



**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**Minutes of 4th meeting
of
Works Standards Committee
(19th - 20th January 2012)
at
Bhubaneswar
East coast Railway**

**Research Design & Standards Organisation
Lucknow-226011**



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4th Meeting of the Works Standards Committee January 2012.

Introduction

1. 4th Meeting of Works Standards Committee was held at East Coast Railway, Bhubaneswar on 19th & 20th January 2012. Sri. A. P. Mishra, Hon'ble Member Engineering inaugurated the meeting of Works Standards Committee and graced the first session by attending the same. Other dignitaries present in the first session were Shri Indra Ghosh, GM, ECoR, Shri Laj Kumar PCE/ECoR and Shri Onkar Singh, CAO(C) ECoR.

All the members of Works Standards Committee i.e CE (W)/CPDE/CGE of zonal Railways (except CPDE/ER who was represented by CE/TP), Director/IRICEN/Pune and ED/Works (RDSO) have attended the meeting. Shri H.K. Jaggi, Adv (L&A), Railway Board, Shri Alok Kumar, EDCE(G), Shri D.R.Gupta, ED (L&A), Shri J.S.Lakra, Director (L&A), Railway Board and Shri N. C. Sharda, Dean/ IRICEN have also attended the meeting.

2. Member Engineering, GM/ECoR, Advisor/L&A, all the members of WSC and distinguished observers from Railway Board were welcomed by PCE & CGE, East Coast Railway.
3. Shri S.M.Maheshwari, Executive Director/Works/RDSO and Member Secretary /WSC during his introductory address gave a brief historical resume of WSC. He also pointed out major achievements of WSC like preparation and finalization of 'Unified Standard Schedule of Rates' and 'Unified Specifications' and standardization of flooring and finishing at station premises. Important issues to be discussed in the 4th meeting of WSC were also briefed.
4. Shri C.P.Tayal, Director/IRICEN/Pune was entrusted with the responsibility to Chair the 4th meeting of WSC.
5. Shri C. P. Tayal, Director/IRICEN/Pune extended his warm welcome to all delegates of 4th meeting of WSC. He also expressed his pleasure and conveyed his thanks to Member Engineering for sparing his precious time to attend the occasion and emphasized on import of standards of other organizations.
6. Shri H. K. Jaggi, Adv (L&A) emphasized upon meticulous planning and attention required to be taken during execution of work at even IOW level to avoid discrepancies like leakage, seepage, jointing in tiling work, slope defects in bathrooms, choking problems in drainage system, improper fixing of European WCs, non standard system followed in plumbing etc. He also emphasized upon ensuring quality implementation at work site. He also


asked the committee to meet once a year for which he promised to extend all required assistance.

7. Shri Indra Ghosh, GM/ECOR, during his address emphasized upon requirement of effective measures to improve maintenance of colonies. He also suggested for sub-committees of not more than 4 members, to discuss the innovations done by various Railways and to introduce informative system to make everybody aware of the works included in work order issued to contractor through notice board etc.
8. Member/Engineering, Railway Board in his address appreciated the hard work by WSC in completing USSOR and asked to all WSC members to meet once a year by deciding date & Venue of next WSC meeting in concluding session and emphasized on :
 - (a) Working in professional manner.
 - (b) Ensuring quality consciousness in construction work.
 - (c) Willingness to do good Job.
 - (d) Use of new building materials which are cost effective and long lasting.
 - (e) Staff training to acquire better skills, better tools with staff and motivation to staff.
 - (f) Prioritization of work in colony maintenance due to shortage of funds.
 - (g) Advertisement of work included in work order for awareness of occupants about work which would be done by contractor.
 - (h) Items which must be ensured in even lowest category house are:-
 - i. No Leakage,
 - ii. Proper doors & windows,
 - iii. Proper flooring,
 - iv. Proper water supply (both quantity & quality wise),
 - v. Proper sanitation & drainage.
 - vi. Proper walkable road in front of house,
 - vii. Fencing to feel belongingness,
 - (i) Water harvesting.
 - (j) Use of SOR items, minimize NS items.
 - (k) Conversion of NS items into SOR items.


- (l) Light weight passenger sheds with better aesthetics.
 - (m) Small sheds at small stations.
9. The meeting of the Committee was held in 4 technical sessions, during which 12 new items and 16 Review items carried forward from earlier WSC meetings were deliberated.
10. During the meeting technical presentations were made by industries bringing out the highlights of new technology/products. Following presentations were organized during the meeting.
- 1. Greenply Industries Ltd.
 - 2. Pidilite Industries Ltd.
 - 3. JSL (JINDAL Stainless) Architecture Ltd.
 - 4. Surface Safety Solutions P. Ltd.
11. The Committee specially acknowledges the assistance rendered by following officers from RDSO for their valuable contribution during 4th Meeting of the Works Standards Committee.
- (i) Shri Prabhat Kumar, Director/Works.
 - (ii) Shri Ashutosh kumar, ADE/Works.
12. The next (5th) meeting of WSC is proposed to be held at Madurai, SR on 27th & 28th Sept 2012.
13. The Committee would like to place on record their gratitude and appreciation for Principal Chief Engineer/East Coast Railway and his team of officers and staff for the excellent arrangements made and the hospitality extended to all the participants.


* * * * *


The Minutes of the 4th Meeting of the Works Standards Committee
(19th & 20th Jan 2012 at East Coast Railway, Bhubaneswar)


19.1.2012
(R. P. Saxena)
Chief Engineer/Planning
Western Railway

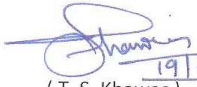

19/1/2012
(R. B. Rai)
Chief Planning & Design Engineer
South Eastern Railway

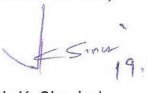

19/01/12
(K. Venkateswar Rao)
Chief Engineer/Works
South Central Railway


19/01/12
(A.K. Sinha)
Chief Engineer/Works
Southern Railway

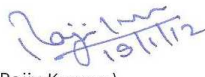

19/01/2012
(P. K. Singh)
Chief Planning & Design Engineer
West Central Railway

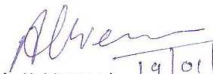

19/1/12
(Kamal Dev Ralha)
Chief Planning & Design Engineer
North Central Railway



19/01/2012
(T. S. Khawas)
Chief General Engineer
South West Railway

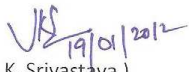

19.01.12
(J. K. Singla)
Chief Planning & Design Engineer
South East Central Railway



19.1.12
(S.C.L. Meena)
Chief Planning & Design Engineer
North West Railway


19/1/12
(Rajiv Kumar)
CE/TP
Eastern Railway



19/01/12
(A. K. Verma)
Chief Engineer/HQ
Northern Railway

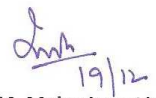

19.01.12
(K. M. Tripathi)
CPDE
North Frontier Railway

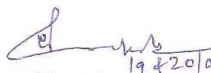

19/01/2012
(V. K. Srivastava)
Chief Engineer/Works
East Central Railway


19/01/2012
(Pradeep Singh)
Chief General Engineer
North Eastern Railway

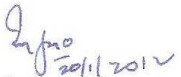

19/1/12
(J. S. Gupta)
Chief Engineer/Planning
Central Railway



13/1/12
(P.S. Bhramanandam)
Chief General Engineer
East Coast Railway.

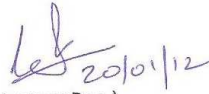

19/12
(S. M. Maheshwari)
Executive Director/Works/RDSO
& Member Secretary

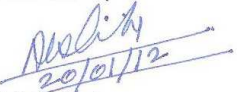

19 & 20/01/2012
(C. P. Tayal)
Chairman
Director/IRICEN

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Western Railway



(R. B. Rai)
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South Eastern Railway

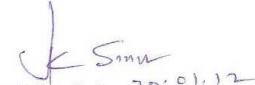

(K. Venkateswar Rao)
Chief Engineer/Works
South Central Railway

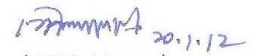

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(P. K. Singh)
Chief Planning & Design Engineer
West Central Railway

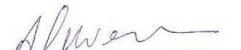

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Chief General Engineer
South West Railway

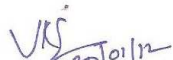

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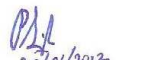

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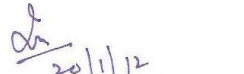

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(S. M. Maheshwari)
Executive Director/Works/RDSO
& Member Secretary


(C. P. Tayal)
Chairman
Director/IRICEN

RECOMMENDATIONS ON AGENDA ITEMS OF 4th MEETING OF THE 'WORKS STANDARDS COMMITTEE'

A. Earlier Continuing Agenda Items :

Following items, as discussed during 3rd meeting of WSC, have further been deliberated -

1. Item 002/01/05

Subject:- Strengthening Of Organisation For Works At Various Levels -
(Proposed by WSC)

- a) RDSO
- b) Zonal Railways
- c) Divisional Headquarters

AGENDA :- During 1st WSC meeting, WSC members felt that on Indian Railways Works organization needs to be strengthened at various level to get works equal importance.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

Committee observed that Railway Board has not agreed to duties of Sr. DEN/Works at Division level. The committee discussed the item in detail and felt that there is a need for strengthening of works organization at Division level at the level of DEN, AEN & IOW. Therefore, Railway Board may reconsider the issue related to works organization at Division level.

Railway Board's Order

Concept of Sr.DEN/Works at Divisional level is not agreed to due to functional and administrative reasons. It also overlaps & duplicates the work. Item need not be pursued further and is Closed.

However, the Works Standard Committee should take up following items for functional improvement:

- i. Basic technical training (in-house and from outside organisations) to supervisors and artisans staff of Works Cadre.
- ii. Availability and acquaintance with relevant Codes, e.g. National Building Code, IS: 456, Design Mix Guidelines, Latest advancements etc. to JEs & SSEs of Works.
- iii. Availability of standard and state of art tools & kits for working & supervision.
- iv. Ensuring System of Material Passing before its use at site.

