covered area of flats, providing for stilt parking and interest on land cost. Further works were awarded despite knowing in May 2015 itself that 173 out of 686 allottees had already surrendered their flats. HBH should have sought the consent of allottees before awarding the work and incurring any expenditure.

Thus, as a result of taking up construction of flats without obtaining consent of allottees for the increased cost and without ascertaining the viability of the project, particularly in a scenario where applicants were continuously withdrawing their applications, there was wasteful expenditure of ₹ 8.98 crore on the project which had to be abandoned eventually.

The Government may review the project for meaningful utilisation of structures.

The matter was referred (March 2018) to the State Government and further reminder was issued in May 2018; their reply was awaited (May 2019).

Industries and Commerce Department

3.9 Information Technology Audit of e-Procurement System

The e-procurement database introduced in the State was fraught with the risk of backend interventions due to non-segregation of duties between database administrator and system administrator. Supervisory review of access logs has not been conducted and remote log server has not been provided. The validation checks were inadequate resulting in providing insufficient time for bid submission, multiple registration of vendors, opening and withdrawal of bids after tender closure, capturing of invalid information, etc. Audit trail was not maintained for tracking the history of transactions. The DS&D had not got implemented contract and catalogue management modules and purchase orders are not being generated on-line as envisaged.

3.9.1 Introduction

The State Government introduced online tendering during the year 2008 by using e-tendering portal developed by National Informatics Centre (NIC). Subsequently, the Director, Supplies and Disposals, Haryana (D&SD) entered into an agreement with M/s Nextenders India Private Limited, the Managed Service Provider (MSP) in January 2014 for development, implementation and management of e-procurement portal with the objective of providing a unified end-to-end e-procurement solution to cover all procurement processes from preparation of indents/tenders to final payment of bills to the contractors and hosting of different types of auctions. The objectives were to achieve uniformity and efficiency throughout the procurement process, optimize procurement cycle, improve

transparency, harness economies of scale through demand aggregation and assist officials involved in procurement process through six modules[48].

This e-procurement system was introduced in May 2014 and the contract period for operation and maintenance by MSP was up to May 2019 at a price of ₹ 295.50 per bid. As of January 2018, 99 Government departments/organisations/boards and corporations were registered with this portal. Upto 31 December 2018, a total ₹ 4.46 crore had been paid to the MSP for 1,92,782 bids.

Data for e-procurement system for the period October 2014 to January 2018 was analysed with the help of Computer Assisted Audit Techniques during January to May 2018 to examine whether all modules were implemented and functional and to evaluate whether general and application controls were put in place to ensure consistency, security, reliability and integrity of data.

Disclaimer:

The guidelines (November 2010) for Strategic Control in outsourced projects, issued by Ministry of Communication and Information Technology (MoC&IT), GoI, provide that a typical lifecycle of a project runs into nine phases starting from project conceptualisation, preparation of a detailed project report and a request for proposal (RFP). Subsequent phases are inviting tenders, evaluation of bids and selection of MSP. The DS&D had not prepared any detailed project report and functional requirements. The e-procurement system already in use with other States was hired on quarterly billing basis. Audit has not examined the process of tendering and allotment of e-procurement project.

Limitation:

The data dump provided by the department did not contain the documents uploaded by the buyers as well as sellers. Information for alerts sent through SMS and e-mails was available in the database only for the period between November 2017 and January 2018.

[48] (i) Supplier Management, (ii) E-tendering, (iii) Catalogue Management, (iv) e-Auction, (v) Receipt Management and (vi) Contract Management.

Audit findings

General Deficiencies

3.9.2 Non preparation of Functional and Software Requirement Specifications

The MoC&IT, GoI guidelines (November 2010) provide that a broad project concept defining needs and requirements, key stakeholders, functional requirements (FRS), services and service levels, etc is required to be prepared. After that documentation of Software Requirement Specifications (SRS) is required which should be combination of FRS, Planned Architecture including application architecture, database architecture, database control, network architecture etc, User Access rights, Functional Modules, etc.

The State Government had engaged the MSP for implementation and management of e-procurement portal without preparing detailed FRS. Further no SRS document was obtained from the MSP. In the absence of detailed FRS and SRS, nodal department could not ensure that all the facilities/processes were incorporated in the e-procurement system.

3.9.3 Not conducting the security audit

The MOC&IT, GoI have issued (August 2011) guidelines for compliance to quality requirements of e-procurement systems. As per guidelines, the key requirements of an e-procurement system are conformation to general and financial rules, maintenance of confidentiality and integrity of information, compliance to vigilance guidelines and flexibility in adaptation and customisation. The Government department must ensure that e-procurement system which they intend to use complies with all the applicable requirements. Further, the application should be tested for Top 10 vulnerabilities defined by OWASP. For this purpose security audit of four layers of system i.e. data, application, infrastructure and process was required to be conducted from third party. There was also a provision in the RFP that the MSP would ensure consistency of the e-procurement system with applicable guidelines of Director, STQC[49], MOC&IT.

