

CHAPTER III
DEFICIENCIES IN
THE APPLICATION
SOFTWARE

the 1990s, the number of people in the UK who are aged 65 and over has increased from 10.5 million to 13.5 million, and the number of people aged 75 and over has increased from 4.5 million to 6.5 million (ONS 2002).

There are a number of reasons why the number of people aged 65 and over has increased. One of the main reasons is that people are living longer.

There are a number of reasons why people are living longer. One of the main reasons is that people are healthier.

There are a number of reasons why people are healthier. One of the main reasons is that people are eating better.

There are a number of reasons why people are eating better. One of the main reasons is that people are exercising more.

There are a number of reasons why people are exercising more. One of the main reasons is that people are taking more holidays.

There are a number of reasons why people are taking more holidays. One of the main reasons is that people are earning more money.

There are a number of reasons why people are earning more money. One of the main reasons is that people are working longer hours.

There are a number of reasons why people are working longer hours. One of the main reasons is that people are getting married.

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There are a number of reasons why people are having children. One of the main reasons is that people are having more children.

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The software was not designed to incorporate the timeline related provisions of TNTIT Rules. There were no provision in the eProcurement system to capture details of item-wise EMD payments and for extending purchase preference to domestic enterprises. Departments resorted to manual tender processing in cases where multiple bidders quoted the same price. The system lacked provisions for negotiation with L1 bidder after generation of Bill of Quantities and for situations where participating bidders quoted the same price necessitating manual intervention. 'NULL', duplicate and erroneous values were noticed in mandatory fields. Bids of the same tender were decrypted on different dates in contravention of TNTIT Rules. Discrepancies were noticed in role creation by user departments, as key roles of an organisation were created by other department users.

3.1 Introduction

Government organisations procure a wide variety of goods and services and undertake execution of works in pursuance of their duties and responsibilities. With a view to improving transparency in decision making in public procurement and reducing the scope for subjectivity, the Tamil Nadu Transparency in Tenders Act, 1998 was enacted and the Tamil Nadu Transparency in Tender Rules, 2000 (TNTIT Rules) thereunder made for procurement of goods, execution of works and hiring of consultants. Audit checked whether the timelines and instructions mentioned in the TNTIT Rules were mapped in the application software and necessary validation controls existed in the system for ensuring the integrity of the data. The points noticed in this regard are brought out in the following paragraphs.

3.2 Non-mapping of Business Rules

3.2.1 Non-mapping of prescribed timelines in the system

(i) *Prescribed minimum number of days between 'date of publishing of tender' and 'bid submission closing date' not followed*

Rule 20 of TNTIT Rules, prescribes minimum number of days between date of publishing of tender and last date for submission of tenders based on the value of the tender. On data analysis, it was observed that in 1.22 lakh tenders published between April 2016 and March 2022, the number of days between 'date of publishing of tender' and 'bid submission closing date', was less than the prescribed number of days, as listed in **Table 3.1**. Department wise details are given in **Appendix 3.1**.

Table 3.1: Tenders published with less than prescribed number of days

Value of Tender	Prescribed number of days	Number of tenders published with less than prescribed number of days
Up to ₹2 crore	15	1,16,109
More than ₹2 crore	30	5,480
Total		1,21,589

(Source: Data Analysis of eProcurement portal data)

(ii) Prescribed minimum number of days between ‘Seek clarification end date’ and ‘bid opening date’ not followed

Rule 17 (2) of TNTIT Rules states that at the time of publishing of a tender, the last date for clarification must be at least 48 hours (2 days) before opening of the tender. During data analysis, it was observed that out of 1.78 lakh published tenders, the number of days between ‘seek clarification end date’ and ‘bid opening date’ was less than the prescribed two days in 18,923 tenders (10.64 per cent).

Thus, the prescribed timelines as per TNTIT Rules were not followed by the departments and the software was not designed to incorporate the timeline related provisions of TNTIT Rules.

While Tamil Nadu Civil Supplies Corporation, Thanjavur replied (December 2022) that tenders were published with lesser than the prescribed period due to urgency to complete the work, sampled institutions of the Directorate of Technical Education (DoTE) replied (November 2022) that this was due to urgent need and that timelines would be followed in future.

There was no provision in the application software to handle cases of urgent requirements with authentication/approval by an appropriate authority higher than the tender publishing authority and to capture and store details of such instances.

In this connection, NIC replied (December 2022) that the minimum number of days was mapped against individual organisation in the recent version of the software and that provision had been given to capture the reason for tenders with short bid submission period.

Reply is not acceptable as Audit verified (December 2022) the claim of NIC and found that provision is still not available in the current software version (Version 1.09.16).

During Exit Meeting (February 2023), Government stated that the timeline issues are addressed in the new eProcurement portal and that a provision to capture reasons for resorting to shorter tender will also be incorporated.

3.2.2 Lack of provision in the system for item-wise EMD payment

In case of tenders with multiple items, where the bidder can choose to quote for selected items only, the EMD has to be paid only for the items quoted by him and not for the whole tender.

Audit scrutinised a tender comprising multiple items published (March 2022) by the Director of Sericulture, Salem wherein the EMD amount fixed for the tender as a whole was ₹23,700. A bidder (Lawrence and Mayo India Private Limited) had quoted for only one item (Microscope) for which the EMD value was ₹900.

In this instance, though the bidder submitted a Demand Draft for ₹900 as EMD, he had to enter the EMD paid value as ₹23,700 (i.e. EMD fixed for the whole tender) in the column 'Offline EMD Fee Payment Details Amount in Rupees' as the system did not allow inputting of item-specific EMD amount.

In this regard, Director of Sericulture stated (September 2022) that the system did not have a provision for entering item-wise EMD paid by the bidders.

