

Finance Department

3.7 Information Technology Audit of On Line Treasury Information System and e_Pension software

Highlights

Online Treasuries Information System (OLTIS) aims at exercising control over expenditure as per budget allocation, prevention of diversion of funds and wrong booking of expenditure, etc. The e_pension system aims for computerised pension disbursement System. Audit observed that there was absence of documentation and user manuals to ensure trouble free operation of the systems. Besides, the absence of input controls has resulted in wrong booking of expenditure and allowing of inadmissible payments. The following main points were noticed in Information Technology Audit of Treasuries:

↘ *The User Manuals, Operational Manuals and System Manuals were not available in all the test checked treasuries.*

(Paragraph 3.7.9.1)

↘ *Department had not formulated and documented any Disaster Recovery Plan. There were no documented procedures indicating frequency for taking back up of data, its storage and restoration. The Treasury Officers were taking back ups on an adhoc basis.*

(Paragraph 3.7.9.2)

↘ *Due to absence of input controls, possibility of double drawal of bills in OLTIS and overpayment/ incorrect payment of pension existed.*

(Paragraphs 3.7.10.1, 3.7.10.3 and 3.7.11.1)

↘ *No checks were exercised to monitor expenditure vis-à-vis budget provisions by the Treasury Officer at the time of passing the bills.*

(Paragraph 3.7.10.2)

↘ *Allocation of payment of DA arrears to Punjab Government was not made in e-Pension software.*

(Paragraph 3.7.11.2)

↘ *There was no provision of revalidation of bills after expiry of the currency period in OLTIS module.*

(Paragraph 3.7.11.4)

↘ *Absence of validation checks resulted in DDOs operating head of accounts for which they are not authorised.*

(Paragraph 3.7.11.5)

3.7.1 Introduction

The Himachal Pradesh Finance Department is responsible for fostering fiscal discipline through the Director, Treasuries and Accounts Department. There are 15 district treasuries and 85 sub-treasuries in the State which are responsible for receipts and payment of money on behalf of Government and maintenance of accounts relating to these transactions. The treasuries maintain records of financial transactions and are required to exercise necessary checks on the flow of funds. In February 1989, the State Government decided to computerise the accounts in district treasuries and a software 'DISNIC-TREASURY' developed by the National Informatics Centre (NIC) using FOXBASE in XENIX/UNIX environment was implemented in 12 out of 15 district treasuries (except Keylong, Kaza and Pangri) in a phased manner by April 1991.

The present software 'Online Treasury Information System' (OLTIS) was designed by NIC as a web enabled application with Windows 2000 as operating system, MS SQL server at the back end and MS Visual Basic at the front end. The first version was developed and implemented in a phased manner from June 2003 onwards in all the district treasuries. The computerisation of sub-treasuries is still in process.

The e_pension software developed by NIC with Windows as operating system, MS SQL server at back end and MS Visual Basic at the front end was implemented in all the district treasuries (July 2006) to generate monthly bank-wise scrolls for payment of pension to the State pensioners through the designated banks.

Both the databases of OLTIS and e_pension applications are residing on the same server in all the treasuries.

The Department spent Rs 263.45 lakh (as of July 2007) on the purchase of hardware and software and site development for both the systems during the period between 1996-97 to 2006-07 which included Rs 20.00 lakh and Rs 50.00 lakh awarded by 10th and 11th Finance Commissions respectively for computerisation of treasuries.

