



:020-26133148
: 020-26052869

REGSDS / BY POST

Superintending Technical Examiner (SC)
PCDA (SC) Complex, No.1, Finance Road
Pune – 411 001

1149/188/ 07 /Q/ADGTE

Nov 2018

Garrison Engineer
Saugor (MP) – 470 001

SITE VISIT : CEBZ/SAG-06 OF 2015-16

1. Refer inspection conducted by STE team on 22 Oct 2018.
2. The copy of factual statement of the work is held on your record. The obsns on account of above mentioned visit are enclosed as Appendix 'A'. The obsns apply to the entire work except where otherwise specially mentioned. No action for price adjustment/deviation has been initiated till date of insp.
3. Please take suitable action to get the defective work rectified as mentioned on factual notes/obsns and ensure compliance. If, however, the defects are not rectifiable and the defective work as executed is technically acceptable to you, please forward the details of overpayments invoiced for such defective work accepted.
4. Please ref to E-in-C's Branch letter No 41000/E4 dated 14 Oct 1981 and take necessary further action to ensure that the defects are not allowed in the current works in your area and remedial actions are taken. This should be taken in other cases also including financial recovery.
5. Please furnish your specific replies to obsns within 06 weeks failing which the matter may have to be reported to Higher Authorities. In this connection please ref to Sec 23 of Manual of Contracts, 2007.

(Satish Chander, IDSE)
STE SC, Pune

Encls : As above

Copy to :-

HQ ADGTE, New Delhi

.. For info & necessary action alongwith obsns.

HQ CE Bhopal Zone
Bhopal
PIN – 900 236
C/o 56 APO

1. For info & necessary action. Obsn may please be replied incl conditions.

2. Please refer to Sec 23 of Manual of Contracts, 2007 and issue suitable instruction to all other GEs under you with a view to prevent acceptance of similar defective work in those divisions where such defects are suspected to be occurring. Financial recoveries as applicable may be effected in similar works also.

CWE Bhopal
PIN – 900 236
C/o 56 APO

3. Systematic corrective measures be instituted in all units of your AOR (Area of Responsibility).

Station HQ
Saugor – 470 001

SUPERINTENDING TECHNICAL EXAMINER
(SOUTHERN COMMAND) PUNE
NO. 01 FINANCE ROAD, PCDA (SC) COMPLEX, PUNE - 411 001

TECHNICAL EXAMINATION OF CONTRACTS / WORKS / FINAL BILLS

CA No	CEBZ/SAG-06 OF 2015-16	Amount (in lakhs)	1268.50 lakhs	Location	Dhana	
Name of Work	Provn of Storage Accn (Phase-II) at Dhana					
(a)	Contractor		M/s Akrati Technimont Ltd			
(b)	Date of Commencement		15 Oct 2015			
(c)	Completion as per CA		14 Dec 2017			
(d)	Extended date of completion		05 Sep 2018			
(e)	Actual date of Completion		-			
(f)	DV No & Date of final bill if paid		-			
(g)	Whether ADGTE visited project (if yes, date)		-			
(h)	Name of STE / TE		Name of MES Offrs Accompanying			
	Shri Satish Chander, IDSE, STE SC Pune Lt Col Bhaskar Rautela, TE Shri Manish Raj, IDSE, EE(SG), TE		Shri Amit Kumar Parmar, IDSE, GE Sub/JE(Civ) Jalaluddin Khan, Offg AGE (I) Dhana			
(k)	Inspection Summary :					
	No Inspection	Ist Check		2nd Check		3rd Check
(i)	Date of Check	28-29 Nov 2016		22 Oct 2018		-
(ii)	Progress %	Actual	Target	Actual	Target	Actual Target
		42%	-	93%	-	- -
(iii)	Obsn Nos Raised	Ist	19	2nd	28	3rd -
(iv)	Total Obsn Raised	28				
(v)		<u>Minor</u>	<u>Maj</u>	<u>Adv</u>	<u>Minor</u>	<u>Maj</u> <u>Adv</u>
		-	19	-	-	- - -
(vi)	Obsn Split	B/R	E/M	B/R	E/M	B/R E/M
(vii)		17	02	25	03	- -
(viii)	Total Settled	05	-	-	-	- -
(ix)	Outstanding Obsn	12	02	25	03	- -
(x)	Outstanding Obsn (Check wise)	12	02	25	03	- -
(xi)		IRNR	-	IRNR	-	IRNR
(xii)	Net Outstanding Obsns	-				
(xiii)	Date of Expiry of DLP (where wk 100% completed)	-				

