

Chapter: VIII

Oil India Limited

Material Management System

Highlights

Absence of input controls resulted in incomplete data base, discrepancies in vendor details and delay in data entry.

(Para 8.6.1)

Absence of validation controls resulted in discrepancies in data flow with respect to dates of transactions, excess issue of materials against reservation and purchases through blocked vendor.

(Para 8.6.2)

Incomplete porting of data from legacy system resulted in under statement of accounts by Rs.8.36 crore due to lesser provision for slow moving items.

(Para 8.6.3)

Material requirement planning remains subjective as it is done manually even after implementation of ERP system.

(Para 8.6.6.1)

Inadequate segregation of duties amongst users dealing with various core functions and deficiencies in monitoring the validity of users compromised the security of the system.

(Para 8.6.7.1)

8.1 Introduction

Oil India Limited (the Company) is engaged in the business of exploration, development and production of crude oil, Natural Gas and Liquefied Petroleum Gas. Most of the production is from the oil and gas fields in the North-Eastern part of India. It has operations in Orissa, Rajasthan and Uttaranchal (Ganga Valley Project-GVP) as well. The Company operates pipeline for transportation of crude oil of the Company and Oil & Natural Gas Corporation (ONGC) from the production point to refineries.

The Company started (April 2005) implementation of SAP R/3^{*} ERP system for improving the efficiency and effectiveness of all business processes, introduction of a system of cost management at par with the best in the world and continuous improvement in productivity to gain entry into the league of the best achievers of the world. In the first phase, all core SAP R/3 modules[^] were implemented at field head quarters, Duliajan pipeline head quarters, Guwahati; Liaison office, Kolkata; Corporate office, New Delhi

^{*} Even called as SAP ERP.

[^] Financial accounting (FI), Asset Management (AM), Cash management (TR), Controlling (CO), Investment Management (IM), Material Management (MM), Production planning (PP), Project Systems (PS), Sales & Distribution (SD), Plant Maintenance (PM), Quality Management (QM), Human capital management (HR) and my Oil and Gas (Joint venture accounting, production sharing accounting, production revenue accounting)

and Ganga Valley Project (GVP). The Go Live* date was 01 December 2005. Second phase starting from February 2006 covered Rajasthan project and Bay Exploration project, Orissa. Go Live for this phase was 01 April 2006. The advanced modules* were implemented during April 2006 to July 2006.

SAP R/3* runs in a three tier, client server architecture. Core R/3 modules, Business Warehouse (BW), Strategic Enterprise Management (SEM) and Corporate Finance Management (CFM) modules are running in UNIX operating system and Supplier Relationship Management (SRM) and Enterprise portal (EP) modules are running in Windows operating system. Database is maintained in Oracle.

LAN and WAN were used for connecting R/3 environment. All departments in Duliajan are connected through the high-speed fiber optic cable to central server farm at IT Department, Duliajan. Remote field installations* like oil collecting stations (OCSs) are connected to the LAN at Duliajan through the radio network with VSAT as a backup in case of radio failure.

Each location has its own LAN which is connected to the central servers at Duliajan through VSAT and MPLS*. Other project offices and corporate office at New Delhi are also connected to the SAP R/3 servers at Duliajan through MPLS network service with VSAT as back up.

8.2 Objectives of Audit

The objective of the audit was to review Material Management in the ERP system and obtain assurance that input, processing and output controls are in place to ensure reliability and integrity of data.

8.3 Scope of Audit

Audit covered stores and spares handled and managed through ERP system. Data analysis was carried out at Duliajan based on sample data pertaining to transactions in the ERP system, till June 2007.

8.4 Audit criteria

The IT review of Material Management in ERP environment was conducted keeping in view the following criteria:

- (i) Accounting policy of valuation of inventory adopted by the Company.
- (ii) Business rules*, manuals and procedures of the Company.

* *The date of the system being operational.*

* *Business Warehouse(BW), Strategic Enterprise Management (SEM), Corporate Finance Management (CFM), Supplier Relationship Management (SRM) and Enterprise portal (EP)*

* *version 4.7 extension set 2.00 installed on HP Unix 11.238*

* *Remote field locations like pump stations and some installations in Rajasthan, VSAT is the only and primary mode of connectivity.*

* *Very Small Aperture Terminal (VSAT) - connectivity services are provided by M/s Bharati Televentures and Multi Protocol Label Switching (MPLS) services with nodes at Duliajan, Guwahati, Noida, New Delhi, Jodhpur, Bhubaneswar and Kolkata are provided by BSNL.*

* *Business rules include business blue print, which was prepared by the management at the time of implementation of the ERP system to configure all the business processes in the system.*

8.5 Audit methodology

The review was conducted by adopting the following methods:

- (i) Study and scrutiny of records/ documents.
- (ii) Discussion with the Management and core team members relating to ERP implementation.
- (iii) Data extraction using standard SAP reports and in-house reports, data browser and analysis thereof, using CAAT followed by verification, wherever necessary.