Security audit of the e-procurement system was never got conducted by the department. In the wake of an incident of data washout, the DS&D had requested (December 2017) to Director, STQC, MOC&IT, GoI for conducting a detailed security audit and quality testing of the system. But no such security audit was conducted so far.

[49] The Director, STQC (Standardization Testing and Quality Certification), MOC&IT, GoI.

3.9.4 Risk due to non-segregation of duties

The database administrator (DBA) was responsible for the performance, integrity and security of a database. DBA should not be given other responsibilities like system administrator, help desk and data entry. The DS&D was required to exercise controls over database administration through segregation of duties, supervisory review of access logs and activities, provisioning of remote log server and other detective control over the use of database tools.

During audit of e-procurement system, it was observed that each table of database contained field named "ID" which is a system generated number assigned to each record in the tables. Analysis of the database revealed that in the 29 tables, 91,35,291 records (IDs) were missing as detailed in **Table 3.8**.

Table 3.8: Detail of missing records

Sr. No.	Table Name	Last ID in table	Total Number of records	Number of missing records
1	ra_tender_item_commercial_template_rows	1,13,38,332	62,60,673	50,77,659
2	ra_tender_item_template_vendor_technical_bids	49,15,933	35,76,307	13,39,626
3	ra_access_levels	1,409	1,407	2
4	ra_auction_bid_extensions	13,217	13,083	134
5	ra_auction_bids	1,34,362	1,27,966	6,396
6	ra_tender_item_commercial_template_columns	9,67,039	6,03,224	3,63,815
7	ra_auction_tender_opening_committees	1,03,941	76,020	27,921
8	ra_auction_user_payment_details	7,355	7,338	17
9	ra_itemwise_emd_amounts	11,938	10,159	1,779
10	ra_tender_commercial_docs	1,71,170	1,58,447	12,723
11	ra_tender_corrigendum_docs	15,481	14,012	1,469
12	ra_tender_dnit_docs	70,905	65,827	5,078
13	ra_tender_doc_fee_amount_details	2,19,182	2,15,931	3,251
14	ra_tender_emd_amount_details	1,76,145	1,75,769	376
15	ra_tender_item_technical_template_columns	2,76,686	2,12,573	64,113
16	ra_tender_item_technical_template_rows	20,39,411	14,85,580	5,53,831
17	ra_tender_supplier_task_trackers	1,53,077	1,52,903	174
18	ra_users	50,253	49,997	256
19	ra_auction_participants	2,26,022	46,762	1,79,260
20	ra_auction_items	13,072	12,664	408
21	ra_auction_users	2,37,471	2,37,426	45
22	ra_supplier_domains	37,64,995	22,80,537	14,84,458
23	ra_tender_open_trackers	43,641	43,625	16
24	ra_tender_service_fee_amount_details	57,486	48,634	8,852
25	ra_tender_vendor_participants	1,81,654	1,81,596	58
26	ra_user_certifiacte_details	74,664	74,393	271
27	ra_user_empanelment_details	2,415	2,386	29
28	ra_user_login_tracks	24,14,832	24,14,828	4
29	ra_vendor_itemwise_emd_payment_checks	1,81,004	1,77,734	3,270
	Total	**2,78,63,092**	**1,87,27,801**	**91,35,291**

(Source: Information derived from the e-Procurement database)

Further, two different data dumps (upto the 31 July 2017 and 28 January 2018) were provided to Audit. Tables contained in these two dumps were compared with each other. Comparative analysis of these two dumps revealed that some of the records appearing in the earlier dump were deleted and were not found in the last data dump provided to audit. Details of tables and missing records are given in **Table 3.9**.