Due to the lack of a provision for capturing item-wise EMD, the system captured and stored incorrect information about the actual EMD remitted by the bidders who quoted for selected items only.

NIC replied (November 2022) that there was a workaround in the software wherein by enabling the provision for EMD exemption at the time of online tender creation, the system would allow the bidder to input an amount lesser than the total EMD value for the tender. The bidder, could then upload a statement detailing the number of items for which he is participating, in the provision meant for uploading document as proof of EMD exemption.

Reply is not acceptable since EMD exemption relates to bidders with SSI/MSME Certification cases only and item-wise EMD payment cannot be equated to EMD exemption.

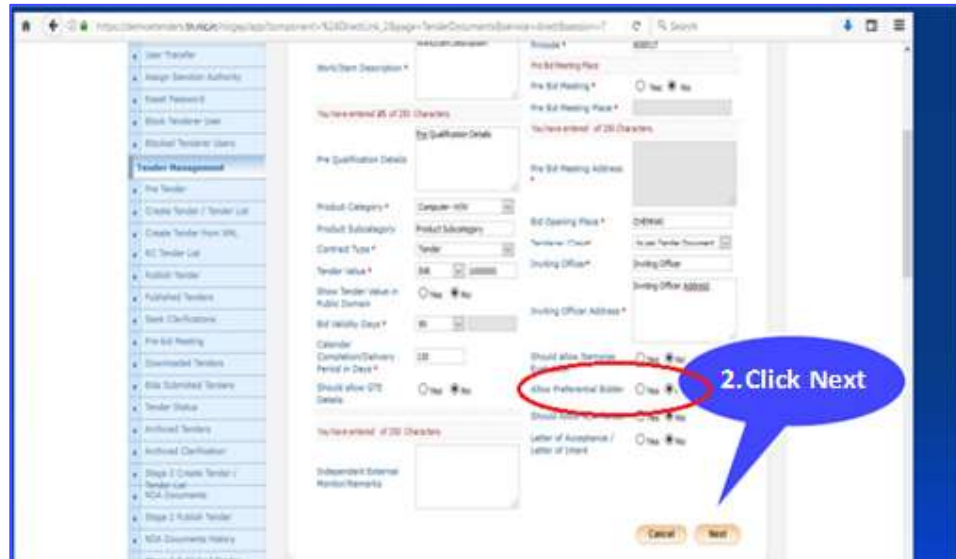
Government replied (Exit Meeting held on February 2023) that NIC will be instructed to provide separate provision in the eProcurement system for item-wise EMD payment and NIC informed that the issue will be addressed.

3.2.3 Lack of provision in the system to handle purchase preference for domestic enterprises

As per Rule 30-A of TNTIT Rules, purchase preference is to be given to domestic enterprises in case of procurement of goods or services, where it is possible for the procuring entity to divide the award of tenders to more than one supplier or service provider. The tender document should clearly indicate that up to 25 *per cent* of the total requirement in the procurement may be awarded to domestic enterprise, not being the lowest tender, in respect of only goods manufactured or produced or services provided or rendered by them, if (a) the lowest tender is not a domestic enterprise, (b) the preferential award shall extend only to the lowest tender among the domestic enterprises, who are substantially responsive and technically qualified and (c) such domestic enterprise is willing to match the price of the lowest tender.

Audit observed that, though there was a checkbox i.e. 'Allow Preferential Bidder', (**Exhibit 3.1**) it does not cater to the provisions of Section 30-A of TNTIT Rules for purchase preference to domestic enterprises.

Exhibit 3.1: Checkbox viz., 'Allow Preferential Bidder' provided in the system for uploading of tender



(Source: eProcurement portal user manual)

NIC replied (November 2022) that the present system was being refined to handle the domestic enterprises option as per Section 30-A of TNTIT Rules and development was in progress. Audit observed that the tenders involving preferential bidders can be processed by the departments, only outside the eProcurement portal, till incorporation of this feature.

In the Exit Meeting (February 2023), NIC stated that the issue has been addressed in the new eProcurement portal.

3.2.4 Lack of provision in the system for capturing purchase value in Rate Contract tenders

As per Rule 31-A of TNTIT Rules, Fixed Rate Contract would be through a process like open tender. The Tender Acceptance Committee (TAC) determines and notifies an appropriate rate, as the fixed rate, after negotiating with the lowest tenderer for further reduction and/or considering other relevant factors viz., prevailing market rate and rates of previous period. All eligible suppliers who accept the fixed rate should be enlisted by the procuring entity for delivery of services or goods and orders would be placed on need basis after finalising the tender and awarding the contract.

Audit noticed that there is no provision in the software to capture details of purchase order(s) issued during the rate contract period. Hence, only the finalised rate value of a rate contract tender is shown in the eProcurement portal and not the value of purchases made during the rate contract period.

On this being pointed out, NIC replied (November 2022) that the option was not available in the system and added that this issue would be discussed with the Finance Department.

In the Exit Meeting (February 2023), Government stated that this feature will be considered in consultation with NIC.

3.2.5 Lack of provision in the system to enforce password policy

Password policy of Ministry of Electronics and Information Technology (MeitY), Government of India, mandates that all user-level passwords (e.g., email, web, desktop computer, etc.) shall be changed periodically (i.e. at least once every three months). Users shall not be able to reuse previous passwords.

In the eProcurement portal, after registering, users can login using the User ID, Password, and the Digital Signature Certificate (DSC). Passwords are encrypted at the database level and known only to the users. In data analysis, the following points were noticed:

- As of 31 March 2022, Audit found that in 62,274 out of 68,484 user records, the password had not been changed for more than 90 days.
- Out of these, in 17,233 cases, the latest login date was more than 90 days after the date of last change of password.