- v. Introduction of Quality Assurance through 'Check List', 'Method Statement' etc.
- vi. Mandatory 'Refresher Courses' at Zonal Railway Training Institutes along with 'Resource Management Training' for Works Cadre.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS : -

- (1) The item related to creation of separate work cadre in the divisions is closed.
- (2) The measures suggested by Railway Board for strengthening the work cadre may be implemented on Zonal Railways for functional improvement.
- (3) Core competence available outside railways should be utilized as works is not railways core area. For technical training, the services of outside institutions may be taken by ZTS or Divisional Training School. Training in institutions having core competence in these fields may be utilized for senior supervisory & officer's levels by nominations in their courses directly.
- (4) Practices being followed by Zonal Railway can be put on e-based portal which can be shared by all Railways. IRICEN can provide link to these information's on its web site.

COMMITTEE'S RECOMMENDATIONS :-

- (1) As already decided, the item related to separate work cadre in the division is closed.
- (2) The measures suggested by Railway Board for strengthening the work cadre may be implemented on Zonal Railways for functional improvement.
- (3) For technical training, the services of outside institutions may be taken by ZTS or Divisional Training School. Training in institutions having core competence in these fields may be utilized for senior supervisory levels & officers by nominating them directly.
- (4) Practices being followed by Zonal Railway can be put on e-based portal which can be shared by all Railways. IRICEN may provide link to this portal on its web site.

Item is proposed for closure.

Railway Board's Draft Orders:-

- 1. WSC's recommendations are accepted.
- 2. Instructions regarding services of outside institutions by ZTS & Divisional training school are being issued separately.
- 3. Item is closed.

2. Item No. 003/01/05

Subject:- Unified Works Specifications And Basic Data Sheets For Preparation Of SOR.(Proposed by WSC)

AGENDA:- During 1st WSC meeting, WSC members felt that there is requirement of unified Works Specifications And Basic Data Sheets For Preparation Of SOR.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting :

Recommendations -

1. RITES should expedite the work of preparation of SOR & Specification.
2. Presently Shri A. K. Lahoti, CE/ Construction is coordinator from Railways side with RITES. Due to his busy schedule some other coordinator from NR may be nominated by PCE to expedite the work.
3. Convener should monitor closely the progress of SOR and Specification.
4. SOR prepared by CE/W, ECR may also be submitted to RITES for study and inclusion wherever necessary.

Railway Board's Order

- i. Indian Railways Unified Documents - 'Standard Schedule of Rates' and 'Standard Specifications' for Works & Materials have already been approved by Railway Board alongwith financial concurrence and circulated to all Zonal Railways/PUs/PSUs vide letter no. 2009/LMB/01/03, dated 14.01.10.
- ii. All Zonal Railways have also implemented these software based documents after input of market rates for material, labour, equipment etc. and thereby, generating their respective USSORs.
- iii. A seminar to discuss the experience/feedback of Zonal Railways (Open Line and Construction) on implementation of USSOR as also the institutional mechanism created on Zonal Railways for its implementation and updation should be held at IRICEN. Shri N.C. Sharda, Dean/ IRICEN to coordinate.
- iv. Railway Board have further formulated a Standing Expert Group for systematising the regular updation of these documents through annual exercise of Correction Slip, so that all advancements alongwith feedback from Zonal Railways etc. are taken care of and non-schedule items are only by exception & not as a routine.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS: -

1. USSOR has not been prepared by ECR & NER. CE/W/ECR & CGE/NER to ensure finalization of USSOR by March 2012.

2. Feedback on further improvement of USSOR and new NS items be given to EDCE/G, Convener of expert group for consideration & inclusion in USSOR.
3. SCR issued instructions regarding operation & approval of NS items through Engineering Standing Orders. Similar instructions can be issued by other Railways.
4. It is also observed that reference of specifications has not been given in the SOR. Concordance to specifications may be given in remarks column. For doing this exercise following distribution may be made.

SCR	-	Chapter 1 - 5
SR	-	Chapter 6 - 10
SECR	-	Chapter 11 - 15
NWR	-	Chapter 16 - 20
NCR	-	Chapter 21 - 25

Results may be advised to EDCE/G, Convener of Expert Group on USSOR.

5. Item 007/01/05 i.e. New Building Material shall be a standing item of WSC. Therefore, this item is proposed for closed here.

COMMITTEE'S RECOMMENDATIONS:-

1. USSOR has not been prepared by ECR & NER. CE/W/ECR & CGE/NER to ensure finalization of USSOR by March 2012.
2. Feedback on further improvement of USSOR and new NS items be given to EDCE/G, Convener of expert group for consideration & inclusion in USSOR.
3. SCR issued instructions regarding operation & approval of NS items through Engineering Standing Orders. Similar instructions can be issued by other Railways.
4. Concordance table linking SOR items with specifications Paras need to be provided by collective efforts with following distribution of SOR Chapters :-

SCR	-	Chapter 1 - 5
SR	-	Chapter 6 - 10
SECR	-	Chapter 11 - 15
NWR	-	Chapter 16 - 20
NCR	-	Chapter 21 - 25

Results may be advised to EDCE/G, Convener of Expert Group on USSOR within next two months.

5. Item 007/01/05 i.e. New Building Material shall be a standing item of WSC.

Therefore, this item is proposed for closure.

Railway Board's Draft Orders:-

1. EDCE/G to monitor the implementation of USSOR by ECR & NER & coordinate for item (2) & (4).

2. All zonal HQs to collect Engineering Standing Orders issued by SCR in their Railways regarding operation & approval of NS items and issue similar instructions in their Railways.
3. Item is closed.

3. Item No. 004/01/05

Subject:-(a) Standardization of flooring of platform, concourse & FOB and platform cover sheds based on categories of stations (A, B, C & others).

(b) Standardisation of Workshop flooring. (Proposed by WSC)

AGENDA :- During 1st WSC meeting, WSC members felt that, Flooring at various locations need to be standardized.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

- (i) Good efforts have been made by Sub-committee in framing recommendation. However, some modifications are needed to be made in recommendations :
 - (a) Heavy duty floor terrazzo tiles mentioned by ER, CR, ER & WR can be studied for inclusion, if found suitable by Sub-Committee.
 - (b) Detailed Specifications alongwith IS Specs, if any alongwith book references, whatsoever to be reflected regarding each item in notes.
 - (c) Paver block in 'E' Class stations in proposed recommendations shall be avoided and be replaced by concrete items.
 - (d) Fiber reinforcement, vacuum dewatered concrete used at SCR, seems quite good surface and can be recommended for use by Sub-committee in all categories of stations.
 - (e) Marble floor recommended shall be avoided being the soft material.
 - (f) On Gangways, use of ceramic tiles needs review. At 'A1', 'A' & "C Category stations, Flame Granite be recommended for steps of FOBs.
 - (g) Heavy duty Chequered tiles/ Concrete Blocks with projected studs can be a good surface for edges of platform.
- (ii) At Dadar FOB, about ten years back, some tiled surface was provided which is still giving good service. CE/W/WR shall provide detailed specification of the same to RDSO for consideration of Sub-Committee.
- (iii) All Zonal Railways shall send their suggestions/remarks on proposed recommendations, again circulated during meeting within next 10 days to RDSO for consideration of Sub-Committee.

- (iv) Sub-Committee shall consider economy and life of material as well as least maintenance requirement criteria during framing recommendations. A great thought need to be put in for finalization of roofing.
- (v) RDSO should revise recommendations, as discussed above.

Railway Board's Order :

- (i) Standardisation of flooring of platform, concourse & FOB has already been approved by Railway Board and instructions issued vide RDSO's letter no. WKS/WS/05/FS, dated 22.9.09 to Zonal Railways for following the same as and when replacement is done.
- (ii) RDSO should take feedback from the Zonal Railways on Item-(i) above and make presentation during next meeting of WSC.
- (iii) Recommendations submitted in regard to platform coverings should also be presented during next meeting of WSC.
- (iv) Sub-Committee (ED/W/RDSO, CE/W/WR & CE/W/SCR) shall also propose the recommendations for flooring in workshops and goods shed areas and to be presented during next meeting of WSC.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS: -

A presentation of sub-committee's recommendations were made by ED/Works/RDSO. WSC members discussed the recommendation as follows :

- (1) Standards approved for flooring & finishing at station premises are satisfactory and does not require any modifications for the time being.
- (2) WSC endorsed the recommendations for roofing material for platform covering & workshop flooring with following modifications.
 - (a) Polycarbonate sheets proposed as roofing material shall be limited to approx 10% area for lighting/ aesthetic purposes with approval of Zonal Headquarters.
 - (b) VDC in acid proof floor for workshop flooring be made 75 mm instead of 50 mm.

With the above modifications, sub-committee may submit their recommendations to the Railway Board.

COMMITTEE'S RECOMMENDATIONS:-

- (1) Standards approved for flooring & finishing at station premises are satisfactory and does not require any modifications for the time being.

(2) WSC endorsed the recommendations for roofing material for platform covering & workshop flooring with following modifications.

(a) Polycarbonate sheets proposed as roofing material shall be limited to approx 10% area for lighting/ aesthetic purposes with approval of Zonal Headquarters.

(b) VDC in acid proof floor for workshop flooring be made 75 mm instead of 50 mm.

With the above modifications, sub-committee may submit their recommendations to the Railway Board.

Railway Board's draft orders:-

WSC's recommendations are accepted. Sub-committee shall submit the modified recommendations by Feb 2012.

4. Item No. 005/01/05

Subject:- Review of Indian Railway Works Manual

(Proposed by NER/SECR/SER)

AGENDA :- During 1st WSC meeting NER, SECR and SER Proposed item for Review of Indian Railway Works Manual.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Sr. Professor/IRICEN presented the proposed amendment in Works Manual to committee. In addition, members proposed following items to be included in the Works Manual :

- Water supply treatment process
- Sewage treatment process
- Test check by AEN & Dy.CE should be included
- Imprest power to IOW for petty works can be included

Green building guidelines should be available in the Works Manual. Committee recommended that there is need of separate special WSC on the issue of amendment to Work Manual. All members can send their suggestions to IRICEN within one month.