Table 3.9: Detail of missing records

Sr. No.	Table Name	Last ID of 1st Data Dump	1st data dump Number of record upto last ID	2nd data dump No of record upto last ID of 1st data dump	No of missing records
1	ra_supplier_domains	29,64,171	17,67,282	16,96,866	70,416
2	ra_tender_item_template_vendor_commercial_bids	188,11,147	1,22,32,707	1,22,15,555	17,152
3	ra_tender_item_commercial_template_rows	84,26,456	47,36,723	47,19,582	17,141
4	ra_tender_item_template_vendor_temp_bids	2,86,513	2,19,695	2,14,115	5,580
5	ra_briefcase_docs	48,723	30,656	28,302	2,354
6	ra_tender_item_template_vendor_technical_bids	39,43,515	27,72,959	27,71,163	1,796
7	ra_tender_item_commercial_template_columns	7,36,818	4,60,109	4,59,276	833
8	ra_auction_tender_opening_committees	78,421	56,081	55,710	371
9	ra_tender_item_technical_template_rows	15,55,006	11,29,972	11,29,809	163
10	ra_tender_item_template_themes	1,33,058	99,519	99,416	103
11	ra_tender_technical_docs	4,69,786	4,38,768	4,38,673	95
12	ra_tender_item_pqq_template_rows	91,897	62,298	62,225	73
13	ra_auction_messages	3,38,735	3,09,617	309,545	72
14	ra_tender_item_templates	1,24,619	1,14,731	1,14,688	43
15	ra_tender_item_technical_template_columns	2,13,224	1,60,423	1,60,390	33
16	ra_tender_commercial_docs	1,28,254	1,18,467	1,18,438	29
17	ra_tenderwise_emd_amounts	77,674	45,928	45,901	27
18	ra_tender_item_pqq_template_columns	12,826	9,157	9,134	23
19	ra_tender_item_template_vendor_pqq_bids	2,56,804	1,41,413	1,41,392	21
20	ra_tender_dnit_docs	50,962	47,098	47,086	12
21	ra_tender_items	54,961	50,751	50,747	4
22	ra_user_certificate_details	59,198	58,947	58,943	4
23	ra_tender_corrigendum_docs	12,388	11,259	11,256	3
24	ra_tender_pqq_docs	16,262	14,705	14,702	3
25	ra_tender_emd_amount_details	1,37,365	1,37,040	1,37,038	2
	Total		**2,52,26,305**	**2,51,09,952**	**1,16,353**

(Source: Information derived from the e-Procurement database)

The missing records between first dump and second dump clearly indicate that Database Administrator (DBA) had interfered with the database from the backend and integrity of the system was compromised. The risks involved due to missing records in various tables are given in ***Appendix 3.20***.

Thus, after four years of implementation, the MSP continued to function both as system administrator and database administrator. Further, the functions such as management of users, help desk and master data entry were also performed by

MSP/DBA. The logs to capture the activities of the users were also kept in the server within the control of MSP. Moreover, supervisory review and third party audit of access logs and activities of DBA was not conducted. The transactions of system were not reconciled with the user departments. Remote log server was also not set up for capturing the activities of DBA. This was fraught with the risk of backend interventions by the DBA.

Department in its reply stated that backend activities were initiated by the MSP only on the written requests received from the concerned agency(ies) and these backend activities has now been stopped. With regard to missing records, it was stated that any document change or any modification in the details generates a new record with new ID due to which variations in the table occurs. The reply itself proves that the DBA was interfering with the database from the backend and the contention that new record was generated with new ID at any document change was not correct as record once generated should not be deleted from the system which may create a gap in audit trail.

The Government may consider carrying out inquiry on the matter and lodge a first information report (FIR) with the police, if necessary.

Further, segregation of duties between system administration and database administration for ensuring integrity of the system may be considered. Regular supervisory reviews of access logs and provision of remote log server should also be ensured for maintaining the integrity of data.

System Deficiencies

The DS&D had not conducted any supervisor review of e-procurement applications. Logs to track activities of Database Administrator were not available in the data dump. The DS&D had not planned for capacity building to take over the database administration and user management even though only one year was left (upto May 2019) for taking over the entire system along with source code from the vendor.

The aim of the e-procurement system was to minimise human intervention in order to have a transparent, accountable and efficient system in place. Following system deficiencies show that the system is not tamper proof hence the basic intentions are not served: -

3.9.5 Inadequate validation checks

It was one of the responsibilities of the nodal department to ensure that adequate validation checks must be incorporated in the application to adhere to various norms/rules/ laws applicable to various State Government entities in respect of various tenders and auctions. Due to inadequate validation checks following irregularities occurred.

3.9.5.1 Insufficient time for bid submission

Provisions laid down in the DS&D Manual of Office Procedure for Supplies and Disposals of Stores provide that for procurement of stores, a period of at least one month should be given to the intended bidders for submission of bids. The minimum time prescribed was one and two weeks for civil works departments for works with estimated cost less than ₹ five lakh and for more than ₹ five lakh respectively.

