

Chapter 3

Compliance Audit

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AGRICULTURAL MARKETING DEPARTMENT

3.1 Project for providing Cool Chain (composite and integrated cool chain network) - Wasteful expenditure

West Bengal State Agricultural Marketing Board's failure to follow the timelines stipulated in the PIAC (Project Implementation Activity Chart) of the Finance Department in the project for providing Cool Chain (composite and integrated cool chain network) resulted in wasteful expenditure of ₹ 16.87 crore.

With the objective of facilitating the small and marginal farmers to market their agricultural produce and ensure remunerative price, the Finance Department (FD), Government of West Bengal approved (September 2010) a project of composite and integrated cool chain network (Cool Chain) in 30 principal market yards in the State. The project cost of ₹ 55.33 crore¹⁴⁷ was funded with loan assistance from National Bank for Agriculture and Rural Development (NABARD). The project envisaged commodity specific atmospheric conditions to be provided right from the production centre throughout the journey to the consumption centre, through a network of refrigerated transport vehicles. Agricultural Marketing Department (AMD) was the nodal department and West Bengal State Agricultural Marketing Board (WBSAMB) was to monitor and execute the project.

The timelines stipulated by the Project Implementation Activity Chart (PIAC) approved by the FD for two main project components viz. (i) civil & electrical works and (ii) mechanical (refrigeration) work, were:

- (a) tender processing and evaluation in the first month,
- (b) construction during the second to tenth month and
- (c) installation of machineries during the 11th and 12th month.

It was, however, observed that tenders for (i) civil & electrical works and (ii) mechanical (refrigeration) work were awarded on the same day (7 December 2010) to be completed in 75 days. The works were, however, pending after more than eight years from the scheduled date of completion. It was observed that:

- Construction works of Godowns including electrical work in 30 principal market yards were awarded (7 December 2010) to 30 different agencies at the tendered cost of ₹ 33.43 crore for completion by February 2011. As against this time schedule, first godown was completed in November 2011 and 27th godown was completed in April 2014. Remaining three godowns were yet to be completed as of June 2018. Electrical installations at 16 sites were completed between October 2011 and October 2014. It was observed that in one case, electrical installation was stated to be completed

¹⁴⁷ ₹ 52.57 crore loan from NABARD and contribution of ₹ 2.76 crore from State Government.

in October 2011 prior to completion of the civil work in January 2012. As of April 2018, total ₹ 28.37 crore had been paid to the contractors on these components.

- WBSAMB, in deviation of the timeline prescribed in the PIAC of the project, awarded (7 December 2010) the work of supply, erection, testing and commissioning of composite refrigeration system to an agency at a tendered cost of ₹18.39 crore on the same day when the civil work was awarded. As per the work order, the agency was required to complete the work simultaneously with the completion of civil work, within 60-75 days from the date of issue of work order.
- All the machineries for the refrigeration system were delivered to 30 sites by March 2011. These machineries, however, could not be installed due to non-completion of civil and electrical works, lack of availability of power and water. Finally, WBSAMB terminated (April 2015) the mechanical (Refrigeration) contract, after payment of ₹ 16.87 crore.
- WBSAMB, in order to assess the condition of the equipment already supplied at the site, conducted (October 2016) inspection by an expert¹⁴⁸. The report of the expert revealed that most of the supplies and installations were older than five years, had remained non-functional and required replacement.
- On the basis of this report, WBSAMB, invited (December 2016, February and March 2017) Expression of Interest (EOI) from interested agencies to complete the balance work but no bids were received.
- Under these circumstances, WBSAMB decided (March 2017) to complete the balance work by means of “re-build and operate” process. The interested agency was to execute the balance work on ‘as is where is’ basis for supply of machines and related equipment, erection, installation & testing and commissioning with operation. An EOI in this regard was invited (March 2018). However, due to receipt of single tender, the EOI was later cancelled (January 2019).

It was evident from the report of the expert as well as the decision of WBSAMB to terminate the mechanical contract and complete the work by the means of ‘re-build and operate’ process that the machineries purchased earlier required replacement and the expenditure of ₹ 16.87 crore incurred had become wasteful.

By following the timelines set out in the PIAC, failing which, by ensuring staggered supply, erection, testing and commissioning of composite refrigeration system, particularly, when there was delay in the completion of civil and electrical work, WBSAMB could have ensured successful completion of the project avoiding wasteful expenditure.

The Department while accepting (November 2018) that the work of composite cool chain could not be completed, stated that actions were being taken to complete the balance work on ‘as is where is’ basis.

¹⁴⁸ *Indian Institute of Engineering Science and Technology, Shibpur.*

PUBLIC WORKS DEPARTMENT

3.2 Strengthening of road within its Design Life-Unjustified expenditure

Superintending Engineer, in disregard of the IRC Guidelines, had taken up a road improvement work even when the road was in good condition and within its design life without conducting the required tests and traffic survey. This resulted in unjustified expenditure of ₹ 3.05 crore.

Indian Roads Congress (IRC) Guidelines¹⁴⁹ stipulate that road pavements¹⁵⁰ are designed for a particular design life; after this period, the pavement needs to be rebuilt or strengthened. For strengthening of existing pavement, additional layers are laid over the existing road pavement. The requirement of overlays for strengthening of the existing pavement needs to be worked out on the basis of Benklemen Beam Deflection (BBD)¹⁵¹ test.

Audit scrutiny showed that Superintending Engineer (SE), Western Circle No. I, Public Works Department (PWD) had taken up (June 2011) strengthening work of a road¹⁵² at a cost of ₹ 4.38 crore. The work was completed in July 2012 at a cost of ₹4.38 crore. The scope of the work *inter-alia* included (i) 150 mm sand consolidation¹⁵³ (*Granular Sub-Base Course*), (ii) 100 mm stone metal consolidation¹⁵⁴ (*Base Course*), (iii) 50 mm Bituminous Macadam (BM) (*Binder Course*) and (iv) Mix Seal Surfacing (MSS) (*Wearing Course*) (**Fig 3.1**). The estimate of the work provided for design life of five years from the date of completion of the work *i.e.*, upto June 2017.