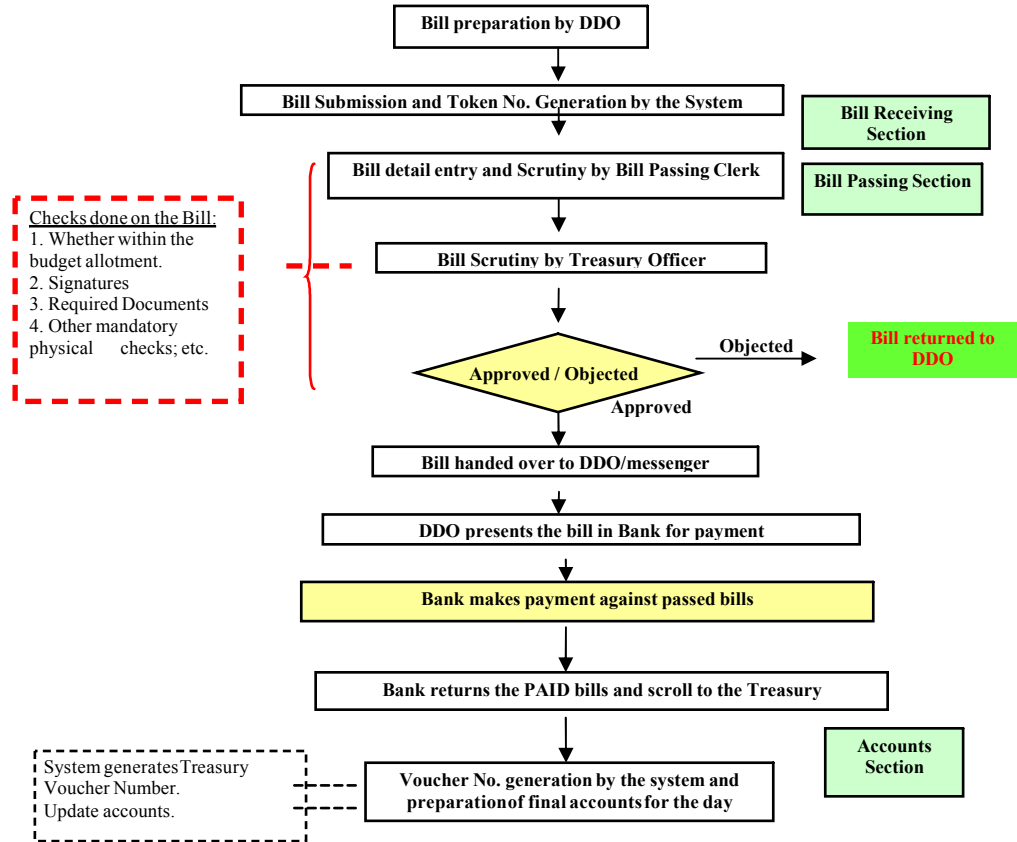
3.7.2 Organisational set up

The Department of Treasury, Accounts and Lotteries is headed by a Director under overall administrative control of Principal Secretary, Finance Department. The Director, Treasury, Accounts and Lotteries department is assisted by a Joint Director (Treasuries), Joint Controller (Accounts) and Deputy Directors. The Joint Director (Treasuries) is over all responsible for computerisation in the treasuries.

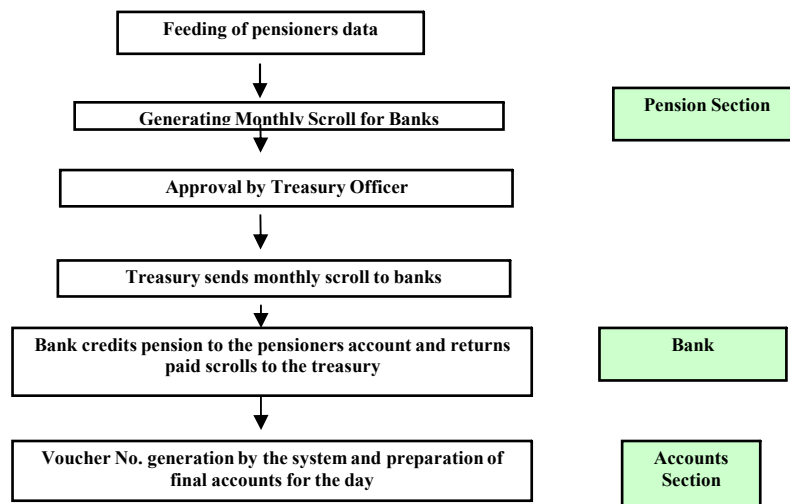
3.7.3 Workflow

The process flow diagram of the processing of bills in the treasury and its accounting is shown below:

WORKFLOW OF BILL PROCESSING AND ACCOUNTING



WORKFLOW OF PENSION PAYMENT



3.7.4 Objective of computerisation

The major objectives of the OLTIS and e_pension softwares inter alia include:

- ↘ Facilitating controls to be exercised by the Department to monitor financial transactions by rational allocation of budget to Drawing and Disbursing Officers (DDO), thereby enabling treasury officers to have a strict control over expenditure as per the budget allocation.