Analysis of data pertaining to 35,179 tenders opened for evaluation revealed that in 10,922 (31*per cent*) tenders, sufficient time for bid submission was not given to the bidders, violating the applicable norms as detailed in **Table 3.10**

Table 3.10: Detail of tenders where sufficient time was not given

Number of days given for bid submission	Total number of tenders	Number of Tenders with estimated cost			
		upto ₹ five lakh	above ₹ five lakh and below ₹ 25 lakh	above ₹ 25 lakh and below ₹ one crore	above ₹ one crore
Less than one	29	14	8	5	2
Two to three	514	400	74	23	17
Four to seven	3,063	1,594	979	355	135
Eight to 15	6,194	879	3,416	1,318	581
15 to 29	1,122	485	265	169	203
Sufficient time	24,257	10,473	7,767	3,529	2,488
Total	**35,179**	**13,845**	**12,509**	**5,399**	**3,426**

(Source: Information derived from the e-Procurement database)

The department/organisation-wise detail of tenders, where time given for submission of bids was insufficient, is given in **Table 3.11**.

Table 3.11: Department wise detail of tenders where sufficient time was not given

Name of Government Department/ Organisation	Total tenders uploaded	Number of tenders with insufficient time	Percentage of tenders with insufficient time
Haryana State Agriculture and Marketing Board	4,494	2,181	49
Panchayati Raj Institutions	5,376	1,581	29
PWD (B&R) Department	6,095	1,436	24
Haryana Sugarfed	1,812	1,383	76
Public Health and Engineering Department	6,572	1,004	15
Municipal Corporations/ Committees	4,612	1,133	25
Industrial Training Department	209	194	93
HAFED	207	185	89
Other 58 organisations	5,802	1,825	31
Total	**35,179**	**10,922**	**31**

(Source: Information derived from the e-Procurement database)

In case of auctions, the details of auction were made available to public for preview before the date of auction. There were 6,959 auction events created up to January 2018. Different time periods ranging between one and 52 days were provided between uploading of auction details on the portal and holding of auction. Detail of time given by three organisations in 6,792 auction events is given in **Table 3.12**.

Table 3.12: Detail of time allowed by three organisations for bidding

Name of organisation	Total auction events uploaded	Number of days given				
		One	Two to three	Four to seven	Eight to fifteen	More than fifteen
Haryana Shahri Vikas Pradhikaran (HSVP)	6,506	18	58	439	2,198	3,795
Haryana State Industrial & Infrastructure Development Corporation (HSIIDC)	153	4	53	41	14	41
The Haryana State Federation of Consumers Cooperative Wholesale Stores Ltd.(CONFED)	133			0	25	108
Other organisations	167	5	3	15	50	94
Total	**6,959**	**27**	**114**	**495**	**2,287**	**4,038**

(Source: Information derived from the e-Procurement database)

In the absence of any in-built checks for ensuring compliance with stipulated timelines, departments conducted business by violating applicable norms/ rules.

3.9.5.2 Multiple registrations of vendors

Supplier Management module was designed to capture the particulars of vendors such as, name of the company/firm/individual, address, nature of business, financial information, user_name, password, PAN, e-mail_id, etc. at the time of registration of vendors prior to their participation in the tender and auction process. On successful completion of registration process, each vendor was allotted a unique user identity number in the back-end database. The DS&D in its Functional Requirement Specification had stipulated incorporation of adequate validation controls to prevent the same legal entity from registering more than once. Provision was also included in the RFP for uploading digitally signed documents for establishing the identity and past experience of the supplier at the time of registration.

Analysis of the users' data revealed that out of 47,506 vendors registered on portal, 5359 Vendors[50] had registered on the portal more than once with same PAN. It was found that as many as 149 vendors were registered against one PAN. **Absence of controls to restrict multiple registration of same entity and uploading of necessary documents resulted in registration of same entity more than once. The authenticity of multiple users' participation itself is questionable in the tendering process.**

Further analysis revealed that 919 vendors having multiple user IDs against the same PAN had participated in the tendering process and submitted their bids successfully in 2048 cases through different user IDs. In 200 cases, these vendors had submitted their bids for the same tender with different user IDs.

Nodal department while agreeing to audit observation admitted (February 2019) that there was no check for ensuring uniqueness of PAN in the system and assured that the functionality would be incorporated in near future. Final action was awaited (March 2019).

3.9.5.3 Bids submitted and withdrawn for modification after closure of tenders

As per RFP, a functionality was to be incorporated in the system to restrict bid submission or bid modification after lapse of last date and time of bid submission.

During analysis of the database, it was observed that **nine events were recorded where bids were submitted after the closure of tender submission date/time and in 70 events bids were withdrawn for modification after the closure of tender submission date/time.**

3.9.5.4 Bids opened after cancellation of tenders

As per extant rules, bids submitted by suppliers should be opened on expiry of time provided for submission of bids. However, buyer/indentor can cancel/suspend an event during bid submission phase or prior to initiation of tender opening process. The system should restrict the opening of bids once the tenders are cancelled.

Analysis of the data revealed that out of total 61,558 tenders, 8,844 tenders were cancelled. Further analysis of these cancelled tenders revealed that **in 66 cases bids were opened even after cancellation of tenders. Opening of bids after cancellation of tenders may disclose the trend of quoted rates which can influence the re-tendering process.**

[50] With 12,776 unique IDs.