8.6 Audit findings

The computerisation of Material Management system was started in 1993 and online issue and receipt of stock materials was started from 1998. The legacy system utilised Unix operating system and the database was on Oracle platform. The Material Management module of the current ERP System includes material planning, indenting, procurement and inventory management.

Deficiencies like absence of input controls and validation checks, inadequate capture of data, incorrect and inadequate business mapping, under utilisation of the system etc. were noticed during audit as described below:

8.6.1 Input controls

Input controls ensure that the data received for processing are genuine, complete, accurate, properly authorised and are entered in time without duplication to maintain the correct and complete data base. Input controls were found wanting in the following cases:

8.6.1.1 Absence of primary details of material

As per the business blue print developed by the Company for implementation of the system, material description and detailed specifications, manufacturer part number and manufacturer name for a material were to be maintained in the material master and necessary standardisation and cleaning up of material description was to be completed before uploading data from the legacy system to the material master. Review in audit revealed the following:

- (i) Standardisation of description was not done;
- (ii) Description in respect of 45 materials valuing Rs.1.72 lakh was incorrect;
- (iii) Manufacturers' names were not incorporated in the material master;
- (iv) Out of 38095 stock materials, part number was not mentioned in respect of 18358 materials;
- (v) Detailed specification did not exist in respect of 10745 materials valuing Rs.8.42 crore; and
- (vi) Duplicate material descriptions were noticed in the material master and in respect of 224 materials valuing Rs.14.90 lakh, 1069 material codes existed.

Thus, absence of detailed specification in the material master and failure to update the same compelled manual intervention for inserting detailed specification of material at the time of processing a purchase order with attendant risk for unauthorised manipulation or inconsistent change of material to other than the indented material.

8.6.1.2 Existence of incorrect material group

As per business blue print, materials are to be grouped depending on type of materials like casing and attachments, bearings, valves and line pipe, which form independent groups. On analysis of material group 'Line pipe' (group-029), it was seen that out of 75 material codes, 10 material codes (Rs.16.81 lakh) were for gasket, casing, bolt and coupling which did not pertain to the 'Line pipe' group.

The Management while accepting the discrepancy stated (September 2007) that action is being taken to update and clean the data.

8.6.1.3 Discrepancies in vendor master

As per the business blue print, maintenance of classification data, grouping of vendors under the categories 'Public Sector undertaking' (PSU) and Small Scale Industry (SSI), observance of naming convention and cleaning of legacy data for multiple vendor codes before uploading were to be done. Review in audit revealed the following discrepancies:

- (i) Classification data like annual turnover, manufacturer, distributor, retailer and trader were not maintained.
- (ii) Incorrect grouping under SSI and PSU.
- (iii) Naming convention was not consistent.
- (iv) Duplicate/multiple vendor code continued to exist in the system.

Thus, clear status of vendor at different stages of processing the procurement was not available. It was seen that these limitations of the legacy system continued in the ERP system.

The Management accepted (September 2007) the audit observation and stated that it was collecting the classification information and would continue to upload the same as and when available. The Management also indicated that anomalies in grouping of vendor data had been corrected and action was being taken to rectify the discrepancies in naming convention and duplicate vendors.

8.6.1.4 Wide variation in values of same materials at two storage locations

Analysis of material data uploaded into ERP revealed that unit rate for same material available at two storage locations under Duliajan varied widely from one storage location to another. Out of 715 material codes valuing Rs.37.60 crore uploaded at two storage locations, variations* in unit rate in 670 cases were noticed at two storage locations.

The Management assured (October 2007) that the differences would be analysed for necessary corrections by March 2008.

* Rs.26.15 and Rs.11,654.60 for material code 07148601, Rs.2.50 and Rs.5,144.81 for material code 07140741.etc.

