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APR 4 1973

Commanding General
Eighth U.S. Army
APO 96301

Attention Comptroller

Dear Sir

Enclosed is the report on our review of the Korean National Payroll System. Our objectives were to evaluate the adequacy and effectiveness of internal controls, internal audits, and leave administration. Our review was in accordance with the Comptroller General's letter of September 1, 1972 to the Secretary of Defense in which he advised the Secretary that the General Accounting Office would discontinue centralized audits of civilian payroll systems overseas and begin making onsite reviews.

On the pages indicated below in the enclosed report, we are recommending improvements in the areas of payroll processing, computer operations, payroll distributions, and leave accounting, as follows.

- controls should be established over the flow of entitlement documents (pp. 3 and 4).
- predetermined control totals should be added in regular payroll computations and established in bonus computations (pp. 5 and 6).
- programmed controls should be used by the computer to reduce manual work and strengthen internal control over payroll and bonus processing (pp. 6 and 7).
- a library function should be established at the Yongsan Data Processing Center to control access to payroll files, computer programs, and program documentation (pp. 7 and 8).
- standards and procedures should be established to require clear, complete, and up-to-date computer program documentation (p. 9).
- a contingency plan should be developed so that data processing operations can be continued if files, computers, or computer programs are damaged or destroyed (p. 10).

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--employees should be properly identified before payment (p. 11) and procedures should be established to pay employees absent on payday (p. 12).

--more care should be exercised by the KN Pay Branch when entering sick and maternity leave charges into the computerized records (p. 13).

--signature card files should be maintained by the KN Pay Branch for officials authorized to approve overtime, as had been previously recommended by the Army Audit Agency (p. 14).

We also tested the propriety of selected payroll transactions, including bonuses and severance pay, and the accuracy of 50 payroll master records selected at random from Taegu-area payroll blocks. No discrepancies were found. Using a computer assisted audit technique at our Honolulu office, we analyzed the entire payroll master file to determine the propriety of pay rates vs. grades, union dues deduction, and similar tests of reasonableness and accuracy. We found only minor inaccuracies, i.e., one employee's union dues deductions were incorrect by 3 Won and a few employees' dates of birth were incorrect.

While we found little evidence of incorrect transactions or data in the computer system, we believe this is due to the diligence and expertise of the KN Pay Branch employees, many of whom have had manual payroll experience.

We request your written comments on the matters discussed in our report and your advice on actions taken or proposed.

Please accept our appreciation for the courtesies and excellent cooperation given our representatives by all levels of your command during the review.

We are providing a copy of this report to the U.S. Army Audit Agency.

Sincerely,

(Signed) C. Roman

C. Roman
Director

Enclosure

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NEED FOR IMPROVEMENTS IN THE
KOREAN NATIONAL PAYROLL SYSTEM

FAR EAST BRANCH

HONOLULU, HAWAII

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CHAPTER 1

INTRODUCTION

On September 1, 1972, the Comptroller General advised the Secretary of Defense that, effective January 7, 1973, the General Accounting Office would discontinue centralized civilian payroll audits and institute onsite reviews.

Accordingly, we have reviewed the Eighth U.S. Army Korean National (KN) Payroll System. Our review was conducted in Korea at the following Headquarters, Eighth U.S. Army organizations. Office of the Civilian Personnel Directorate, Scoul and Taegu Civilian Personnel Offices, KN Pay Branch of the Finance and Accounting Office, Accounting, Disbursing and Internal Review Divisions of the Comptroller's Office, and the Yongsan Data Processing Center. We also visited selected timekeeping sites in the Taegu area.

Our objectives were to evaluate the adequacy and effectiveness of. (1) internal controls within the system over the preparation, flow, and processing of pay change actions, payroll computation, and pay distribution, (2) internal audits, and (3) leave administration.

CHAPTER 2

BACKGROUND

In 1972, the KN Payroll System paid an average of about 11,500 employees per pay period. In addition, 2,622 employees received severance pay. Total payments amounted to about \$38 million, of which \$10.4 million was severance pay. The average annual salary for KN employees was about \$2,400 and the average severance pay was about \$4,000.

At the time of our review, 10,871 employees were on the rolls. Of these, 6,488 or about 60 percent were in the Seoul, Taegu, and Pusan areas. Most of the remaining employees were in the Inchon and Camp Humphreys areas.

The KN Pay Branch codes and controls the flow to the Data Processing Center of transactions affecting employee entitlements, develops and maintains control figures on permanent and temporary changes to the payroll, verifies authorizations for overtime and leave, computes severance pay, and prepares required reports. The KN Pay Branch receives entitlement documents from Civilian Personnel Offices and timekeeping sites throughout Korea.