- ↘ To make flow of information up-to-date, authentic and consistent, and leaving no scope for excess or unauthorised drawals, diversion of funds, wrong booking, etc.

- ↘ Payment of monthly pension to State Government pensioners and political pensioners and to maintain database of pensioners at district level.

3.7.5 Scope of Audit

Out of 15 district treasuries, six district treasuries were covered in Audit. The sample comprised two big treasuries (Shimla and Dharamsala) and four small treasuries (Bilaspur, Nahan and Solan and Reckong Peo). The scope of audit included test check of data maintained in the treasuries for the year 2006-07.

3.7.6 Objectives of the Information Technology (IT) Audit

The objectives of the IT Audit were to evaluate:

- ↘ the adequacy and effectiveness of various controls in the developed system;

- ↘ reliability, integrity and authenticity of the data;

- ↘ the aspects relating to availability of the data and information security;

- ↘ extent of incorporation of treasury rules in the developed applications; and

- ↘ extent of availability of documentation necessary for smooth operation of the system.

3.7.7 Audit criteria

Application packages developed and implemented for the treasuries were evaluated with respect to Treasury Rules, planning of computerisation programme, methodology of development of application packages, data management and monitoring mechanism.

3.7.8 Audit Methodology

The data pertaining to six treasuries was analysed using IDEA, a Computer Assisted Auditing Tool. Before commencing audit, the audit objectives, criteria and scope were discussed (June 2007) with the Joint Director (Treasuries) in an entry conference. The audit findings were discussed in (September 2007) with the Joint Director (Treasuries) in an exit conference and the replies of the Department have been incorporated in the report where appropriate.

Audit Findings

3.7.9 Inadequate General Controls

3.7.9.1 Project proposal, planning and documentation

↘ IT Steering Committee comprising of the users and the top management is essential for overseeing development and implementation of any IT system. It was seen that an IT steering committee or any such organisational structure was not in place to guide the whole process of computerisation from the top management level.

↘ The Department had not conducted any feasibility study before taking up computerisation. Documentation with regard to User's requirements, specifications, testing etc. was not made available to audit. Documentation relating to various stages in the System Development Life Cycle (SDLC) was also not available. Thus, the system development methodology adopted could not be reviewed in audit.

↘ Proper documentation helps in trouble free operation and maintenance of the system. The user manuals, operation manual and system manual were not available in respect of both the softwares (OLTIS and e_pension) in all the test checked treasuries.

3.7.9.2 Lack of disaster recovery and business continuity plan

It was observed in audit that the Department had not formulated and documented any Disaster Recovery Plan. There were no documented

procedures indicating frequency for taking back up of data, its storage and frequency of testing/checking. Test-check of records of six treasuries revealed that the Treasury Officers were taking back up as per their convenience in an adhoc manner. The back up is not stored in fireproof cabinets/off site and is not tested for restoration. It was further observed that backup data was stored on the same server (Dharamsala Treasury) and the backup of data on Compact Disk (CD) was also stored at the same location where the server was located in other test checked treasuries.

3.7.9.3 Change Management procedures were not framed

Though the present OLTIS and e_pension softwares had been implemented since June 2003 and July 2006 respectively, the Department had not framed procedures to control changes in the software; record keeping of changes during entire project life cycle and impact analysis of changes incorporated till August 2007. Audit observed that the changes in the software are incorporated by the NIC at the request of users without proper approvals. It was also seen that at Dharamsala treasury different versions of e_pension software (Version Numbers 2.3 and 2.4) were running on different machines.

Thus, in the absence of a written policy/procedure, the Management is unable to ensure that the latest version of the software is being used simultaneously at all levels thereby increasing the risk of non-recovery and difficulty in data reconstruction in the event of data loss.

3.7.9.4 Important functions like Deposits, Letter of Credit (LOC), Personal Ledger Account (PLA) and Treasurer Section have not been covered under computerisation.