8.6.1.5 Carrying of material at low value

It was observed that materials, which were written off during earlier years[♦], were uploaded in the system at their residual value of five *per cent*. The value of such materials was Rs.2.08 crore and Rs.1.49 crore as on 31 March 2006 and 31 March 2007, respectively. On a review (June 2007) of data in the system, it was noted that materials valuing Rs.28.84 lakh were issued to capital jobs up to 31 March 2007 at residual value instead of at full material value. Thus, capital jobs were under charged to the extent of Rs.5.48 crore. Further, these materials were also issued on loan to other companies (Rs.8.11 lakh) and contractors (Rs.34.54 lakh). Therefore, in case any recovery was to be made from outside parties there was a risk of under recovery as compared with the actual value of materials.

The Management stated (October 2007) that the value of the materials which were at five *per cent* had since been reinstated at 100 *per cent*.

8.6.1.6 Existence of capital and stock code for the same material[♥]

Audit found that purchase of stock material like line pipe, cable, cement, coupling, elbow, gasket and valve were made as 'non-stock material' and 'capital material'. As per the accounting procedure, unconsumed stock and non stock material of the project is returned to store. In case of capital materials which were fully charged to the capital job, such portion of the material that remained unconsumed could not be taken back into the store records.

In respect of 'Line Pipe' group of material, 65 stock material codes and 17 non-stock material codes of different specifications as well as two capital material codes were existing in the material master. Line pipes worth Rs.35.08 crore, Rs.0.36 crore and Rs.117.27 crore were purchased as stock item, non-stock item and capital item, respectively from time to time during December 2005 to June 2007. On a test check it was seen that among these purchases, line pipes with exactly the same specifications in stock material code master were purchased under capital code also. As such, for any unconsumed quantity of line pipe purchased, the extent of quantity remaining unconsumed could not be ascertained as neither any procedure for return of unconsumed materials existed nor physical verification of such items was carried out by the Management. Thus, continuance of capital, non-stock and stock materials codes for the same material and concurrent purchases thereof against these codes was neither justified nor a good practice for maintaining inventory control in the system.

The Management stated (September 2007) that the business process for capital and stock material was presently under review and assured that the concerned items in the system would be blocked.

[♦] *As per the Accounting policy of the Company followed till financial year 2004-05, value of stores and spares not moved for more than four years were written off to the extent of 95 per cent and the inventory was valued at 5 per cent value in company's books of accounts. However, from the financial year 2005-06, the policy was changed and provision for non-moving stock to the extent of 95 per cent of book value is being now made in the accounts in respect of stores and spares not moved for more than four years.*

[♥] *The Company classifies its materials under three categories viz. stock, non-stock and capital materials. Stock materials are stores and spares which are required regularly. Non-stock materials are purchased as and when required. The capital items are procured against capital jobs.*

8.6.1.7 Inward report*

As the standard SAP system did not provide facility to capture the actual date of receipt of material, customised tables and reports were developed by the Management for tracking incoming materials. On analysis of data, the following discrepancies were noticed:

- (i) Inward numbers were missing in 127 cases.
- (ii) PO numbers were not entered in respect of 59 inward entries.
- (iii) Wrong purchase order number was entered in one case in respect of the goods which were received.

On this being pointed out in audit the Management stated (October 2007) that necessary correction have been made.

8.6.1.8 Delay in posting of goods issue and receipts

It was noticed in audit that:

- (i) there was delay in posting of 2697 goods issue documents valuing Rs.12.28 crore towards cost centers and capital jobs by periods exceeding 30 days;
- (ii) due to delay in posting of the material documents referred to above, material consumption amounting to Rs.80.22 lakh (Rs.78.02 lakh in 2005-06 and Rs.2.20 lakh in 2006-07) was accounted for in the following financial years;
- (iii) posting of 8410 goods receipt documents valuing Rs.119.75 crore was delayed for periods more than 30 days. As a result, goods receipt documents amounting Rs.42.89 crore of 2005-06 and Rs.41.21 lakh of 2006-07 were accounted for in the following financial years; and
- (iv) data pertaining to the period Jan 2006 to June 2007 revealed that in 2020 cases (Rs.15.73 crore), there were delays ranging from 30 to 496 days in final posting after the materials were provisionally accepted.

The Management stated (September 2007) that with the passage of time the system will be on real time.

8.6.2 Validation checks

Validation checks ensure that the data conforms to the business rules and thus ensure the correctness and completeness of data. Following cases showed weaknesses in validation checks.