The KN Payroll System is integrated with the leave accounting system. The Yongsan Data Processing Center maintains the master pay and leave records and computes the payroll using a card-oriented UNIVAC 1005 computer.

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CHAPTER 3

FINDINGS AND RECOMMENDATIONS

NEED TO IMPROVE INTERNAL CONTROLS OVER PAYROLL PROCESSING

We found numerous internal control weaknesses in the procedures for changing the payroll master files, computing payrolls and bonuses, and distributing payrolls. Proper internal control over these areas is necessary to assure that all data is considered in the processing, that results of the processing are accurate, and that no unauthorized alterations are made to transactions and records during the various processing stages. Our comments on each of the areas needing improvement follow.

Document control

The KN Payroll System operates on the exception principle, i.e., the computer system will continue to compute an employee's pay at the rate of 160 hours per pay period unless a personnel action is processed to change or delete the employee's master records or a time and attendance report indicating hours in pay status different than 160 hours is coded and transmitted to the Data Processing Center. It is vital, therefore, that stringent control procedures be used to assure that all entitlement data is accurately introduced into the computer system.

We found that document control procedures at the KN Pay Branch and the Civilian Personnel Offices are inadequate to assure that all changes to the master files are processed and that the changes are processed correctly. There are no procedures at the Civilian Personnel Offices to verify that transactions submitted to the KN Pay Branch are entered into the computer system. At the KN Pay Branch, there are no procedures to control the flow of documents to the payroll clerks and verify that the documents have been posted to the computer records.

Recommendations

We recommend that procedures be adopted to require.

--each of the payroll supervisors at the KN Pay Branch to maintain overall control records on additions, changes, and deletions to the master files.

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—a copy of the KN Payroll Master Addition/Deletion Listing be furnished the cognizant Civilian Personnel Offices and reconciled to documents submitted by them.

Predetermined control totals

Predetermined control totals are arithmetic totals of numbers—e.g., pay rates, hours worked, employee count, employee identification number—which are manually computed and compared with totals developed by the computer system at succeeding points in the processing operation. Control totals do not have to be meaningful in themselves such as totals of hours worked, but can have no intrinsic value such as an arithmetic sum of employee identification numbers. In either case, their primary purpose is to ensure that all data entered into the computer system are processed correctly. In a payroll system, predetermined control totals of at least employee count, hours worked, and pay rates are required by Army Regulation 37-105.

Regular pay computations

We found that predetermined control totals of employee count, hours worked and leave taken were used by the KN Pay Branch to control regular pay computations. Control totals are not developed for pay rates. As a result, there is no assurance that all pay rates used by the computer during processing are proper. Also, the lack of predetermined control totals for employee identification numbers, grades, occupation codes, and dates of birth precludes overall control over the accuracy of these items.

Summer and yearend bonuses

Eligible Korean National employees are entitled to summer and yearend bonuses. In 1972, about \$3.2 million of these bonuses was paid. The basic factors required to compute these bonuses and the appropriate amount of withholding tax are. (1) the employee's length of service, (2) the median number of regular pay hours for the last three pay periods including the pay period containing the bonus eligibility date, (3) the current base hourly rate, and (4) the gross pay and taxes withheld for the six pay periods preceding the bonus eligibility date. Each bonus is equivalent to about 1 month's salary. Partial bonuses are payable in proportion to an employee's length of service during the 6 months preceding the bonus eligibility date.

With the exception of the length of service information, the necessary data is produced by the Data Processing Center from its punched card files after which adjustments are made by the KN Pay

Branch. Most adjustments reflect employees' eligibility for partial bonuses. The adjusted information is reentered into the computer system which computes the actual bonus amounts and the appropriate withholding tax.

We found that predetermined control totals were not used to reconcile the computer-produced figures on hours worked, pay rates, gross pay, and taxes withheld. As a result, there was no assurance that correct amounts were used in bonus computations. We were advised by an official of the KN Pay Branch that reconciliation attempts had been made but it was too difficult and time-consuming. Our review of the procedures showed that if the computer programs were modified to produce bonus factor totals by pay period, it would be relatively easy to reconcile to the payroll control registers for the pay periods preceding the bonus eligibility date. In addition, internal control over the entire bonus computation process would be strengthened.

Chu-Suk bonus

In the fall of each year, Korea celebrates Chu-Suk, a national holiday somewhat similar to our Thanksgiving Day. A Chu-Suk bonus is paid annually to eligible employees. The procedures are basically the same as for the summer and yearend bonuses, except that less information is necessary for computation (1) length of service, (2) median number of regular pay hours for the last three pay periods including the pay period containing the bonus eligibility date, and (3) current base hourly rate.

