

Apart from carrying out beneficiary survey of the toilets in the audit sample and examining the records relating to monitoring, Audit also examined planning process carried out by the CPSEs for designs and technology used for construction of toilets vis-à-vis SVA guidelines and award and execution of work by the seven CPSEs.

Deficiencies noticed in these areas are brought out in the following paras:

4.1 Absence of basic amenities in toilets designed by CPSEs

MHRD had conveyed (19 November 2014) to the CPSEs that the toilets should have running water. As per the Handbook on SVA, a toilet unit should have one WC and three urinals. The toilets were also required to have hand washing facility. Audit found that NHPC, PFC and ONGC provided these basic amenities in their toilet designs, but the other four CPSEs did not provide one or more of these amenities in their design of 42,475 toilets, as indicated in Table 6.

Table 6
CPSE-wise details of non-provision of basic amenities in toilets²¹
(‘X’ denotes facility not provided; ‘✓’ denotes facility provided)

Basic amenity	NTPC	REC	PGCIL	CIL
Running ²² Water inside toilets	X	X	X	X
Hand wash facility ²³	X	X	X	✓
Urinals	X	X	Out of eight designs adopted, urinal was not provided in four designs	Out of eight designs adopted by CIL, urinals were not provided in two designs

Lack of these amenities in toilets constructed by these four CPSEs was confirmed during survey of toilets undertaken by audit, as discussed in Para 2.2.3 and 2.2.4.

Among reasons for non-availability of running water facility inside the toilets, Audit found that:

- NTPC and REC provided for water tanks on the floor of the toilets which had to be filled up with water manually, as there was no connection provided to a water source.

²¹ As per Memorandum of Understanding for the construction of toilets between CPSEs and Implementing agencies

²² Water tank/water source connected to toilet with pipeline

²³ Either a wash basin or handwashing basin with tap (s) along with drainage

- PGCIL provided water tank and pressure hand pumps for filling the water tank (situated outside the toilet) but water pipeline between the toilet and the water tank was not provided. Further, in 345 schools the hand pumps were also not provided²⁴.

MoP/ NTPC replied (26 March 2019) that they had finalized the design for construction of toilets based on design given on MHRD website and modified after discussion with MoP. REC replied (5 February 2019) that they adopted NTPC's design and added that providing of water connection in toilets was beyond the scope of work assigned to them.

MoP/ PGCIL replied (14 August, 2018) that installation of piped water supply and wash basins were not considered a sustainable solution due to risk of theft and pilferage. PGCIL added that they were assessing the status of toilets, for remedial measures. Regarding the non-provision of urinals, PGCIL replied (23 April 2018) that they had constructed WCs in lieu of urinals for the girls' toilets.

CIL (subsidiary CCL) replied (21 January 2019) that the designs of the toilets were approved by their competent authorities.

The replies indicate that the CPSEs did not appreciate the importance of providing running water in the toilets constructed by them. Lack of running water was one of the main reasons for rendering the toilets built under earlier schemes unusable/dysfunctional. The toilets built under this project by the four CPSEs also faced the same problem.

NTPC, stated that their design was approved by the Ministry/MHRD, but could not provide documents in support of the same. Ministry of Power also did not provide the details while furnishing its reply (26 March 2019) to Audit.

Thus the minimum facilities were scaled down by the four CPSEs, though flexibility was allowed to them for improvement in the toilet design.

4.2 Use of prefab structures for building toilets

MoP/ MoC instructed (27 October 2014) the CPSEs that the toilets to be constructed under the project would be either of conventional²⁵ (brick and mortar) or precast²⁶ (concrete slabs) technology. MoP further directed the CPSEs to ensure that no prefabricated structures were used for constructing toilets, as prefab technology offered lower strength and useful life, compared to conventional technology. Prefab technology involves higher cost, but helps in quick construction of civil structures due to use of already manufactured components in construction.

²⁴ As per PGCIL's own survey of 446 schools conducted during 2017

²⁵ *Conventional Technology: It is normal brick-and-mortar method generally used for construction. This technology is cost effective and addresses issues of sustainability and quality*

²⁶ *Precast Technology: Under precast technology, concrete is cast in reusable molds, then cured in a controlled environment, to be transported to the construction site and lifted into place. It provides quickly built civil structure, cost effective for higher quantity of units, and addresses issues of sustainability and quality*

- (i) CIL (subsidiaries other than NCL), ONGC and NHPC adhered to the above mentioned directions of the Ministry, while PFC and CIL (subsidiary NCL) planned for the prefabricated structures for a part of their identified toilets.