The DS&D replied (February 2019) cancellation date was wrongly recorded by the MSP. However, the functionality of cancellation of tenders at any stage before finalization of tenders would be given to the tendering departments at the front end in a near future. Final action was awaited (March 2019).

3.9.5.5 Tenders opened without approval of Tender Opening Committee

(a) As per work flow of the tendering process in e-procurement system, list of members authorised to open the tender shall be selected at tender preparation stage. The system should permit initiation of tender opening process like scrutiny of tender document fee/EMD payment and opening of bid envelopes only after approval of the tender opening committee.

System captures the details of tender opening approval event in the database. During the scrutiny of the data, it was observed that in 90 cases, bid envelopes were opened but the approval of tender opening committee was not available in the database. In 254 cases, tender opening process was approved by a user other than member nominated for the tender opening committee. In 67 events, though status was updated as opening "APPROVE BY ALL=Y" but information about the authority who had approved the tender opening process or when this approval was granted was not found.

(b) As per rule 8(vi) of Store Purchase Rules, tenders shall be opened by three gazetted officers. Analysis of the system revealed that system had validated opening of tenders even when this stipulation had not been satisfied. For the period from October 2014 to January 2018, out of total 35,358 opened tenders, in 32,195 cases single member had opened tenders. Two members had opened tenders in 1,191 cases and the remaining tenders had been opened by members ranging from three to 19 members.

The DS&D admitted (May 2018) that as it was part of the RFP, the functionality would be made in the updated version of the application.

3.9.5.6 Capturing of invalid information

MSP had to incorporate validation controls to ensure that supplier submitted certain information mandatorily, while registering at the portal. During analysis of data, it was observed that inadequate input validation controls in the system resulted in the following types of inconsistencies in the database: -

- In 72 cases, the field meant to capture PAN was either left blank or an invalid PAN was accepted by the system.

- In 2,288 cases, field meant to capture name of city was left blank, even though it was a mandatory information to be furnished by the users for registration on the portal.
- System was designed to send information to the registered users through registered e-mail ID or send SMS on the registered mobile number. In eight cases, e-mail ID field was left blank and in 72 cases, same e-mail IDs were captured for more than one user IDs.
- In 18 cases start/end date of tenders was captured as '01-01-1970'.

Due to these shortcomings **uniqueness of entities could not be established in the database, e-mail and SMS alerts could not be sent to all registered users and date bound functions could not be validated.**

The DS&D accepted the audit observation and stated (February 2019) that this functionality would be incorporated in the system in near future. Final action was awaited. (March 2019).

3.9.5.7 Roles assigned to non-existing users

E-procurement system facilitates creation of multiple users with varying roles for buyer entities. Out of total 27 roles, users are assigned one or more specific role in the database to perform the assigned functions in the application, for eg. indent preparation, indent authorisation, vendor approval, tender release, tender amendment, etc. As per work flow, roles can be assigned only after creation of users.

As per users' master table, 2,085 users (buyers) were registered with the portal having different roles assigned in the system. Out of this, 1694 users were active. As per work flow, all active users should have been assigned roles. However, there were 15 active users for whom no role was defined. In 177 cases, though roles were defined in the system but these users did not exist in the users' master table which shows that users were deleted after the role assignment. The functions carried out by these users before deletion could not be tracked in the system.

Assignment of roles in favour of the users not appearing in the master table and buyers without roles assigned to them casts doubts upon the reliability of system.

3.9.5.8 Inadequate validations between master and transaction table

All types of users registered with the portal were categorised into seven different types of categories according to their roles in the system. These categories were

identifiable in the database on the basis of unique codes (1 to 7) assigned to each category as per details given **Table 3.13 A**.

Table 3.13 (A&B): Detail of inadequate validations of user codes

Table 3.13 A	
User_type	**Description**
1	SuperAdmin
2	PortalAdmin
3	DivisionalAdmin
4	Buyer
5	Buyer 1
6	Buyer 2
7	Vendor.

Table 3.13 B	
Code captured	**Number of records**
0	10
40	3
70	1
700	6
7000	16
70000	10
700000	2
Total	**48**

(Source: Information derived from the e-Procurement database)

Analysis of the database revealed that codes captured for types of users in respect of 48 users (**Table 3.13 B**) was different from the user codes available in master table.

Validation controls of the system need to be made robust for ensuring compliance to extant rules and procedures by Government departments in the procurement process.

The DS&D replied (February 2019) that the 48 users mentioned in the audit observation were inactive users and a unique code of 13 would be assigned to them in the database in near future. The reply was not acceptable that recreation of any historical event linked with these users would not be possible in case a new user_type code is assigned. The system should not capture any user_type code other than codes given in the master table.

