is the process of associating labor cost directly with activities, services, and projects by requiring personnel to record their time worked on specific activities.

In December 1999, we recommended that FAA establish a labor distribution system to capture costs for the air traffic controller and airway facilities maintenance workforce.[1] In February 2001, we also reported that FAA's cost accounting system would not be effective and credible without an adequate labor distribution system.[2] FAA's current plan is to record labor distribution data for its Air Traffic Services line of business by September 30, 2002.

Our audit objective was to evaluate the adequacy of labor distribution systems being used or developed to accurately record Air Traffic Services employees' time and the planned internal controls to ensure accurate recording of data. Our audit scope and methodology are in the Exhibit to this report.

BACKGROUND

FAA's budgeted labor costs totaling about $4.9 billion comprise about 39 percent of its total Fiscal Year (FY) 2001 budget. A labor distribution system is an integral part of a cost accounting system and also provides a valuable source of information for determining employee productivity. The system will be helpful to FAA in determining how many controllers will be necessary in the future to operate the air traffic control system by identifying the time spent by controllers in

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[1] Cost and Flight Data for Aircraft Overflights, Report Number FE-2000-024, December 17, 1999.

[2] Status Assessment of FAA's Cost Accounting System and Practices, Report Number FI-2001-023, February 28, 2001.

directing air traffic, as well as time needed to perform collateral duties such as training, briefings, and support functions.

FAA also needs an effective labor distribution system to determine the actual labor cost of specific activities, services, and projects so that it can manage its resources in a businesslike manner. With an effective labor distribution system, FAA's cost accounting system will be able to compare the labor cost for facilities and functions, identify most efficient sites and best practices to improve operations and productivity, and provide information to make management decisions.

On April 6, 2001, FAA identified the two labor reporting systems it would use in its Air Traffic Services line of business: the "Cru-X" and the "Resource Tracking Program." The Cru-X system is a modern integrated software system designed to automate common administrative tasks and improve quality. It is being developed as part of the integrated Cru-X air traffic management system. About 36,000 Air Traffic Services' employees, including air traffic controllers and maintenance technicians, will use the Cru-X system. About 1,400 engineers who install National Airspace System equipment and currently use the Resource Tracking Program will continue to use this system.

RESULTS IN BRIEF

FAA is making very good progress towards its goal of implementing a labor distribution system in the Air Traffic Services line of business by its planned date of September 30, 2002. However, we found two significant internal control weaknesses in FAA's Cru-X labor distribution system. Internal controls were not effective as related to employees recording the start and stop times for their work shifts and for the collection of time worked by controllers when not directing air traffic.

Cru-X, as designed, allows controllers to override the computer's internal clock and record any start or stop time, regardless of their actual arrival at or departure from work. We found that FAA already has experienced employees in one metropolitan area incorrectly reporting actual hours worked using its present paper log system. Statements by controllers to our investigators indicate this problem is much wider in scope than the one metropolitan area. It seems incongruous that, after spending taxpayer dollars developing a state-of-the-art system that will help determine the cost of air traffic operations, FAA would build a feature into an automated system that could invalidate the system's accuracy and bring into question the reliability of cost information. FAA needs to correct these internal control deficiencies to improve the accuracy and usefulness of the data it needs to make sound business decisions.

We also found that the Cru-X system has the capability to capture labor hours by collateral duty categories as described in the National Air Traffic Controllers Association contract. However, the specific collateral duties were not included in the Cru-X system, thus preventing FAA from being able to track time spent on collateral duties as agreed to in the contract or quantify increased productivity associated with work rule changes. At our request, FAA incorporated the collateral duty categories into the Cru-X labor distribution system. Accordingly, we did not include a recommendation in this report addressing this issue.

FAA concurred with the need to improve internal controls concerning sign-in and sign-out procedures within the Cru-X system. However, FAA did not agree to change the Cru-X software programs. Rather than allow the Cru-X system to automatically record employees' actual start and stop times, as we recommended, FAA instead proposed an alternative that still allows employees to backdate or postdate when they start and stop work. In our opinion, FAA's proposed alternative still compromises Cru-X's internal controls. In effect, FAA's alternative will leave no audit trail because records showing actual sign-in and sign-out times will be deleted from the system. Accordingly, we have requested that FAA reconsider its position on our recommendation.