Conventional Technology



Prefab Technology

NTPC, PGCIL and REC initially planned for conventional technology, but later asked the respective implementing agencies to use prefab structures for achieving the timelines.

The CPSE-wise comparative cost of toilets constructed by use of prefab technology and conventional technology is given in Table 7.

Table 7
Details of higher cost involved in Prefab Toilets

Name of CPSE*	Total toilets constructed	Prefab toilets constructed	Contract award value* of conventional toilet	Contract award value* of prefab toilet	Extra cost** per prefab toilet	Total extra cost
	Numbers	Numbers (per cent)	₹ in lakh	₹ in lakh	₹	₹ in crore
PFC	9,383	4,947 (53)	1.40	2.28	88,000	43.53
REC	12,379	5,257 (42)	0.96	1.71	75,000	39.43
NTPC	29,441	9,010 (31)	1.20	1.55	35,000	31.54
CIL (Sub-NCL)	5,635	4,553 (81)	2.09	2.88	79,000	35.96
Total	56,838	23,767 (42)				150.46

*Weighted average of award values have been used. Difference in contract value among CPSEs, within the same technology, is due to the difference in the design of toilets.
 **Based on comparable design/drawings of the two technologies in terms of amenities of the toilets.
 Note: PGCIL's cost for conventional toilets, comparable with prefab design, was not available, hence not included in this table.

Above mentioned four CPSEs constructed 31 to 81 *per cent* of their toilets using prefab structures and incurred higher cost of ₹150.46 crore as compared to conventional technology.

CIL (subsidiary NCL)/ NTPC and MoP (REC/ PFC) replied (January 2019 to July 2019) that the prefab technology was preferred to achieve the target within the given timeframe.

The decision to use prefab structures was in total disregard of Ministry's instructions and compromised the strength and life of toilets. Moreover, the CPSEs did not meet the timelines for completion of toilets (refer Para 3.2.2) despite adopting prefab technology to save time.

- (ii) PGCIL constructed 8,453 prefab toilets through implementing agencies out of which 255 toilets were temporary/movable. MHRD requested PGCIL that the temporary toilets may be replaced with permanent toilets by 10 September 2015 but this was not complied with.

MoP/PGCIL stated (14 August 2018) that it entrusted provision of 120 toilets in Purnea District to M/s. ABB which constructed temporary toilets at its own cost. For the remaining 135 toilets, since the schools did not confirm the locations, the toilets were made temporary/movable.

Reply is to be viewed against the fact that the temporary toilets were accounted for in PGCIL's account and such type of toilets were not permitted by MHRD. Further, the same were not replaced with permanent structures as directed by MHRD.

4.3 Award of contract to implementing agency on nomination basis

As per directions (5 July 2007) of CVC, the award of contracts on nomination basis was to be resorted to only under exceptional²⁷ circumstances. MoP/ MoC also directed (21 November 2014) the CPSEs that the work should be awarded following competitive bidding process only.

Audit noticed that out of the seven CPSEs, NTPC handled the work of award of contracts for construction of toilets and monitoring of execution of the contracts on its own while NHPC entrusted the work to respective School Management Committees. Four CPSEs viz. PFC, PGCIL, ONGC, and CIL (subsidiaries NCL, CCL and SECL) outsourced the Project implementation work, including award of contracts for construction of toilets, to other agencies. PFC, PGCIL and CIL engaged PSUs and ONGC engaged Sulabh International as the implementation agency on nomination basis. REC entrusted the work to its wholly owned subsidiary REC Power Distribution Company Ltd (RECPDCL). The award of contracts to implementing agencies on nomination basis was not in accordance with CVC's directions.

The CPSEs stated that award of contracts to implementing agency on nomination basis became necessary due to strict timelines (CIL SECL, REC), lack of expertise in handling civil construction and infrastructure projects (PFC), inadequate manpower (PGCIL) and provisions of CSR policy (REC and ONGC). The CPSEs further stated that the implementing agencies awarded the work to constructing agencies through competitive bidding.

The reply needs to be seen in the light of the fact that award of the work to implementing agencies was in violation of the CVC and Ministries guidelines. Further, this had cost implications (refer Para 4.3.1) and had failed to achieve completion of work within the timelines (Para 3.2.2).