Railway Board's Order

- (i) A Sub-Committee of six Members with Shri N.C. Sharda, Dean/IRICEN as Convenor for Works Manual is reformed as under :
 - Shri N.C. Sharda, Dean/IRICEN
 - Shri S.M. Maheshwari, ED/RDSO

- Shri R.G. Singh, CE/NR
 - Shri R.P. Saxena, CE/WR
 - Shri K.V. Prasad, CE/C, SCR
 - Shri S.P. Samantaray, CE/ECOR
- (ii) The Sub-Committee shall work out the recommended amendments to Work Manual through special meetings, to be convened by Dean/IRICEN.
 - (iii) Proper Indexing of Manual also needs to be organised.
 - (iv) The Sub-Committee shall make full presentation on the subject during next meeting of WSC.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS: -

- (1) A presentation outlining the roadmap of proposed work manual is made by Shri N. C. Sharda, Dean IRICEN.
- (2) The manual should be in two parts, the main manual & annexe quoting references to NBC and IS Codes etc.
- (3) Sub-Committee to prepare draft Indian Railway Work Manual through special meetings to be convened by Dean/IRICEN, Pune and finalise the draft of main manual by June 2012.
- (4) After deliberation by sub-committee & getting feedback from Zonal Railways, draft be put to Railway Board for further consideration & approval.

COMMITTEE'S RECOMMENDATIONS:-

- (1) The Works Manual should be in two parts, the main manual & annexe quoting references to NBC and IS Codes etc.
- (2) Sub-Committee to prepare draft Indian Railway Work Manual through special meetings to be convened by Dean/IRICEN, Pune.
- (3) After deliberation by sub-committee & getting feedback from Zonal Railways, draft be submitted for further consideration & approval.

Railway Board's draft orders:-

Sub-committee to expedite the submission of draft Works Manual as per recommendations (1) by June 2012.

5. Item No. 006/01/05

Subject:- Review Of Provisions Of IRWM & Engineering Code Regarding Measurement. (Proposed by NER)

AGENDA :- During 1st WSC meeting NER Proposed item for Review of Indian Railway Works Manual& Engineering Code Regarding Measurement.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

Committee observed that recommendations of the Sub-Committee regarding measurements are under consideration at Railway Board level.

Railway Board's Order :

Recommendations of the sub-committee have not yet been received in Railway Board. Committee's recommendations should be presented during next meeting of WSC.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS: -

- (1) Shri N.C. Sharda, Dean IRICEN presented recommendations of the sub-committee prepared regarding measurements.

It has been deliberated in details and members observed that :

- (i) Supervisors who are supervising the work should initiate the recording of measurement.
- (ii) Limits proposed by the committee needs to be re-looked & further enhanced.
- (iii) Provisions may be made such that overlapping of test checked items at two levels may be avoided.
- (iv) The sub-committee should also study the practice being followed in CPWD, MES & similar organization.
- (v) Sub-Committee may also consider the recording of measurements by contractor if it is practiced in CPWD or similar organisations.
- (vi) Shri N. C. Sharda, Dean/IRICEN be nominated as convener of the sub-committee in place of Shri Vinay Singh, ED/Works/Rly. Bd & Shri Ved Prakash/ED/Project/Rly. Board be made as member with ED/Works/RDSO & Shri R. G. Singh, CE/W/NR.

- (vii) This item is continuing since 1st WSC meeting & could not be finalized & therefore sub-committee should finalise recommendation by Feb 2012 by taking feedback from WSC's member on e-mail.

COMMITTEE'S RECOMMENDATIONS:-

Recommendation of sub-committee shall be finalized by Feb 2012 and sent to WSC members through e-mail & thereafter submitted to the Board for approval.

Railway Board's draft orders:-

WSC's recommendations are accepted. A separate letter of revised nominations is being issued by Railway Board. Sub-committee shall study the practices being followed in other organizations regarding system of recording of measurements and limits of initiating officials for recording of measurements and submit the recommendations by Feb' 2012 for consideration of Railway Board.

6. Item No. 007/01/05

Subject:- New Building Materials. (Proposed by ER/NER/SER/SR)

AGENDA:- During 1st WSC meeting ER, NER, SER & SR Proposed item for introduction of New Building Materials in Indian Railways SOR and adoption on Indian Railways .

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

- (i) Performance of items at SL-1 (Polyester fiber reinforced concrete/plaster) & SL-2 [Poly Tetra Methylene Terephthalate (PTMT) bib cocks and fittings] being satisfactory, can be used on regular basis. However, w.r.t. SL-3 (Aluminum Sheet gutters), there are other materials also available in market. RDSO should study these items and suggest 3 or 4 alternatives.
- (ii) Following materials can be used on trial basis by Zonal Railways :
 - (a) Ready mix bitumen compound for repairs of pot holes.
 - (b) Toughened Glass on counters.
 - (c) Cool and seal (Leak proof/ Thermal protection), white cement based Wall care putty.
 - (d) Floor Repairing Compound.
 - (e) Anti Slip Coatings compound.
 - (f) Expansion joints and wall sealing compound.

- (g) Chemical Coating for leakage in Tanks.
- (h) Leak proof Tape in joints of Pipes and fittings.
- (i) Aluminum Composite Panel

Railway Board's Order :

- (i) Most of the new building materials being widely used have already been incorporated in the IR's Unified SSOR.
- (ii) New Building Materials and Technological Advancements should be used by field organisations and also to be recommended to the Standing Expert Group for inclusion in the unified documents through Correction Slips for adoption on Indian Railway system.
- (iii) The Standing Expert Group shall submit report on the subject in all the meetings of Works Standards Committee and it shall be Standing Agenda item in all meetings of WSC.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS: -

This item shall be closed and Standing Monitoring item may be kept in all meetings of WSC.

COMMITTEE'S RECOMMENDATIONS:-

This item is proposed for closure in view of standing monitoring item on new materials proposed to be included.

Railway Board's draft orders:-

WSC's recommendations are accepted. Item is closed.

7. Item No. 008/01/05

Subject:- Rationalisation of maintenance practices :

Maintenance of leaky roofs as suggested by ER & SER. (Proposed by ER/SER)

AGENDA :- During 1st WSC meeting ER & SER Proposed item for Rationalisation of maintenance practices on Indian Railways specially for maintenance of leaky roofs.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

- (i) Performance of treatment suggested by IRICEN & Dr. Kar is satisfactory so far in the field. Western Railway used repair of leaky roof by using China mosaic which is quite successful. This item is of very important nature and

different Zonal Railways follow different locally available practices. There is a need to form sub-committee for this issue.

- (ii) Sub-committee consisting of Sr. Professor/IRICEN, ED/GE/RDSO, Shri P. K. Acharya, CGE/ER and Shri B. M. Gupta, CPDE/SECR should be formed who will give their recommendations about the method suitable alongwith specifications and items for Schedule Of Rates.

Railway Board's Order :

- (i) While many items on the subject have been incorporated in IR's USSOR, there could be still good compounds in the market for arresting/preventing leakages. RDSO should take feedback from Zonal Railways and make presentation on the same. The presentation should include new materials on tackling roof leakage.
- (ii) Most of the items, widely used, have already been incorporated in the IR's Unified SSOR. Feedback should be reported by Railways and new items to be incorporated by the Standing Expert Group.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS :-

Committee observed that most of the practices being followed in Railways have already been incorporated in USSOR.

In case new product/practice is found suitable same should be forwarded to expert group on USSOR.

In view of above, item is proposed for closure.

COMMITTEE'S RECOMMENDATIONS :-

Committee observed that most of the practices being followed in Railways have already been incorporated in USSOR.

In case new product/practice is found suitable same should be forwarded to expert group on USSOR.

Item is proposed for closure.

Railway Board's draft orders:-

Any new product tried by any Railway can directly be sent to EDCE/G, convener of expert group with complete details. WSC's recommendation for closure of item is accepted.

8. Item No. 009/01/05

Subject:- Rationalisation of yardstick for Works organization. (Proposed by NER & WR)

AGENDA :- During 1st WSC meeting NER & WR Proposed item for Rationalisation of Yardstick for Works Organisation on Indian Railways.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

CE/W/WR presented the recommendation of Sub-committee. Members suggested further changes, e.g. Yardstick should be linked with ITKM.

Total implication of recommendations to be worked out for any selected units. Sub-Committee should again discuss the issue raised by WSC and come out with recommendations at the earliest.

Railway Board's Order :

The Sub-Committee of Shri S.B. Ninawe, CBE/SECR, Shri A.K. Sinha, CE/Works/SR & Shri C.L. Meena, CE/C/NWR has submitted its report to Board in August 2011. Salient features of the report should be deliberated in 4th meeting of WSC and accordingly, with these recommendations, the approval of Board shall be processed.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS :-

- (1) Committee observed that satisfactory work has been done by the sub-committee consisting of Shri S.B.Ninawe, CBE/SECR, Shri A. K. Sinha, CE/Works/SR and Shri C. L. Meena, CE/C/NWR.
- (2) The recommendations submitted by Sub-Committee are endorsed by the members of WSC. The Sub-Committee's report may be submitted to the Board.

COMMITTEE'S RECOMMENDATIONS :-

The report submitted by Sub-Committee may be submitted to the Board for approval.

Railway Board's draft orders:-

WSC's recommendation is accepted, sub-committee shall submit the recommendations for consideration of Railway Board by Feb' 2012.

9. Item No. 018/02/06

Subject:- Provision Of Green Building Concept In India.

(Proposed by SWR, SCR)

AGENDA :- During 2nd WSC meeting SWR & SCR Proposed item for introduction of Green Building Concept in Works being executed on Indian Railways .

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

Para on Green Building concept should be provided in the Works Manual alongwith the list of items which are as per this concept. Efforts should then be made to plan new buildings as per provisions of these green building concepts in the Manual.

IRICEN can organize two days course for this purpose on green building concept. Thereafter, RDSO may consider standardization of drawing of Type I, II, III & IV quarters as per green building concept.

Railway Board's Order :

- (i) WSC's recommendations are accepted. Proposed Para should be finalized by the Works Manual Sub-Committee.
- (ii) IRICEN, Pune should include in their curriculum a two days course on the subject.
- (iii) WSC recommendations on development of drawings of Types - II, III & IV quarters as per Green Building Concept by RDSO, is accepted. For this purpose, assistance of professional agencies/organisation could also be taken.
- (iv) Typical Type Plans for Types II, III & IV quarters, as submitted by RDSO are under examination and a decision would be communicated by Railway Board soon.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS: -

1. Works Manual sub-committee to incorporate a para/chapter on green buildings.
2. IRICEN/Pune to include Green Building Concept in curriculum.
3. Type plan of Type II, III & IV quarters be got approved from Indian Green Building Council to have green building.