3.9.6 Inadequate audit trail

Audit trail provides evidence about how a specific transaction was initiated, processed and summarised. Audit trail is necessary to track the history of transactions, system shortcomings, erroneous transactions, changes/ modifications in data etc. The system is capable of recording logs of different events with date and time of each event occurring during the tendering process. However, following deficiencies were noticed: -

3.9.6.1 Absence of logs in respect of registered users

During the analysis of data, it was observed that 49,997 users were registered on the portal. Further analysis of the table designed to record the log events related to registration of the users revealed that against the registration of 49,997 users, logs were recorded for 46,915 users only and for registration of remaining 3,082 users

logs were not recorded in the database**. In the absence of these logs, it could not be ascertained how these users got registered with the portal.**

The DS&D in its reply (February 2019) stated that the MSP had performed certain operations from the backend since no such facility was available on front end, therefore no logs were recorded. The reply only reiterated the audit observation that logs for registration of a large number of users had not been recorded in the database which raises doubts on the integrity of database.

3.9.6.2 Non-maintenance of historical information about users' profile

In an electronic system, where editing of master data takes place, a log should be created describing who changed what data, from what to what and when. As per software requirement specification (SRS) submitted by the MSP, users need to submit certain mandatory and optional information on the portal for their registration with the portal. Analysis of the users' profile editing window revealed that after registration with the portal, vendors did not have privilege to edit the *user_name*, *email_id*, *Company's Name*, *Company Address*, *Vendor Category*, *First Name*, *Last Name* and *Middle Name*. For editing any of this information, vendors had to route the request through the indenting organisations as stated in the SRS. However, other information like secondary email, password, PAN, etc. can be edited by the user itself.

It was observed that account details of 14,709 users (Vendors) were changed. Although system was capable of recording when changes were made and for whom these changes were made, no history was captured by the system about what information and by whom the information was edited.

3.9.6.3 Missing logs for suspended events

In case any tender is cancelled, the event is captured in Activity log within the system. Thus, date of cancellation and date of creation of activity log should be same. Out of 61,558 tenders recorded on the portal, 8,844 tenders were cancelled. However, logs containing information about date/time of cancellation of a tender and user by whom the tender was cancelled, was not recorded in the database against 3,616 cancelled tenders. Further analysis of the database also revealed that **in 131 tenders, cancellation date was different from the date recorded for event created for such cancellation.**

The DS&D in its reply (February 2019) stated that the system generally removes previous records of the template and the new record with new incremental ID was saved in the system, however, now decided to save atleast five transactions in the database. The reply was not acceptable as missing log or saving the record with

new ID obstructs the audit trail and saving of only last five transactions will also not serve the purpose.

3.9.6.4 Logs for deleted events not recorded

Analysis of data revealed that 70,841 events (61,558 tenders and 9,283 auctions) were generated through the system. As per status recorded in the database, 4,138 tenders and 520 auctions were deleted. Further analysis of the concerned table revealed that deletion action was not recorded in the log table in respect of 520 auctions and 31 tenders. In the absence of these logs, **it could not be ascertained whether the events were deleted by an authorised person**.

The DS&D replied (February 2019) that the MSP had deleted certain events from the backend, on the request made by tendering organisations. As such no logs were created for those activities. However, all backend activities have now been stopped. The reply was not complete as the facility for deletion of an event should have been assigned to the tendering organisations at the front end.

3.9.6.5 Incomplete audit trail for bid rework tasks

E-procurement system facilitates the bidders to rework (edit) the bids already submitted for a tender. As per workflow, the bidder has to first select the tender for which he intends to edit the bid. By selecting the "Rework Bid" option bidder can review/edit its bid. In the system, each tender and bidder is recognised on the basis of Tender_id and User_id.

During analysis of the data stored in log table, it was observed that 76,700 events were captured where bids were withdrawn for editing. Further analysis of these events revealed that in 323 records tender_id captured was '0' i.e. without selecting tender_id. **Non-capturing of tender_id in these transactions casts doubts about the integrity of the system.**

The DS&D accepted (February 2019) the audit observation and replied that the random behavior in a few tenders was due to bug in the application. Now the bug has been removed and records have been updated. The reply only indicates that the department had not reviewed the system itself and the bug was identified only after irregularity pointed out by the Audit.

3.9.6.6 Incomplete recording of logs for use of Digital Certificates

For participating in the tendering process, each user was required to sign in the system by loading the SIGN-IN certificate (part of Digital Signature Certificate). Similarly, prior to submission of bids, users have the option to use encryption certificate for encrypting bids. The system captures log for loading and removal of

these certificates. Thus, event of removal of certificate should have corresponding loading event.