4.3.1 Implementation charges paid to nominated agencies

Besides construction of toilets through nominated agencies, the CPSEs offloaded 45,967 toilets (35 per cent) out of the total 1,30,703 constructed toilets to SGAs. This was because

²⁷ such as natural calamities and emergencies or where there were no bids to repeated tenders or where only one supplier has been licensed (proprietary item) for the supply

the construction work did not progress well and MoP/ MoC directed (24 June 2015) the CPSEs to transfer the work to concerned SGAs.

The implementation charges paid by the CPSEs to SGAs ranged between 2.5 to 3 *per cent* of cost of construction while the implementing agencies appointed on nomination basis were paid 8.5 *per cent* to 15 *per cent* of cost of construction as implementation charges. Extra cost incurred due to payment of higher implementation charges is tabulated in Table 8.

Table 8

Higher Implementation charges paid to implementing agencies appointed on nomination basis

SI. No.	Name of CPSE	Implementing Agencies	Charges paid to implementing agencies appointed on nomination basis		Charges worked out @ 3 <i>per cent</i> as paid to SGAs (₹ in crore)	Extra cost (₹ in crore)
			(<i>per cent</i>)	(₹ in crore)		
1	CIL (CCL, NCL)	NBCC (India) Limited, Hindustan Prefab Limited (HPL)	8.5, 10	33.26	11.02	22.24
2	PFC	HPL, IRCON ISL ²⁸	10	11.18	3.35	7.83
3	REC	RECPDCL	10	11.59	3.48	8.11
4	PGCIL	HPL, IRCON ISL, GVT ²⁹	10	3.80	1.15	2.65
5	ONGC	Sulabh International	15	10.59	2.12	8.47
Total				70.42	21.12	49.30

Higher rate of implementation charges allowed to implementing agencies, as compared to SGAs, involved extra cost of ₹49.30 crore.

CIL (subsidiary NCL) replied (23 August 2018) that they engaged HPL on nomination basis to save time. CIL (subsidiary CCL) replied (21 January 2019) that the work was awarded to NBCC on nomination basis after receiving the proposal from HPL and NBCC.

MoP/ PGCIL/ PFC replied (14 August, 2018 and 15 July 2019) that SGAs had local network to implement the project at lower cost, but high logistic costs were involved in case of other agencies. PFC further added that implementation charges paid by them are comparable with rest of CPSEs and hence are not on higher side.

MoP/ REC replied (5 February 2019) that the charges paid to RECPDCL were in line with market trend.

MoPNG/ ONGC replied (6 August 2019) that the rates charged by their implementation agency was lowest in comparison to any other organisation for similar scope of works and location.

Reply is to be viewed against the fact that SGA charged much less as implementation charges. Decision of implementation charges should have been taken on the rates prevailing in the market instead of following the proposal of implementing agencies.

4.4 Cost estimation

The implementing agencies appointed by CPSEs prepared cost estimates to establish benchmarks for bid evaluation and to assess reasonableness of contract values obtained

²⁸ IRCON Infrastructure & Services Limited

²⁹ Gramin Vikas Trust

through bidding. As per MHRD's guidelines, the cost estimates were to be prepared based on Schedule of Rates (SoR) of concerned State for each item of work. Audit found that:

- (i) All the selected CPSEs, except NHPC, prepared the cost estimates by applying Delhi Schedule of Rates (Delhi SoR)³⁰ while the SGAs were paid based on State SoR.

Audit re-worked the cost estimates by adopting State SoR instead of DSR, in respect of toilets built in five³¹ states by five CPSEs. It was seen that the cost estimates prepared by the CPSEs {PFC, REC, ONGC, and CIL (MCL and WCL)} by adopting DSR, were higher by ₹47.55 crore (*Annexure IV*).

PFC replied (11 January 2018) that they did not have expertise in civil work and hence considered the cost estimates submitted by their implementing agencies. Reply of MoP is silent on this issue.

CIL (subsidiaries WCL and MCL) replied (23 August 2018) that they adopted their prevailing tendering practices.

MoP/ REC replied (5 February 2019) that they adopted Delhi SoR, as provided by NTPC.

MoPNG/ ONGC replied (6 August 2019) that they had tried to avoid procedural delays in planning stage by choosing uniform rates over State SoRs.

Audit is of the opinion that as the toilets were built using material and labour generally sourced within the State, adoption of State SoR would have been more relevant and cost effective.