COMMITTEE'S RECOMMENDATIONS:-

1. Works Manual sub-committee to incorporate a para/chapter on green buildings.
2. IRICEN/Pune to include Green Building Concept in curriculum.
3. Type plan of Type II, III & IV quarters be got approved from Indian Green Building Council to have green building.

Railway Board's draft orders:-

WSC's recommendations are accepted except (3) which will be dealt separately. Item is closed.

10. Item No. 019/02/06

Subject:- Change In System Of Maintenance Of Colony.

(Proposed by WR, NFR)

AGENDA: - During 2nd WSC meeting WR & NFR Proposed item for change in system of maintenance on Indian Railways.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

- (i) There are large no. of houses, which are beyond repair - should be proposed for condemnation.
- (ii) Number of supervisors to be increased by giving matching surrender.
- (iii) Item-wise works contract should be carried out as a pilot project on one IOW unit per zone. Based upon experience, further action will be taken.
- (iv) For petty repair, IOW should be given power for quotation and getting petty repairs done through imprest.
- (v) There is no means for mobility of IOW, which is essential for inspection and supervision. Either two wheeler be provided or adequate allowance be given to IOW as mobility allowance.

Railway Board's Order :

- (i) WSC recommendations for item (i) is accepted.
- (ii) A decision on Item (ii) will be taken after consideration of sub-committee's recommendation on agenda item no. 010/01/05 on yardstick for works organisation and WSC's recommendations there-on.
- (iii) Only after proper assessment, Zonal Contract tenders should be invited covering all items of Unified Schedule of Rates, duly giving weightage (%)

of the total) to various Chapters of USSOR as per maintenance assessment.

- (iv) A sub-committee consisting of Shri S.M. Maheshwari, ED/W/RDSO (Convenor), Shri Desh Ratan Gupta, ED/L&A-III/R.Bd. and Shri Alok Kansal, CE/TSP/NR is constituted to make recommendations on improving the maintenance of Qrs./ Colonies and allied assets. Sub-committee shall take into account the best maintenance practices being followed by other organizations like CPWD, MES etc. and PSUs like SAIL, Oil Companies etc. or Private companies. Outsourcing of maintenance shall also be deliberated. This sub-committee shall also deliberate upon other WSC recommendations on the subject.
- (v) The sub-committee shall submit the report by 30.4.12.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS :-

1. Directed building maintenance shall be continued.
2. We should construct maintenance free assets.
3. System of BHEL/CPWD like organisation also be studied before finalisation of recommendation.
4. We should prioritise the work to be done as per requirement of occupants.
5. Main items which need to be maintained properly in even lowest category house are:
 - Leakage free / dampness free environment.
 - Proper doors and windows.
 - Uniform / leveled flooring.
 - Proper water supply.
 - Proper water closets.
 - Proper sanitation / drainage.
 - Proper walkable road in front of quarter.
 - Fencing to feel personal belonging.
6. The Sub-Committee should submit their recommendation within stipulated time period of 30.4.2012.

COMMITTEE'S RECOMMENDATIONS:

1. System of BHEL/CPWD like organisation also be studied before finalisation of recommendation.

2. Main items which need to be maintained properly in even lowest category house are:
 - Leakage free / dampness free environment.
 - Proper doors and windows.
 - Uniform / leveled flooring.
 - Proper water supply.
 - Proper water closets.
 - Proper sanitation / drainage.
 - Proper walkable road in front of quarter.
 - Fencing to feel personal belonging.
3. The Sub-Committee should submit their recommendation within stipulated time period of 30.4.2012.

Railway Board's Draft orders:-

WSC's recommendation regarding study of System of CPWD/MES like organizations & PSUs by sub-committee before finalization their recommendations is accepted.

Sub-committee shall submit their recommendations by 30.04.2012.

11. Item No. 021/02/06

Subject:- Prefabricated Buildings. (Proposed by WSC)

AGENDA: - During 2nd WSC meeting WSC members Proposed item for use of prefabricated buildings.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting:

Recommendations -

- (i) Pre-fabricated building concept is very useful for temporary accommodation.
- (ii) Sr. Professor/Works/IRICEN has already done lot of survey and therefore, IRICEN will issue guidelines for the type of pre-fabricated building, which are available in the market and can be used as a temporary structure.

Railway Board's Order :

WSC's recommendations are accepted.

RDSO in consultation with IRICEN shall issue guidelines on the subject matter and also, the item to be incorporated in IR's USSOR by the Standing Expert Group; to be presented by RDSO during 4th Meeting of WSC.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS :-

1. Zonal Railways should submit details to RDSO. The details available with IRICEN should also be taken. RDSO will also collect details from the manufacturers and other organizations.
2. CPDE/SER mentioned that portacabin is available in the list of DGS&D. He should circulate the details to all Zonal Railways.
3. EDCE/G will co-ordinate for providing portal for sharing information like for IRPSM software. Such details may be loaded on the portal by Railways who may be provided administrative control for loading & viewing by others.
4. Every six month updates shall be circulated.

COMMITTEE'S RECOMMENDATIONS :-

1. Zonal Railways should submit details to RDSO. The details available with IRICEN should also be taken. RDSO will also collect details from the manufacturers and other organizations.
2. CPDE/SER mentioned that details of portacabin are available in the list of DGS&D. He should circulate the details to all Zonal Railways.
3. EDCE/G will co-ordinate for providing portal for sharing information. Such details may be loaded on the portal by Railways who may be provided administrative control for loading & viewing by others.
4. Every six month updates shall be circulated.

Railway Board's Draft orders:-

WSC's recommendations are accepted.

12. Item No. 022/03/08

Subject : Standardisation of Various Drawings on Indian Railways.

- (i) Platform layouts (Proposed By SCR)
- (ii) Station Name Boards (Proposed By SCR)
- (iii) Water booth/taps (Proposed By SCR & NCR)
- (iv) Gate Lodge (Proposed By SCR)
- (v) Platform Walls / RCC coping (Proposed By SCR & NCR)
- (vi) Platform Benches (Proposed By SCR)
- (vii) Pale Fencing (Proposed By SCR)

(viii) Standardisation of platform shelters. (Proposed By NCR)

Agenda : SCR & NCR proposed for standardization of various drawings on Indian Railways.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting :

Recommendations -

All Zonal Railways shall send their drawings/plans to RDSO. RDSO shall study them and finalize three types of alternative drawings/plans for each item for adoption on Indian Railways. These can also be included in Works Manual later on.

Railway Board's Order

- (i) *WSC's recommendations are accepted. Light weight shelters for use at smaller stations should also be standardized. Work done by NR, NWR, NCR and some other Railways on small shelters should also be studied. RDSO may associate NID, other experts as required for finalising the designs. Drawings/Plans of DMRC may also be studied for this purpose.*
- (ii) *This work should be completed within six months and details submitted to Works Manual Sub-committee who will submit its recommendations there-on.*

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COMMITTEE'S OBSERVATIONS : -

1. Committee observes that drawings may not be standardized as this kills innovations. The information should be shared by providing details on Civil Engg Portal. EDCE/G may co-ordinate to provide linkage on the portal like IRPSM software. Railways can upload their excellence in sub groups.
2. There is need to standardize the low cost mini-platform shelters.

COMMITTEE'S RECOMMENDATIONS :-

1. Committee recommends that drawings may not be standardized as this kills innovations. The information should be shared by providing details on Civil Engg Portal. EDCE/G may co-ordinate to provide linkage on the portal like IRPSM software. Railways can upload their excellence in sub groups.
2. There is need to standardize the low cost mini-platform shelters.

Railway Board's Draft orders: -

WSC's recommendations are accepted.

13. Item No. 023/03/08

Subject : Standardisation of Landscaping Area At Various Class Of Stations on Indian Railway. (Proposed By SCR)

AGENDA : **SCR** proposed to lay down the yardstick for stations for landscaping/ gardening based on the classification to develop them as World Class Stations.

SCR proposed the Yardstick for landscaping as under :

SL	Classification of Station	Area to be landscaped/ Gardened (Sqm)		Remarks
		Approach and Circulating area	Inside Station* / Platforms	
1	A1	500-2000	250-1000	* Includes location at the end of the platforms thereby passengers while arriving to the station by train will have a pleasant look of the station.
2	A	250-1000	100-500	
3	B	50-500	50-250	
4	C	50-1000	50-500	
5	D	50-250	Upto 100 sqm as per feasibility	Landscaping can be taken up in such E and F class stations, where the station is situated in heavy rainfall area or water is available in abundance
6	E	-	-	
7	F	-	-	

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting : Recommendations -

Photographs shown by CE/W/SCR regarding landscape at stations were very good and wherever spare land gets available at platform & circulating area, shall be beautified by proper landscaping and a Para can be provided in Works Manual too. Works Manual Sub-committee to consider this issue.

Railway Board's Order

WSC's recommendations are accepted.

Works Manual Sub-Committee should deliberate upon the recommendations and standardize various concepts/drawings for due incorporation in Works Manual.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS :-

- Based on available land Railways may provide landscaping.
 - Works Manual sub-committee shall provide suitable para on the subject.
- Item is proposed for closure.

COMMITTEE'S RECOMMENDATIONS :-

- Based on available land Railways may provide landscaping.
 - Works Manual sub-committee shall provide suitable para on the subject.
- Item is proposed for closure.

Railway Board's Draft orders:-

WSC's recommendation is accepted for providing para in works manual on this subject.

Item is closed

14. Item No. 024/03/08

Subject : Development of Master Plans for Infrastructure Facilities At Stations & Colonies on Indian Railway. (Proposed By SWR & NCR)

AGENDA : SWR proposed to prescribe the development of master plan for infrastructure facilities, like water supply and sewage systems, power supply, roads, drains, electrical & S&T cabling etc. during creation of new assets .