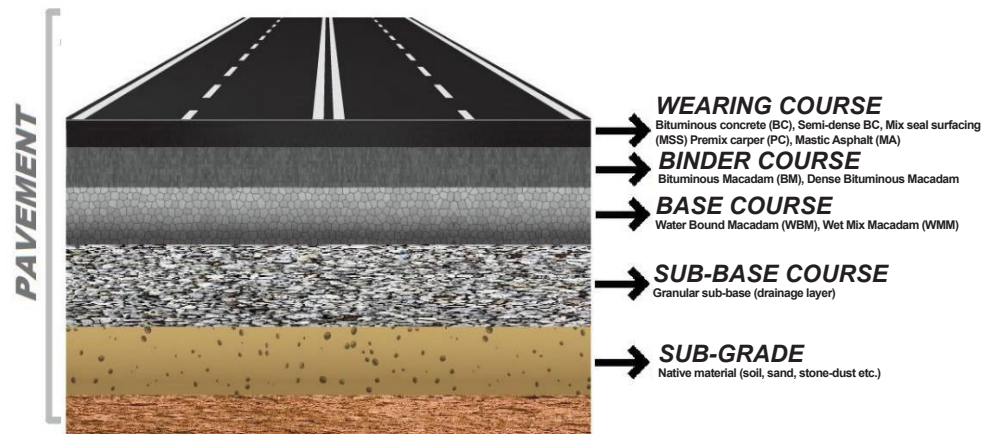


Figure 3.1 : Different layers in a pavement

¹⁴⁹ Para 11.7.2 of IRC:SP:20-2002 and Para 3.3.3.1 of IRC:37-2001.

¹⁵⁰ Pavement means the constructed part of the road.

¹⁵¹ As per IRC:81-1997, BBD test is required to be done to evaluate the requirement of additional bituminous layers in case of strengthening of an existing road.

¹⁵² Strengthening of Sarbari-Tiluri-Panchet Dam road from 0.00 km to 7.30 km.

¹⁵³ Spreading and compacting sand to required thickness in layers.

¹⁵⁴ Spreading and compacting stone metal of specific sizes in requisite thickness.

It was, however, noticed that the Division, in January 2016, had taken up another road improvement work on the same stretch at a tendered cost of ₹ 4.70 crore. The scope of the work *inter alia* included laying of 75 mm BM and 25 mm Semi Dense Bituminous Concrete. The work was completed in May 2016 at a cost of ₹ 4.68 crore.

Scrutiny of the detailed project report revealed that the Division executed this road improvement work anticipating the increasing trend of traffic. Audit, however, found that the Division did not conduct any traffic census for such anticipation. Further, the specifications of the earlier strengthening work were fixed based on a traffic survey conducted in April 2009 with 7.5 per cent annual growth of traffic. Audit also found that the specifications of the work of January 2016 was fixed without conducting BBD test which was required to evaluate the requirement of additional bituminous layers in case of strengthening of an existing road.

In reply, the Chief Engineer stated that there was no noticeable surface failure or cracks on the road and accepted that improvement work was taken up on intuition and experience as a consequence to the unforeseen and unaccounted traffic load. Division, however, could not provide any evidence regarding unforeseen increase in traffic, while specifications of the earlier strengthening work had been fixed by taking into consideration the annual growth of traffic.

Strengthening of the road within its design life without conducting the required tests and traffic survey and when there were no noticeable surface failure or cracks, was unnecessary. This resulted in unjustified expenditure of ₹ 3.05 crore.

The matter was reported (July 2018) to the Department; reply was awaited till date (April 2019).

3.3 Design of Road based on higher volume traffic-Avoidable expenditure

Superintending Engineer, Eastern Highway Circle, Public Works Roads Directorate, Public Works Department designed the pavement of a road considering the Vehicle Damage Factor of another road having higher volume of traffic, in violation of the IRC Guidelines. This resulted in avoidable expenditure of ₹ 2.93 crore.

Para 4.4.4 of Indian Road Congress Guidelines¹⁵⁵ for the design of flexible pavements stipulate that Vehicle Damage Factor (VDF)¹⁵⁶ should be arrived at carefully by carrying out specific Axle Load Survey on the existing roads. Para 4.4.6 of the Guidelines also stipulates that where sufficient information on axle loads is not available and the small size of the project does not warrant an Axle

¹⁵⁵ IRC: 37-2012.

¹⁵⁶ The vehicle damage factor (VDF) is a multiplier for converting the number of commercial vehicles of different axle loads and axle configurations to the number of standard axle-load repetitions. It is defined as equivalent number of standard axles per commercial vehicle.

Load Survey, the default values of vehicle damage factor as given in Table 4.2¹⁵⁷ of the Guidelines may be used.

Superintending Engineer (SE), Eastern Highway Circle, Public Works Roads Directorate, Public Works Department entrusted (February 2016) a Widening and Strengthening work of BPRMK road¹⁵⁸ to an agency at a tendered cost of ₹ 24.76 crore for completion by May 2017. The work was completed in February 2017 at a cost of ₹ 29.37 crore.

Scrutiny of Detailed Project Report (DPR) revealed that the Division in the instant work did not obtain the value of the VDF from the Axle Load Survey of the road. As per the Axle Load Survey of September 2014 which was conducted before the preparation of the detailed cost estimates the volume of commercial vehicles (trucks and buses) on the BPRMK road was only 530. Instead of adopting this VDF value in the estimates the Division, in violation of the IRC Guidelines, adopted the value of VDF obtained through axle load survey conducted in an adjacent Ghoadanga-Sangrampur (GS) Road under the same Division. As per the Axle Load Survey of GS Road conducted in September 2014, number of commercial vehicles per day for both directions of the GS road at two points (ninth and fourth kmp) were 663 and 1684 respectively. It was also observed that the GS road was a border road having high traffic volume of commercial vehicles (trucks and buses) due to trading activities with Bangladesh. Instead of using data of BPRMK road, the division used the data of GS road for designing the road. There was, however, no recorded reason available in the estimates as to why higher VDF value of GS road was considered.