ANALYSES OF INTERNAL CONTROLS

FAA currently is testing its Cru-X labor distribution system. FAA has prepared a detailed implementation plan, started defining labor distribution project and activity codes, and developed standard labor distribution reports that should prove useful for managing personnel resources. FAA also developed a comprehensive list of internal controls for the labor distribution reporting systems when they are fully developed. These data will be maintained for 6 years and allow FAA to perform various analyses, such as forecasting staffing needs.

The Cru-X system combines both operational and administrative systems to create the first national business system for air traffic management. Cru-X should improve air traffic control operations by:

- maintaining accurate, up-to-date information at the facility level;

- sharing data between programs so users enter information only once;

- eliminating data redundancy among facility, region, and Headquarters by using the same data set at all levels; and

- relieving facilities from routine administrative duties so FAA employees can concentrate on core duties related to moving air traffic.

Cru-X also will provide FAA with a viable means for measuring the productivity of its workforce. For example, Cru-X will accurately account for the time controllers spend managing air traffic as well as performing other functions important to operations of the National Airspace System, such as redesigning air routes and procedures, or developing training courses. The ability to accurately measure and track various activities within their span of control will significantly assist facility managers within Air Traffic Services to maximize productivity. As a results-oriented organization, FAA needs tools such as Cru-X to increase managerial accountability and ultimately to operate more like a business.

Cru-X also will provide FAA with the ability to monitor the effectiveness of agencywide efforts to improve productivity. For example, the 1998 collective bargaining agreement between FAA and the National Air Traffic Controllers Association (NATCA) included numerous agencywide work rule changes that were intended to offset additional costs of the new pay system for controllers. However, after 3 years into the 5-year agreement, FAA has been unable to effectively measure or quantify any discernible savings associated with those changes.

FAA and NATCA could use Cru-X to quantify gains associated with work rule changes and demonstrate to Congress and FAA's stakeholders that the negotiated changes have been effective at increasing productivity and reducing the agency's operating costs. More important, FAA and NATCA will need the quantitative data that Cru-X could provide to accurately assess provisions of the current collective bargaining agreement and prepare for negotiations for a new agreement in FY 2003.

FAA is in the process of refining its cost savings to be achieved by automating the operational and administrative tasks now being performed manually. FAA's preliminary estimates show Cru-X system costs to date of about $800,000 with expected annual savings of about $9.4 million.

Internal Controls for Recording Controllers Start and Stop Work Times

In examining planned internal controls, we found a significant internal control weakness in the Cru-X system related to air traffic controllers logging in and out of their work shifts. As in FAA's present paper log system, the Cru-X software programs, used by air traffic controllers for recording hours worked, allow employees to enter any start or stop times into the system. The ability of an individual to manually enter any start or stop time into Cru-X is a significant internal control weakness that could result in inaccurate reporting of actual hours worked.

For example, if an air traffic controller is scheduled to begin a shift at 7 o'clock but arrives at 10 o'clock, the employee can enter 7 o'clock manually and Cru-X will accept that time as the actual time the air traffic controller started work. An employee also can enter any time for the end of a shift and leave early. FAA must ensure that time is charged properly.

FAA already has experienced employees incorrectly reporting the actual hours worked on activities using the present paper log system. For example, at the Willow Run Airport near Detroit, Michigan, several employees admitted to leaving the air traffic control tower early but reported working until the end of their scheduled shifts. Two air traffic controllers received disciplinary action for leaving early without authorization.

Statements by air traffic controllers to our investigators indicate that the problem of employees leaving their shifts early, without taking proper leave, is much wider in scope, including facilities outside the Detroit metropolitan area. We do not know the extent of this problem, but the above example underscores the need to have adequate controls to prevent these types of problems from occurring. These same problems could continue if the Cru-X system is not changed.

It seems incongruous that, after spending taxpayer dollars developing a state-of-the-art system that will help determine the cost of air traffic operations, FAA would build a feature into an automated system that could invalidate the system's accuracy and bring into question the reliability of cost information.

The Cru-X system's software programs easily can be modified to automatically enter the actual clock time when individuals log in or out of the system, thereby ensuring accurate reporting of hours worked. It has been suggested by some that this basic internal control, requiring accurate reporting of time, would be a work rule change requiring negotiation with NATCA. Implementing this change would be in the controllers' best interest because it would provide a system that could track time effectively and aid in measuring productivity. Productivity gains agreed to during the last labor negotiations were an important underpinning of the agreement.