3.7.10 System design deficiencies

3.7.10.1 Analysis of the OLTIS system through data entry screens at test-checked treasuries revealed the following shortcomings:

↘ the system accepts duplicate bill number due to which the possibility of double drawal of a bill cannot be ruled out;

↘ the bill date in some cases was found to be later than token date, passing date was earlier than token date, voucher date was earlier than token date, etc. Thus, validations of data was absent and the input controls were inadequate; and

↘ the net amount does not tally with the gross amount minus deductions (Short withdrawal, Treasury deductions, AG deductions). For example, in one case of November 2006 of Shimla treasury (voucher number 13 of Major

Head 3054), the gross amount of the bill was Rs 3,02,231, treasury deductions Rs 8,372, AG deductions Rs 91,566 and net amount Rs 2,04,793. This was incorrect as there was a difference of Rs 2,500 (the net amount should have been Rs 2,02,293 after deductions).

3.7.10.2 Lack of expenditure control by Treasury Officer

One of the objectives of the OLTIS was to make flow of information up to date, authentic and consistent, leaving no scope for excess or unauthorised drawals, diversion of funds, wrong bookings, etc. The DDO-wise, Head wise [up to Standard Object of Expenditure (SOE)] allocation of budget is maintained in one of the database tables¹. Similarly cumulative expenditure thereagainst is also maintained in the same table to facilitate the treasury officers to have a tight control over expenditure as per the budget allocation. However, audit observed the following:

↘ in the OLTIS application, immediately after the Bill Passing, expenditure is booked against the budget provision without waiting for clearance by the Treasury Officer;

↘ when a revised bill is received from a DDO after corrections, it is given a new token number and passed by the bill passing Clerk and Treasury Officer as a fresh bill. As a result of this procedure, the bill is counted twice. This is because the software has no provision to accept a revised bill; and

↘ The software provides passing of bills in excess of budget/ without budget allotment. Audit Scrutiny in test-checked treasuries revealed that bills had been passed in excess of the budget allocation or without allotment in respect of Object Head other than 'Salary' and 'Wages' defeating the very purpose of the software.

The system design deficiencies mentioned above leads to booking of excess expenditure and expenditure without budget provision under a Chief Controlling Officer (CCO) by the treasury officer. When the monthly civil accounts received from the treasury officers are compiled by the office of the Senior Deputy Accountant General (A&E) – Himachal Pradesh, the A&E office on noticing the excess expenditure or expenditure without budget provision sends 'Warning Slips' to the CCOs informing them about the excess expenditure/expenditure without budget provision. However, the situation itself would not occur if the software does not allow passing of bills in excess of budget provision or where there is no budget provision, except for salary and wages heads. Therefore, the expenditure of Rs 2.63 crore incurred on the system is neither helping in achieving the objectives of expenditure control nor are any reports being generated for MIS purpose by the State Government.

¹ The 'annual budget master' table of the database.

3.7.10.3 Wrong booking of expenditure under Object Head code '00' in OLTIS database

As per classification of Major Heads, the expenditure under Revenue and Capital expenditure heads cannot be booked without SOE. The classification of Debt, Deposit and Remittance (DDR) heads is up to sub-head level. The master table of SOE heads contains '00' code without any nomenclature. It was noticed that in 2015 records under Revenue Expenditure heads and Capital Expenditure heads Rs 28.79 crore² has been booked under '00' code. However, proper SOE code was found recorded manually on these bills when checked in the A&E office. The treasury officers stated that the software is accepting booking under SOE '00' and the deficiency in the software would be got removed.

3.7.11 Non-mapping of business rules

Audit noticed that the OLTIS and e_pension softwares did not take care of the checks prescribed under Himachal Pradesh Treasury Rules and Pension Rules which are still being carried out manually at the treasuries. Few such cases are discussed below:

3.7.11.1 Inadmissible payment to re-employed pensioners—Rs 4.02 lakh

As per State Government orders, the employed/re-employed family pensioners who have been given appointment on compassionate grounds are not entitled to draw dearness pension /dearness relief on pension. Payment of dearness relief in these cases shall become admissible only from the date they cease to be re-employed. The pension disbursing authority shall require such a pensioner to produce a certificate of cessation of re-employment from the office in which he had been re-employed.

Audit scrutiny revealed that the software provides for entry of the date of re-employment but there is no provision in the software to record the type of re-employment as to whether the family pensioner has been appointed on compassionate grounds or not and date of receipt of prescribed certificates regarding cessation of re-employment.