- (ii) CCL offloaded (25 July 2015) 272 toilets to Jharkhand Government at an estimated rate of ₹1.36 lakh per new toilet which was completed as per the UC dated 01.06.2016. However, earlier, the work for construction of 1271 toilets having identical design with similar facilities was awarded (20 January 2015) to NBCC Ltd at ₹1.65 lakh each. Comparison of the two costs indicate that the toilets awarded to NBCC Ltd was executed at a higher cost of ₹3.68 crore {(₹1.65 lakh – ₹1.36 lakh) x 1271 toilets}. Thus the two CPSEs incurred more cost in respect of those toilets constructed by them through implementing agencies as compared to toilets constructed by SGAs.
- (iii) HPL, the implementing agency of PGCIL, Patna awarded the work of construction of toilets to Rubicon Inspection System Pvt. Ltd who, in turn, outsourced the entire work to various local contractors. The rates paid to the sub-contractor were less by 18 to 20 *per cent* indicating that higher margins (₹8.34 crore) were retained by the main contractor.
- PGCIL/ MoP replied (14 August, 2018) that the main contractor engaged local labour supply gangs which was not the same as outsourcing of work on back to back basis.

³⁰ *Delhi Schedule of Rates (DSR), published by Central Public Works Department from time to time, gives unit rates for various items of material and labour, based on prevailing technology and market rates*

³¹ *Arunachal Pradesh, Andhra Pradesh, Bihar, Madhya Pradesh and Odisha*

Reply is to be viewed against the fact that work was transferred to the sub-contractors including the supply of material and labour.

4.5 Deficiencies at the time of execution

Audit examined various aspects of execution of work such as tendering process, eligibility and performance of the contractors, timely completion of work, adherence to terms and conditions of contract etc.

Audit observed the following:

4.5.1 Eligibility for award of work

RECPDCL awarded (15 January, 2015) construction of 1,971 toilets at a cost of ₹29.27 crore to M/s V K Aggarwal & Co (VKAC). Later, at the time of seeking ex-post facto approval (22 January 2015) of Board³², management noted that VKAC did not fulfil the criteria of previous experience. Board of Directors of RECPDCL, however, decided to award the work to VKAC in a phased manner by awarding 1,009 toilets in the first lot (Ballia I and II) and balance 962 toilets (Ballia III and IV) in the second lot subject to performance of work under Phase-I.

Against the above, VKAC could complete only 261 toilets. It could construct another 251 toilets only up to plinth level. RECPDCL handed over the pending work to other contractors and asked them to use prefab structures to expedite the work. Use of prefab structures involved extra cost of ₹5.61 crore for 748 toilets (1,009 minus 261) and were also in violation of Ministry's directions. REC/RECPDCL also waived the risk & cost clause³³ of contract with VKAC.

MoP/ REC replied (5 February 2019) that in order to achieve the assigned target in time, the balance toilets were awarded to prefab agencies and the risk & cost clause was waived.

The fact remains that placing the order on VKAC, despite being aware that they did not fulfill the eligibility criteria, was not a prudent decision.

4.5.2 Absence of penalty clause for delay in execution of contracts

As per CVC guidelines, there should be punitive clauses, such as penalty/ liquidated damages (LD)³⁴ and purchase at risk/cost³⁵ for delayed/non-supplies. Internal Manuals of CPSEs also require that these standard clauses are included in the contracts. Audit found that there was no punitive clause for delay in work in the MoUs executed by CPSEs with implementing agencies. The contracts awarded for construction work however provided for both the punitive clauses.

³² As per delegation of powers, Board approval is required for contracts of value exceeding ₹20 crore as such ex-post facto approval was taken

³³ As per this clause, in case of abnormal delays or non-fulfilment of terms and conditions of the contract, the Company may cancel the letter of award in full or part thereof, and may also make the purchase of such material from elsewhere / alternative source at the risk and cost of the contractor

³⁴ If a contractor fails to deliver goods/services within stipulated time, he shall pay to owner LD @ 0.5 per cent of contract price for each week of delay or part there of subject to maximum of 5/10 per cent

³⁵ In case of delay/non-supplies, the owner can get the work done through other sources and recover the extra cost incurred in the process, if any, from the defaulting contractor

Audit noticed that no penalty/ LD clause was included in the MoUs executed with the implementing agencies to enable the management to recover LD/price reduction in cases of delay in execution of contracts. Resultantly, an amount of ₹12.57 crore could not be recovered from the implementing agencies by three CPSEs as depicted in Table 9.