As with the summer and yearend bonuses, we found that the computer-produced information was not reconciled for internal control purposes and that, if the computer program was modified, reconciliation to the appropriate payroll control registers would be relatively easy.

Recommendations

To ensure that all data entered into the computer system is processed completely and accurately, we recommend that.

--for regular pay--predetermined control totals be developed by the KN Pay Branch of pay rates, employee identification numbers, grades, union dues deductions, occupation codes, and dates of birth and that the related computer programs be modified to accumulate and produce these totals at each step in the master change and payroll computation process.

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--for bonuses--the computer programs be modified to produce control totals by payperiod of the necessary data for bonus computations and that these totals be reconciled to the appropriate payroll control registers.

Programmed controls

A programmed control is included in the stored instructions of the computer to help ensure that data is accurately processed. For example, the computer program could be designed to check that employees are not granted step increases before the expiration of the required waiting period. The number and type of programmed controls depends on the data available to the computer and the availability of internal storage. As a general principle, the computer should exercise as many programmed controls as possible in lieu of manually exercised controls.

Some programmed controls were used in the KN Payroll System such as sequence checking and testing for missing input. Consideration is being given to having the computer match employees' grades with pay rates and union dues deductions. An official with whom we discussed this matter suggested that programmed controls are not used because of the limited capacity of the UNIVAC 1005 computer.

We believe that the computer has the capacity to exercise significantly more programmed controls than it is presently doing. Of the 19 computer programs used to process the master file update, regular payroll, and bonuses, only four use more than 75 percent of computer's internal storage capacity with the average usage being about 55 percent. We also found that 11 of the 80 positions in the payroll master record are available for the introduction of additional data for the computer's use in exercising programmed controls.

Recommendation

We recommend that a study be performed by the Eighth Army Management Information Systems office to determine the extent of programmed controls which should be incorporated into the KN Payroll System. Consideration should be given to the following.

--addition of the employees' date of employment into the master file for use in determining bonus eligibility and computing fractional bonuses. This would eliminate much of the manual work involved in bonus computations and provide for increased internal controls.

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--addition of the employees' date of last step increase into the master file for use in determining employees' eligibility for step increases.

--addition of limit tests and other reasonableness tests in the payroll computation process to help ensure the validity and accuracy of payroll computations. For example, the computer could be programmed to identify situations where an employee's gross pay exceeds a predetermined amount. Maternity leave taken could be tested to assure that it does not exceed allowable amounts.

NEED FOR IMPROVEMENTS IN COMPUTER OPERATIONS

We found weaknesses in computer file and program storage, computer program documentation, and physical security which are discussed below.

Storage of payroll master files, computer programs, and computer program folders

Payroll master files and the computer programs used for payroll processing are the basis of a computerized payroll system. As such, access to them must be strictly controlled and sufficient protection must be provided to prevent unauthorized changes and unintentional damage. Computer program folders contain descriptions of how the computer programs work and should be available to only authorized personnel.

At the Data Processing Center, we found that payroll master files were stored in unlocked file cabinets in an area with substantial employee traffic. Similarly, computer programs were stored in the same room as the systems analysts and programmers and access to them is not controlled. Procedures had been developed to control access to computer program folders, but the procedures were generally not followed. As a result, there was no assurance of the integrity of the payroll master files and the computer programs.

Recommendations

To help assure the integrity of the payroll master files, computer programs, and program documentation, we recommend that access be strictly controlled. Written procedures should be prepared and enforced to accomplish the following.

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- establish a librarian function to maintain custody of the files and documents in locked containers.
- assign library responsibility to one individual.
- maintain an inventory of records in the library.
- keep a record as to the dates and times of issuances and returns and to whom issued.
- restrict the issuance of files to only computer operations personnel in accordance with the processing schedule.
- restrict the issuance of programs and documentation to only computer programming personnel upon receipt of an approved program change.

We believe the library function could be performed on a part-time basis by an individual in the Control and Scheduling Branch of the Production Division.

Computer program documentation

A computer program is a series of instructions to direct the step-by-step operation of the computer. The documentation for each computer program must show the input required, the procedures for setting up the computer to run, conditions which will halt the computer, the expected output data and its format, file disposition at the program's completion, the logical procedures, a list of computer instructions, and a record of all approved changes. Thorough documentation gives an unquestionable historical record of what the program is supposed to do and how it is done. This documentation simplifies program revisions and inquiries, assists new programming personnel, and helps in evaluating internal controls.