FAA regulations also require that supervisors approve leave taken and hours worked by employees. Therefore, FAA needs a labor reporting system that provides accurate information and the flexibility for supervisors to adjust employee time reporting for unusual circumstances.

FAA must implement a labor distribution system with adequate internal controls to ensure the accurate recording of labor hours so FAA can determine the cost of its operations. A high level of precision for labor reporting is required for FAA to effectively analyze its spending, accurately identify the cost of its activities, and

operate more efficiently and businesslike. Without an accurate labor distribution system that captures these types of costs by activity, FAA's cost accounting system will not be effective.

Controller Collateral Duties Need to be Tracked in Cru-X

It is essential that FAA be able to track the actual labor hours that air traffic controllers spend "on-scope" directing air traffic and "off-scope" performing collateral duties. The agreement negotiated with NATCA identified off-scope collateral duties that controllers could perform while not directing air traffic. These duties include briefings, training, quality assurance and technical support functions. The Cru-X system must capture this use of time so that both FAA and NATCA may determine the portion of controller time consumed by the collateral duties.

We found FAA's Cru-X system had the capability to capture labor hours by collateral duty categories as described in the NATCA contract. However, these specific negotiated categories were not explicitly included in the Cru-X labor distribution system, thus preventing FAA from determining the time spent on these collateral duties. Instead, some of the time worked on collateral duties has been recorded under the general category of "other." At our request, FAA incorporated the negotiated collateral duties categories into the Cru-X labor distribution system. Accordingly, we are not including a recommendation in this report addressing this issue.

RECOMMENDATION

We recommend that the FAA Administrator improve the internal controls within the Cru-X system by directing that software programs be modified to use the system's internal clock to automatically record the employee's actual start and stop times and provide flexibility for the supervisor to approve variations in the scheduled work times as appropriate.

MANAGEMENT RESPONSE

A draft of this report was provided to the FAA Administrator on August 17, 2001. FAA concurs with the need to improve internal controls concerning sign-in and sign-out procedures within the Cru-X system. FAA proposes that the solution to this management control weakness is through increased diligence by supervisors, supported by new processes, procedures, and technology that ensure increased accountability for employee start and stop times. FAA stated that under its revised procedures, the system will flag employee sign-in, sign-out entries that vary from predetermined schedules and the supervisor will then electronically initial the entry before certifying the time for employees on the shift. Once the entry has

been initialed, the flag is removed from the entry and no system clock time is saved. This effectively erases all evidence of the actual sign-in and sign-out entries. The complete text of management comments is in the Appendix to this report. We considered FAA comments in preparing this report.

OFFICE OF INSPECTOR GENERAL COMMENTS

FAA recognizes and agrees that Cru-X has a management control weakness concerning sign-in and sign-out procedures. However, FAA did not agree to change the Cru-X software programs. Rather than allow the Cru-X system to automatically record employees' actual start and stop times, as we recommended, FAA instead proposed an alternative that still allows employees to backdate or postdate when they start and stop work.

In our opinion, FAA's proposed alternative still compromises the integrity of the state-of-the-art Cru-X system because it allows employees to input data into the system that the employee and the system's internal clock know is not the current time. More importantly, under FAA's alternative proposal, when the person-in-charge, who may not be a supervisor, electronically initials the employee's entry, this "approval" causes the Cru-X audit trail for actual sign-in and sign-out times to disappear.

It puzzles us as to why FAA would be willing to adopt such an approach, which destroys all data documenting the number of times and the amount of time when employees arrive late or leave early without charging leave; and why FAA would be willing to allow the person-in-charge to override the Cru-X internal controls leaving no evidence of the actual time the employee signed in or out and without documentation of changes made in its proposed approval process. In effect, FAA's actions will leave no audit trail because records showing actual sign-in and sign-out times will be deleted from the system.

We recognize that FAA occasionally could have an "operational priority" that could keep an employee from signing in upon starting work, and Cru-X must have the capability for the person-in-charge, not the employee, to record the appropriate start time under this situation. However, for accountability purposes, the Cru-X system's internal controls should capture these exceptions so that management independently can verify the validity of such actions.

We request that FAA reconsider its position and modify the software programs for the Cru-X system as we recommended. Please provide comments within 30 days. Until then, this recommendation will be considered unresolved.