The concerned SE stated (June 2018) that during traffic survey, it was observed that maximum portion of the traffic originating from GS Road which were mostly heavy commercial vehicles were entering BPRMK road. Keeping this in view VDF of GS Road was taken. This was, however, contrary to the fact that the traffic survey which had been conducted in September 2014 of the BPRMK road, had showed no such increase in traffic.

By adopting VDF of 6.51 of the GS Road, the thickness of the instant road provided was 740 mm¹⁵⁹, while it would have been 670 mm¹⁶⁰ if the road had been designed on the basis of indicative VDF of 3.5 as per the IRC Guidelines. As a result, the instant road had an excess thickness involving extra expenditure of ₹ 2.93 crore¹⁶¹ which was avoidable.

The matter was reported (July 2018) to the Department; reply was awaited till date (April 2019).

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Initial traffic volume in terms of commercial vehicles per day	Terrain	
	Rolling/Plain	Hilly
0-150	1.5	0.5
150-1500	3.5	1.5
More than 1500	4.5	2.5

158 Widening and Strengthening of Bashirhat-Pifa-Raghabpur-Murarisha-Kalinagar (BPRMK) road from 0.00 kmp to 11.00 kmp.

159 (i) 325 mm Granular Sub Base + (ii) 275 mm Granular Base + (iii) 100 mm Dense Bituminous Macadam (DBM) + (iv) 40 mm Bituminous Concrete (BC).

160 (i) 335 mm Granular Sub Base + (ii) 250 mm Granular Base + (iii) 60 mm Dense Bituminous Macadam (DBM) + (iv) 25 mm Bituminous Concrete (BC).

161 ₹ 2.38 crore for excess execution of 40 mm DBM + ₹ 0.55 crore for excess execution of 15 mm BC.

3.4 Deviation of sanctioned DPR-Doubtful expenditure

Superintending Engineer, in deviation to the sanctioned Detailed Project Report (DPR), allowed an extra layer of base course during construction of a road without any investigation or authentic data to ensure actual depth of the pavement. This resulted in extra expenditure of ₹ 2.83 crore, execution of which was doubtful.

There was a general tendency on the part of the divisions to revise the estimates by increasing the scope of work and adjusting the excess quantity on account of the revision, from the available savings in the tender. Noting this the Chief Engineer (CE), Public Works Department (PWD) instructed¹⁶² (May 2012) all the Executive Engineers (EEs) to execute works within tendered amount without any deviation as the estimates were prepared on the basis of actual requirement and site conditions.

Audit scrutiny of the records (July 2017) of the EE, Jhargram Highway Division showed that Chief Engineer (CE), Public Works (Roads) Directorate (PWRD) sanctioned (December 2015) a road work¹⁶³ at an estimated cost of ₹ 23.97 crore. Accordingly, the Superintending Engineer (SE), South Western Highway Circle, PWRD, awarded (February 2016) the work to a contractor at a tendered cost of ₹ 18.45 crore (20.69 per cent below the estimate) for completion within 450 days. The work was completed in January 2017 (361 days) at a cost of ₹ 22.09 crore.

As per the DPR approved (December 2015) by the CE, the existing depth of the pavement was 400 mm (comprising of 250 mm sub-base and 150 mm base course). The design thickness of the existing road to be strengthened was fixed at 655 mm in accordance with the Indian Roads Congress Guidelines (IRC:37-2012). The increase of 255 mm (from 400 mm to 655 mm) in the thickness of the strengthened road included laying of 150 mm Wet Mix Macadam (WMM) course, 75 mm Dense Bituminous Macadam (DBM) as base course and 30 mm Bituminous Concrete (BC) as wearing course (150+75+30=255 mm).

It was noticed that during the strengthening work, the concerned EE proposed (March 2016) laying of 250 mm layer of WMM instead of 150 mm. This was because the EE observed that the existing base course was only 75 mm thickness, instead of 150 mm.

In this respect, the following were observed:

- EE's conclusion regarding thickness of the base course being less was not based on any investigation or report. The concerned SE, however, approved (April 2016) the proposal of EE which led to 57.44 per cent¹⁶⁴ increase in work of execution of WMM and involved an extra cost of ₹ 2.83 crore. The excess expenditure was met from the apparent savings in the tender (20.69 per cent below the estimated cost) and approved by the concerned SE.

¹⁶² Memo No. 683/CE/PWD dated 07.05.2012.

¹⁶³ Widening and strengthening of Gopiballavpur-Nayagram Road (between the stretch 0 kmp and 15.00 kmp).

¹⁶⁴ 28831.22 m³ was executed against the original provision of 18313 m³.

- It was also seen that approval of the CE (PWRD), who was the authority to accord technical sanction of the work, was not taken despite the fact that there was a revision in the specification.
- The conclusion of the EE regarding thickness of the base course being less was contrary to the records¹⁶⁵ of the road work¹⁶⁶ taken on the same road stretch which was completed in July 2012. It was observed that in that road work, a layer of 150 mm base course (Water Bound Macadam) was laid in the widened portion overlaid with 50 mm BM and 20 mm Mix Seal Surfacing (MSS). Hence, there was no justification to assume the base course of 150 mm (which was overlaid with 50 mm BM and 20 mm MSS) had reduced to 75 mm in the passage of four years.
- Further, no such lacunae regarding the thickness of the WMM layer were noticed in the DPRs prepared in 2012 and 2016.

As such, laying of additional 100 mm WMM was doubtful. The proposal of the EE regarding increase of thickness raises reasonable doubts as to whether the work was actually executed. The matter needs investigation and action taken against the responsible persons.