Non-enforcement of password policy could result in misuse by unauthorised persons and pose a threat to data security.

NIC replied (December 2022) that the eProcurement portal had implemented two factor authentication (Password and DSC) to gain access to the eProcurement portal. DSC, being the second authentication factor, will not allow access to unauthorised users.

Reply is not acceptable as departmental users without DSC can still login and download bid documents through the Management Information System (MIS) reports feature, even before completion of tender process. This affects the confidentiality of the process. There should be an automatic alert after lapsing of 90 days for change in password system.

During the Exit Meeting (February 2023), Government replied that password policy will be enforced in the new eProcurement portal and that two factor authentication has been adopted now for Reports Module also.

3.2.6 Requisite features not available in eProcurement portal

Rule 29(3) of TNTIT Rules provides for negotiations with tenderer and Rule 29(4) spells out the methodology for identifying the lowest tenderer in the event two or more tenderers make the same financial bid.

The BoQ comparative chart containing information on the L1 bidder, is generated by the system during the financial evaluation stage. However, Audit noticed that manual intervention was resorted to for finalising the L1 and Award of Contract (AoC) in certain circumstances viz., (a) When the same price was quoted by more than one bidder, (b) Negotiation was done with L1 and (c) Comparison of Bidder Rates with the Estimates prepared by the

Departments for Works tenders (Buildings and Roads). This rendered the system generated BoQ ineffective.

In DRDA, Coimbatore it was noticed that the BoQ comparative chart was downloaded from the eProcurement portal and compared manually with the estimates. The Department then negotiated with L1 bidder for further price reduction. The negotiated reduced rates were entered manually in an Excel Sheet and used for finalising the tender. DRDA, Salem stated (November 2022) that there is no provision in the software to deal with instances of same price quoted by more than one bidder.

NIC replied (December 2022) that the system identified the L1 bidder among bidders who quoted the same price, based on who had quoted the value first (up to milliseconds) and that the module for negotiation was under development. Further, NIC accepted that provision for comparison of bidders' rates with estimate was not available. NIC further stated that eProcurement portal for Tamil Nadu was being redesigned as per TNTIT Rules and would be implemented from the financial year 2023-24 with the required provisions.

NIC's reply is not acceptable since identifying L1 among bidders who quoted same price, solely on the basis of who quoted the value first, is not in line with TNTIT Rules. Lack of essential provisions impacts the effectiveness of the eProcurement portal.

In the Exit Meeting (February 2023), NIC stated that provisions have been made in the eProcurement portal for (a) and (b) situations mentioned above and that provision for comparison of bidder rates with estimates will be incorporated in the eProcurement portal after discussion with the Finance Department and procuring entities.

3.3 Inadequate controls in the system

In order to ensure data integrity, suitable controls are to be incorporated in the system, *viz.*, input control, validation control etc. Audit checked whether the application software possessed the required controls to check errors in the database.

Lack of input controls

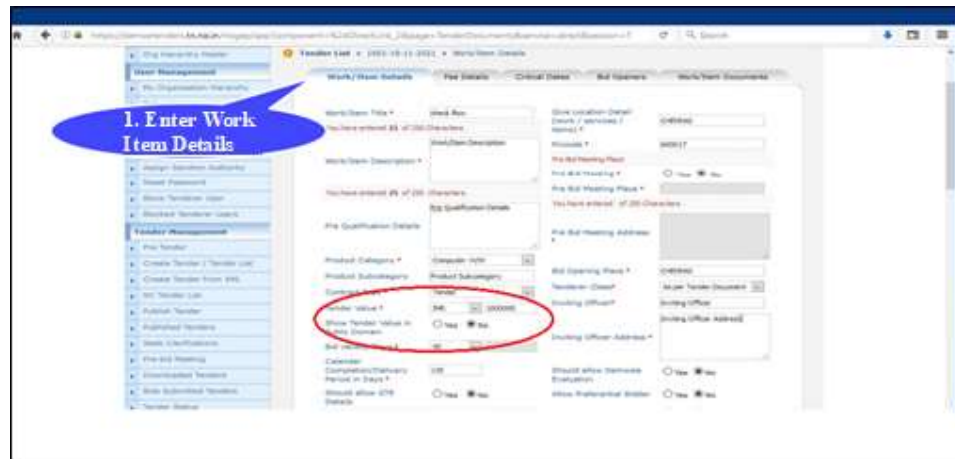
3.3.1 Tender details not entered

(i) **EMD Value entered as 'zero'**: Rule 14 of TNTIT Rules, stipulates "tender documents shall require all tenderers without exception to pay an Earnest Money Deposit (EMD) ordinarily not exceeding one *per cent* of the value of the procurement by means of electronic mode of payment or in the form of a demand draft, banker's cheque, specified small savings instruments or where the procuring entity deems fit, irrevocable bank guarantee in a prescribed form". The tender documents shall clearly state that any tender submitted without the EMD in the approved form shall be summarily rejected.

The eProcurement portal, however, has no provision to ensure only ‘non-zero’ values are allowed for EMD, which resulted in data of 17,082 tenders out of 1.78 lakh tenders published during 2016-22 exhibiting EMD value as ‘zero’.

(ii) **Tenders with ‘zero’ value:** In the front-end screen of GePNIC web application software, the estimated value of the tender, is indicated as a mandatory information to be provided. The Department has the option to choose if the Tender value is to be displayed in public domain by selecting the option ‘Yes’ or ‘No’ under ‘Show Tender value in Public Domain’ (**Exhibit 3.2**). When ‘No’ is chosen, though the value of the tender is captured and stored in the database, it will not be visible in the public domain.