NCR proposed for :

- Developing radial type water supply distribution in Railway colony.
- Centralisation of hydrant valve and centralized control and monitoring of water supply system.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting :

Recommendations -

- (i) NCR has done centralization of hydrant valve and centralized operation of valves of the water supply system in Kanpur Yard. This system is very good and drawing alongwith details should be sent by NCR to all Zonal Railways. All Zonal Railways should try this system & report feedback.

- (ii) Development of master plan prior to creating any new asset is a good concept, which should be adopted universally.

Railway Board's Order

- (i) WSC's recommendations are accepted.
- (ii) Guidelines for developing master plan for Infrastructure Facilities at Stations & Colonies should be prepared by Works Manual Sub-Committee for due incorporation in the Works Manual.

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COMMITTEE'S OBSERVATIONS :-

1. Master Plan must be developed for proper space utilization.
2. Good practices being followed by organization whose core area is construction & maintenance of colonies etc be imported by Railways and experiences shared through portal being provided.
3. This item be closed and new item for office accommodation at station be continued & information on radial type water supply distributions & centralization of hydrant valve and centralized control and monitoring of water supply system at station be circulated by NCR to all Zonal railways.

COMMITTEE'S RECOMMENDATIONS :-

1. Good practices being followed by organization whose core area is construction & maintenance of colonies etc be imported by Railways and experiences shared through portal being provided.
2. This item be closed and new item for office accommodation at station be continued & information on radial type water supply distributions & centralization of hydrant valve and centralized control and monitoring of water supply system at station be circulated by NCR to all Zonal railways.

Railway Board's Draft orders:-

1. WSC's recommendations are accepted; all Zonal Railways shall upload their excellences on the Engineering portal for cross sharing.
2. Information on radial type water supply distributions & centralization of hydrant valve and centralized control and monitoring of water supply system at station be circulated by NCR to all Zonal railways and also uploaded on Engineering portal on availability.
3. Item is closed.

15. Item No. 025/03/08

Subject : Provision Of Tool Kit With Artisan Staff On Indian Railways.
(Proposed by SWR)

AGENDA : SWR proposed to modernize the IOW artisan staff, such as carpenter, blacksmith, mason etc. by prescribing small tools & equipments for them, including provision of funds for purchase of these tools & equipments.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting : Recommendations -

Tools to be provided to Artisan Staff should be part of Works Manual. Works Manual Sub-Committee should look in to the proposal of SWR & guidelines issued by IRCAMTEC, Gwalior and put the details in Manual.

Railway Board's Order :

Tools & kit to be provided to the artisan staff need to be standard and state of art. A sub-committee (which can be constituted in next meeting of WSC) shall make recommendations by considering Railways feedback and modern tools & kit available in the market/used by industry/other organization.

These recommendations/approval shall ultimately find a place in IR Works Manual.

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COMMITTEE'S OBSERVATIONS : -

Committee observed :

1. No need to standardize the kit.
2. Each Railway to nominate 2 artisans each who are sincere, young & preferably not from divisional HQ & send for training in NICMAR and advise to IRICEN.
3. IRICEN to co-ordinate & tie up with NICMAR for training of artisans.
4. System support & free kit will be a part of the training & kit.
5. Tool kit shall be as per our requirement and system for recoupment of tool shall be developed spare tools when damaged/lost.
6. SMS alerts be given for training to Railways.

COMMITTEE'S RECOMMENDATIONS :-

1. No need to standardize the kit.
2. Each Railway to nominate 2 artisans each who are sincere, young & not from divisional HQ & send for training in NICMAR Hyderabad and advise to IRICEN.
3. IRICEN to co-ordinate & tie up with NICMAR for training of artisans.
4. System support & free kit will be a part of the training & kit.
5. Tool kit shall be as per our requirement.

Railway Board's Draft orders:-

WSC's recommendation regarding training of staff in NICMAR is accepted; IRICEN to coordinate & organize training courses in NICMAR Hyderabad for artisan staff of Railways.

16. Item No. 026/03/08

Subject : Manual On Passenger Amenities On Stations Of Indian Railway. (Proposed by SER)

AGENDA : SER proposed to develop a detailed Manual, in the form of neat spiral bound book A4 size, containing neat sketches of various fixtures, connections, heights, clearances, slopes, other fixing arrangements for various amenities provided at station buildings like PRS counters, Booking windows, details of steps of FOB, ramps, hand railings, urinals etc. may be prepared which will serve as a handy guide to the field staff. This will help in evolving standard patterns and finishing for various passenger amenities to give a uniform appearance at any station as in the case of retail outlet of any corporate entity.

RECOMMENDATIONS DURING WSC MEETING & RAILWAY BOARD'S ORDERS:

3rd Meeting :

Recommendations -

Sub-Committee comprising of ED/Works/RDSO, CE/W/WR & ED/Traffic/RDSO may be formed. The committee should engage NID/Ahmedabad & expert with international experience and come out with recommendation.

Railway Board's Order :

- (i) This item is with reference to CRB's instructions during GCM of RDSO.

- (ii) RDSO should finalise 'Manual on Passenger Amenities on Stations of IR' through committee of ED/Works (convener), ED/Traffic, ED/EM, ED/Tele & ED/Carriage RDSO duly taking suggestions from Zonal Railways and it should be presented during 4th meeting of WSC.

Minutes of 4th meeting of WSC held on 19th-20th January 2012

COMMITTEE'S OBSERVATIONS :-

ED/Works made a presentation on the Manual on Passenger Amenities on stations of Indian Railway. Efforts put in by ED/Works alongwith other Directorates of RDSO in making the guidelines were appreciated.

Committee observed that there are variations in the level of amenities proposed by sub-committee & presently approved by the Railway Board.

Railway Board may approve the guidelines at the earliest.

COMMITTEE'S RECOMMENDATIONS :-

Railway Board may approve the guidelines prepared by multiple sub-committee of RDSO.

Railway Board's Draft orders:-

RDSO shall submit 8 copies of the guidelines prepared for circulation to concerned directorate for study and finalization.

B. New Agenda Items :

17. Item No. 027/04/12

Subject : Standard procedure for ducting and wall recess in buildings (Proposed SR).

AGENDA : SR proposed for Standard procedure for ducting and wall recess in buildings.

Presently ducting for electrical wiring and wall recess for electrical switch boxes are being done after the wall is constructed by making non-standard grooves on the wall that too, by breaking with crow bars/hammering etc. which lead to development of cracks at such locations immediately after building is commissioned. In order to avoid such practice, there is necessity to issue a standard procedure for ducting/concealed wall recess in buildings.

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COMMITTEE'S OBSERVATIONS :-

Committee observes that this issue requires administrative decision through JPO which can be issued by Railways on the lines of SC & SECR.

Railway Board is also requested to issue guidelines in this regard.

COMMITTEE'S RECOMMENDATIONS :-

Committee observes that this issue requires administrative decision through JPO which can be issued by Railways on the lines of SC & SECR.

Railway Board is also requested to issue guidelines in this regard.

Railway Board's Draft orders:-

WSC's recommendation is accepted. Joint Guidelines with Electrical & Telecom directorates are being issued separately.

18. Item No. 028/04/12

Subject : Outsourcing of maintenance works related to water supply and sanitation (Proposed by SR).

AGENDA : SR proposed for outsourcing of maintenance works related to water supply and sanitation.

The maintenance of water supply and sanitary works are being carried out by artisans and khalasi so far. But due to surrender and reduction of strength due to retirements, without fresh recruitment, it is increasingly found difficult to maintain the services leading to frequent interruptions and emergencies.

It is necessary based on available staff strength to partially outsource maintenance activities of water supply and sanitary works for regular and un-interrupted maintenance. As these activities are considered regular activities (CLRA involvement has to be studied), it is necessary to issue policy guidelines on outsourcing of water supply and sanitary works.

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COMMITTEE OBSERVATIONS : -

This is administrative matter & Rly may take decision within their power.

COMMITTEE RECOMMENDATIONS :-

- (1) This is administrative matter & Rly may take decision within their power.
- (2) This item is proposed for closure.

Railway Board's Draft orders:-

WSC's recommendation is accepted.

19. Item No. 029/04/12

Subject : Hoisting of the Passenger Amenity Data on website (Proposed by SECR).

AGENDA : SECR proposed for Hoisting of the Passenger Amenity Data on website.

At present, Passenger Amenity Data in the form of Booklets in hard and soft copy are being sent to the Railway Board. Whenever any representation regarding availability of Passenger Amenities at particular station is made either by MP/MLA or by other VIPs, the representation is referred to the zone without referring those Passenger Amenity Booklets. These Booklets are either not readily available to the officer concerned or it is also inconvenient to use by them. It is, therefore, suggested that the computerized data can be hoisted on website in the same manner, as list of sanctioned works are hoisted in IRPSM.

This will help in timely reply of VIP references and unnecessary delay will be avoided. Lot of time will also be saved as any information will be available by click of a button.

This can be conveniently used at all the levels of the railway, i.e. Division, Headquarters and Railway Board level. As far as the updating of passenger amenities data is concerned, this data should be updated in website annually as per the existing practice.

Sr. DCM of the division should act as Nodal officer in the Division who should be made responsible to collect all the details of Engineering, Electrical and S&T departments etc. Further this database can be linked to IRPSM in the same manner as list of sanctioned works. Necessary software may be developed to extract information from this data base using user friendly menu.

Railway Board may be requested to arrange for the facilities for updating and hoisting of Passenger Amenities data in IRPSM and to issue suitable guidelines to all the Railways.

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COMMITTEE'S OBSERVATIONS : -

ED/L&A advised that Railway Board is working on the development of software which is expected in next 2 - 3 months which will facilitate hoisting of passenger amenity data on website.

COMMITTEE'S RECOMMENDATIONS :-

ED/L&A advised that Railway Board is working on the development of software which is expected in next 2 - 3 months which will facilitate hoisting of passenger amenity data on website.

Railway Board's Draft orders:-

Railway Board is working on the development of software which is expected in near future which will facilitate hoisting of passenger amenity data on website.

20. Item No. 030/04/12

Subject : Standardization of GCC for entire Indian Railways. (Proposed by SECR).

AGENDA : SECR proposed for Standardization of GCC for entire Indian Railways.