In reply, the SE stated (November 2017) that a deficiency of 75 mm in the base course was found in the middle strip¹⁶⁷. Even if it was conceded that there was any deficiency in the middle strip, there was no justification for the whole width of the road to be overlaid with extra 100 mm WMM as was proposed. Further, findings of the EE regarding depth of the pavement during construction were not based on any investigation or authentic data. Also, the reasons for non-obtaining the CE's approval to the changes in specifications were not furnished in the reply.

The matter was reported (June 2018) to the Department; reply was awaited till date (April 2019).

3.5 Inclusion of duplicate items in the tender- Avoidable Expenditure

Superintending Engineer, South Circle, Social Sector, Public Works Directorate, allowed a duplicate item in the tender schedule without any valid reasons. This enhanced the cost of construction of pile foundation¹⁶⁸ resulting in avoidable expenditure of ₹ 1.77 crore.

Reinforced Cement Concrete (RCC) cast *in situ* bored piles¹⁶⁹, which are cast at site, are used for providing support to a structure. As per the applicable Schedule of Rates¹⁷⁰ (SOR), the rate of bored cast *in-situ* concrete piles of

¹⁶⁵ Detailed Project Report and Final Bill of that work.

¹⁶⁶ Widening and strengthening of Gopiballavpur-Nayagram road from 2.5 kmp to 15 kmp.

¹⁶⁷ 3.05 metre i.e. width before taking up the earlier widening and strengthening work in July 2012.

¹⁶⁸ Pile foundations are deep foundations for providing support to a structure.

¹⁶⁹ RCC cast-in-situ piles are those piles which are cast in position inside the ground and made of reinforced cement.

¹⁷⁰ Public Works (Roads) Directorate 2008-09.

different diameters is inclusive of the cost of welding of reinforcement cage¹⁷¹ and steel liner¹⁷² (if any).

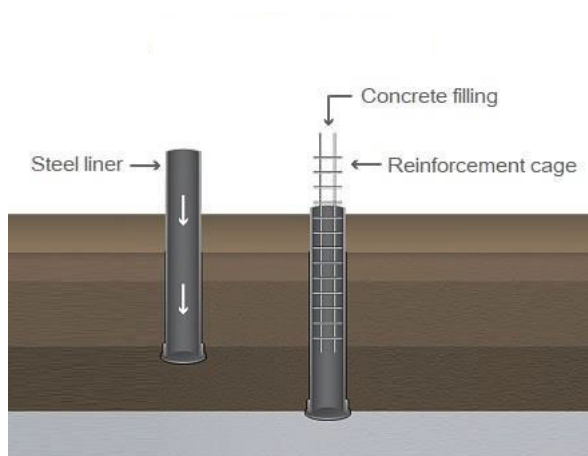


Figure 3.2: In-situ Bored Piling

Scrutiny of records of the Executive Engineer (EE), South 24 Parganas Division, Public Works Directorate, Social Sector (PWSS) revealed that Higher Education Department (HED), Government of West Bengal engaged (December 2012) PWSS for construction of a new building for State aided women's university at Diamond Harbor in South 24 Parganas district. The administrative approval for construction of the university campus¹⁷³ was accorded

(October 2013) by HED at a cost of ₹ 18.19 crore. Subsequently, HED accorded (February 2014) administrative approval of ₹ 15.08 crore for additional work of pile foundation. Accordingly, the Superintending Engineer, South Circle (SE, SC) of PWSS awarded (November 2013 and July 2014) two works¹⁷⁴ under two separate tenders at a total cost of ₹ 22.44 crore for completion by March 2015. The construction of the buildings along with the allied pile foundation work was completed in April 2016 at a total cost of ₹ 22.61 crore.

The scope of the pile foundation work *inter alia* included an item of RCC cast *in situ* bored piles of 600 mm diameter. As per the SOR and tender schedule, the rate of this item was inclusive of the cost of welding of the reinforcement cage to be used in the bored piles. It was, however, observed that a separate item, *viz.*, welding in mild steel structural work was provided in the tender and ₹ 1.77 crore was paid to the contractor on this account. No reasons were found on records as to why this separate item was provided in the tender. Audit observed that inclusion of this item was duplicative as the tender was only for piling work and there was no scope for welding other than the welding of reinforcement cage in bored piles, the cost of which had already been included in the composite rate of the tender.

The concerned SE stated (December 2017) that those were two different items of work and were required in the interest of the said work. The fact, however, was that the SOR as well as the tender schedule provided an integrated rate for bored cast *in-situ* concrete piles including cost of welding of reinforcement cage. The separate payment on this account was, therefore, not admissible.

¹⁷¹ A method of reinforcement of the pile and is lowered into the bore hole.

¹⁷² Once the hole is bored, a lining made of materials including steel may be used to provide support to the bore hole.

¹⁷³ *Inter alia* comprised of two three-storied buildings (i) academic building having 20 class rooms of 750 square feet and (ii) administrative building.

¹⁷⁴ (i) Construction of different buildings for State Aided University for women and (ii) Additional works for pile foundation to provide 10 storied foundations for the academic building of the women university.

The Department, in deviation of the SOR, included duplicate item of welding in mild steel structural work in the tender schedule, without any valid reason. This enhanced the cost of pile foundation, resulting in avoidable expenditure of ₹ 1.77 crore.

The matter was reported (June 2018) to the Department; reply was awaited till date (April 2019).

3.6 Violation of the IRC Guidelines - Excess expenditure

The Division, in violation of the IRC Guidelines, laid two wearing courses, during the construction of the same road. The first layer of the wearing course was overlaid with another type of wearing course, resulting in excess expenditure of ₹ 1.04 crore.