CA No : CEBZ/SAG-06 OF 2015-16
 Name of Work : Provn of Storage Accn (Phase-II) at Dhana
 Amount in lakhs : ₹. 1268.50 Lakhs

PART – A : REVIEW ON 1ST CHECK

General (Brief Scope of Work). CA No CEBZ/SAG-06 OF 2015-16 :“Provn of Storage Accn (Phase-II) at Dhana for ₹. 1268.50. 19 Nos of obsns raised during 1st check on 28-29 Nov 2016. During 21-22 Oct 2018, previous check verified on ground and remarks appended against each obsns :-

No	Obsns	Present Status
1	2	3
1	1. <u>Obsn No 01 : Pre-pricing of Tender.</u> It is observed that Building works against Sch 'A' Part-I has not been pre priced as per instructions contained in Manual in contract. As per para 5.7 and 5.8 of Manual of Contracts-2007 (Reprint 2012) Contracts for technical accommodation/domestic accommodation should be lump sum contracts based on either BQ or pre priced schedule. Tender has been issued without pre pricing in violation of Para 5.7 and 5.8 of manual on contracts. Please forward copy of letter showing approval of HQ CE SC Pune in terms of Para 5.7 of Manual on Contracts for issue of Tender without pre-pricing of Buildings through AO.	
2	2. <u>Obsn No 02.</u> PS clause 3.1.5 catered for complete removal of BC soil & soft rock and the same shall not be used for filling in terms of PS clause No 3.5.1 whereas contrary provisions are made under PS clause No 3.5.2 that all efforts shall be made to reuse the soil/earth obtained from excavation & BOO shall be convened by CWE to ascertain the quality of earthed obtained from excavation. This is considered as bad drafting of tender. You are requested to forward your reply through AO.	Settled.
3	<u>Obsn No 03 :Site Documents and Test Reports.</u> (a) <u>Cement.</u> Mycem make cement (PPC) used in work having declared Pozzolona 25.7%. Please fwd PV and TC. (b) <u>Steel.</u> (i) Steel purchased from M/s Jai Balaji steel. Only one testing carried out for each section of steel. Lot wise testing not done for all sections as enumerated in PS Clause No. 11.6.4.1 on page No 179 of CA. Carry out tests of steel as per frequency given in CA and confirm. Recover the amount from contractor for not carrying out test as per CA. Please fwd PV and TC.	

1	2	3
03 (contd)	<p>(ii) Steel Register (In/Out) not produced. Please fwd copy of register duly entering details.</p> <p>(c) <u>Cube Testing.</u></p> <p>(i) No independent testing of cubes done.</p> <p>(ii) Only one set of cubes tested for 07 days strength & one set for 28 days strength for any amount of concrete produced in a day.</p> <p>(iii) Number of cubes not casted and tested as per Clause No. 15.2.2 of IS 456. Only one set casted for any amount of concrete. No reserve cube found at site. It is not understood how quality of concrete produced has been ascertained at site. Forward your reply through AO. You are also requested to work out number of cubes required as per above mentioned class based on concrete pouring register(daily concreting) and forward same along with cubes casted and tested as per cube testing register duly signed by GE. Recover the cost of cubes less casted and tested.</p> <p>(d) PMG Register not maintained. Forward the same.</p> <p>(e) No hindrance recorded. It is concluded that there is no hindrance till date of site check</p> <p>It is concluded that adequate efforts have not been taken to maintain site documents. Please update & maintain the above documents as specified in the contract & confirm through AO.</p>	<p>03(c) (i) & (ii). Settled.</p> <p>03(e) Settled.</p>
4	<p><u>Obsn No 04 : Filling under Floors.</u></p> <p>(a) The excavated soil mixed with stone boulders excavated from area found used as filling under floors. This is contrary to CA provisions as per PS Clause No. 3.5.2. Soil mix is loosely spread and not compacted properly after filling under the floor. As per CA clause No 3.5 on Page No 150, good quality approved earth obtained from outside MoD land and approved by GE should be filled under floors in layers 25 cm to 30 cm thick, whereas it is observed that soil mixed with oversized boulders obtained from excavated soil found filled in floors without proper compaction in layers. Please remove stone boulders and carryout proper compaction in layers. Confirm duly intimating cost. If stone obtained from excavation is allowed to be filled, recover this portion from contractor as per clause No. 3.5.2 Please accept penal recovery of Rs 10000/- for poor filling and compaction.</p>	