Test check of e_pension database revealed that the system allowed payment of dearness pension/ dearness relief on family pension to the pensioners

² Bilaspur: 90 cases (Rs 0.38 crore), Dharamsala: 361 cases (Rs 0.44 crore), Nahan: 109 cases (Rs 0.28 crore), Reckong Peo: 30 cases (Rs 0.11 crore), Shimla: 1170 cases (Rs 27.25 crore) and Solan: 255 cases (Rs 0.33 crore).

re-employed on compassionate grounds resulting in in-admissible payment to the tune of Rs 4.02³ lakh during July 2006 to August 2007.

3.7.11.2 Non-allocation of DA arrears to Punjab Government–Rs 30.06 lakh

The allocation of pension and other retirement benefits are made separately for the period of service rendered before 1st November 1966 and after 1st November 1966 to Punjab and Himachal Pradesh Government respectively.

It was noticed that in the arrear bills prepared on account of increase in DA from 1st July 2006 and 1st January 2007 the allocation of the increased DA to the tune of Rs 30.06 lakh in 5,950 cases in five test-checked treasuries had not been made to the Punjab Government as detailed below:

Table: 3.7.1

Sl. No.	Name of Treasury	Number of cases	Amount
1	Bilaspur	126	30,086
2	Dharamsala	5,002	25,41,087
3	Nahan	107	24,051
4	Reckong Peo	3	1,148
4	Shimla	173	1,16,294
5	Solan	539	2,93,831
	Total	5,950	30,06,497

The District Treasury Officer, Dharamsala stated that due to non availability of procedure for calculation of arrears for pre 1966 period in the software, the figures could not be worked out.

3.7.11.3 As per State Government orders, on retirement prior to 1st January 1996, the restoration of commuted value of pension in the case of Group ‘D’ employee was 130 months or attaining the age of 70 years which ever was later and for other Group employees it was 138 months or attaining the age of 70 years which ever was later. After 1st January 1996 restoration of commuted value of pension is to be done after 15 years from the date of

³ Bilaspur (11 cases: Rs 0.86 lakh), Dharamsala (69 Cases: Rs 2.94 lakh) and Shimla (10 cases: Rs 0.22 lakh).

payment of commuted value of pension in respect of all the groups of employees. In the e_pension software there is no provision to capture the Group of an employee. In the absence of this provision, the actual date of restoration of commuted value of pension of those employees who retired before 1st January 1996 cannot be vouchsafed.

3.7.11.4 No provision in the OLTIS for revalidation of bills after expiry of the currency period

As per Treasury Rule relating to currency of payment orders the payment orders are valid only for a time not exceeding ten days. In case bills are not presented for payment within the currency period of the pay orders, these are to be revalidated by the Treasury Officer.

It was noticed that the system does not provide revalidation module and the bills were being revalidated manually. The system shows 6,292 cases (Bilaspur: 376, Dharamsala: 2,900, Nahan: 540, Reckong Peo: 88, Shimla: 2000 and Solan: 388) where payment was made by the banks after the initial period of more than 10 days of their passing to the tune of Rs 50.31 crore for which no audit trail existed in the OLTIS database.

Even if the bills are revalidated manually the picture as depicted in the database appears as if unauthorised payments have been made after lapse of the currency period. Thus non incorporation of the revalidation facility in the software restricts the usefulness of the software for controlling and monitoring of the expenditure.

The District Treasury Officers of test-checked districts stated that module for revalidation of bills is not available in the software and the bills are being revalidated manually. This shows that the Department has accepted and put into operation the software even though major user requirements were not incorporated in it.

3.7.11.5 Absence of validation check resulted in DDOs operating unauthorised Heads of Account

As per treasury rules, the DDOs are authorised to draw payments by presenting bills in a treasury only in respect of those Heads of Account which they are authorised to operate.

It was noticed in audit that validation checks did not exist in the application to prevent DDOs from operating heads which they are not authorised to operate.

Consequently, some DDOs operated those heads of accounts which they were not authorised to operate. Few illustrations are given as below:

Table: 3.7.2

Name of Treasury	Name of DDO	Unauthorised Major Heads operated
Bilaspur	Deputy Director of Fisheries, Bilaspur SE Xth Circle, Bilaspur	2014-Administration of Justice 2515-Other Rural Development
Solan	Chief Medical Officer, Solan	2058- Stationery and Printing
Dharamsala	Principal, GSSS Jasai Cattle Development Officer	2014-Administration of Justice 2014-Administration of Justice

3.7.12 Information System Security

✎ The Department had not framed any IT Security policy regarding the security of IT assets, software and data security even after four years of implementation of OLTIS.