Analysis of the log table revealed that there were 12,765 instances of removal of SIGN-IN certificates against the 167 instances of loading of the same. Further, in respect of encryption certificates, removal instances were 13,798 against the loading of 150.

Thus, **the system was deficient in maintaining log for mounting and removal certificates.**

The DS&D replied (February 2019) that in the above mentioned cases, the digital certificates got expired in between the tender lifecycle. The reply was not acceptable as removals were more than loading which only indicates that recording of logs for use of Digital Certificate were not captured in above mentioned instances.

The system should be made capable of capturing complete audit trail for preventing unauthorised access.

3.9.7 Other system deficiencies

3.9.7.1 Absence of facility for blacklisting the contractors/suppliers on portal

Para 14.19 of the Manual of office procedure for Supplies and Disposals of Stores provides that an order for debarring/banning business dealing with a firm should be circulated to all the entities of the Government by the concerned Department. After issuance of such order, no Government Department/Public Sector Undertaking/ Boards etc. can transact any business with such firm. As per RFP, the system was to provide a feature for allowing the user departments to cancel/suspend the empanelment of any contractor/supplier for restricting the participation of debarred contractor/supplier.

During the scrutiny of e-procurement system, it was observed that **facility for updating the status of a firm/supplier to blacklisted category was not available in the application. In the absence of this facility, there was a risk of entrusting the supplies/works to blacklisted firm/supplier(s).**

The DS&D agreed (February 2019) with the audit observation and ensured that the facility would be incorporated in near future. Final action was awaited (March 2019).

3.9.7.2 Non-evaluation of financial bids through e-procurement system

As per RFP, the system was required to facilitate the preparation of comparative statements for technical as well as commercial bids. Automatic ranking (L_1, L_2, L_3, ….) of the bidders on the basis of defined criteria for technical and commercial bids was also envisaged as per functional requirement.

During analysis of the management information system reports, it was observed that comparative statements for commercial bids were generated through the system but **facility for automatic ranking of the participating bidders was not available in the system.**

The DS&D agreed (February 2019) with the audit observation and ensured that the facility would be incorporated in near future. Final action was awaited (March 2019).

3.9.7.3 Detailed reasons for bid rejection not captured in the System

The RFP prescribed incorporating a functionality to capture the list of tender evaluation committee members for each tender. The system was also designed to capture the detailed remarks of the tender evaluation committee for bids rejected/ accepted at any stage of the tender evaluation cycle to enhance transparency in procurement process. These results were accessible to the bidders participating in the respective tender.

In 21,041 cases of two stage tenders, bidders were disqualified during the technical bid evaluation phase and their commercial bids were not opened. **But in 15,276 cases, detailed reasons for rejection were not entered. Provision was also not made for nominating members for each tender evaluation committee. This defeated the objective of bringing transparency in the procurement process.**

The State Government had also introduced a Grievance Redressal Mechanism in July 2016 by providing five working days' time to the bidders for submitting their representation against the rejection of technical bid. However data analysis revealed that out of 2,400 rejected technical bids, in 1,769 cases, the commercial bids were opened prior to lapse of five days' period.

The DS&D agreed (February 2019) with the audit observation and ensured that the facility will be incorporated in near future. Final action was awaited (March 2019).

3.9.7.4 Digital signatures not appended to the documents uploaded by buyer/suppliers

As per guidelines[51] (2011) issued by Ministry of Communication and Information Technology, GOI, all the tender documents and corrigendum uploaded on the e-procurement portal should be digitally signed (Para 6.1 of the Annexure-I). The functional requirement was also mentioned in the RFP for providing facility for uploading digitally signed documents by the suppliers.

During study of the portal, it was observed that **tender documents and corrigendum uploaded on the portal by the tender inviting authority were not digitally signed. Similarly, the documents uploaded by the suppliers were also not digitally signed.** These were either Portable Document Format (PDF) or image files which were not embedded with digital signatures. The authenticity of these documents could not be ensured and were vulnerable to unauthorised interference.

The DS&D agreed (February 2019) with the audit observation and ensured that the facility will be incorporated in near future. Final action was awaited (March 2019).

3.9.7.5 Inadequate communication to suppliers/bidders

To achieve the objective of enhancing transparency in procurement process, an automated process for sending alerts to concerned suppliers through SMS/e-mail was incorporated in the application. Provision was made to send alerts through SMS/e-mail to the bidders who had submitted their bids prior to issuance of corrigendum to the NIT and at the time of opening of technical/commercial bids.

The email alerts sent to stakeholders of the portal were available for the period from 16 November 2017 to 28 January 2018 only. Analysis of data revealed that e-mail alerts were not sent to various bidders as detailed in **Table 3.14**.