1	2	3
04	<p>(b) As per CA clause 3.5.5 for blds listed at Sl. No 1.05 to 1.09 of Sch A Part-I, filling under floors upto 50 cm depth shall be replaced with good quality approved earth obtained from outside MOD land in place of BC soil. Please confirm that BC soil is encountered in these buildings with documentary evidence/digital records and filled with approved soil. If BC soil is not encountered please initiate minus DO. As on date of site check no amount has been deducted for not removing BC soil whereas in guard room no BC soil has been encountered.</p>	
5	<p>Obsn No 05 : Brick Work Masonry.</p> <p>(a) Bricks found over burnt at places. Joints found wider varying from 10 to 30 mm in lieu of 10 mm and not properly filled up, as hollow spaces found internally. Raking of joints not done at places.</p> <p>(b) Brick on edge laid near junction of roof beam and wall. Gaps filled with cement mortar in lieu of PCC.</p> <p>(c) Cement mortar of brick joints is coming out easily with slight rubbing with hand. Curing found inadequate.</p> <p>(d) MS flat found provided using nails in lieu of casting with column at junction of column & wall. Flat is coming out with slight pull, there by defeating very purpose of providing.</p> <p>Please rectify all defects and confirm duly intimating cost. Also accept Rs. 10,000/- for poor workmanship.</p>	
6	<p>Obsn No 06 : Efflorescence on Bricks. White powder type material found on brick masonry due to efflorescence. Please take remedial measures and change the source of bricks. Intimate cost. Accept penal recovery of Rs 5000/- for using poor quality bricks.</p>	Settled.
7	<p>Obsn No 07 : Compressive Strength of RCC Elements.</p> <p>Compressive Strength of RCC Columns, Beams and Slabs checked with Stanley rebound hammer and following values recorded. It was observed that the compressive strength of columns/beams are varying between 9.5 to 24 (12, 14, 15, 24, 14, 9.5, 18, 10, 13.5) N/Sqmm² which are inadequate for M-25 design mix. PCC Cubes tested in lab randomly during site check and the ultimate load found 425 KN, 690KN for which compressive strengths works out 18.9 to 30.7 N/Sqmm which is inconsistent and less in case of one cube. You are requested to get NDT and concrete core test carried out from independent agencies viz SEMT wing of CME Pune or Govt Engineering College/IIT for all buildings and take remedial measures as deemed fit and confirm along with test results. Forward your reply through Chief Engineer.</p>	Concrete Core Test Report awaited.