✎ Audit scrutiny revealed that there was no documented password policy for OLTIS and e_pension softwares. Normal password control procedures like restriction on unsuccessful login attempts by the users or automatic lapse of password after a predefined period and enforcement by the system for periodical change of passwords after a certain period were not in existence. Moreover, the system did not generate any logs to record the number of failed login attempts. The test check of e_pension data revealed that the data was entered by non existent users⁴ as these users were not available in the master table of authorised users. Since no change logs are available the audit was unable to analyse the cases further.

✎ The OLTIS application provides for different roles for the users as per the functioning of the Treasury Office viz. token entry, bill passing by the bill passing clerk, bill passing by Treasury Officer, payment verification of bill and challan verification for receipt for which users have been created. However, it was observed in audit that the personnel of the treasuries were

⁴ Reckong Peo Treasury: User No. 99 entered 355 records and Nahan Treasury: User Kamlesh and Pension Clerk entered 2 and 23 records respectively.

performing the duties interchangeably mainly due to shortage of staff or when staff is on leave. This leads to non segregation of incompatible duties and dilutes the accountability for actions performed using the software. The instances noticed during test check were as follows:

- ↘ The Token clerk was found performing duties of Bill Passing Clerk and Treasury Officer at all the test-checked treasuries.
- ↘ The Bill Passing Clerks were found performing duties of Token Clerk, Bill Passing Clerk and Treasury Officer at all the test-checked treasuries.
- ↘ The Treasury Officer was performing duties of Token Clerk, Bill Passing Clerk in addition to his own duties at Shimla Treasury.
- ↘ Two officials at Shimla Treasury were using two users' codes each and were performing duties of Token Clerk, Bill Passing Clerk.

3.7.13 Failure to monitor Audit Trail

In district treasuries the first stage of processing a bill is to issue a token number and the last stage is assigning of voucher number for each bill paid by the treasury branch of designated bank(s). The OLTIS application allots token numbers and voucher numbers serially.

It was noticed in Shimla and Dharamsala treasuries that there were 22 and 70 gaps respectively in voucher numbers under Major Head 2202 during March 2007. These voucher numbers were missing in the data captured from the treasury accounts received in the Office of the Senior Deputy Accountant General (A&E) as well. Similar gaps were also noticed under other Major Heads in other test-checked treasuries.

The DTO Shimla stated that the gaps in voucher numbers were due to wrong entry of token numbers, and that transaction date and that the system does not retain the previous number and auto generates the next number.

As no trail for these missing voucher numbers is available, no further analysis was possible in audit.

3.7.14 Analytical Review of Data

Analysis of master data and transaction data for all treasuries for the period 2006-07 revealed the following inconsistencies:

3.7.14.1 Master data

(a) In all the test-checked treasuries, the DDO master table of OLTIS contains list of all the DDOs in the State instead of DDOs of that particular district only. Audit scrutiny revealed that in the DDO list of Shimla treasury Superintendent, Open Air Jail, Bilaspur, Superintendent, Sub Jail, Kullu, President, MC, Dalhousie, E.O. Panchayat Samiti, Nadaun are listed besides several others. Similar overlapping was found in the DDO list of other test checked District Treasury and its Sub-Treasuries. Thus, there was no clarity on the definition of master data and this substantially limited the usefulness of data for MIS purposes.

(b) In respect of e_pension, the system accepts erroneous values⁵ in master data. Some of the important fields like PPO No., Bank Account No., live certificate, commuted value of pension, last pay drawn, average emoluments etc., contains blank values in the designated fields. There were duplicate and dummy data in the master tables which lead to overpayment/incorrect payment of pension as commented in paragraph 3.7.15.

3.7.15 Other points of interest

3.7.15.1 Difference in booking of Treasury Deductions in OLTIS database

The total amount of deductions made on account of Group Insurance Scheme (GIS) through bills and received through challans are recorded in 'bt_entry' table whereas the cadre wise details viz. number of employees and recovery on account of Insurance and Saving Fund are kept in 'gisdiy' table. Thus, the amount in the two tables of the database should be equal over a period of time.