Table 9
Detail on liquidated damages for three CPSEs

CPSEs*	Implementing Agency	Toilets constructed and data provided	Actual cost of total toilets	Number of toilets completed		Delay period	LD as per norms
		(Number)	(₹ in crore)	On time	With delay	Months	(₹ crore)
PFC	HPL, IRCON ISL	4745	155.06	1,331	3414	Up to six months	1.89
REC	RECPDCL	6802	184.37	143	6,659	More than six months	9.51
ONGC	Sulabh International	4,496	84.5	1,598	2,898	Up to 21 months	1.17
Total		16,043	423.93	3,072	12,971		12.57

* Necessary data was not provided by NTPC, PGCIL, NHPC and CIL

Above table shows that, out of 16,043 toilets constructed by the three CPSEs through agencies (other than SGAs) for which data was provided, only 3,072 toilets (19 per cent) were completed in time, and 12,971 toilets (81 per cent) were completed with delays.

Further, REC had exempted (10 July 2015) the recovery of LD from all the contractors if they could complete the balance work by 15 August 2015. But, REC finally released full payments without deducting LD even though only 137 toilets (1.30 per cent), out of the allotted 10,989 toilets, were completed on time.

MoPNG/ ONGC replied (7 September, 2018) that LD clause was adopted mainly for time bound commercial activities and, in this case, no loss occurred to them due to the delays.

MoP/ REC stated (05 February 2019) that the basic motive at that point of time was to complete the toilets within target timeline and to avoid litigation. Accordingly, in view of the urgency of the project and to motivate the agencies to complete and handover all toilets within given timeline, LD or any other penalty was considered for waiver on satisfactory completion on case to case basis.

MoP/ PFC replied (15 July, 2019) that toilets were technically completed by 8 August 2015 and time extensions were granted for handing over activity and other documentations.

Fact remains that the deterrent mechanism was absent, to the undue benefit of contractors, even though most of the toilets were not completed in time.

4.6 Weakness in Internal Control

Internal Control System means all the policies and procedures (internal controls) adopted by the management of an entity to assist in achieving management's objective of ensuring, as far as practicable, the orderly and efficient conduct of its business, including adherence to

management policies, the safeguarding of assets, the prevention and detection of fraud and error, the accuracy and completeness of the records.

During review of payments to the contractors by CIL (subsidiary CCL) and PGCIL, Audit noticed certain inadequacies as discussed in Para No. 4.6.1 and 4.6.2.

4.6.1 Advance for maintenance of toilets

CIL (subsidiary CCL) entered (20 January 2015) into a MoU with NBCC (India) Limited to implement the project for construction of 11,589 toilets in four³⁶ States. The total estimated cost of was ₹324.50 crore, ₹196.56 crore for construction and ₹127.94 crore for four years' maintenance after expiry of one-year warranty. As per the relevant clause in the MoU, CCL released (March 2015) a sum of ₹32.45 crore to NBCC towards 10 *per cent* advance, for mobilization of resources by the contractor. This included advance of ₹12.79 crore on the maintenance portion of the contract. As the four years' maintenance was to start only after completion of toilets and expiry of one-year warranty, the release of advance for maintenance was premature. Further, NBCC did not start the four years' maintenance, even after two years of scheduled date (16 August 2016) as per the contract.

CIL (subsidiary CCL) replied (21 January 2019) that interest on the un-used advance was passed on by NBCC to them. Regarding maintenance not being started, CCL stated that they had not received instructions from CIL on the maintenance of toilets.

The reply is to be viewed against the fact that maintenance of toilets has not started yet, though advance was released in the beginning itself which highlighted the lack of monitoring on the part of CPSE.

4.6.2 Release of final payment to implementing agencies

As per the MoUs entered into (26 November 2014) by PGCIL with implementing agencies, the payment of last 10 *per cent* of the contract value was to be released only after receiving monthly progress reports from the contractors, audit certificates on expenses incurred and final comprehensive completion report. The final comprehensive completion report was to provide the details of beneficiary schools and students along with photographs. But PGCIL released the last 10 *per cent* (₹4.17 crore) payment without this report.

PGCIL/ MoP replied (14 August 2018) that the final payment was released based on submission of handing over certificates, audited accounts and verification of the bills.

The fact remains that the MoU clause was not adhered to. Though PGCIL stated that handing over certificates were furnished by the agencies, these certificates were not produced to Audit for 4,947 out of 9,983 toilets (50 *per cent*) (*refer Table- 5 under Para 3.2.2*).

Thus, release of final payments to the implementing agencies without obtaining the final comprehensive completion report highlighted the lapse on the part of monitoring by the CPSE.

³⁶ *Jharkhand, Odisha, Chhattisgarh and Uttar Pradesh*