1	2	3
8	<p>Obsn No 08 : Cover to reinforcement. Cover is not properly maintained. Reinforcement is visible from bottom of beams (ESH-No.1) and is exposed to weather. Please rectify defects and intimate cost. Ensure maintain proper cover for all RCC works using PCC covers.</p>	
9	<p>Obsn No 09 : Fixing of average Ground Level.</p> <p>(a) It is observed that some ESHs are located at lower level than surrounding ground level. This has involved more cutting of soil. There are chances of water stagnation if sufficient drainage is not provided. Please ensure that plinth height is maintained as per CA and provide suitable drainage duly intimating cost.</p> <p>(b) Due to lower level, the road gradient is steep and will be difficult for maneuverability of heavy loaded ammunition vehicles. You are requested to provide suitable gradient keeping the finished FFL of the new bldgs& existing ground level in mind. Intimate cost involved in rectification.</p> <p>(c) <u>Plinth Height.</u> Excessive loose filling (soil mixed with boulders) has been done around following buildings :-</p> <ul style="list-style-type: none">(i) Fire tender Garage(ii) Staff rest room for fire section.(iii) SM Barrack(iv) Single JCO accommodation. <p>This has lead to reduction in plinth height. Filled up earth is almost near top of Plinth beam. Please remove excessive loose soil around the buildings to maintain the plinth height intimating cost.</p> <p>(d) Fwd your reply through AO.</p>	09(a) & (b) Settled.
10	<p>Obsn No 10 : Qualified tradesmen. Number of ITI qualified tradesmen employed at site not found adequate as per CA clause No 25 on Ser Page No 136. The CA clause stipulates that the number of ITI/NICMAR/NAC qualified tradesmen shall not be less than 25% of total skilled/semi-skilled tradesmen required in each trade. Please fwd reasons for such deviation from CA and forward your comments through AO alongwith minus DO on this account.</p>	

1	2	3
11	<p>11. Obsn No 11 : Site Engineers. Following Site Engr found deployed at site:-</p> <ul style="list-style-type: none">(a) Shri Sarvesh Dubey, DCE(Civil)(b) Shri Abhishek Bansal, BE (Civil)(c) Shri Surendra Choudhary, BE (Civil)(d) Shri Md Yaseen, DCE(e) Shri Devendra Pachory, DCE <p>Degree/diploma qualification certificates of above site Engineers were not produced to STE team at site. Details and mode of payment made by contractor to these site Engineers were also not available with the contractor. Please forward the above mentioned documents duly counter signed by Garrison Engineer and contractor for our perusal through AO.</p>	
12	<p>Obsn No 12 : Site Lab. Site lab is located in temporary shed and following equipment found installed :-</p> <ul style="list-style-type: none">(a) CTM (Electrically operated)(b) Services,(c) Slump cone(d) Oven(e) Weighing Scale.(f) Flakiness and elongation index. <p>The above equipments found less as compared to minimum required equipments to carry out tests specified as "A" level tests listed in CA clause No 33 on ser page No 140. Please install balance equipments and confirm through AO. Fwd recovery on account of not providing testing equipments till yet. Accept panel recovery of Rs 25,000/- for not maintaining site lab as per CA provisions.</p>	Settled.
13	<p>Obsn No 13 : Drainage. No drainage network plan found maintained at site. Drainage not started. Please fwd drainage network plan for all the affected area duly considering existing GLs and proposed FFLs of various buildings & services. Drainage can be properly designed with available runoff data. Fwd your reply through AO.</p>	
14	<p>Obsn No 14 : Design Mix. Design mix carried for Mycem cement. Universal make RM 800 plant in lieu of Semi-automatic concrete weigh batcher of capacity 12 cum/hour found at site. No batching report maintained. No printing arrangement available with batching plant for printing batching report. It is observed that daily pouring record along with quantity of M25 concrete, quantity of cement, stone aggregates (fine & course) & water have not been maintained at site. No moisture correction done for aggregates. Please state how the quality control of the RCC work has been ensured in the absence of above documentary record. Please deploy semi-automatic batching plant of capacity 12-15 Cum/hr for balance work and confirm through AO. Accept lump sum penal recovery of Rs 30,000/- on account for lapse.</p>	Settled.

1	2	3
15	Obsn No 15 : Steel Reinforcement. Steel bent at 90 ⁰ for hooks. Hook length found 6 to 10 cm. Please ensure proper hook length and bend at 135 ⁰ . Accept penal recovery of Rs 5000/- for this lapse. Confirm through AO that in completed work hooks of proper sizes have been used.	Settled.
16	Obsn No 16 : ATT Chemical. (a) Vouchers not produced. (b) Independent testing not carried out. (c) Qty calculation for chemical not done. (d) License / IPCA certificate of agency not produced (e) Applicator certificate not produced. It is not understood how quality control has been done at site. Please carryout independent test and forward report. Fwd the copy of documents as mentioned above. Accept penal recovery of Rs 10,000/- for above mentioned lapses. Forward your reply through Chief Engineer.	Settled.
17	Obsn No 17 : Cut pieces of steel. Cut pieces of steel not deducted from RAR. Recover excess amount paid immediately and intimate.	
18	Obsn No 18 : Electricity Charges. No electricity charges recovered from RAR. Recover the electricity charges as per consumption and confirm.	
19	Obsn No 19 : PVs & TCs. You are requested to fwd PVs & TCs of all materials.	