As per Indian Roads Congress (IRC) Guidelines¹⁷⁵, wearing course is the upper layer in pavement. This layer acts as an impermeable layer to prevent the entry of water to lower layers. The most commonly used wearing courses are surface dressing¹⁷⁶, open-graded premix carpet¹⁷⁷, mix seal surfacing¹⁷⁸, semi-dense bituminous concrete¹⁷⁹, bituminous concrete¹⁸⁰ and Mastic Asphalt¹⁸¹. The IRC Guidelines¹⁸² further provide for any one of these type of wearing courses for the flexible pavements¹⁸³, depending on the load bearing capacity of the subgrade soil and traffic load.

Audit scrutiny of the records of the Executive Engineer (EE), Darjeeling Division, PWD revealed that Superintending Engineer, North Bengal Construction Circle-II, Jalpaiguri awarded (December 2015) the work of restoration of a road surface¹⁸⁴ to four contractors. The total tendered cost was ₹ 8.00 crore for completion between March 2016 and April 2016. The works were completed between July 2016 and January 2017 at the total cost of ₹ 7.98 crore.

The scope of the restoration work *inter-alia* included laying of (i) 50 mm Bituminous Macadam (BM) as profile corrective course¹⁸⁵, (ii) 20 mm Open

¹⁷⁵ Annex- VI of IRC:37-2012.

¹⁷⁶ A Surface Dressing is a process of spraying a road surface with bituminous binder and then covering the binder with clean, crushed aggregate or natural gravel. These layers are then rolled in order to press the aggregate into the binder film.

¹⁷⁷ It is an open graded bituminous mix which is widely used as an overlay on urban sections and as a surface course on rural roads in India.

¹⁷⁸ The Mix Seal Surfacing design mix is based on the IRC: SP:78-2008. This is an alternative used for the premix carpet.

¹⁷⁹ Wearing course on roads carrying moderate traffic.

¹⁸⁰ A dense graded mix used as a wearing course.

¹⁸¹ It is an intimate homogenous mixture of selected well graded aggregates, filler and bitumen in such proportions as to yield a plastic and void less mass, which when applied hot can be trowelled and floated to form a very dense impermeable surfacing.

¹⁸² Plates 1 to 8 under para 10.1 of IRC: 37-2012.

¹⁸³ Flexible pavement is composed of a bituminous material surface course and underlying base and sub-base courses.

¹⁸⁴ The restoration work was required to be done at Ghoom-Simana Road (0 kmp to 16.5 kmp) as the road was damaged during laying of optical fibre cable.

¹⁸⁵ Most bituminous overlay works require the construction of a correction course in order to correct the wheel alignment of the existing surface.

Graded Premix Carpet (OGPC) and (iii) 25 mm of Mastic Asphalt. Audit observed that none of the IRC Guidelines had prescribed the use of two wearing courses in construction of a road work. But in violation of the IRC Guidelines¹⁸⁶ two types of wearing courses (OGPC and Mastic Asphalt) were provided for in the same contract. Since the road was situated on hilly area having annual rainfall more than 3000 mm, wearing course of Mastic, which forms a very dense impermeable surfacing, was more suitable compared to OGPC¹⁸⁷. Audit observed that a layer of OGPC was laid on an area of 73985.54 m² over the BM layer and the entire surface of OGPC was then covered with 25 mm Mastic Asphalt¹⁸⁸ at a total cost of ₹ 5.60 crore including the cost of ₹ 1.11 crore on OGPC. Reasons were not recorded in the estimate for laying two types of wearing courses simultaneously on the same road/stretch. It was further observed that the division, for a similar work¹⁸⁹ taken up in February 2016, went in for restoration by means of only 25 mm mastic asphalt over the existing BM.

The decision of the SE to lay two wearing courses, therefore, lacked justification and resulted in excess expenditure of ₹ 1.11 crore on account of laying of OGPC.

The matter was reported (June 2018) to the Department; reply was awaited till date (April 2019).

IRRIGATION & WATERWAYS DEPARTMENT

3.7 Loss of Government revenue - Royalty on extraction of minor minerals

Failure of the Irrigation & Waterways Department to revise rate of royalty on extraction of minor minerals led to loss of revenue and undue advantage to the contractors to the tune of ₹ 3.87 crore.

Commerce & Industries Department (C&ID), Government of West Bengal empowered (January 2014)¹⁹⁰ Executive Engineers and Revenue Officers of the Irrigation & Waterways Department (I&WD) to grant quarry permits for extraction of riverbed materials¹⁹¹ from any specified land. The permits were to be issued by I&WD on pre-payment of royalty at the rates fixed from time to time by C&ID in accordance with the West Bengal Minor Minerals Rules (WBMMR), 2002. Prior to C&ID's notification of January 2014, District Land and Land Reforms Officers (DL&LROs) were issuing such permits.

¹⁸⁶ IRC:37-2012.

¹⁸⁷ As per IRC:37-2012, OGPC is suitable in area on well drained roads having rainfall around 1500 mm.

¹⁸⁸ Over an area of 74986.38 m².

¹⁸⁹ Restoration of road surface by mastic asphalt damaged due to laying of different O.F.C. from 7.00 kmp to 15.00 kmp of Peshoke Road.

¹⁹⁰ Vide notification no.37/CI/O/MIN/MNM/MIS/03/2013 dated 21.01.2014 read in conjunction with amendment No.378/CI/O/MIN/MNM/MIS/03/2013 dated 06.06.2014 issued by C&ID.

¹⁹¹ Boulders, Pebbles, Shingles and Sand. Boulders are big stones; pebbles/ shingles are smaller stones lying in the riverbed.

In December 2011¹⁹², the rate of royalty of minor minerals extracted from rivers/drainage channels/irrigation canals was revised from ₹ 63.00 to ₹ 100.00 per 100 cft¹⁹³. DL&LROs applied the revised rates from the date of revision.

It was observed that I&WD issued (August 2014) a notification¹⁹⁴ along with detailed Guidelines and procedures to be followed for issuance of quarry permits on pre-payment of royalty. The Guidelines clearly stated that the rate of royalty applicable would be as per WBMMR-2002 and subject to further modification by the C&ID. However, the rates revised in December 2011 were not reflected in these Guidelines.