At present each Railway is issuing its own GCC. GCC should be standardized & issued by Railway Board like uniform Unified SOR for all the Zonal Railways.

Shri Alok Kumar, EDCE(G), Railway Board addressed the participants and regarding this he advised that the process of issuing revised GCC is already on and the same is likely to be issued by the Railway Board in the next three months. Now about five months have passed. Railway Board may be requested for issuing standardized GCC immediately.

East Coast Railway also Proposed for Publication of General Conditions of Contract (GCC).

- Before Introduction of unified Standard Schedule of Rates (USSOR), the Schedule of Rates (SOR) and it's specifications used to be published by respective Zonal Railways.
- Considering that all publications related to tenders are published at a time, the publication of GCC was also taken up by respective Zonal Railways.
- Now after publication of USSOR and it's specifications, the publication of GCC may be centralized for all Zonal Railways.

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COMMITTEE OBSERVATIONS :-

Item discussed & dropped.

COMMITTEE's RECOMMENDATIONS :-

Item discussed & dropped.

Railway Board's Draft orders:-

WSC's recommendation is accepted.

21. Item No. 031/04/12

Subject : Guidelines on Retrofitting of Existing Buildings (Proposed by RDSO).

AGENDA : As per reports, 59% of India's land area could face moderate to severe Earthquakes. During Earthquakes, buildings particularly masonry buildings are susceptible to damage due to lack of tensile strength etc.

Seismic retrofitting is a technique which focuses on modifying existing structures to make them more earthquakes resistant. Presently, there are no concrete guidelines available on Indian Railways in spite of falling in high intensity Seismic Zones, i.e. Zones III, IV & V. It is proposed to issue a guideline for retrofitting of various structures.

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COMMITTEE OBSERVATIONS :-

Good work has been done by RDSO by taking lead & pro-active action. Sub-committee to finalise the guidelines prepared by RDSO may be proposed as under :

1. Shri S. M. Maheshwari, ED/W/RDSO, Convener
2. Shri R. P. Saxena, CE/W/WR
3. Shri K. M. Tripathi, CPDE/NFR
4. Shri Alok Verma, CE/HQ/WR
5. Shri S. K. Garg, SP/Works/IRICEN

COMMITTEE RECOMMENDATIONS :-

Sub-committee may be formed to finalise the guidelines prepared by RDSO as under:

1. Shri S. M. Maheshwari, ED/W/RDSO, Convener
2. Shri R. P. Saxena, CE/W/WR
3. Shri K. M. Tripathi, CPDE/NFR
4. Shri Alok Verma, CE/HQ/WR
5. Shri S. K. Garg, SP/Works/IRICEN

Railway Board's Draft orders:-

WSC's recommendation is accepted. Sub-committee to finalise the guidelines prepared by RDSO and submit to Rly. Board for approval at the earliest.

22. Item No. 032/04/12

Subject : Enhancement of plinth area of Quarters (Proposed by SECR).

AGENDA : SECR proposed for Enhancement of plinth area of Quarters.

Plinth Area at present for different type of Quarters is -

Ty. I	-	34 Sqm
Ty. II	-	45 Sqm
Ty. III	-	55.75 Sqm
Ty. IV	-	83.60 Sqm
Ty. V	-	139.35 + 18.60 servant qr. = 157.95 Sqm

These areas are too small. The quality as well as standard of living has now gone up and hence, area needs to be revised. Reference should be made to Railway Board for taking up the matter with the concerned Ministry of Urban Development.

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COMMITTEE OBSERVATIONS : -

1. This need to be checked with Ministry of Urban Development whether any enhancement of area have done by them.
2. Committee deliberate & proposed that area needs to be increased as follow :
 - Type II - 55 sq.mtrs.
 - Type III - 70 sq.mtrs.
 - Type IV - 125 + 20 sq.mtrs servant quarters.
 - Type V - 160+ 20 sq.mtrs servant quarters.

COMMITTEE RECOMMENDATIONS :-

1. This need to be checked with Ministry of Urban Development whether any enhancement of area have done by them.
2. Committee deliberate & proposed that area needs to be increased as follow :
 - Type II - 55 sq.mtrs.
 - Type III - 70 sq.mtrs.
 - Type IV - 125 + 20 sq.mtrs servant quarters.
 - Type V - 160+ 20 sq.mtrs servant quarters.

Railway Board's Draft orders:-

WSC's recommendation will be considered appropriately in Railway Board.

23. Item No. 033/04/12

Subject : Standardization of facilities for Engineering Department at Stations (Proposed by SECR).

AGENDA : SECR proposed for standardization of facilities for Engineering Department at stations.

S&T department has standardized room sizes or other buildings for major stations. Engineering Department should also plan for centralized rooms for operation of valves of different carriage watering lines and other lines in the yard as well as a room for works supervisors.

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COMMITTEE'S OBSERVATIONS : -

1. At Type A-1, A & B stations & where IOW is headquartered, a service room may be provided for Engineering Deptt for maintenance staff & IOW at the end of the home platform or mezzanine floor or suitable place with pathways to connect all the platforms.
2. IOW & his staff may be given walkie-talkie to have connections with related station staff.

COMMITTEE'S RECOMMENDATIONS :-

1. At Type A-1, A & B stations & where IOW is headquartered, a service room may be provided for Engineering Deptt for maintenance staff & IOW at the end of the home platform or mezzanine floor or suitable place with pathways to connect all the platforms.
2. IOW & his staff may be given walkie-talkie to have connections with related station staff.

Railway Board's Draft orders:-

WSC's recommendation is accepted. Instructions from Rly. Board are being issued to Railways in this regard.

24. Item No. 034/04/12

Subject : Detailed guidelines for site order book, Material passing Register, quality of Cement & Steel (Proposed by SECR).

Agenda : SECR proposed for detailed guidelines for Site Order Book, Material Passing Register, Quality of Cement & Steel.

Detailed guidelines for Site Order Book, Material Passing Register, Accountal of cement & steel supplied by contractor, Type of test reports & test to be conducted for ensuring quality of cement & steel, test check by Officers of different levels; be issued by Railway Board.

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COMMITTEE'S OBSERVATIONS :-

Sub-committee of Shri J. K. Singla, CPDE, SECR as convener & Shri Venkataswar Rao, CE/W/SCR are nominated to study the various guidelines/circulars of Railways.

Committee may submit detailed guidelines with formats to Railway Board under advise to Member Secretary/WSC by April 2012.

COMMITTEE'S RECOMMENDATIONS :-

Sub-committee of Shri J. K. Singla, CPDE, SECR as convener & Shri Venkataswar Rao, CE/W/SCR are nominated to study the various guidelines/circulars of Railways.

Committee may submit detailed guidelines with formats to Railway Board under advise to Member Secretary/WSC by April 2012.

Railway Board's Draft orders:-

WSC's recommendation is accepted. Sub-committee should submit their recommendation for approval by 30.04.12.

25. Item No. 035/04/12

Subject : Penalties for non deployment of Engineers by Contractors at worksite (Proposed by SECR).

Agenda : SECR proposed for Penalties for non-deployment of Engineers by Contractors at work site.

Vide Railway Board letter no. 81/W1/CT/16, dated 18.03.1983; the penalty of Rs. 1000 and Rs. 2000 per month for diploma and degree holder respectively is to be imposed for defaulting the provision. This has lost relevance after passing 28 years.

NWR had moved the proposal to their HQ/Finance for enhancing the amount narrated above to Rs. 20000 and 25000 per month penalty for diploma holder and degree holder respectively. Finance had opined that since policy was issued by Railway Boards hence modification shall be issued by Railway Boards. In view of this issue should be taken up with Railway Board for enhancing the penalty amount.

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COMMITTEE'S OBSERVATIONS :-

- (i) The imposition of penalty for non engaging the engineer may be enhanced as :
- For degree holder Engineer - Rs. 40,000/-
 - For Diploma holder Engineer - Rs. 25,000/-

- (ii) Penalty for non engaging the engineer on contracts costing above Rs 5.0 Cr to be decided by CAO/C depending upon the nature of work.
- (iii) Full time employment of contractor's Engineers and their duties with site supervision specifically should be ensured.

COMMITTEE'S RECOMMENDATIONS :-

- (i) The imposition of penalty for non engaging the engineer may be enhanced as :
 - For degree holder Engineer - Rs. 40,000/-
 - For Diploma holder Engineer - Rs. 25,000/-
- (ii) Penalty for non engaging the engineer on contracts costing above Rs 5.0 Cr to be decided by CAO/C depending upon the nature of work.
- (iii) Full time employment of contractor's Engineers and their duties with site supervision specifically should be ensured.

Railway Board's Draft orders:-

WSC's recommendations will be considered in Railway Board. Necessary instructions/orders will be issued in due course.

26. Item No. 036/04/12

Subject : Appreciable improvement of existing Railway Colonies and to develop Model Colonies for maximum staff satisfaction (Proposed by CR).

AGENDA : Central Railway proposed for appreciable improvement to existing Railway Colonies and to develop Model Colonies for maximum staff satisfaction.

- (1) Present situation : At present, the condition of railway colonies is very bad and funds are spent in unplanned way, mainly because officers from ADEN onwards are not devoting/having even 5% time for colonies.
- (2) Aim is to develop Model Colonies :
 - a) To improve the life style of staff, their satisfaction, to enhance their potential and to improve image of Engg. Deptt.
 - b) To provide all required amenities in important / major colonies, as being done by private, semi-government & government sectors (e.g. Air Force, Army etc.)
 - c) To use all limited resources on planned maintenance.
- (3) Proposal/Suggestions to Develop Model Colonies :
 - a) Development of Integrated Master Plan and planning all required amenities in important / model colonies. Major expenditure for 'A' category, i.e.

important Model Colonies in important cities & least expenditure for 'C' category colonies, i.e. way side stations.

b) Amenities proposed in important Model Colonies/Townships :

- (i) Entire boundary wall with only one security gate.
- (ii) Parks, Playground etc., Recreation Club / Railway Institute, Community Hall, Barat Ghar etc.
- (iii) Sports facilities like swimming pools, badminton court etc. and Health Club including Yoga Centre.
- (iv) Polyclinic / Health Unit, Co-operative / Shopping Complex, Post Office, Bank & Schools etc.
- (v) Well planned wide roads with shady trees.
- (vi) Good drainage & water carriage sewerage disposal system with treatment plant.
- (vii) Efficient electric supply with standby arrangement.