PART 'B'

OBSNS ON ADM APPROVAL, PLG & TS

-NIL -

OBSERVATION ON CONTRACT & SITE DOCUMENT

-NIL -

OBSERVATION ON SITE INSPECTION (MAJOR)

1. **Obsn No 20 : Internal Flooring.** Flooring found done having panel size 4.0 m x 3.5 m in lieu of 2 m x 2 m as mentioned in PS clause 13.3. Flooring found undulating and joints not found provided. Casting has been done in alternate bay system. Surface cracks seen on the junction of bays. Flexural strength test & core testing not found carried out. In view of the above carry out the following :-

- (a) Please provide joints and fill the same with filler material as mentioned in annexure of PS for quality controlled cement concrete flooring .Pl fwd rectification cost along with photographs.

(b) Testing of Concrete. No testing of concrete carried out. This is clear violation of IS 456, IS-1199, IS-516 and also the annexure of PS of CA which specifies flexural test to be carried out for checking of quality. It is not understood how concrete has been accepted without proper testing. You are advised to work out the number of tests to be carried out as per IS depending on concrete poured and recover amount for less testing. Please carry out core testing & fwd report through AO.

(c) Accept penal recovery of `10,000/- for the lapse.

2. Obsn No 21 : Steel Door. Steel Door frame have been made of angle iron of size 90 x 90 x 10 mm make 'Mangla' non ISI. Welding of iron sheet has not been properly carried out. Red oxide and one coat paint have been done. However, the painting is of poor quality and needs to be redone. In view of the above, carry out the following :-

(a) Please identify defective area and carry out proper welding & intimate cost.

(b) Please redo the paintings of doors & intimate cost.

(c) Please replace angle iron with make & ISI mark as mentioned in CA or accept recovery @10% cost of material, if it is technically acceptable to GE.

(d) Please fwd PV & TC.

3. Obsn No 22 : Outside Hard Standing. Panel size varying from 4.5 m x 4 m to 5 m x 4.8 m in lieu of 2 m x 2 m as mentioned in PS clause 13.3. Slope of hard standing with respect to ground is reverse. In view of the above, carry out the following :-

(a) Please fwd reason for not adhering to CA provision & constructing such large panels.

(b) Please rectify defects & intimate rectification cost.

(c) Accept penal recovery of `10,000/- for not adhering to CA.

4. Obsn No 23 : External Painting. External Painting has not been carried out properly. Shade and camouflage pattern has not been properly done and does not match with existing camouflage pattern. Please get the camouflage pattern approved by user, carry out proper painting & intimate rectification cost along with photographs.

5. Obsn No 24 : Roof Treatment. APP membrane has not been properly pasted to the roof surface & membrane is coming out at the edges of the roof. In view of the above, carry out the following :-

(a) Identify defective area, carry out rectification & intimate cost.

(b) Certificate of authorized applicator, 10 yrs Guarantee Bond received from the Contractor & Material Approval Register not produced to STE team. Please fwd copy of the same.

(c) Please fwd Water Ponding Test Report.

(d) Please fwd PVs & TCs.

6. **Obsn No 25 : Drainage.**

(a) Drainage has not been planned properly and water found stagnating in front of building of ESH No. 01. Please provide proper drain in front of bldg so that water do not stagnate & intimate rectification cost along with photographs.

(b) The drainage plan between Mag 2 & Mag 3 is not proper. Drains need to be provided between Mag 2 & Mag 3 for proper water drainage. In view of the above, please provide drain between Mag 2 & Mag 3 & intimate cost. Also confirm that water is not stagnating anywhere between the two magazines.

7. **Obsn No 26 : Sump.** Water sumps provided in ESH-5 have not been provided with outlet pipe. Please carry out rectification & intimate rectification cost.