Scrutiny of OLTIS data revealed that there was difference in the figures of both the tables due to which actual receipt under GIS could not be verified in audit. It was further noticed that there was no attempt at treasury level for reconciliation or analysing these differences.

⁵ For example PPO No. 13073-A though PPO No. are only in numeric value, PPO No. 000 though PPO No. can not be zero.

3.7.15.2 Overpayment of pension – Rs 2.43 lakh

(i) The e_pension system accepts erroneous values in transaction data viz duplicate PPO numbers, alphanumeric values instead of numeric values for PPO numbers, etc. Audit scrutiny revealed that:

✎ Family Pension PPO Number 8904 was issued and paid in favour of one person but payment of family pension against PPO 8904-A was also made to Shri Abhinav Singh during the period from 1st July 2006 to 31st July 2007 resulting in over payment of Rs 36,119 (Dharamsala Treasury).

✎ Family Pension (PPO Number 13073) was issued and paid in favour of one person. Simultaneously, payment of family pension against PPO Number 13073-C and 13073-D was also made to two other persons resulting in overpayment of Rs 56,718 (Dharamsala Treasury).

✎ Superannuation PPO Numbers 76729 and 77807 were issued in favour of two retired employees. In addition to these PPOs, pension against PPO Number 73729 and 78707 was also drawn/paid to these pensioners during the period January 2007 to August 2007 which resulted in overpayment of Rs 44,346 (Rs 33,617+ Rs 10,729) at Solan Treasury.

It was further noticed that though the system provides for the verification of data in the master table by the next higher official, it had not been done in all the test checked treasuries.

The District Treasury Officers, Dharamsala and Solan stated that the payment has been made inadvertently and the pension has now been stopped from August 2007 and that the excess amount paid would be recovered from the concerned pensioner.

(ii) As per Pension Rules and orders issued by the Himachal Pradesh Government from time to time, if a pensioner who has retired after 1st January 1996 and before the implementation of the revised pay scale on the recommendation of the 5th Pay Commission and does not opt for commutation of pension in the revised pay scale, the commuted portion of pension already received in the pre-revised scale would be restored after 138 months or attaining the age of 70 years, whichever is later. For the pensioners who opt for revision of commutation of pension as per revised pay scale, the commuted portion would be restored after 15 years from the date of receipt of commutation value of pension including pension already commuted in the pre-revised scale. The e_pension software provides field for recording the date of

receipt of commuted value of pension on the basis of which, the system should calculate the actual date of restoration of commuted portion. It was noticed in three⁶ test-checked treasuries that the restoration date of commuted portion of pension had not been entered correctly, which resulted in difference of 2 to 22 months as compared to the actual date of restoration date as entered in the database. This has resulted in overpayment of Rs 1.06 lakh⁷ as of July 2007.

The DTOs stated that the position would be ascertained and recovery if any, would be made from the pensioners. Thus, the purpose of ensuring correct payments to pensioners through computerisation was not being achieved in all cases.

3.7.16 Post implementation review

It was noticed in audit that no post implementation review was conducted on the working of the OLTIS and the e_pension software to evaluate whether the system meets requirements and is fulfilling intended objectives.

3.7.17 Conclusion

The Department took up computerisation of the Treasury accounts and disbursement of pension but the systems were deficient in inbuilt application controls resulting in non exercise of control over expenditure resulting in overpayments. The data generated by the application has limitations to be useful for MIS purposes. The lack of audit trails makes it extremely difficult to ensure accountability and responsibility for actions performed using the software.

3.7.18 Recommendations

- ❏ **The software/applications need to be improved by incorporating necessary input/processing controls which will facilitate validation of data input into the system and revalidation of bills so that only authorised DDOs can operate the respective heads of accounts for payment of bills. The software also needs to be compliant with all the relevant rules governing the treasury transactions.**

⁶ Bilaspur, Dharamsala and Reckong Peo.

⁷ Bilaspur: 15 cases (Rs 0.23 lakh), Dharamsala: 68 cases (Rs 0.74 lakh) and Reckong Peo: 5 cases (Rs 0.09 lakh).

- ↘ **The Department may also formulate a system for checking correctness of data being received from its treasuries in the field so that it may be utilised for management information system and decision-making.**

- ↘ **The Department should formulate a well defined password policy, data back-up policy and a disaster recovery plan.**