At the Yongsan Data Processing Center, computer program documentation is assembled in program folders. Our review showed that the documentation for the KN Payroll System was generally vague as to the exact steps and calculations being performed and was sometimes incomplete and out-of-date. We found no narrative descriptions of the program processing steps and logic. For example, one of the computer programs updates the employees' leave balances each pay period by subtracting the various types of leave taken during the pay period from the previous balance and adding the amount of leave accrued during the pay period to arrive at new balances. It is apparent that some tests are made to determine if the new balances are negative, but it cannot be determined from the documentation exactly what tests are made and the action taken by the computer upon encountering a negative balance. Documentation for

other programs contains vague explanations of program steps, such as "detail process" or similar nonspecific descriptions which do not adequately explain what the computer is actually doing.

An official of the Yongsan Data Processing Center agreed that program documentation was inadequate, but stated that there wasn't enough time to catch up on the current work backlog, much less fully document existing computer programs. We believe that documentation of computer programs should not be allowed to slip into a "catch up" position. Documentation should be an integral part of the procedures for developing new programs and changing existing programs.

Recommendations

We recommend that computer program documentation standards and procedures be developed by the Yongsan Data Processing Center and the Assistant Chief of Staff, Management Information Systems. Provision should be made for

- narrative descriptions of the logic followed by the computer in executing the program.
- updating the documentation as authorized changes are made.
- including documentation as an integral step in the preparation of a computer program.

Need to develop a contingency plan in the event of a disaster

The Yongsan Data Processing Center has made no provision for continuing operations in the event of a disaster. As a result, operation of the Center is highly vulnerable to hardware failure, a fire in the computer or file areas, an extended power failure, vandalism, intentional sabotage, and other disruptions. For example, destruction or loss of the payroll master file would require the manual reconstruction, keypunching and verifying of almost 22,000 punched cards before payroll processing could continue.

Officials of the Data Processing Center and other cognizant officials admitted the lack of a contingency plan, but felt that the KN Pay Branch, if necessary, could manually prepare a payroll in the event of an emergency. We believe this may be possible under certain circumstances. However, there are processing points in each payroll cycle where the destruction of files would have a critical effect. We seriously doubt the capability of the KN Pay Branch to pick up the processing at these points and prepare a payroll on time.

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In addition, the KN Pay Branch would still be faced with the requirement to reconstruct the computerized files. Further, if a disaster occurred during one of the three annual bonus computation periods, no doubt, additional delays would be experienced.

Recommendation

We recommend that a written contingency plan be developed and implemented. This plan should provide for, as a minimum,

- periodic duplication of the payroll master files and retention of records of subsequent changes for reconstruction purposes. The duplicate files and change records should be stored in a secure location away from the Data Processing Center.
- maintenance of copies of up-to-date computer programs and documentation in a separate, secure location.
- arrangements to use an alternate facility in the event of machine failure at the Yongsan Data Processing Center.
- detailed arrangements to manually process the payroll, if necessary.
- periodic review of the readiness to implement the plan.

NEED TO IMPROVE PAYROLL
DISTRIBUTION PROCEDURES

With few exceptions, Korean National employees are paid every 4 weeks in cash by disbursing agents who draw funds from the cognizant finance offices. We reviewed payroll distribution procedures and observed the distribution of three payrolls totaling about \$72,000 to 592 employees at the Ascom and Camp Carroll Depots. As discussed below, we found that payroll distribution procedures were not adequate to ensure that the proper employees were paid and that absent employees receive their pay.

Positive employee identification
not required

Eighth Army instructions require the disbursing agents to make payments directly to the authorized payees and that the payees' identification be verified by inspection of identification cards which bear employees' pictures.

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At Camp Carroll Depot, we observed that employees were not required to present their employee identification cards. Most employees were required to submit only their Finance and Accounting Office card which shows their payroll number, but not their picture. Several employees picked up and signed for other employees' pay envelopes. In addition, several employees attempted to pick another's pay, but payment was refused because of our presence. In one case, three different employees attempted to pick up another employee's pay before the employee himself reported for payment.

Officials at the Depot told us that it was common practice for one employee to pick up another's pay. We were also advised that the employees check their employee identification cards with their supervisors upon coming to work to assure that they stay on the job all day.

Inadequate identification of employees has apparently been a continuing problem. In June 1972 the pay of a deceased employee was picked up by another employee having the same name. The theft was not discovered until the deceased's widow reported it.