8. **Obsn No 27 : Angle Iron.** In ESH-5, MS Frame 50 x 50 x 6 mm of make 'Mangala', non ISI found provided for holding of wire mesh. Please replace angle iron with make and ISI mark as mentioned in CA or accept recover @10% cost of material, if it is technically acceptable to GE.

9. **Obsn No 28 : Testing of Steel.** Independent test report of steel not produced. Please fwd the same or accept appropriate recovery for not carrying out the same. Also fwd PV & TC.

10. **Obsn No 29 : Ramp.** Ramps have not been connected to the outside flooring in Mag 2 & 3. Proper connection of ramp to maintain the slope needs to be done. Please carry out the same & intimate cost.

11. **Obsn No 30 : Weep Holes.** Weep holes have been found provided in a haphazard fashion in earth traverse VIFT & proper distance has not been maintained. In view of the above, carry out following :-

(a) Please provide weep holes as per proper engineering practice, fwd photographs & intimate rectification cost.

(b) Also accept penal recovery of `10,000/- for poor workmanship.

12. **Obsn No 31 : Dwarf Wall.** Dwarf wall have not been provided with weep holes. Please provide the same & intimate cost.

Crew Rest Room, Cook House & Fire Station

13. **Obsn No 32 : Kota Stone Flooring.** Gaps between Kota stone have not been properly filled and edges found broken. Shade variation of 10% found in the rooms. In view of the above, carry out following :-

(a) Please identify defective area, carry out rectification & intimate cost.

(b) Please replace kota stone with shade variation and intimate replacement cost or or accept recovery @10% cost of material, if it is technically acceptable to GE.

14. **Obsn No 33 : Window Cill.** Window cill of Kota Stone of thickness 28 mm found provided. Polishing of Kota stone not carried out. Please carry out rectification & intimate cost.

15. **Obsn No 34 : Steel Windows.** Steel windows found provided, make of which could not be ascertained. Windows found with Steel wire mesh of dia 0.32 mm in lieu of 0.50 mm as mentioned in PS clause 11.17 having 14 apertures in 29.5 mm length. In view of the above, carry out following :-
- (a) Please replace steel wire mesh with specification as mentioned in CA & intimate rectification cost.
 - (b) Please fwd PV & TC.
16. **Obsn No 35 : Painting.** Crack observed on the wall. Painting on the wall coming out on hand with slight rubbing. Brush marks observed. Please rectify defects & intimate cost.
17. **Obsn No 36 : Water Tank.** Water tank two layer of make 'Sintex', non-ISI marked found provided. Please replace the same with make and specification as mentioned in CA & intimate cost.
18. **Obsn No 37 : Bathroom.**
- (a) Floor tile of size 300 x 300 mm found provided. Make of which could not be ascertained. Undulation observed and gaps not properly filled. Please rectify defects & intimate cost. Also fwd PV & TC.
 - (b) Wall tile of size 200 x 300 mm found provided. Make of which could not be ascertained. Hollow sound observed. Please rectify defects & intimate cost. Also fwd PV & TC.
 - (c) WC Orissa pattern of make 'Hindware / Parryware' found provided. Please fwd PV & TC.
 - (d) 3 showers found provided in one bath room of make 'Ashirwad'. Please remove two showers as space is very restricted, intimate cost along with photographs. Also fwd PV & TC.
19. **Obsn No 38 : Urinal.** Urinal of make 'Parryware' found provided. The urinal pipe has not been put properly on grating jali. Please rectify defects & intimate cost.
20. **Obsn No 39 : Interlocking Tile.** Interlocking tiles of thickness 80 mm of make 'Mehtab', ISI found provided. Please fwd PV & TC.
21. **Obsn No 40 : Chain Link Fencing.** Chain link fencing provided having wire of Dia-3.9 mm, Aperture -75 x 75 mm, stiffener rod of dia 8 mm in lieu of 10 mm. Fencing posts found made up of Angle iron of size 65 x 65 x 6 mm, Non-ISI make 'Fortune'. Barbed wire having dia of barb 1.9 mm in lieu of 2 mm and spacing between barb 83 mm in lieu of 75 mm. Chain link Fencing found loose and GI barbed wire found rusted. Gap observed between fencing and gate. In view of the above, carry out following :-
- (a) Please replace stiffener rod, barbed wire and angle iron with make and specification as mentioned in CA or accept recovery @ 10% cost of material, if it is technically acceptable to GE.
 - (b) Please carry out rectification of defects, replace rusted barbed wire & intimate cost.