8.6.2.1 Change date of purchase requisition earlier than its creation date and anomaly in change history

- (i) Purchase requisition date and any subsequent change date in the requisition are system created dates. Analysis of purchase requisitions revealed that in three cases, date of change of purchase requisitions were earlier than its creation date.

* ZMM_INWARDHDR and ZMM_INWARDDTL table developed for capturing details of actual date of delivery along with other details of receipt of materials.

- (ii) Purchase order number is generated automatically in the system. In one case, the system did not show any purchase order number but purchase order date was indicated.
- (iii) There was anomaly in last change date* of purchase requisition as in one case, two different dates were shown in two places† in the system. In this case, the requisition was flagged as closed but in the change history‡ no detail of its closing was indicated. As a result of the anomaly in change history, complete and correct picture on processing of document from creation to latest status was not available in the system.

The Management stated (October 2007) that the version management had been implemented in consultation with M/S SAP to remove anomalies in future transactions.

8.6.2.2 Expected/scheduled delivery date in the purchase requisition and purchase order earlier than requisition/order date

Expected delivery date is the date by which the requisitioner requires the material to reach his godown and scheduled delivery date is the date by which the supplier is to deliver the ordered materials. A review of PRs revealed that out of 65531 cases, in 6412 cases expected delivery date was earlier than purchase requisition date. Similarly, in 29446 cases scheduled delivery date in the purchase order was prior to the date of purchase order; and in 187 cases, purchase order date was found to be even earlier than the purchase requisition date. Therefore, in absence of validation checks incorrect data existed in the system. As a result proper monitoring of ordered material was not possible.

The Management stated (October 2007) that necessary validation had been built up in the system.

8.6.2.3 Creation of purchase order without reference to RFQ♥

As per business process, purchase orders are created with reference to approved quotation and as a result, details of quotation are defaulted in the purchase order. Test check in audit revealed that in 1007 cases (Rs180.71 crore) purchase orders were not created with reference to quotations (RFQ). Thus, due to lack of validation control, POs could be processed in the system without RFQs. Besides, in the absence of linking with RFQ, internal control system remained deficient in ensuring that purchase orders are issued on the basis of approved tenders.

The Management stated (September 2007) that the necessary configuration has since been made in the system.

* Last change date is date when purchase requisition is approved

† Change history i.e audit trail of purchase requisition and EBAN table where all the details of purchase requisition was stored.

♥ Request for quotation

* Requisition (termed as reservation in the system) for withdrawal of goods from warehouse is a process by which the user makes a request to the warehouse to keep the material ready for withdrawal at later date.

8.6.2.4 Excess withdrawal of material against reservation*

As per business process, reservation is the controlling point for issue of material and material cannot be issued in excess of this quantity. It was observed in audit (June 2007) that 28 materials valuing Rs.5.43 lakh were issued in excess of the reservation quantity which resulted in unauthorised withdrawal of material indicating absence of validation for issue of material with respect to the reservation quantity.

The Management stated (September 2007) that necessary configuration had been made in the system.

8.6.2.5 Placement of PO on blocked vendor

The system does not have any validation control to check that purchase orders are not placed on a blocked vendor. It was noticed that nine POs valuing Rs.0.48 lakh were placed on one blocked vendor.

The Management stated (October 2007) that necessary validation has been built in the system.

8.6.2.6 Commodity master

In the form of a customised development, the Company maintained a list of commodities for limited tender purposes indicating the material code with description and the name of vendors empanelled for procurement of such materials. The limit for issue of order against each vendor was also included in this list. Review revealed that for some vendors, the purchase order/ work order was to be issued up to a certain monetary limit but the same had not been adhered to. In respect of two vendors, the maximum monetary limit for issue of order for commodities was Rs.2.50 lakh but eight orders ranging from Rs.3.45 lakh to Rs.56.63 lakh were issued during November 2005 to April 2007 in favour of the vendors due to absence of appropriate validation check.

The Management stated (November 2007) that in view of business needs, monetary limit had been prescribed in certain cases. However, it was assured that the need for introducing necessary validation checks in the system would be considered.

8.6.2.7 Spot purchase

As per business blueprint, for meeting emergency requirement of low value items*, purchase on spot basis is made. As per the delegation of power (DOP) of the Company, for any spot order exceeding Rs.10,000 per item and less than Rs.25,000 per item, the approval of functional director is required. In excess of Rs.25,000 per item but up to Rs.50,000, CMD is the competent authority to sanction the spot purchase order. No such value limit has been configured in the system.