We appreciate the courtesies and cooperation of FAA representatives. If you have questions, please call me at (202) 366-1964 or John Meche at (202) 366-1496.

AUDIT SCOPE AND METHODOLOGY

We evaluated the adequacy of the labor distribution reporting systems being used or developed to accurately record labor hours in FAA's Air Traffic Services line of business. Our audit included analysis of the adequacy of FAA's labor distribution system implementation plan and of planned internal controls regarding the recording of labor hours. The analysis and testing we performed of planned internal controls provided an understanding of the design of the internal controls, whether internal controls had been placed in operation, and whether these controls were sufficient to assess the control risk associated with the planned labor distribution system.

We performed our audit from April through July 2001 at FAA Headquarters in Washington D.C.; Manchester, New Hampshire; and Windsor Locks, Connecticut. The audit was conducted in accordance with <u>Government Auditing Standards</u> prescribed by the Comptroller General of the United States.

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**U.S. Department
of Transportation**

**Federal Aviation
Administration**

Memorandum

Subject: **ACTION:** Response to Draft Report on Planned
Labor Distribution Reporting for Air Traffic
Services

Date: October 11, 2001

From: Assistant Administrator
   for Financial Services, ABA-1

Reply to
Attn. of:

To: John L. Meche, JA-20
Deputy Assistant Inspector General for Financial,
   Information Technology, and Departmentwide
   Programs

We have reviewed your draft report on Planned Labor Distribution Reporting for Air
Traffic Services and appreciate your recognition of the work being done in support of the
Labor Distribution Reporting (LDR) program in the agency.

We concur with your recommendation to improve internal controls within the Cru-X
system. We believe the solution to this management control weakness is through
increased diligence by supervisors, supported by new processes, procedures and
technology that ensure increased accountability for employee start and stop times. The
attachment further describes our proposed process, and procedural changes, as well as
validation tools to be incorporated in the Cru-X system.

We appreciate the courtesy and professionalism of your auditors, consistently extended
during this audit. If you have any questions about this response or any other matter
concerning the FAA LDR program, please contact Tim Lawler at 202-267-9778.

Chris Bertram

Attachment

OIG Recommendation: We recommend that the FAA Administrator improve the internal controls within the Cru-X system by directing that software programs be modified to use the system's internal clock to automatically record the employee's actual start and stop times and provide flexibility for the supervisor to approve variations in the scheduled work times as appropriate.

FAA Response: The Federal Aviation Administration (FAA) concurs with the need to improve the internal controls around shift sign-in and sign-out (S-SISO). Since the Cru-X system is replacing the paper shift sign-in and sign-out logs, this response will not address an internal control solution for the paper logs.

The agency strongly believes that the solution to this management control weakness is through increased diligence by supervisors and by creating a process that requires positive action by the supervisor for variations in the planned work schedule. The ultimate responsibility for assuring that employees are working during the time entered into the time and attendance (T&A) records rests with the supervisor who signs the shift log. Through this signature process, the supervisor is certifying the creation of a T&A entry for those employees on that shift. However, due to operational responsibilities, it is impracticable for the supervisor to watch the S-SISO at all times to visually validate who signed in and at what time. In addition, it is often a necessity for the employee to postpone signing in until after an operational priority has been completed.

The agency recognizes that, besides increased awareness and diligence, the supervisor must have tools to support the log validation process. Cru-X currently provides a list, on the duty board, of employees who have not signed in for their shift. A supervisor can easily see who has failed to sign in or is late. Once the employee signs in, he/she goes to the availability listing on the duty board. This display gives the supervisor an opportunity to recognize possible S-SISO entries requiring review. However, this does not fully solve the management control problem identified in the subject report. The FAA sees the solution for this as being accomplished through the flagging of S-SISO entries, which fall out of the predetermined S-SISO parameters. The supervisor would not be able to certify the shift log until all flagged entries have been electronically initialed. Once the entry has been initialed, the flag is removed from the entry and no system clock time is saved. This system process requires the supervisor to take positive action to resolve any questions around log entry time versus system clock time. It also avoids the collection of unnecessary data such as system clock time.

The FAA will work to increase supervisor awareness through the national Supervisor's Committee and various training vehicles. The FAA will incorporate the supervisor S-SISO validation tool within the Cru-X system in time for deployment with the LDR module.