(4) Improved and planned maintenance of existing colonies / quarters :

- a) Identifying quarters, which are unsafe, unlivable and beyond economical repairs for reducing maintenance resources.
- b) Survey of quarters required at each station as per Performa for realistic assessment and planning extra quarters, if at all required, only in major model colonies.
- c) Allotting vacant quarters in major ('A' Category) & medium ('B' category) colonies.
- d) Survey of each quarter for planned maintenance through DBM, Zonal Contract, LAW, PWP etc. instead of complaint based maintenance.
- e) Planning major expenditure for 'A' category, i.e. important model colonies & least expenditure for 'C' category colonies, i.e. way side stations.

(5) Separate Sr.DEN/Bldg. at divisional level, in charge of all buildings, i.e. colonies including station, as in Electrical & Mechanical Deptt. of Indian Railways.

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COMMITTEE'S OBSERVATIONS : -

System of SIG for colony be implemented for improvement of existing Railway colonies.

COMMITTEE'S RECOMMENDATIONS :-

System of SIG for colony be implemented for improvement of existing Railway colonies.

It is proposed for closure.

Railway Board's Draft orders:-

Matter will be considered in Rly. Board & instructions will be issued in due course.

27. Item No. 037/04/12

Subject : Planning of expeditious completion of works say 1-3 years
(Proposed by CR).

Agenda : Central Railway proposed for Planning of expeditious completion of works say 1to 3 years.

- (1) Planning is an Important Activity, i.e. it produces excellent results in long run (15% quality time produces 85% results), if it is not delegated to lower level & is done regularly. At present, the planning work is being done at lower level. DRM in divisions and CHOD/PHODs in HQ don't have quality time, due to which, even small works in LAW take a lot of time, say 5 years to complete.
- (2) Railway men are not following norms for sanctioning of new works and all limited resources, i.e. Mind, Man & Money are thinly distributed to various works without concentrating all resources only on important works and thus, works are not completed expeditiously.
- (3) The targets should be clearly fixed. Generally, the following should be targets for completion :
 - a) DPW works - 1 year
 - b) LAW works - 2 years
 - c) PWP (at least Phase-I works) - 3 years
- (4) Keeping in view the above mentioned targets for early completion of works and to derive the benefit to railways, only very important works in the beginning of the year, i.e. in April to be identified by DRMs and all planning to be done in first 3-6 months, only for these targeted works, so as to complete these works in next 6-9 months, by concentrating all limited and available resources.
- (5) Monthly or quarterly review for progress and assistance required, needs to be done by GM or CE(PL) on behalf of GM, with all Plan Head coordinators and DRMs & CAO(C).

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COMMITTEE'S OBSERVATIONS : -

Existing instructions are considered adequate. No further instructions are required & item is closed.

COMMITTEE'S RECOMMENDATIONS :-

Existing instructions are considered adequate. No further instructions are required & item is closed.

Railway Board's Draft orders:-

WSC's recommendation is accepted and item closed.

28. Item No. 038/04/12

Subject : Standard drawings for Platform Shelters with openings for OHE mast in sloped corrugated sheet roofing (Proposed by SR.)

Agenda : Standard drawing for opening in COPs for OHE mast etc.

Presently there are no standard drawings available for openings in platform shelters for OHE mast, leading to adoption of local arrangements which are not effective in preventing water leakage from shelters. In most of the places where OHE mast is on platform, wet floors are seen. These locations are creating inconvenience to passengers during rainy seasons. RDSO may arrange to issue standard drawings for openings in platform shelters; specially with corrugated AC sheet, Galvalume sheet roofing etc.

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COMMITTEE'S OBSERVATIONS : -

Committee observed that sealing arrangement to prevent ingress of water on the platform from opening at OHE mast is required to be designed. SR to suggest the measure to be taken in this regards with drawings & send it to Railway Board.

Railway Board will convey the approval in consultation with Electrical Directorate.

COMMITTEE'S RECOMMENDATIONS :-

Committee recommends that sealing arrangement to prevent ingress of water on the platform from opening due to OHE mast projecting out of shelter may be designed. SR to suggest the measure to be taken in this regards alongwith drawings & send it to RDSO. RDSO in association with Traction Installation Directorate may finalize it.

Railway Board's Draft orders:-

WSC's recommendation is accepted.

Annexure 1

Agenda Items Closed During Previous Meetings of Works Standards Committee

SL	Item No.	Subject (Proposed By)	Item Closure Reference
1.	001/01/05	Name & Constitution of Committee. (WSC)	2 nd WSC Meeting 04 th & 05 th Apr 2006
2.	007/01/05	Rationalisation of the Specifications. (NER, ER, SR)	2 nd WSC Meeting 04 th & 05 th Apr 2006
3.	011/01/05	Use Of Bricks Made Of Fly Ash. (SECR)	2 nd WSC Meeting 04 th & 05 th Apr 2006
4.	012/01/05	Strengthening Of Works Unit. (WR)	2 nd WSC Meeting 04 th & 05 th Apr 2006
5.	014/01/05	Authority of Works Measurement At Various Levels In Works Cadre (Open line /Construction). (WSC)	2 nd WSC Meeting 04 th & 05 th Apr 2006
6.	015/02/06	Contract - System Improvement suggestions. (NWR)	2 nd WSC Meeting 04 th & 05 th Apr 2006
7.	016/02/06	Arbitrations (EDCE/G/Rly Board will be able to discuss the subject matter). (NWR)	2 nd WSC Meeting 04 th & 05 th Apr 2006
8.	017/02/06	Separate cadre for Architect. (WSC)	2 nd WSC Meeting 04 th & 05 th Apr 2006
9.	013/01/05	Setting Up Quality Audit Cell For Checking The Quality Of Construction And Maintenance Works Executed By Railway Board.	3 rd WSC Meeting 2 nd & 3 rd July 2008
10.	020/02/06	ISO Certification of Railway Colonies.	3 rd WSC Meeting 2 nd & 3 rd July 2008

WSC Recommendations & Railway Board's Orders of 1st & 2nd Meeting:

1. Item 002/01/05

1st Meeting :

Recommendations -

- a) RDSO - Committee recommends for a separate Works Directorate in RDSO. Organization structure to be decided by DG/RDSO in consultation with Railway Board.
- b) Zonal Railways - Committee recommends for creation or re-designation of one SAG post as CE/Works who will look after maintenance, policy and cadre pertaining to works.
- c) Divisional Head Quarters - Committee recommends for a separate Branch Officer in Divisional Office Exclusively dealing with works matter.

Orders of Railway Board -

1. **For RDSO** - Committee recommendation for a separate Works Directorate in RDSO is found justified and agreed to. This could be headed by ED level officer and can be designated as ED/Works Standards, RDSO. Such Directorates can be created through reorganization of the existing structure of engineering department in RDSO. Structure of this Directorate can be decided by DG/RDSO in consultation with Railway Board.
2. **On Zonal Railways** - Committee's recommendation for creation/designation of one SAG post as CE/Works who will look after the maintenance, policy and works cadre and any other item pertaining to works matter, is agreed to in principle taking into account of the need. However, it is necessary that the duties and responsibilities of proposed CE/Works are to be listed, including those of CPDE and CGE as they are presently looking after such works. As far as new posts are concerned, these posts can be assigned for the cadre restructuring of the engineering department under process at present.
3. **At Divisional Level** - Committee recommended a separate branch officer in Division office exclusively dealing with works matters as works are found to be neglected. The need for separate branch officer dealing with works matter, may be agreed in principle. However, details of his duties and responsibilities need to be worked out before final decision.

The details of the work to be assigned/seen by proposed CE/Works in Zonal headquarter and Sr. DEN/Works in Division, should be deliberated by Works Standards Committee in its next meeting and make appropriate recommendations

for consideration of the Board.

2nd Meeting:

Recommendations -

(A) Duties of CE/Works :

The committee discussed various suggestions given by Zonal Railways. After detailed deliberation, the Committee recommends the Duty List of CE/Works as under:-

- i) Administrative control of Sr. DEN/Works, DEN/ADEN/Works of the Division
- ii) Cadre control of Works cadre & Horticulture
- iii) Policy in regards to upkeep & maintenance of Colonies, Office/Station Building, Water Supply, Drainage and Horticulture
- iv) Works Policy
- v) Quarter Policy
- vi) Contract, Arbitration Policy
- vii) Quality Audit of works, inspection schedule of Sr.DEN/Works, DEN/ADEN/Works
- viii) Updating of Works Manual, SOR and Specifications
- ix) Performance review of latest construction/execution techniques and new materials
- x) Technical training of Works Cadre
- xi) Any other duty assigned by PCE

(B) Duties of Sr. DEN/Works :

The committee discussed suggestions given by some Zonal Railways. Keeping in view the complexity of the issue, the committee recommends constitution of sub-committee comprising CE/G/WR, CE/Works/ NWR and CE/Works/SR to frame their recommendations on duties of Sr. DEN/DEN (Works) within the next three months.

Sub-committee may consult all other Zonal Railways. In the mean time, Zonal Railways should forward their views to CE/G/WR within 15 days.

Orders of Railway Board -

- (A) Item (i) may be excluded from the duty list as there is no such post at present.
Item (vii) may also exclude the post of Sr. DEN/DEN/ADEN Works. The duty list will be guidelines for PCEs to allocate these duties as far as possible to one SAG officer in addition to any other duties considered necessary.
- (B) **This may not be pursued further.**

2. Item No. 003/01/05

1st Meeting:

Recommendations -

Committee recommends for formation of Expert Group for unified work specification, preparation of basic data sheet for preparation of SOR. The Expert Group would consist of :

N. Railway (Const) - SAG Officer (Member Secretary);

Sr.Prof. (Works)/IRICEN - Convener of Committee;

NF Railway - SAG officer dealing with works matter - Member;

Western Railway - SAG officer dealing with works matter - Member;

Southern Railway - SAG Officer dealing with works matter - Member;

ED (B&S)/RDSO - Member

Railway Board's Order-

Committee's recommendation accepted with a change that Eastern Railway instead of NF Railway can be part of the Expert Group. Following will be the composition of the Expert Group:

N. Railway (Const) - SAG Officer (Member Secretary);

Sr.Prof. (Works)/IRICEN - Convener of Committee;

Eastern Railway - SAG officer dealing with works matter - Member;

Western Railway - SAG officer dealing with works matter - Member;

Southern Railway - SAG Officer dealing with works matter - Member;

ED (B&S)/RDSO - Member

Necessary support work can be outsourced, if departmental resources are inadequate.