Exhibit 3.2: Provision in eProcurement portal for display of tender value in Public Domain



(Source: eProcurement portal user manual)

The system also provides for an eProcurement dashboard that displays information relating to the procurements based on inputs at the time of publishing in the eProcurement portal, viz., year-wise number of tenders and total value of tenders published.

Data analysis revealed that out of 1.78 lakh tenders published, the tender value was ‘zero’ in 17,036 tenders. This results in incorrect depiction of the total value of tenders published through the eProcurement portal in the eProcurement dashboard.

Sampled institutions of Directorate of Technical Education replied (October 2022) that the tender value would be captured in future with option ‘No’ so that it is not viewable in the public domain. NIC replied (December 2022) that tender value may be zero in cases where financial quote is invited in the first stage of tenders i.e. ‘Request for Proposal/Expression of Interest’.

Reply is not acceptable since there is no provision in the system to capture Tender Value/EMD value based on the type of tender. Further, the instances pointed out by Audit do not relate to ‘Request for Proposal/Expression of Interest’ invitations indicating lack of input controls in the tender value field.

In the Exit Meeting (February 2023), NIC stated that the software has been fixed to not allow ‘zero’ values.

3.3.2 Lack of input controls in mandatory fields

Audit Scrutiny of the registered users' data revealed that there were 45,000 DSCs registered users in the eProcurement portal as on 1 April 2022. Of these, 31,728 users were registered during 2016-22. Discrepancies noticed in mandatory fields are tabulated in **Table 3.2**.

Table 3.2: Discrepancies in mandatory fields

Nature of discrepancy in the mandatory field	Number of cases where discrepancy was noticed	Number of cases where discrepancy was noticed in registration made in the Audit period
Invalid mobile numbers	837 users (479 users had '9999999999' 139 users had '0000000000')	46 users
Duplicate mobile Numbers	13,788 users (146 users had '9842815073')	8,322 users
Different users with the same alternate email ID	5,367 users 223 users had 'bhaaskaar@gmail.com' as their alternate email ID.	3,607 users 209 users had 'bhaaskaar@gmail.com' as their alternate email ID
Users without Permanent Account Number (PAN)	88 users	80 users
Different users with the same PAN	15,812 users (‘AESTG2458A’, which was given as an example in the online enrolment form of corporate/bidder - 405 users; ‘TEMPZ9999Z’ - 301 users; ‘ACUPK7945G’ - 25 users)	9,895 users (‘AESTG2458A’, which was given as an example in the online enrolment form of corporate/bidder - 87 users; ‘TEMPZ9999Z’ - 126 users; ‘ACUPK7945G’ - 24 users)
Null values in mandatory fields	10,300 users with null values in Registration number, city and postal code and State	80 users with null values in State field

(Source: Data analysis of the registered users' data)

The above discrepancies point to lack of input control in mandatory fields which affects the data integrity of the system.

NIC replied (December 2022) that necessary validations would be incorporated in the system to ensure PAN is mandatory. In respect of multiple PANs, NIC stated that as a business requirement multiple users from the same company could have the same PAN in the system. In respect of 'NULL' values, NIC stated (December 2022) that these records relate to the period prior to 2015 and necessary input control has been incorporated subsequently.

Reply is not acceptable since the number of duplicates are high in some cases indicating that it cannot be related to the number of users of the same company. Besides, the company names, registered addresses and corporate addresses differ. In so far as reply furnished by NIC for 'NULL' values, it was verified and found that 'NULL' entries in the State field persisted even after 2015 indicating lack of input control.

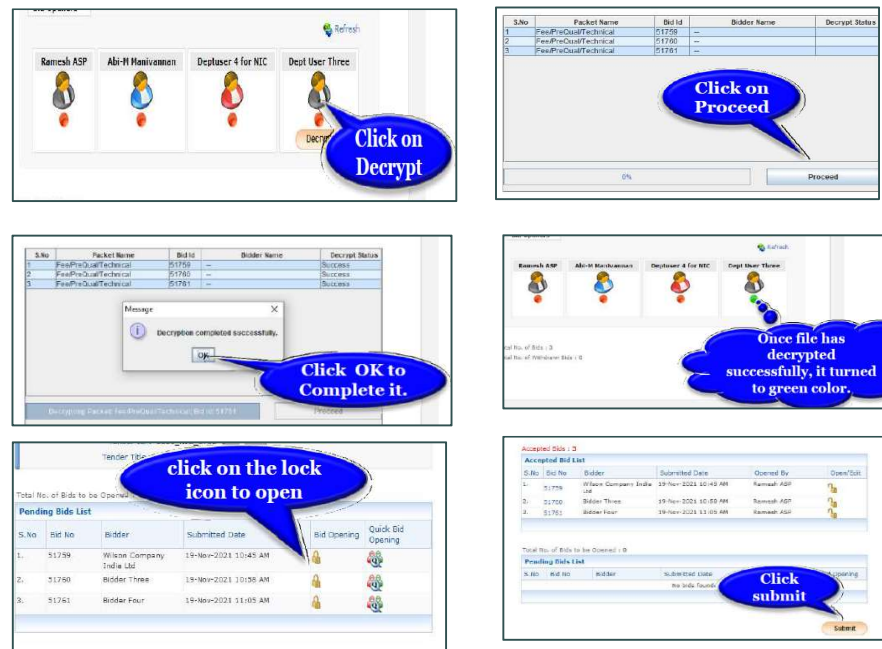
In the Exit Meeting (February 2023) NIC stated that these issues will be addressed and Goods and Services Tax (GST) validation will be made mandatory in the new eProcurement portal.