Review of the POs in the system revealed that in 114 spot orders (Rs.13.54 lakh), value limit of Rs.10,000 for individual items was exceeded. In 29 cases, spot orders valuing Rs.6.40 lakh were issued for amount exceeding Rs.20,000. It was further revealed in audit that during 2006-07, 204 cases spot orders (Rs.18.61 lakh) were issued to the same vendor on the same date either for similar items or different items. In the absence of mapping of the DOP in the system, compliance could not be ensured by the system.

* Single value less than Rs.10,000 and total order value up to Rs.20,000

The Management stated (September 2007) that the system was not configured for this control due to different DOP. However, the Management assured to refer this issue to business process committee for suitable process change. Therefore, in absence of any mapping in the system of release strategy in line with the DOP, the internal control was deficient.

8.6.2.8 Release of PO beyond authorisation

Persons authorised to approve purchase order as per DOP were required to approve the purchase order in the system. Test check in audit revealed that 14 indigenous purchase orders valuing Rs.6.68 crore relating to the period between November 2005 to April 2007 were released exceeding DOP authorisation as the system was not linked with the FOB destination value that included the inland freight, insurance, octroi/entry taxes, etc. Thus, the system was not configured properly to follow the approval procedure as per the DOP.

The Management assured (October 2007) to make necessary correction by January 2008.

8.6.3 Failure to capture complete data

8.6.3.1 Slow moving stores and spares

No provision is made in the ERP system for analysis of slow moving* item of stores and spares by importing from the legacy system the necessary information like last issue dates and last receipt dates of materials. The Company has also not developed customised report for analysis of slow moving material. However, based on the analysis of data carried out in legacy and ERP system, the Management ascertained the slow moving material and made a provision of Rs.9.68 crore in the accounts as on 31 March 2007. Review in Audit revealed that:

- (i) Stores and spares valuing Rs.8.42 crore were not considered as slow moving due to error in the legacy system data maintained by the accounts department of the Company.
- (ii) Ten materials valuing Rs.47.78 lakh were not considered as slow moving erroneously by taking their uploading† date as the movement date.
- (iii) One material valuing Rs.9.99 lakh was taken as slow moving as no moving date was indicated in the system. A detailed analysis of transactions revealed the same was not a slow moving item.

As a result, provision for slow moving materials was understated by Rs.8.36 crore‡ in the annual accounts for the year 2006-07.

Thus in absence of a provision for analysis of slow moving materials within the system, led to inadequate provision for slow moving items in its books of accounts.

The Management stated (October 2007) that development of a specialised table for this purpose had been initiated and would be complete by December 2007.

* As per the accounting policy followed by the Company, any item of stores and spares not moved for last four years as on date of Balance Sheet are identified as slow moving items. Against these slow moving items, a provision of 95 per cent of value is made in the accounts towards likely diminution in value.

† Uploading date is the date when the legacy data was uploaded in to the ERP system.

‡ 95 per cent of Rs.8.80 crore (Rs.47.78 lakh +Rs.8.4 crore- Rs.9.99 lakh)

8.6.3.2 Non stock items

According to the Management, stock items based on the physical verification were uploaded into the system and non-stock items were not uploaded into the system. Review in audit revealed that the Company held non stock materials amounting to Rs.17.29 crore and Rs.32.65 crore as on March 2006 and March 2007, respectively. Evidently, at any point of time some non-stock materials would remain unconsumed and should be suitably reflected in the data base.

The Management stated (September 2007) that due to non-availability of data from legacy and departments, this information was not uploaded in the system initially; however, currently all the non-stock materials are recorded in the departmental storage locations.

The Management's reply is not tenable since non stock materials held at various locations, as on 1 December 2005, were not recorded into the system and only subsequent stocks were recorded. Therefore, in absence of any physical verification of non stock items thereafter, the actual quantity of non stock items held by the Company remained unascertained. However, during discussion the Management (November 2007) assured that physical verification of non stock items would be conducted.

8.6.4 Incorrect/inadequate business mapping

The Company prepared 'Business Blueprint' detailing the business process for designing the system. It was observed in Audit that mapping of business process was incorrect and inadequate in some cases as detailed below:

8.6.4.1 Insurance spares

In the Material Master, 209 materials valuing Rs.8.66 crore were flagged as insurance spares as on 31 March 2007. It was noticed in Audit that these materials were considered as a part of inventory instead of being capitalised as required by Accounting Standards issued by Institute of Chartered Accountants of India. Thus the system was not mapped to take care of the above mentioned provisions of the Accounting Standards.