Recommendation

Positive employee identification is a key element in payroll distributions. We recommend that steps be taken immediately to require that disbursing agents comply with existing instructions that payment be made to the employees personally and that the identification of payees be verified by inspection of identification cards. The practice of checking employees' identification cards with supervisors is not a valid reason for relaxing internal control over payroll distributions.

Inadequate procedures for paying absent employees

At both the Ascom and Camp Carroll Depots several employees were absent because of illness on payday. Eighth Army regulation do not prescribe procedures to pay absent employees. We were advised by an official at the Camp Carroll Depot that the general practice is to give a sick employee's pay envelope to another employee for delivery. Because of our presence, however, this practice was not followed. With one exception, the absent employees' pay was not distributed. This caused considerable anger and resentment on the part of the people attempting to pick up the pay of the absent employees. In one instance, three men who claimed to be friends of the absent employee brought his wife in to the payroll distribution point after payment had previously been refused and indicated in

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strong terms that the man was in the hospital and needed the money. The disbursing agent made the payment. It was apparent to us that the agents and the employees had not been instructed as to the proper procedures for paying absent employees.

We believe that the practice of paying an employee's friend or wife is inadequate because there is no assurance that the pay will reach the employee. However, the practice of not paying a sick employee on payday is unfair because the employee could be financially hurt.

Recommendation

We recommend that written procedures be established to pay absent employees. These should be designed so that internal control over payroll distributions is not compromised and they should be fair to the employees. Specifically, provision should be made to

--keep the absent employees' pay envelopes at the appropriate Finance Office for a reasonable period of time so they may be picked up when the employee returns to work.

--delivery pay envelopes to employees who are on extended sick leave.

Upon establishment of these procedures, we believe it is highly important that they be thoroughly communicated to all Korean employees through their supervisors.

NEED TO IMPROVE LEAVE ACCOUNTING PROCEDURES

Improvements are necessary in the charging of sick and maternity leave and in making adjustments to sick leave balances. We examined the leave records of 52 employees who, according to the master leave records, had used the most annual and sick leave in 1973. We also examined the records of six employees whose records showed use of maternity leave in 1973. Of the 58 records examined, seven, or 12 percent, had errors in the leave balances or charges for improper amounts of leave.

We noted three instances in which employees were charged sick leave on holidays even though Eighth Army instructions dictate that employees are entitled to time off on holidays without charge to leave. In these cases, the payroll clerk should have entered the holiday code, instead of the sick leave code, on the computer input document.

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We noted that one employee's leave record was incorrect because the payroll clerk had erroneously used 1972 yearend leave data in establishing a new leave record for the employee after his transfer during the first pay period of 1973.

Three employees were allowed to charge more maternity leave than authorized. Female employees are authorized maternity leave of no more than 30 calendar days before and 30 calendar days after giving birth. In practice, employees have been allowed a total of 60 days by KN Pay Branch personnel regardless of the baby's date of birth. For example, we noted a case where a woman was allowed maternity leave for 18 days prior to and 42 days after giving birth. The woman should have been allowed only 30 days of maternity leave after the birth. Sick leave, annual leave or leave without pay should have been charged for work days missed after the expiration of the 30 days maternity leave.

Recommendation

We recommend that increased efforts be made by the KN Pay Branch to accurately charge sick and maternity leave. Increased care should be exercised when making adjustments to leave records. Most of these errors could have been avoided had computer programmed controls been used as discussed above (pp. 6 and 7).

NEED TO IMPLEMENT CORRECTIVE ACTION
RECOMMENDED IN INTERNAL AUDIT REPORTS

Since 1971, three internal audit reports pertaining to the KN Payroll System have been issued by the Internal Review Division of the Eighth Army Comptroller's Office and the Army Audit Agency, as listed below.

<u>Agency</u>	<u>Report No.</u>	<u>Date of Report</u>
Army Audit Agency	P-2-6145	February 8, 1972
Internal Review Division	SP 13-72	February 9, 1972
Internal Review Division	IR 8-73	September 19, 1972

These audits resulted in five recommendations relating to certification of time and attendance reports, verification of overtime authorizations, propriety of night differential paid, timeliness of time and attendance reporting, and documentation to support leave taken.

With one exception, the recommendations have either been carried out or are in the process of correction. The exception involves the Army Audit Agency's recommendation that specimen signature cards of overtime authorizing officials be maintained at the KN Pay Branch for comparison with approved requests for overtime. At the time of our audit, no action had been taken on this recommendation.

Recommendation

Since the verification of signatures on overtime authorization documents is an important internal control procedure to assure that overtime is properly authorized, we recommend that a signature card file for this purpose be maintained at the KN Pay Branch.

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