Lack of processing/validation controls

3.3.3 Different decryption dates for the same packet of a tender

In the eProcurement portal, departmental user should have a valid email ID as the login ID of the System with valid password and DSC for opening the Technical and Financial Bids. The tender to be opened should be selected by entering the Tender ID. After this, on clicking ‘Decrypt’ button, the Packet Name, Bid IDs are displayed as a list. Again, on clicking ‘Proceed’ button, a message is displayed viz., ‘Decryption completed successfully’ along with decryption status in the list. Snapshot of the decryption process is depicted in Exhibit 3.3.

Exhibit 3.3: Snapshot of the decryption process



On data analysis, it was observed that in 1,220 instances¹, the decryption date differs for the same Packet ID of a tender i.e. bids of the same tender decrypted on different dates. These instances have 2, 3 and 5 different decryption dates ranging from difference of one day to many days. Two illustrative cases are given in Table 3.3.

¹ 2,471 distinct decryption dates involving 5,632 records.

Table 3.3: Illustrative cases of instances with different decryption dates

Sample case number 1				
Bid ID	Packet ID	Decryption Date	Decrypted by (ID)	Work Item ID (Tender)
102279	92960	04-07-2016 12:56	21882	81828
102260	92960	04-07-2016 12:55	21882	81828
102036	92960	04-07-2016 12:52	21882	81828
102279	92961	01-07-2016 12:17	21882	81828
102260	92961	01-07-2016 12:15	21882	81828
102036	92961	30-06-2016 15:40	21853	81828
In this instance, the packet was decrypted with one day difference				

Sample case number 2				
Bid ID	Packet ID	Decryption Date	Decrypted by (ID)	Work Item ID (Tender)
102928	93237	27-07-2016 16:44	22322	82044
102910	93237	27-07-2016 16:42	22322	82044
103321	93238	26-07-2016 16:03	22322	82044
102928	93238	20-07-2016 16:31	16460	82044
102910	93238	20-07-2016 16:34	16460	82044
In this instance, the packet was decrypted with six days difference				

(Source: Data analysis of the eProcurement data)

It is seen from **Table 3.3** that technical bids for the same tender were opened on different dates.

NIC replied (December 2022) that during Bid opening, GePNIC decrypts the bid documents in two steps viz., (i) retrieval of the original key for decryption (ii) decrypting documents using the key by clicking on the 'Lock' icon against the individual bids. The system allows department user to open the decrypted bid documents at any time once the decryption keys are retrieved.

Reply is not acceptable since TNTIT Rules state that all tenders received by the TIA shall be opened at the time and venue specified in the Notice Inviting Tender. Allowing department users to decrypt bid documents at any point of time once the decryption keys were retrieved is in contravention of TNTIT Rules and impacts transparency, impartial decision making and confidentiality.

In the Exit Meeting (February 2023), NIC accepted that the decryption was done bidder-wise in the eProcurement portal and agreed to take remedial action so that decryption is done bid-wise.

3.3.4 Issues in Bill of Quantities comparative charts generated in buy-back cases

During 2016-22, 253 tenders were published with a condition for buy-back in the eProcurement portal by various Departments of the State. The BoQ comparative chart in buy-back cases added the buy-back amount to the quoted amount instead of reducing the same. This was observed in three instances² relating to purchase of batteries and UPS involving buy-back. Due to this discrepancy, the user departments manually identified the L1 bidder after making necessary corrections in the system generated BoQ comparative chart.

NIC replied (November 2022) that the BoQ template used for buy-back tenders was not designed as per the requirement by the Tender Inviting Authority and the above mentioned tenders had used the normal Item Rate BoQ template and that department users were instructed to contact NIC for assistance in case of requirement for new logic in the system.

In the Exit Meeting (February 2023), Government accepted the audit observation and said that provision for separate BoQ template for handling such cases will be made available in the new eProcurement portal.

3.3.5 Gaps in system generated Row ID numbers

All the tables in the eProcurement database carry a column named 'ID', which is a system generated sequential number whenever a record is added to that table and it is a primary field (no duplicates allowed). It serves as linking information for validating, joining related tables and fetching information. An analysis of the important tables indicated that there were gaps in the 'ID' column. In the table containing details of all the bids received for the tenders, there were 218 missing IDs for the period from 01/04/2016 to 31/03/2022 in the ID numbers ranging from 101710 to 502687.

NIC replied (December 2022) that the 'row ID' numbers were generated using sequence. While adding a record, the sequence would get incremented even when the insert statement was not executed due to constraints like query exceptions, issues from load balancers, etc. and the missing sequences were not due to deletion of records.

Reply is not acceptable since there is no trail for details of events which led to missing sequences. This impacts data security and data completeness.

In the Exit Meeting (February 2023), NIC stated that, to overcome the above issues, provision for audit trail including timestamp will be included in the new eProcurement portal.

3.3.6 Tender status not updated by the system

In the eProcurement database, the database table relating to tender details, contains a column named 'packetsnum' which stores the value '1' or '2' for single cover tender and two cover tender respectively. The decryption date,

² January, September and October 2019 – Directorate of Technical Education - Government College of Engineering, Salem.

details of work including the tender status³ and tender stage⁴ are captured and stored in two separate database tables. Analysis of the related tables in the database revealed the following:

- In 12,501 tenders with one packet (single cover), though the bids were decrypted, the tender status of the tender was stored as 'To be Opened' in the database table relating to work items of a tender and also displayed as 'To be Opened' in the Tender Status in the eProcurement portal.
- Similarly, in 2,679 tenders with 2 packets (2 cover), though the bids were decrypted, the tender status of the tender was stored as 'To be Opened' in the database table relating to work items of a tender and also displayed as 'To be Opened' in the Tender Status in the eProcurement portal.