The Management (September 2007) stated that due to time constraints at the time of implementation of ERP system, all the details required for recording the movement of materials required for repairs were not properly mapped. The Management further stated that the process had been initiated so that spares required for emergency repair were not marked as insurance spares as per the terms of Accounting Standard.

8.6.4.2 Old reservations remaining open without any withdrawal or partial withdrawal

In terms of business blue print, automatic closure of the reservations in the system was required if the material was not withdrawn within 15 days. It was noticed in Audit (June 2007) that in respect of 2036 reservations, goods were either not issued or partially issued. However, reservations were not closed for the period ranging from 3 to 15 months. Thus, the system was not configured for automatic flagging for deletion of reservations even for long pending reservations. Delayed or non closure of old unwanted reservations leaves scope for possible irregular practice.

The Management stated (October 2007) that they were in the process of closing the old reservations in the system.

8.6.5 Out put control

8.6.5.1 Business warehouse module

Business Warehouse (BW) module* contains reports which are generated based on SAP R/3 database on all aspects of the business of the Company. Review of reports relating to material management analytics revealed the following discrepancies:

- (i) Procurement lead time analysis for the year 2006-07 in the BW module considered 1473 purchase orders. However, a total 3540 purchase orders were issued during this period.
- (ii) As per the stock values for stock and non-stock items shown in BW report the stock, as on 31 March 2007, stood at Rs.294.86 crore whereas in ERP database it was Rs.296.05 crore.

The erroneous generation of reports revealed lack of adequate out put control in BW module. The Management assured (September 2007) to correct deficiencies wherever required.

8.6.6 Non utilisation of the system

Review revealed that the system was not utilised for effective monitoring and managerial control in the following cases:

8.6.6.1 Material requirement planning

The maximum, minimum and reorder levels were not fixed in the system. Even after implementation of the ERP system, material requirement planning was being carried out manually as it was done in the legacy system. In absence of any stipulated minimum/maximum/reorder levels of inventory holding, the planning for materials remained highly subjective.

The stock of stores and spares of the Company for the three years ending 31 March 2007 stood at Rs.224.84 crore, Rs.355.23 crore and Rs.372.44 crore; there against, provision for slow moving/non moving and other stores were made by the Company to the extent of Rs.3.65 crore and Rs.9.68 crore as on 31 March 2006 and 31 March 2007, respectively.

Analysis of inventory holding (each material valuing more than Rs one lakh) revealed that 1189 materials valuing Rs.51.40 crore were not issued for consumption after implementation of the system (December 2005 to 31 March 2007).

On a test check, it was seen that in respect of 28 POs, materials worth Rs.93.11 lakh were procured during December 2005 to September 2006 though these materials valuing Rs.73.74 lakh were lying in the store for a period ranging from 7 to 128 months on the date of procurement. These materials remained unconsumed till May 2007. Thus, inventory holding was in excess of requirements.

The Management noted (September 2007) the audit observations and stated that the material planning was carried out on the basis of last three years' consumption for regular materials and on basis of users' requirement for other materials.

* It collects data from the basic ERP module data sources on regular basis and is mainly used for various type of report generation and data storage in specially structured manner.

8.6.6.2 Long pending purchase requisitions (Indent) and purchase orders without any action

- (i) It was noticed in Audit that 2456 purchase requisitions valuing Rs.53.63 crore were kept pending without any action for more than six months (June 2007). Of these, even though 38 PRs (48 materials valuing Rs.0.39 crore) were lying in the system without any procurement action, fresh PRs for these materials were created again by the same plant and procurement action was initiated.
- (ii) On analysis of 51259 POs, it was seen that in 3249 cases (Rs.76.79 crore), delivery was pending for more than nine months (June 2007) and in 990 cases (Rs.18.80 crore), partial delivery was made.

Absence of periodical review and flagging for deletion of the PRs and purchase orders having no subsequent action, may lead to incorrect assessment of purchase requirements as pending PRs and POs are also taken into account for the purpose of future planning of purchase requirement.

The Management stated (October 2007) that action to close the requisitions on which no procurement action was required, would be completed by December 2007. It was also stated that old pending POs were being reviewed so that undeliverable orders could be cancelled.