(c) Also fwd PV & TC.

22. **Obsn No 41 : MS Conduit.** 20 mm make 'AKG', ISI mark. Cable conduit found directly fitted to walls & ceiling in place of providing wooden batten. Please provide wooden batten & fwd cost.

23. **Obsn No 42 : LT Panel (Sch 'A' Part-V : Item No 06).** LT Panel make 'Juhi Electrical Pvt Ltd', thickness 3.15 mm. Rubber gaskets found provided.

Incoming MCCB 100 KA, KP 25 KA C & S
MCB SPN 63 A 10 KA, C & S - 03 Nos

Cable gland not provided. Bus bar Cu 20 x 3 mm in lieu of 25 x 3 mm. No separate enclosure for bus bar. Panel earthing not done.

In view of the above,

- (a) Provide neoprene gasket and cable glands & fwd cost.
- (b) Replace bus bar as per CA dimensions & fwd cost.
- (c) Provide separate enclosure for bus bar chamber as specified in CA & fwd cost.
- (d) Provide earthing for panel & fwd cost.
- (e) Fwd CPRI type testing for panel, PV & TC.

24. **Obsn No 43 : Point Wiring.** Wire make 'Kalinga', ISI mark FRLSH. Piano switch make 'Anchor', ISI mark. Hylam sheet make 'Hylam' ISI mark 3 mm, Sunken box depth 50 mm in lieu of 65 mm & thickness 0.8 mm in lieu of 1.2 mm. Step regulator of make 'Bajaj', non ISI, wattage not marked found provided.

In view of the of above,

- (a) Replace sunken box & fwd cost.
- (b) Replace fan regulator with ISI mark and 120 W & fwd cost.

25. **Obsn No 44 : Fibre Reinforced Glass Dunnage Boxes.** Dunnage of size 450 x 300 x 300 mm have been found at site. FRG dunnage found having thickness varying from 5.5 to 6.6 mm. Make and specification not found marked on it. Load test report not produced. In view of the above, carry out following :-

- (a) Please fwd PV & TC and confirm that the dunnage is from standard manufacturer.
- (b) Please fwd load test report and rigidity / drop test report for our perusal.

26. **Obsn No 45 : CFEES.** CFEES approval found taken for the work on 05 Feb 2008 vide letter no 0225/072/TFA/CFEES 2008. Please fwd point wise confirmation in respect of all points covered in above mentioned letter along with endorsement of Accepting Officer.

27. **Obsn No 46 : Site Engineer.** Following Engrs found at site:-

- (a) Shri Rajeswar Singh - 30 yrs experience.
- (b) Shri Amit Kumar Mishra - 03 yrs experience.

Degree/Diploma, qualification certificates of above Site Engrs were not produced to STE team at site. Also the details and mode of payment made by Contractor to these Site Engrs were not available with the Contractor. Please fwd the above mentioned documents duly signed by Garrison Engineer and contractor for our perusal.

28. **Obsn No 47 : Slow Progress.** Work progress of subject CA as on 22 Oct 2018 is 93% only. As per Extension granted, the work was required to be completed by 05 Sep 2018. Please identify the problem areas and take remedial action to expedite the progress of the work. Also :-

- (a) Furnish the reasons for delay in execution of work and tentative date of completion.
- (b) In terms of E-in-C's Branch policy letter, please confirm that before granting the extension of time, the matter has been investigated and approval of higher Engineer Authority is obtained.
- (c) Please obtain the enhancement of job PDC from the CFA till the completion of project and confirm.