Thus, the tender status was misleading and did not show the correct status of the tender indicating lack of process control in the application software.

NIC replied (December 2022) that the stage of the tender is updated only when the particular stage is completed/concluded and not at the beginning of the stage. For instance, when a tender was published, the stage of the tender remained as 'To-be-opened' until the technical cover opening summary was uploaded. It was a business requirement that the status of each bid for the stage should be revealed only after the stage was completed since department users could change the bidder status from 'Accepted' to 'Rejected' or vice versa until the opening and evaluation stage was completed. Hence, the stage was updated once each stage was completed i.e. once the Technical Opening Summary was uploaded.

Reply is not acceptable as once the bid is decrypted, the technical bid opening stage is complete. In this case, storing the tender status as 'To-be-Opened' is misleading.

In the Exit Meeting (February 2023), NIC while acknowledging the issues pointed out in Audit, stated that this issue will be addressed.

3.3.7 Deficiencies noticed in use of Digital Signature Certificate

Each user in the eProcurement system has to register with an email id as his/her user ID, which is mapped with the DSC to perform vital activities like tender creation, publishing, opening, updation etc. (department user) and for submitting bids etc. (corporate user).

On data analysis, it was observed that the name of the user was not validated at the time of renewal of DSC and different names were captured against the same user ID in 147 cases. In one instance, six DSCs were mapped against the same user ID 43748 in the application software during the period from

³ Published, Open, Expired, Retender and Cancelled.

⁴ To be Opened, Bid Opened 1, Evaluated Technical, Bid Opened 2, Evaluated Financial and AoC.

20 April 2021 to 27 December 2021. DSC with the same name was mapped with different user IDs in 591 cases. In another instance, DSC with the name 'SHANKAR SANDHYA' was mapped with five different User IDs (30359, 30361, 54178, 54755 and 62765). These five bidders had submitted 35 bids for 18 tenders during the period from 12 October 2017 to 11 January 2022.

The above deficiencies indicated that lack of validation control resulted in improper mapping of DSC with the user ID due to which the legal sanctity of DSC and legitimacy of bids could not be ensured.

NIC replied (December 2022) that the system did not validate the name of the DSC holder with the profile name, since the profile name could be company's name whereas DSC would be issued to the individual bidder as per the name in the ID proof submitted by him.

Reply is not acceptable since the registered DSC should be used only by the bidder. Also, DSC once mapped to an account cannot be remapped to any other account and can only be inactivated. Suitable control is required to have similar ID proof for DSC and registration in the eProcurement portal.

In the Exit Meeting (February 2023), NIC stated that this problem arises when an official in the procuring entity with DSC leaves the organisation and the organisation fails to update the DSC with the new incumbent. Audit contends that the DSC should be revoked once the official leaves the organisation.

3.3.8 Discrepancies noticed in role assignments to users

An effective IT system should enforce segregation of duties through the use of pre-programmed user and group security profiles, so that proper checks and balances on the activities of officials involved is maintained. Rights/Roles allocations are done to ensure only authorised personnel perform the tasks. The software is a role-based access system and even menus are enabled by roles. The Nodal Officer, a key role, is designated by the user department and created by NIC. He creates users for his organisation and is responsible for overall user management including assignment/re-assignment of various roles viz., Tender Creator, Tender Publisher, Tender Opener and Tender Evaluator as per need. The department users have different access roles and perform their duties with Login ID and DSC.

It has been observed that the roles of Super Admin, System Admin and Application Admin were performed only by NIC. The DoF (Administrator) neither used these roles nor had access to eProcurement portal data. On data analysis, the following observations were made:

- (i) 14,184 users had multiple roles (66,017 roles were mapped to 14,184 users).
- (ii) 125 organisations had multiple Nodal Officers (ranging from 2 to 51).

NIC replied (December 2022) that, in cases where the number of tender processing officials in the organisation chain was less, the Nodal Officer may

require other roles also. Hence the form was designed with options for multiple roles.

Reply is not acceptable since assigning certain roles like Tender Creator and Tender Publisher to one and the same person indicates that segregation of duties is not followed, and hence, the risk of errors being carried through different stages without being verified and rectified, is high.

In one instance in DRDA, Salem, Audit found that 34 tenders were cancelled due to mistakes while uploading the document. The creator and publisher of these tenders was the same user. Non-segregation of the roles of creator and publisher resulted in the error going unnoticed before publishing. An amount of ₹54,332 was incurred on advertisement expenses for retender which was a wasteful expenditure.

(iii) Discrepancies were noticed in role creation by user Departments viz., Nodal Officer role created by departmental users, departmental roles created by users other than Nodal Officers, etc. The instances noticed are given in **Table 3.4**.

Table 3.4: Discrepancies noticed in role creation for departmental users

Discrepancy	Number of instances
Nodal Officer role created by Nodal Officers	4
Nodal Officer role created by Department users	308
Department users created by Department users of similar roles	6,250

(Source: Data analysis)

NIC replied (December 2022) that Nodal Officer role was created by NIC with reference to the signed request from the user department and that these Nodal Officers could also create further Nodal Officers and Department users. Further, in respect of the instances of user creation by users other than Nodal Officers, it stated that, at the time of creating the Nodal Officer/Other Department users, the user would have had the role of Nodal Officer. Subsequently, the departmental Nodal Officer role might have been removed from that user. Reply is not acceptable since trail is not available in the database to justify the reply. Also, hierarchy would not be maintained when a Nodal role is able to create a similar role.

(iv) In 6,394 records (1,611 user IDs), officials with designations like Assistant, Junior Assistant, Clerk and Typist were assigned key roles in tender processing viz., Nodal Officer, Procurement Officer Evaluator, Procurement Officer Opener, Procurement Officer Publisher, Procurement Officer Admin and Auditor.