8.6.6.3 Long pending stock transfer order

Stock Transfer Order (STO) is created for internal transfer of material from one location to another location. It was seen that as on 17 June 2007, 107 STOs were not cleared for over three months and out of which, 64 STOs were pending for clearance for over six months. As on 31 March 2007, the Management ascertained that 151 STOs worth Rs.3.26 crore remained un-cleared. However, the Management without any reconciliation of pending STOs, created a provision worth Rs.1.65 crore in its Profit & Loss account for the year 2006-07 on account of non moving stock for 89 STOs pertaining to period over three months. It was, however, seen that out of these 89 STOs, 14 STOs worth Rs.36.02 lakh had already been cleared by March 2007.

This adversely impacted the reliability and correctness of inventory balances as physical existence of items under STO items remained unverified and unconfirmed.

The Management stated (June 2007) that it was exercising control in this regard and special efforts would be made to reconcile the long outstanding STOs.

8.6.6.4 Discrepancy report

Discrepancy Report (DR) was developed by the Management for reporting cases of receipt of poor quality material, short receipt, non-delivery or damage/breakage of material. The report indicated (9 June 2007) that out of total 870 cases, only in 50 cases DRs were either closed or cancelled and in 820 cases DRs remained open due to the reasons like wrong supply (18 cases), short supply (311 cases), transit damage and breakages (122 cases), rejections (274 cases) and others (95 cases). The report further showed that in respect of 654 cases (Rs.6 crore) DRs were outstanding for the period ranging from 3 to 19 months and in 735 cases (Rs.14.61 crore) action taken was not available in the DR report in the absence of any claim reference and date. On further verification of open DRs in respect of 22 foreign POs it was seen that payment was made before the date of discrepancy being reported.

The Management stated (June 2007) that in many cases DR report was not updated and as such latest position was not reflected in the customised report. Thus, creation of such report did not serve any purpose for reporting and monitoring particularly in foreign purchase orders where payments are generally made before receipt of the materials. The Management further stated (October 2007) that the data has been updated now.

8.6.6.5 Physical counting of stock

Physical count of inventory (stock verification) is an important control which reveals the efficiency and effectiveness of the store keeping methods, controls and procedures. Review in audit revealed the following deficiencies:

- (i) Physical counting of non-stock items (Rs.32.65 crore, as on 31 March 2007, lying at 226 storage locations) was not carried out. It was seen from the system that out of 246 storage locations having stock items (Rs.263.40 crore as on 31 March 2007), physical verification of stock items (Rs.68.85 crore) at 18 locations was carried out during 2006-07. As per records available, in Manbhum storage location, physical counting of low value stores (104 items–Rs.5.99 lakh) was carried out in March 2007 but the same was not entered into the system.
- (ii) It was seen from the system that out of 976 items for which the physical verification document was created up to 22 June 2007, counting for 797 items was pending even after lapse of 36 to 353 days. Out of these cases, ‘freezing* of inventory’ in 337 cases was also not done.

Thus, in the absence of proper utilisation of ERP system for monitoring of physical counting of stock the Management could not ascertain the efficiency and effectiveness of the store keeping methods, controls and procedures.

The Management noted (September 2007) the audit observation for improvement of inventory control management. It was also stated (October 2007) that presently around 150 materials are physically verified on weekly basis.

8.6.6.6 Suppliers relations module

The Suppliers Relations Module (SRM) module is utilised for purchase through E-procurement. The Company had envisaged processing of procurement of 10 *per cent* (indigenous purchase) to 20 *per cent* (foreign purchase) through this module. Review in Audit revealed that out of 3351 purchase orders (foreign-383 and indigenous-2968) processed for procurement purposes during the period July 2006 to May 2007, the Company had so far (June 2007) processed only 18 cases through this module and the e-auctioning continued to be on trial stage. Thus servers purchased at a cost of Rs.28.48 lakh for this module had not been fruitfully utilised so far.

The Management stated (October 2007) that all stock materials above Rs. one crore would be procured through SRM module.

8.6.7 Security

8.6.7.1 Access authorisation- Authorisation in excess of work area

- (i) It was observed that eight core team members who were authorised with full access to the system were transferred during March 2007 to June 2007 to their

* At the time of stock taking, store items are blocked for further transaction.

parent department and assigned other work but the earlier access authorisation granted to them continued in the system.