(Satish Chander, IDSE)
STE SC Pune

MINOR OBSERVATION

CA No : CEBZ/SAG-06 OF 2015-16
Name of Work : Provn of Storage Accn (Phase-II) at Dhana
Amount in lakhs : ₹. 1268.50 Lakhs

-NIL-

(Satish Chander, IDSE)
STE SC Pune

IMPORTANT OBSERVATION

CA No : CEBZ/SAG-06 OF 2015-16
Name of Work : Provn of Storage Accn (Phase-II) at Dhana
Amount in lakhs : ₹. 1268.50 Lakhs

1. **Obsn No 20 : Internal Flooring.** Flooring found done having panel size 4.0 m x 3.5 m in lieu of 2 m x 2 m as mentioned in PS clause 13.3. Flooring found undulating and joints not found provided. Casting has been done in alternate bay system. Surface cracks seen on the junction of bays. Flexural strength test & core testing not found carried out. In view of the above carry out the following :-

(a) Please provide joints and fill the same with filler material as mentioned in annexure of PS for quality controlled cement concrete flooring .Pl fwd rectification cost along with photographs.

(b) **Testing of Concrete.** No testing of concrete carried out. This is clear violation of IS 456, IS-1199, IS-516 and also the annexure of PS of CA which specifies flexural test to be carried out for checking of quality. It is not understood how concrete has been accepted without proper testing. You are advised to work out the number of tests to be carried out as per IS depending on concrete poured and recover amount for less testing. Please carry out core testing & fwd report through AO.

(c) Accept penal recovery of ₹.10,000/- for the lapse.

2. **Obsn No 22 : Outside Hard Standing.** Panel size varying from 4.5 m x 4 m to 5 m x 4.8 m in lieu of 2 m x 2 m as mentioned in PS clause 13.3. Slope of hard standing with respect to ground is reverse. In view of the above, carry out the following :-

(a) Please fwd reason for not adhering to CA provision & constructing such large panels.

(b) Please rectify defects & intimate rectification cost.

(c) Accept penal recovery of ₹.10,000/- for not adhering to CA.

3. **Obsn No 24 : Roof Treatment.** APP membrane has not been properly pasted to the roof surface & membrane is coming out at the edges of the roof. In view of the above, carry out the following :-

(a) Identify defective area, carry out rectification & intimate cost.

(b) Certificate of authorized applicator, 10 yrs Guarantee Bond received from the Contractor & Material Approval Register not produced to STE team. Please fwd copy of the same.

(c) Please fwd Water Ponding Test Report.

(d) Please fwd PVs & TCs.

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4. **Obsn No 25 : Drainage.**

(a) Drainage has not been planned properly and water found stagnating in front of building of ESH No. 01. Please provide proper drain in front of bldg so that water do not stagnate & intimate rectification cost along with photographs.

(b) The drainage plan between Mag 2 & Mag 3 is not proper. Drains need to be provided between Mag 2 & Mag 3 for proper water drainage. In view of the above, please provide drain between Mag 2 & Mag 3 & intimate cost. Also confirm that water is not stagnating anywhere between the two magazines.

5. **Obsn No 30 : Weep Holes.** Weep holes have been found provided in a haphazard fashion in earth traverse VIFT & proper distance has not been maintained. In view of the above, carry out following :-

(a) Please provide weep holes as per proper engineering practice, fwd photographs & intimate rectification cost.

(b) Also accept penal recovery of `10,000/- for poor workmanship.

6. **Obsn No 45 : CFEEES.** CFEEES approval found taken for the work on 05 Feb 2008 vide letter no 0225/072/TFA/CFEEES 2008. Please fwd point wise confirmation in respect of all points covered in above mentioned letter along with endorsement of Accepting Officer.

7. **Obsn No 47 : Slow Progress.** Work progress of subject CA as on 22 Oct 2018 is 93% only. As per Extension granted, the work was required to be completed by 05 Sep 2018. Please identify the problem areas and take remedial action to expedite the progress of the work. Also :-

(a) Furnish the reasons for delay in execution of work and tentative date of completion.

(b) In terms of E-in-C's Branch policy letter, please confirm that before granting the extension of time, the matter has been investigated and approval of higher Engineer Authority is obtained.

(c) Please obtain the enhancement of job PDC from the CFA till the completion of project and confirm.

(Satish Chander, IDSE)
STE SC Pune