Table 3.14: Detail of e-mails not sent to bidders

Event	Number of tenders	Number of bids	Number of bidders to whom e-mails not sent	Percentage
Technical Opening	3,594	10,227	7,164	70
Commercial Opening	3,864	12,577	8,887	71
Issuance of Corrigendum	229	318	196	62

(Source: Information derived from the e-Procurement database)

Though SMSs for technical and commercial bid opening were generated through the system yet these SMSs were not sent to the concerned bidders.

[51] Guideline for Compliance to Quality requirements of e-Procurement Systems

The DS&D replied (February 2019) that the data in respect of communication to suppliers/bidders was kept for 45 days only and now decided to keep the entire record of all e-mail alerts sent to stakeholders on the portal for a quarter. The reply was not acceptable as the audit had analysed the events recorded in last 45 days for which data regarding e-mail alerts was available and found that e-mail alerts were not sent to bidders for opening of bids and change in NIT.

3.9.8 Non-implementation of envisaged modules

As per the agreement, MSP had to implement all the six envisaged modules by 1st April 2014. However, out of these six modules, following two modules were still not implemented:

Purpose	Impact of non-implementation
Contract Management	
The module was envisaged to record the processes involved between issuance of supply/work order and final payment of bills to the suppliers/ contractors. Implementation of this module would enable the Government to monitor the progress of supplies/works and build a repository of information that could be used to measure the performance of suppliers/contractors.	In the absence of this module, the Government could not monitor the progress of supplies made/works executed by the concerned suppliers/ contractors. Performance of supplier in terms of timelines and quality etc. cannot be monitored through the system.
Catalogue Management	
The catalogue management module in e-Procurement has to ensure the best price of goods and services across all entities to achieve the objective of internal arbitrage by having details of items with codes assigned to each item, procurement price, quantity procured and details of suppliers.	In the absence of catalogue management module, Government could not create information bank consisting of historical information about the items procured from time to time, their procurement price, quantity procured along with complete details about the potential suppliers for those items. Thus, price differences of same items across the different departments could not be identified.
Indent Management and Purchase Order facilities	
A facility was provided in the e-procurement system for enabling the entities of the State Government to place the indents of their store requirements to DS&D through e-procurement portal. System also facilitates DS&D to prepare a tender on the basis of indents received. Further, there was facility in the system for placing automated purchase orders in the form of e-mail.	These facilities were not being used by any of the stakeholders and nodal department failed to achieve its objective of enhancing the transparency in procurement process by not emphasising the buyer entities to bring a tender to its conclusive stage on portal by uploading details of purchase order made.

In reply to audit observation, the DS&D stated (February 2019), efforts would be made to implement these modules. Final action was awaited (March 2019).

3.9.9 Conclusion

Even after four years of induction, dual system of e-procurement was in operation in the State. The e-procurement database was fraught with the risk of interference by the MSP/DBA at the backend due to non-segregation of duties. Due to inadequate validation checks, there were instances of providing insufficient time for bid submission, multiple registrations of vendors, opening and withdrawal of bids after tender closure, capturing of invalid information, etc. Complete audit trail was not maintained for tracking the history of transactions. Financial bids were not auto-ranked by the system and the facility for blacklisting the contractors/suppliers was not available in the system. Detailed reasons for rejecting technical bids were not captured and documents were uploaded without digital signature. The contract and catalogue management modules have not yet been implemented. Facilities of indent management and on-line preparation of purchase orders are not being utilised by user departments. Purchase orders were not formulated through the system. The DS&D had not planned for capacity building to take over the database administration and user management even though only one year was left (upto May 2019) for taking over the system along with source code.

Thus, interference by the MSP/DBA at the backend and non-maintenance of audit trail had made the system opaque and fraught with risk of intervention in competitive e-procurement process. The system was not tamper proof and the objective to minimise human intervention in order to have a transparent, efficient and efficient e-procurement system remained unachieved.

The matter was referred to the State Government in July 2018; their reply was awaited (March 2019).

3.10 Short realisation of inspection fee for boilers

Inordinate delay in levy of revised inspection fee for boilers in accordance with Government of India notification resulted in short realization of ₹ 1.45 crore.

The Government of India, Ministry of Commerce and Industry (GoI) had withdrawn (December 2007) the power of State Governments to prescribe the fee payable for the inspection and examination of old boilers[52] provided under section 29 (1) (f) of the Indian Boilers Act, 1923 through the Indian Boilers (Amendments) Act, 2007. The powers to prescribe the inspection fee were conferred on Central Boilers Board (CBB) under section 28 (1) (ed).

[52] Any closed vessel exceeding 22.75 litres in capacity which is used expressly for generating steam under pressure and includes any mounting and other fitting attached to such vessel.