- (ii) It was seen (June 2007) that in case of purchase requisition and purchase order creation and approval, goods receipt, vendor invoice processing and payment run i.e. for the entire cycle of procurement beginning with purchase requisition to payment of procured items, there were 65 authorised users. Of these 65 users, 41 were related to core team members and other 24 users were related to day to day work of Accounts and Finance department (22), Administration department (1) and Bay Exploration project (1).

Thus, segregation of duties amongst users dealing with various core functions required review as there were several users with access levels beyond those required for performing their assigned role.

The Management stated (October 2007) that a consultant was being deployed for complete process audit including the authorisation requirements and based on their analysis, the necessary modifications would be made by May 2008. The Management also replied that internal action had also been introduced to rectify the anomalies.

8.6.7.2 Absence of monitoring of authorisations

- (i) On analysis of the user account of the employees retired between 01 January 2006 and 26 June 2007, it was seen that user account of 16 executives remained active for a period ranging from 9 to 265 days after their retirement. Of the above, 10 executives (three executives relating to material/contract department) logged on even after retirement. As the system did not keep audit trail of the changes done by a user, it was not possible to trace the transactions executed through system by the above retired executives.
- (ii) Review in audit revealed that 186 valid users, as on 27 June 2007, had not logged on for more than 180 days and 17 users had not changed their initial passwords. The user accounts of these users were not locked.
- (iii) It was observed that the system provided the facility to restrict any word/character sequences which were not allowable as passwords, but it was not utilised.

Thus, in the absence of proper monitoring, the system was highly exposed to unauthorised access.

The Management stated (September 2007) that the users monitoring was already in process and users list was continuously being updated. The Management reply is not tenable as inadequacies in management control were evident since employees could log into the system even after their retirement. The Management further stated that in order to smoothen the process, they were looking into the possibility of connecting the system with the HR module which would be completed by May 2008.

8.6.7.3 Absence of approval and incomplete change history of reservation

It was observed in audit that:

- (i) The system did not provide for any procedure as regards approval of reservation and it continued to be granted manually by the competent authority.

The Management assured (September 2007) that the process of approval based reservation with the creation of requisite workflow in the system would be implemented.

- (ii) The change history of material requisitioned was neither captured in the reservation nor in the respective maintenance order in the system.

The Management stated (December 2007) that the feature of providing changes at client reservation level would be adopted after testing and considering system load analysis.

8.6.7.4 Write off of material before uploading of stock items

Stock items based on the physical verification were uploaded into the system and items valuing Rs.7.50 crore were written off by the Company during 2005-06. However, neither physical verification report nor complete soft copy/hard copy of reconciliation ledger between book stock and physical stock with details of write off items as approved by the Board were produced to Audit.

On review of a part ledger relating to Duliajan stock it was seen that in case of shortages/excess noticed during physical verification before upload of material data, total stock value of the material was not reduced/increased to the extent of quantity found short/excess at the prevailing issue rate. Instead, for any shortages/excess, issue rate of the material was adjusted by increasing in case of excess and reducing in case of quantity found short. Test check in audit revealed that this rate was adopted for upload of materials. The Management stated (November 2007) that mistakes pointed out on value adjustments were under scrutiny and necessary correction would be carried out in the accounts during 2007-08.

8.7 Conclusion

The ERP was implemented by the Company with the objectives of improvement in the efficiency and effectiveness of its business processes, introduction of system of cost management at par with the best in the world and continuous improvement in productivity to gain entry into the league of the best achievers of the world. However, based on the operation of ERP system during almost two years period since December 2005 and to the extent and number of issues covered in audit, it was seen that in many cases the system did not have adequate data input controls and validation checks. Neither an internal control procedure was put in place to ensure accurate and timely capture of data. The deficiencies observed in the master data were indicative of the weaknesses in the method of data collection, verification of data for removal of any error before being uploaded into the system. Furthermore, the system had not been utilised optimally for material requirement planning nor were supplementing activities like the monitoring of physical counting of stock established or functioning. Thus, inadequate controls and management of the ERP undermined its effectiveness and efficiency so far (November 2007) for management of material.

8.8 Recommendations

The Management should:

- Strengthen input controls, validation controls and internal control procedures to ensure accurate and timely capture of data.
- Review and on the basis of the review and audit observations clean the master data and customise reports to rectify the errors that had crept into the system.

- Establish procedures for periodical review of master data.
- Properly utilise the system for better material management.
- Strengthen monitoring and authorisation controls of transaction and access to the system

The matter was reported to the Ministry (November 2007), its reply was awaited.