In NIC's reply (December 2022), it was stated that the GePNIC system is a role based system which does not have any connectivity to the actual designation of the department user. Audit observes that assignment of vital roles in the tender process to lower-level officials by the user departments

without following the hierarchy would compromise the confidentiality and objectivity of the tender process.

These discrepancies indicated lack of processing control and failure in ensuring accountability, reliability and data security. Moreover, users with multiple roles imply lack of segregation of duties and assignment of multiple responsibilities to one user.

Government accepted the observation during the Exit Meeting (February 2023) and stated that during training for new eProcurement portal, the procuring entities have been instructed to adopt proper role assignment.

3.3.9 Blocked users participating in tender process

Blocking of users from logging into GePNIC portal is done (i) for users who retired from service or transfer, (ii) based on mail request, (iii) due to administrative reasons, (iv) wrongly created user, etc. Analysis of data disclosed the following:

(i) In database table relating to blocked users, out of 6,631 records, 3,548 records had User Status as 'Blocked', out of which, 3,424 records had Reject Reason as 'NULL'.

(ii) In database table relating to details about blocking users, with 5,281 records (3,676 user IDs), the fields given in **Table 3.5** had 'NULL' value though the information in these fields about the blocked period, the authorised person doing the blocking/unblocking, grounds on which blocking is done *viz.*, for Item/Tender/Department or Login Security/Disciplinary action are mandatory.

Table 3.5: Number of records with 'NULL' value in the fields of Blocked users table

Fields	Number of Records with 'NULL' Value
'BlockedTo'	4,451
'BlockedBy'	3,426
'BlockedReason'	5,047
'UnblockedDate'	598
'UnblockedReason'	4,732
'UnblockedBy'	3,176

(Source: Data analysis of eProcurement data)

The missing information is due to lack of input control rendering the database incomplete and unreliable. Due to lack of transparency and trail, it may not be possible to fix responsibility.

(iii) It was observed that blocked tenderers and blocked Department users had participated in the tender process during the blocked period. The details are listed in **Table 3.6**.

Table 3.6: Number of blocked users who participated in tender process

Table name	Field name	Number of blocked users	Number of tenders processed by blocked users
Blocked tenderers			
Gep_Bids	TendererID, BidPlacedDate	3	227
Blocked Department users			
Gep_Bid_Decrypted	DecryptedBy, DecryptedDate	3	41
Gep_Tender_Basic_Details	CreatedBy, CreatedDate	15	227
Gep_Tender_Basic_Details	UpdatedBy, UpdatedDate	15	225
Gep_Tender_Work_Items	CreatedBy, CreatedDate	14	213
Gep_Tender_Work_Items	UpdatedBy, UpdatedDate	14	215
Gep_Bid_Packet_Documents	EvaluatedBy, EvaluatedDate	3	74
Gep_Tender_Evaluation	UploadedBy, UploadedDate	3	40

(Source: Data analysis of eProcurement data)

(iv) Two blocked users created 3,652 users and 12 blocked users updated 1,169 users during the blocked period.

This renders the database unreliable and lacking in security since ineligible tenderers and Department users had participated in the tender process. It is evident that there is lack of input/processing control and referential integrity.

NIC replied (December 2022) that in the earlier system, when there were three continuous failed login attempts, then the user got blocked by the system with the blocked reason as 'NULL'. The user had to unblock himself using the option provided in the eProcurement portal. In the present version, after three failed login attempts, the system-generated OTP is sent to the user to login to the eProcurement portal.

Notwithstanding the reasons put forth by NIC, blocked and unblocked details should be stored in the system for audit trail, failing which the database will be incomplete and unreliable. Further, NIC is silent about the observation that blocked tenderers and blocked department users have participated during the tender process during blocked period.

In the Exit Meeting (February 2023), NIC assured that this issue will be addressed and streamlined in the new eProcurement portal.

3.4 Other issues in eProcurement system

3.4.1 Non-refund of EMD collected online

The eProcurement portal has facility for online collection of Tender Fee and EMD. When EMD is paid online by the bidder, it is automatically refunded to the unsuccessful bidder in the technical and financial evaluation stage and to the L1 bidder after AoC.

On data analysis, it was observed that in 968 out of 4,630 instances relating to the period 2016-22, the EMD collected online was not refunded to the bidders though the system provided for automatic refund.

In reply (December 2022), NIC stated that for the online EMD remitted for tenders, the refund of fee is initiated only on completion of the appropriate stage in the eProcurement portal by the department user. The different stages of the tender processing are said to be completed only on uploading the summary details at each stage. Audit observed that failure of the user departments to upload the summaries resulted in non-refund of EMD.

In the Exit Meeting (February 2023), Government stated that the new eProcurement portal is designed to refund EMD of rejected bidders automatically on the 30th day after Award of Contract.

3.4.2 Different Bill of Quantities (BoQ) comparative charts on different dates

After decryption of financial bids of technically responsive bidders, the system automatically generates the 'BoQ comparative chart' listing the rates quoted by the bidders side-by-side and based on the quoted rates, L1 bidder name and amount is identified by the system.

On downloading the BoQ comparative charts for selected tenders from MIS reports of the eProcurement portal, it was observed that in some instances, only one bidder's rates were listed irrespective of number of technically responsive bidders. However, BoQ with rates quoted by all the technically responsive bidders had been generated earlier and downloaded by the Department during tender evaluation. Thus, different BoQ comparative charts were generated on different dates. This was noticed in 14 sampled tenders during field visit.