Scrutiny of the records of two¹⁹⁵ Divisions of I&WD revealed that 1170 quarry permits were issued for extraction of 10.48 crore cft of riverbed materials during September 2014 to April 2016¹⁹⁶. These divisions collected royalty at the rate of ₹ 63 per 100 cft instead of the revised rate of ₹ 100 per 100 cft. This resulted in loss of Government revenue of ₹ 3.87 crore. The amount of loss would be higher as Audit could test check the records of only two out of the 25 Divisions involved in issuance of quarry permits.

In reply, I&WD stated (June 2018) that the revised notification for amendment of West Bengal Minor Mineral Rules, 2002 issued in December 2011 was declared (July 2014) ultra vires by the Hon'ble High Court of West Bengal and so the rate was not revised in the notification issued (August 2014) by I&WD.

It was, however, noted that the Hon'ble High Court's order was regarding renewal of lease of existing mining lease holders. It was further verified and observed that DL&LROs kept collecting royalty in their jurisdictional areas, at the revised rate of ₹100 per 100 cft as per the amended notification of December 2011.

TRANSPORT DEPARTMENT

3.8 Undue advantage to the contractors - Allowance of higher rate and Avoidable expenditure - Adoption of costlier technique in piling works

Hooghly River Bridge Commissioners (HRBC), extended undue advantage of ₹ 1.90 crore to the contractors by offering higher rates in the items of piling. Besides, it also made avoidable expenditure of ₹ 0.76 crore due to adoption of costlier techniques in piling works.

Piles are the most common type of deep foundation that safely transfer load from the super structure to the sub-surface strata. Bored cast *in-situ* concrete

¹⁹² Notification No. WB/CPS/Raj-52 (Part-I)/ 2011 dated 5 December 2011 of C&I Department (Mines Branch).

¹⁹³ Cubic feet.

¹⁹⁴ In continuation and partial modification of I&WD's Notification Nos 39-IB dated 09.06.14 and 85-IB dated 25.07.2014.

¹⁹⁵ Alipurduar and North Dinajpur Irrigation Divisions.

¹⁹⁶ As per West Bengal Minor Mineral Rules 2016, notified vide WB/SC-320 dated 29 July 2016, I&WD was no more involved in issuing quarry permits and collection of royalty.

piles are those which are cast at site. Schedule of Rates¹⁹⁷ (SOR) stipulates rates of Reinforcement Cement Concrete (RCC) bored cast *in-situ* concrete piles through various methods *viz.* Direct Mud Circulation (DMC)¹⁹⁸, Hydraulic Piling Rig (HPR)¹⁹⁹ *etc.* DMC method is fairly cheaper in comparison to HPR method as per the SOR.

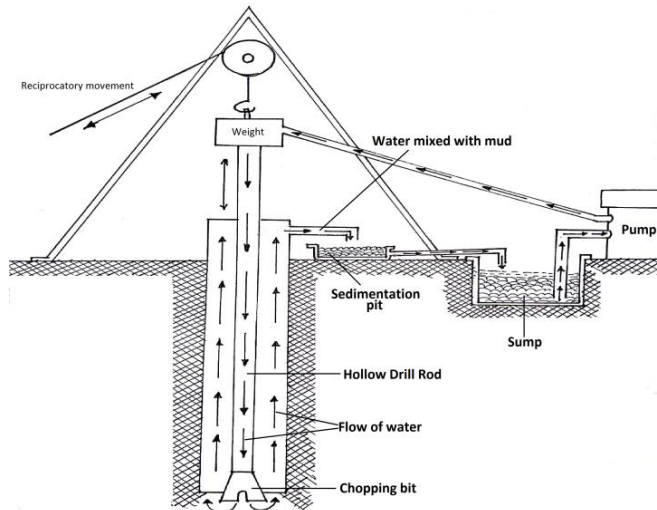


Figure 3.3 : Direct Mud Circulation Method of drilling for piling

Scrutiny of records of the office of the Vice Chairman (VC), Hooghly River Bridge Commissioners (HRBC) revealed that HRBC was engaged (January 2013) by the Health and Family Welfare Department (H&FWD), Government of West Bengal (GoWB) as implementing agency for construction of seven super specialty hospitals in the State. The construction work of these hospitals was taken up by HRBC in January 2014 in two packages²⁰⁰ at a total tendered cost of ₹ 287.72 crore for completion by July 2015. The work for both the packages was stated to be completed as of May 2018 incurring total cost of ₹ 319.44 crore. The buildings were, however, yet to be handed over to the H & FWD and final bill was yet to be paid, pending alteration and additional work as per the requirement of the Department.

The following was observed:

- **Undue advantage of ₹ 1.90 crore to the contractors by offering higher rates in the items of piling**

HRBC engaged (May 2013) two consultants for preparation of architectural planning, detailed design and consultancy services of the packages. The soil testing reports submitted by the consultants between September 2013 and January 2014 mentioned that piles were to be installed by Direct Mud Circulation (DMC) technique. It was observed that the work of 33819.10 metre²⁰¹ (33563.100 metre of 600 mm diameter and 256 metre of 400 mm diameter)

¹⁹⁷ Sixth Corrigenda of the SOR 2008-09 of Public Works (Roads) Department.

¹⁹⁸ It involves the circulation of mud from the pile bore directly to the bentonite pit where the pump reuses the bentonite slurry leaving alone the settled mud.

¹⁹⁹ Machine operated generally used in case of bigger diameter, higher depth boring and construction of bridges.

²⁰⁰ Four hospitals in Birbhum, South 24 Parganas and Murshidabad districts under Package I and three hospitals in Purba and Paschim Medinipur districts under Package II.