2nd Meeting:

Recommendations -

Expert Group has recommended the outsourcing of this work through appointment of M/s RITES as Consultant. The proposal in this regard is already under consideration in Railway Board.

Expert Group has taken parallel action of collecting different documents required for the purpose from the Zonal Railways. Secretary/Expert Group & CE/Con/NR informed that Zonal Railways have not forwarded the required documents like SOR, Standard Specifications of Works, Analysis of Rates and compiled list of Non-SOR items with their rate analysis. All Zonal Railways should expedite the

same so that after finalization of Consultant for this job, work may not get delayed on this account.

Committee recommends expediting this work within six months. All Zonal Railways should cooperate by forwarding required information to Expert Group within next 15 days.

Railway Board's Order-

WSC's recommendations are accepted. However, Expert Group should expedite this work.

3. Item No. 004/01/05

1st Meeting :

Recommendations -

Committee recommends that N.Rly and S.C. Rly. will compile data in this regard and will forward to RDSO. RDSO will prepare the compiled note and will present the same in the next meeting. Other Railways may also forward their suggestions to RDSO.

Orders of Railway Board -

Committee's recommendations accepted.

2nd Meeting:

Recommendations -

Sub-committee constituted in 1st meeting of WSC comprising of NR & SCR had given their recommendations regarding materials to be used at different locations. Committee deliberated on each item. After discussing pros and cons of issues involved as proposed by sub-committee, it is felt by the committee to have more in-depth study on the subject. Hence, committee recommends to defer this item for discussion during next WSC meeting.

Orders of Railway Board -

This is an important topic related to works in Civil Engineering. Committee should finalize the same early RDSO should convene the meeting of sub-committee and make draft recommendations which should be circulated to railways and Board for finalization in next meeting.

4. Item No. 005/01/05

1st Meeting :

Recommendations -

The Committee discussed various para of Works Manual as proposed for amendment by NE & Northern Railways. SEC & SE Rly also referred few paragraphs of Works Manual. Looking to the quantum of referred paragraphs, Committee found that it would be difficult to discuss all these para of Works

Manual in this meeting. Committee recommends for formation of a Sub-Committee consisting of representatives from N, SE, SEC Railway, IRICEN/Pune and RDSO/Lucknow to review the referred paragraphs and to present the same in next meeting of Works Standards Committee. Senior Prof./Works will be Convener and CE/G N.Rly will be Secretary for this Sub-Committee. Paragraphs already discussed and decision taken by Committee will be forwarded to this Sub-Committee by RDSO. All other Railways may forward their views on IRWM paras requiring amendments.

Orders of Railway Board -

Number of Railways have indicated the need for correction in various provisions of Works Manual in the meeting. Committee's recommendations to form a Sub-Committee consisting of NR, SE, SECR, IRICEN/Pune and RDSO/Lucknow is accepted. CE/G/NR will be the Secretary and Sr. Professor (Works)/IRICEN will be the Convener. The Sub-Committee will collect views of all the Railways on this matter and present the report in the next meeting of the Works Standards Committee.

2nd Meeting :

Recommendations -

Sr.Prof./Works/IRICEN, convener of Sub-committee nominated in 1st WSC for this review presented proposed amendments to IRWM. Committee members deliberated on proposed amendments for Chapter-I. It is observed that nos. of amendments proposed by sub-committee are quite large and is not possible to deliberate all the proposed amendments in this WSC meeting. However, the copy of proposed amendments has been circulated to all Zonal Railways. In view of volume of discussion involved on this item, committee recommends to conduct a special meeting of WSC.

Orders of Railway Board -

WSC's recommendations accepted.

5. Item No. 006/01/05

1st Meeting :

Recommendations -

After thorough discussions, committee recommends that a Sub-Committee formed for item no.1 will also do review of this work. Sub-Committee will present the same in the next Works Standards Committee meeting.

Orders of Railway Board -

The recommendation of the Committee is accepted.

2nd Meeting :

Recommendations -

Sub-committee constituted for review of IRWM was asked to examine this item also in 1st WSC meeting. Sr.Prof/Works/IRICEN, convener of the sub-committee presented proposed amendments required in IRWM or Engineering Code to enhance the powers of Railway official with regard to measurements of works. After a long deliberation on the subject by members, the proposed enhancement of powers was agreed upon. Therefore, committee recommends for enhancement of the powers of engineering officials with regard to measurements, as given in enclosed annexure.

Orders of Railway Board -

Committee's recommendation to enhance the powers of Railway official with regard to measurements of works is accepted in principle for examination in Board on case.

6. Item No. 007/01/05

1st Meeting :

Recommendations -

- A. Following new materials, as already tried by different Railways may be widely adopted for use -
 - i) Ductile iron pipes and CI mechanical compression joint - These materials may be used regularly in new works or through renewal works.
 - ii) Vitrified tiles flooring - These tiles may be used by Railways for indoor areas.
 - iii) Fly ash bricks - These may be used in lieu of clay bricks, wherever available.
 - iv) Fly ash concrete - Use of blended fly ash concrete as per BIS specifications is permitted, Railways may use the same
- B. Following new materials may be used on trial basis -
 - i) Polyester fiber reinforced concrete/plaster.
 - ii) Poly tetra Methylene Terephthalate (PTMT) bib cocks and fittings.
 - iii) Aluminum sheet gutters.
 - iv) High strength tiles for flooring and pavements (outdoor use only).

Orders of Railway Board -

Some items like ductile iron pipe and CI mechanical compression joint, vitrified flooring tiles for indoor area of heavy public use, use of fly ash bricks in lieu of clay bricks (wherever available) and use of fly ash concrete as per BIS specifications have been in use for quite some time by Zonal Railways. Committee's recommendation for adoption of the same for wide usage is agreed to.

Certain items like Polyester fiber reinforced concrete/plaster, Polytetra Methylene Terephthalate (PTMT) bib cocks and fittings, Aluminum sheet gutters and High strength tiles for flooring and pavements (for outdoor use) have been recommended for use on trial basis by the Committee which is agreed to.

2nd Meeting :

Recommendations -

During 1st meeting of WSC, 4 new building materials were recommended by WSC for wide adoption. RDSO should issue necessary instructions in this regard to all concerned. Expert Group formed for Unified Works Specifications should include these items in Unified SOR.

Some more items were recommended for adoption on trial basis. Railways have taken initiatives for their use. However, no experience has been gained at this stage by Railways. Nominated Railways should undertake their usage on trial basis and send their reports to RDSO within next three months.

Orders of Railway Board -

WSC recommendations accepted.

7. Item No. 008/01/05

1st Meeting :

Recommendations -

Committee recommends for further trial of different methods. SWR, NFR, NE Railways will try method adopted by IRICEN. Other Railways will also forward their experiences in leak proofing treatment to RDSO. RDSO will present the item in next meeting.

Orders of Railway Board -

Agreed to. Railways can forward their experiences in leak proof treatment to RDSO. RDSO will compile and analyse the results and present in the next meeting of WSC.

2nd Meeting :

Recommendations -

Scheme adopted by IRICEN was to be tried out on SWR, NFR & NR. Members representing these Railways informed committee about initiatives taken by them for adoption of leak proofing methods on trial basis. However, no experience has been gained so far. Therefore, Zonal Railways have not forwarded their experiences in leak proofing treatment to RDSO. Committee recommends expediting the same so that RDSO can compile and issue instructions on the subject.

Dr. Anil Kar gave a presentation on the subject. Committee further recommends that SR, WR & ECoR should adopt method presented by Dr Anil Kar on trial basis.

Orders of Railway Board -

WSC Recommendations are accepted.

8. Item No. 009/01/05

1st Meeting :

Recommendations -

All the members are of the opinion that presently, there is inadequate supervision for ensuring quality of works. Railways should make suggestions to evolve the system for assessing the requirement of work supervisor based on workload for ensuring proper quality to RDSO. Based on suggestion from Zonal Railways, this item will be discussed in next meeting.

Orders of Railway Board -

Committee's recommendation accepted.

2nd Meeting :

Recommendations -

Committee members deliberated on the subject. As there were diverse views by different members, committee recommends for constitution of sub-committee consisting of CE/Works/WR, CE/Works/NWR and CE/Works/ SR to give their recommendations. Sub-committee should forward their recommendations to RDSO within next 3 months. All Zonal Railways should forward their opinion to CE/Works/WR, the convener of the sub-committee within next 15 days. The recommendations of the sub-committee will be discussed in next WSC meeting.

Orders of Railway Board -

WSC's recommendations are accepted.

9. Item No. 018/02/06

2nd Meeting :

Recommendations -

Two presentations by SWR & SCR were made bringing out the concept and benefits of Green Building Constructions. In view of the importance being attached to Green buildings world over for environmental considerations, committee recommends to take up at least one important building as Green building in each Zonal Railway.

Railway Board may issue necessary policy guidelines, instruction on this subject to enable the Railways to grasp the technological developments in this direction.

WSC recommends that exposure may be given to the engineering officials in India & abroad.

Orders of Railway Board -

WSC's recommendations are acceptable. Few Railway Officers may be deputed/trained abroad/or in India on Green Building Concept.

10. Item No. 019/02/06

2nd Meeting:

Recommendations -

WSC discussed the item but has not recommended any suggestion. This item needs more deliberations All Zonal Railways should present their view in next meeting of WSC.

Orders of Railway Board -

WSC should deliberate on this item further in the next meeting.

11. Item No. 021/02/06

2nd Meeting :

This Item was cropped up during 2nd WSC meeting but due to shortage of time could not be discussed, so it was decided to discuss in the 3rd WSC meeting.

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