To cite an illustration, in one Tender (May 2018), out of four bidders, two bidders viz., M/s Jawahar Constructions and M/s Vetri Constructions, were found technically responsive for opening of price bids. However, in the BoQ comparative chart generated by system (December 2018), it was observed that only one bidder's (M/s Jawahar Constructions) quotes was listed and identified as L1. During the scrutiny of tender files of the Water Resources Department, it was noticed that the copy of the system generated BoQ comparative chart downloaded (August 2018) and placed in file had the rates quoted by both the technically responsive bidders. This indicated that the system had generated two different BoQ comparative charts for the same tender four months apart.

NIC replied (November 2022), that at the time of financial bid opening, the system generates the BoQ comparative chart with technically accepted bidders. Due to storage space constraints, tenders that had completed AoC stage were archived temporarily. Since the files were temporarily moved, GePNIC generated the comparative chart again with currently accepted

bidders available in AoC alone. NIC further stated that these are a few specific cases for which the issue has been fixed subsequently.

Reply is not acceptable as audit verified that in these specific cases, the system continued (January 2023) to generate BoQ comparative charts with only the bidders, who were given the AoC, which is misleading.

In the Exit Meeting (February 2023), NIC stated this problem occurred due to a bug in the program and assured that steps would be taken to resolve the issue.

3.4.3 Standardisation, Testing and Quality Certification

Standardisation, Testing and Quality Certification (STQC) ensures quality assurance services in the area of Electronics and Information Technology. It aims to help in hardening of websites from a wide range of Security threats, increasing accessibility, assuring commitment to services and ensuring compliance to the requirements of Guidelines for Indian Government Websites (GIGW - 2018). It carries a validity of three years from the date of issue subject to satisfactory findings during surveillances.

As per STQC guidelines, during the three-year period of validity, at the end of first and second year, 'Surveillance Audit' covering the activities of (i) EPS (eProcurement System) and related documentation, (ii) Application Security and Network Security Assessment, (iii) List of clients, (iv) Details of feedback or complaint received and (v) Review of state of continuation of ISO 27001 certificate for the system has to be carried out. Only on a satisfactory report from STQC testing laboratory, a statement of 'Continuity of Certificate' shall be issued by STQC.

STQ Certificate for the software was issued (December 2020) with validity for three years with effect from 21/12/2020 for the eTendering application - version 1.09.08 subject to STQC guidelines on 'Surveillance Assessment'. It was also mentioned that in case of major changes in eTendering application - GePNIC or hosting infrastructure, it should be re-certified. However, the present version of <https://tntenders.gov.in> eProcurement portal is 1.09.15 dated 27 July 2022 which was seven versions viz., 1.09.09, 1.09.10, 1.09.11, 1.09.12, 1.09.13, 1.09.14 and 1.09.15, after the issuance of STQC.

NIC replied (December 2022), that there were only minor changes in the software and hence the need for re-certification of STQC was not felt and that a fresh Audit with STQC has been planned as soon as they complete the major requirements in GePNIC.

NIC, however, did not furnish specific reply regarding 'Surveillance Assessment' at the end of first and second year and issuance of statement of 'Continuity of Certificate' for STQC.

In the Exit Meeting (February 2023), NIC, while noting the issues pointed out in Audit, stated that the new eProcurement portal will undergo a fresh audit certification.

3.4.4 Non-provision for general public to view tender documents after the 'Document download/sale end date'

The eProcurement portal has a provision for the general public to view the tender status of each tender published in the eProcurement portal, to ensure transparency in the tender process. Tender Summary Reports containing the details and documents uploaded by the department relating to the stage-wise Opening Summary, Evaluation Summary, BoQ comparative chart and AoC for each tender were also available in the eProcurement portal for viewing and downloading by the general public.

Audit, however, noticed that the tender documents containing the scope and details of work were available for public viewing and downloading only for a limited period viz., from the 'Publish date' till the 'Document download/sale end date'.

The general public/bidders interested in tracking the works or comparing the outcome with the tender specifications, were unable to do so due to non-availability of the tender documents beyond the limited period.

This restriction on accessing the Tender Documents which become non-sensitive documents once published, defeats one of the basic objectives of the eProcurement portal i.e. transparency.

When this was pointed out, NIC replied (December 2022), that the prospective tenderers and general public would be interested to download the tender documents only during the bid submission date and after it, would be interested to know only the status of the tender process. NIC further stated that persons requiring the tender document could obtain it by approaching the department.

Reply is not acceptable since in a transparent system, non-sensitive information in the eProcurement portal should be made easily accessible to the public without any restriction.

In the Exit Meeting (February 2023), NIC stated that this issue will be addressed.

3.5 Conclusion

The software was not designed to incorporate the timeline related provisions of TNTIT Rules. There were no provision in the eProcurement system to capture details of item-wise EMD payments and for extending purchase preference to domestic enterprises. Departments resorted to manual tender processing in cases where multiple bidders quoted the same price. The system lacked provisions for negotiation with L1 bidder after generation of Bill of Quantities and for situations where participating bidders quoted the same price necessitating manual intervention. 'NULL', duplicate and erroneous values were noticed in mandatory fields. Bids of the same tender were decrypted on different dates in contravention of TNTIT Rules. Discrepancies were noticed

in role creation by user departments, as key roles of an organisation were created by other department users.

3.6 Recommendations

- Government should incorporate suitable provisions in the software, in line with TNTIT Rules, in consultation with the Finance Department, should provide suitable input controls in the eProcurement portal during capture of the registration information of the departmental users/bidders, should provide necessary validation controls and customise the eProcurement portal for Tamil Nadu to ensure transparency, impartial decision making and confidentiality.
- Government should take steps for the public to easily access non-sensitive information in the eProcurement portal without any restriction for a truly transparent system.