²⁰¹ 33563.100 metre of 600 mm dia and 256 metre of 400 mm dia under package I.

of boring was included in the priced Bill of Quantities (BOQs) and the rates for boring were ₹ 3454.75 per metre and ₹ 2471.20 per metre respectively. The method of boring was, however, not stipulated in priced BOQ. As DMC technique was to be adopted, a comparison indicated that the rates mentioned in the priced BOQ by the HRBC were much higher than the rates prescribed in the SOR as shown in **Table 3.1**.

Table 3.1: Different rates mentioned in SOR and priced BOQ

Diameter of boring	Executed Quantity (in metre)	SOR Rate of piling in DMC method (₹ per metre)	Rate allowed (₹ per metre)	Difference (in ₹)	Amount (in ₹)
600 mm	33563.10	2894.74	3454.75	560.01	1,87,95,671.63
400 mm	256.00	1617.00	2471.20	854.20	2,18,675.20
Total	33819.10				1,90,14,346.83

(Source : Divisional records)

Thus, there was no justification for offering higher rates in the priced BOQ in view of the fact that the work was done vide the DMC method. This was tantamount to extending undue favour to contractor of ₹ 1.90 crore.

The Department's reply (August 2018) further confirmed that these two types of boring (600 mm and 400 mm diameter) were done by DMC method.

- **Avoidable expenditure of ₹ 0.76 crore due to adopting costlier techniques in piling works**

It was further observed in respect of 9618 meter of piling work of 550 mm dia under package II, HRBC adopted HPR method in place of recommended DMC method. This enhanced the rate of piling by ₹ 787.01 per meter which resulted in avoidable expenditure of ₹ 0.76 crore²⁰². It was also noticed that there were no recorded reasons for adopting the costlier method.

In reply, the Department stated (August 2018) that the output of hydraulic rig is much faster and to facilitate quicker completion of the work, an extra expenditure of ₹ 0.76 crore was incurred on 550 mm dia boring through HPR. Despite incurring extra expenditure on a costlier technology, HRBC could not ensure timely completion of the works as there was a delay of almost three years in overall completion of the works.

Thus, undue advantage of ₹ 1.90 crore was allowed to the contractors by offering higher rates in the items of piling without any justification. Further, avoidable expenditure of ₹ 0.76 crore was also incurred due to adoption of costlier techniques in piling works.



Figure 3.4 : Hydraulic Piling Rig

²⁰² 9618 metre X ₹ 787.01 = ₹7569462.18.

**MICRO, SMALL AND MEDIUM ENTERPRISES & TEXTILES
DEPARTMENT**

3.9 Undue advantage to enterprises - Disbursement of excess incentives

Micro, Small and Medium Enterprises & Textiles Department, in violation of the West Bengal Incentive Scheme Guidelines, allowed disbursement of excess incentives of ₹ 1.91 crore in favour of two enterprises.

With a view to promote micro and small scale enterprises in the State, the Micro, Small and Medium Enterprises & Textiles Department (MSME&T) approved (June 2007) a new incentive scheme titled 'The West Bengal Incentive Scheme 2007' (WBIS-2007). The scheme was effective from April 2007 to March 2012²⁰³. It was intended to benefit new micro and small-scale enterprises, which commenced commercial production for the first time, or existing enterprises which went for expansion during the validity of the scheme. The scheme *inter alia* provided subsidy on electricity charges at the rate of 30 per cent of such charges paid by the enterprise for a period of five years from the date of commencement of commercial production. Audit observed the following instances of excess disbursement of incentives:

(A) As per WBIS-2007 Guidelines²⁰⁴, a small-scale enterprise is an industrial unit defined by Government of India from time to time. Government of India defined²⁰⁵ (June 2006) a small-scale enterprise as an enterprise with investment in plant and machinery more than ₹ 25 lakh and less than ₹ 5.00 crore. Any new micro/small scale enterprise set up or any existing micro/small enterprise expanding between April 2007 and March 2013 was eligible for incentives under the scheme.

Scrutiny of the balance sheet (2010-11) of one enterprise²⁰⁶ under District Industries Centre (DIC), Howrah revealed that cost of plant and machinery of the enterprise exceeded ₹ 5.00 crore as on March 2011. This made it a medium scale enterprise and thus, ineligible to get any kind of incentive under WBIS-2007 beyond March 2011. It was, however, observed that DIC, Howrah had disbursed (March 2017) subsidy on electricity charges amounting to ₹ 1.19 crore to the enterprise for the period between April 2011 and January 2015. As such, non-compliance of clause 4.1 of the WBIS- 2007 Guidelines resulted in undue benefit of ₹ 1.19 crore to the enterprise.

(B) MSME&T Department issued (May 2010) a clarification²⁰⁷ regarding methodology to be adopted for calculation of energy charges for expansion unit when both the existing and expansion units were operating simultaneously. It stated that the average of last 12 months' electricity charges paid by the enterprise immediately prior to the date of commercial operation of the expansion unit

²⁰³ Extended upto 31 March 2013 vide Notification No. 182-MSET-(III)/15s-01/2012, dated: 01.03.2013.

²⁰⁴ Clause 4.1.

²⁰⁵ As per MSME Act, 2006.

²⁰⁶ M/s Mega Flex Plastic Limited (MFPL).

²⁰⁷ No. 0356/EOSS/MSET/C-III/WBIS/2010 dated 20.05.2010.

would be first assessed. The calculated average amount would then be deducted from the amount of combined energy charges of both the units to assess the amount for consumption of electricity by the expansion unit.

Scrutiny of records of DIC, Purulia revealed that an enterprise²⁰⁸ commenced the commercial production in April 2007 and received incentives towards electricity charges from April 2007 to March 2012 (five years). In the meantime, the enterprise expanded its manufacturing unit and commenced the commercial production in its expanded portion from April 2010, taking electrical connection from the same meter. The enterprise received incentives towards electricity charges for the expanded unit for the period from April 2010 to March 2015.

Scrutiny also revealed that the power supplier²⁰⁹ to the enterprise revised²¹⁰ (August 2015) the rate of energy charges with retrospective effect from April 2013 and sent revised electricity bills of both the existing and expansion units for a period from April 2013 to March 2015 claiming the arrear energy charges. The enterprise paid (August 2015 to August 2016) ₹ 10.89 crore as arrear energy charges. DIC, Purulia disbursed (March 2017) subsidy of ₹ 3.27 crore (30 per cent of ₹ 10.89 crore) to the enterprise.

It was observed that as the enterprise was not eligible to get the incentives for the existing unit from April 2012, DIC, Purulia irregularly disbursed the arrear energy charges of the existing unit from April 2013 to March 2015. The arrear energy charges should have been apportioned between the existing unit and expansion unit in order to calculate the correct arrear energy charges applicable for the expansion unit.

Audit observed that the total arrear energy charges of ₹ 10.89 crore included arrears in respect of both the units (₹ 2.40 crore for existing unit and ₹ 8.49 crore for the expanded unit). Hence, the enterprise was entitled to incentives towards arrear energy charges of ₹ 2.55 crore (30% of ₹ 8.49 crore) only for the expanded unit as detailed in **Appendix-3.1**.

Thus, non-apportionment of the arrear electricity charges resulted in undue advantage of ₹ 0.72 crore (₹ 3.27 crore - ₹ 2.55 crore) to the enterprise.

The matter was reported (June 2018) to the Department; reply was awaited till date (April 2019).

²⁰⁸ M/s AIC Iron Industries Pvt. Ltd.

²⁰⁹ Damodar Valley Corporation.

²¹⁰ August 2016 as per tariff order issued by Hon'ble West Bengal Electricity Regulatory Commission.

NORTH BENGAL DEVELOPMENT DEPARTMENT

3.10 Violation of IRC Guidelines - Extra expenditure

Superintending Engineer, North Bengal Development Department in deviation to the Indian Roads Congress (IRC)²¹¹ Guidelines provided costlier Mastic Asphalt on 45 per cent of the total road stretches of two village roads resulting in extra expenditure of ₹ 1.68 crore. Besides, remaining portion of the road stretches was constructed with lower specification which may cause early damage of the road.

Para 10.1 of Indian Roads Congress (IRC) Guidelines²¹² stipulates thickness and specification of each layer of road to be constructed on the basis of strength of sub-grade soil²¹³ which is expressed in terms of California Bearing Ratio²¹⁴ (CBR) and the projected traffic volume (expressed in *msa*²¹⁵) during the design life²¹⁶ of the road.

Scrutiny showed that Superintending Engineer, North Bengal Development Department awarded (February 2016) the construction of total 14.247 kms of two-village roads²¹⁷ to two agencies at total tendered cost of ₹ 13.74 crore to be completed by September 2016 and August 2016 respectively. The works were completed in December 2017 and February 2018 at a total cost of ₹ 12.94 crore.

Scrutiny revealed that in accordance with IRC Guidelines, based on the sub-soil strength and projected traffic volume of the roads²¹⁸ mentioned in the detailed estimates, a wearing course²¹⁹ of 20 mm Semi Dense Bituminous Concrete (SDBC) was required to be provided. From the detailed estimates, Bill of Quantities (BOQs) and final vouchers of the works it was revealed, however, that in violation of the IRC Guidelines, 20 mm SDBC was neither provided in the tender nor actually executed. Instead of laying SDBC²²⁰, it was observed that on 6.42 km (45 per cent) of the total road stretch, costlier Wearing Course of 50 mm Mastic Asphalt²²¹ was overlaid. The laying of costlier Mastic Asphalt

²¹¹ *The Indian Roads Congress (IRC) is the Apex Body of Highway Engineers in collaboration with Ministry of Road Transport and Highways. It issues guidelines, which are updated annually.*

²¹² *IRC:37-2012.*

²¹³ *The native material underneath a constructed road.*

²¹⁴ *The California bearing ratio (CBR) is a penetration test for evaluation of the mechanical strength of natural ground, subgrades and base courses beneath new carriageway construction.*

²¹⁵ *Million Standard Axles.*

²¹⁶ *The design life of a road is defined in terms of years arrived at by considering the cumulative number of standard axles (vehicles) that can be carried.*

²¹⁷ *'Black top road from Eklahi to Dighirhat via Panusaha more, Ramnagar High Madrasa-8.302 km' (tendered cost ₹ 8.18 crore) and 'Black top road from Babla Banna More to Bishnupur Sankar More via Gouripur Primary School-5.945 km' (tendered cost ₹ 5.56 crore).*

²¹⁸ *CBR value of four per cent and *msa* of two.*

²¹⁹ *Wearing course is the upper layer in pavement which acts as an impermeable layer to prevent the entry of water to lower layers.*

²²⁰ *A wearing course suitable for moderate traffic like this road.*

²²¹ *Costliest wearing course which is applied in junctions and toll plazas.*

resulted in extra expenditure of ₹ 1.68 crore²²². In the remaining 7.827 km stretch, 20 mm Open Graded Premix Carpet and Seal Coat²²³ was overlaid which was of lower specification than that required under IRC Guidelines. Construction of road with lower specifications was likely to cause early damage to the road surface. No justification was, however, found on record for such deviation from IRC Guidelines.

The matter was reported to the Department in (July 2018); reply was awaited till date (April 2019).

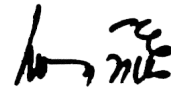


(REENA SAHA)

Principal Accountant General
(Economic & Revenue Sector Audit)
West Bengal

KOLKATA
The 13 DEC 2019

Countersigned



NEW DELHI
The 17 DEC 2019

(RAJIV MEHRISHI)
Comptroller and Auditor General of India

²²² ₹ 2.22 crore (Total expenditure incurred for laying 50 mm Mastic Asphalt) – ₹ 0.54 crore (Expenditure would have been incurred for laying 25 mm SDBC as per IRC specifications).

²²³ Applied on the roads with least traffic.

