भारत सरकार Government Of India
रेल मंत्रालय Ministry Of Railways
(रेलवे बोर्ड) (Railway Board)

Minutes Of The Meeting Of
'Mission Implementation And Coordination Committee (MICC)'
To
"Technology Mission For Indian Railways (TMIR)"

Held at Rail Bhawan, New Delhi on Friday, 24th March, 2017

1. In terms of Railway Board's letter no. 2015/CE-I/Innov./3/TMIR, dated 17.03.17; meeting of the 'Mission Implementation & Coordination Committee (MICC)' to the "Technology Mission for Indian Railways (TMIR)" was held on 24.03.2017 at N.R. / G.M's. Conference Hall, Baroda House, New Delhi.

2. Following officials were present :

A.	**Members of The 'MICC' To 'Technology Mission For Indian Railways' (TMIR) :**		
(1)	Prof. N.S. Vyas, *Chairman & Prof./IIT-Kanpur*	*vyas.nalinaksh@gmail.com*	*9956292801*
(2)	Shri Alok Kumar, *Co-Chairman and C.E./NR*	*alokalokindia@rediffmail.com*	*9910487302*
(3)	Shri Vinay K. Agarwal, *ED/Research/RDSO*	*edresrdso@gmail.com*	*9794863022*
(4)	Dr. Kalpana Dube, *ED/Finance/RDSO*	*edfinrdso@gmail.com*	*9794863002*
(5)	Shri Shailendra Jaiswal, *ED/E&R/RB*	*shailendra_jaiswal@yahoo.com*	*9910487329*
(6)	Dr. Neeraj Sharma, *Scientist 'G'/DST*	*neerajs@nic.in*	*9810713972*
(7)	Shri Om Prakash Tantia, *Industry Member*	*tantiaom@gmail.com*	*9831008640*
(8)	Dr. Sunil Sherlekar, *Industry Member*	*sunil.d.sherlekar@gmail.com*	*9663090004*
B.	**Other Participants :**		
(9)	Shri Brijesh Kumar, *ED/GE/RDSO*	*sredgerdso@gmail.com*	*9794863003*
(10)	Shri Vineet K. Srivastava, *Dir/GE/RDSO*	*dir.ge1.rdso@gmail.com*	*9794863357*
(11)	Shri Amit Saran, *Dir./E&R(ME)/R.Bd.*	*dermeenr@gmail.com*	*9717647259*
(12)	Shri Amit Srivastava, *Dir./Research/RDSO*	*rdso.drrm@gmail.com*	*9794863357*
(13)	Shri Prashant Kumar Singh, *Dir/Testing/RDSO*	*dtrg@rdso.railnet.gov.in*	*9794863108*

3. Shri Alok Kumar, Co-Chairman/TMIR extended a warm welcome to the Mission Chairman, Members of the 'MICC' and all the participants of the meeting.

3.1 Co-Chairman/TMIR again mentioned about the background of TMIR and progress made by the MICC and the Mission since its inception by Ministry of Railways. While the meetings have regularly been held by MICC, projects have still not been started by the PIs (concerned Directorates of RDSO) for various projects conceptualized by RDSO/Academic Institutions and sanctioned by MICC, mainly due to the reason that fund has still not been provided to these research projects, as sanctioned by MICC.

3.2 It was deliberated that the projects, sanctioned by MICC are for use on Indian Railways and in the consortium approach, major funding is, in fact, to be shared by Ministry of Railways with supportive shares from Ministry of HRD and Ministry of Science & Technology. It was again deliberated and agreed by the Members of MICC in general that since commitment has been given by Ministry of HRD and Ministry of Science & Technology for fund sharing to the TMIR projects, Railway should go ahead with releasing of funds from its major share. Simultaneously, the detailed project proposals with sanction letter from MICC should be sent to both these Ministries as well; so that they may also process in their organisations and may transfer their share of funds for such sanctioned TMIR projects at the earliest possible.

3.3 There was general consent among all the members on the above aspect. ED/Research and ED/E&R, the two Members of MICC, however, mentioned that since Board had observed that fund should not be released unless fund share from HRD and DST is also made available; situation of 'no fund release' from Railway side has arisen.

3.4 It was, however, considered appropriate to follow the process as mentioned in Para 3.2 above, so that progress against sanctioned TMIR projects is ensured at the earliest in Railways' interest and fund sharing from MHRD and DST may simultaneously be pursued alongwith letter of sanction to different projects, as okayed by MICC in terms of provisions of the approved Mission Management Manual.

4. Discussion on Projects Under Consideration :

(i) Design Methodology & Software Development for Railway Formation Design (IIT/Roorkee & Geo-Tech. Engg. Dte./RDSO) –

Project has already been sanctioned by MICC for which formal sanction letter needs to be issued by ED/Research. Then detailed project needs to be sent to MHRD and MoS&T for allocating fund in terms of their consent for fund sharing to TMIR projects. In the mean time, fund should be transferred to IIT/Roorkee for executing the project without delay.

(ii) Design of Advanced Performance Next Generation Freight Bogie (IIT/Kanpur, KTH/ Sweden and Wagon Dte./RDSO) –

(a) Final project proposal has been formulated after discussions between all the stake holders. DST (MoST) has agreed for 100% funding of the Project. Dr. Neeraj Sharma, Director/DST mentioned that the proposal will be processed by DST for funding on receipt of sanction of project proposal by TMIR. Dr. Sharma further mentioned that :

- "It was noted that the initiation phase to the project entitled Design of Advanced Performance Next Generation Freight Bogie Design" was approved by MICC and the funds of Rs. 15 lakh was provided for formulation of the proposal vide MICC approval in its meeting held on 29th June, 2016. It was also noted that MICC entrusted the responsibility of the project formulation to IIT-Kanpur.
- Subsequently, it was reported in the MICC meeting held on 24th November, 2016 that deliberations on the project were held amongst RDSO, IIT-Kanpur, KTH Sweden ad Lulea University, Sweden. The overseas experts and Indian partners met in Delhi and Kolkata on 9th and 10th November, 2016. As an outcome of the exercise, a project has been formulated and has been submitted to DST by Co-Chairman, TMIR on 8th March, 2017. The proposal envisages funding of Rs. 1355

lakh with share of Rs. 397 lakh to RDSO, Rs. 242 lakh for IIT-Kanpur and Rs. 715 lakh to Swedish partners.

- The MICC discussed the proposal in detail and observed that this was a mobilised project conceived based on felt demand from Railways and there was no expertise available within the country to implement the project fully. Realising this constraint, IIT-Kanpur has roped in leading Swedish Universities to implement the proposal. MICC was convinced that this partnership, which was essential, will leverage indigenous capabilities and enhance competitiveness of Indian Railways. MICC advised the project team to ensure that IPR, if any should be exploitable by Indian Railways.
- MICC recommended that the project may be funded in toto at a total cost of Rs. 13.55 crore by DST out of their committed share towards TMIR. The annual release of grants by DST would be based on the review of the progress and appropriate recommendations by MICC and submission of required financial documents. The entire DST funding of upto Rs. 13.55 crore will be routed through IIT-Kanpur which will act as the lead coordinating institute. IIT-Kanpur may further disburse share of Rs. 3.97 crore to RDSO and Rs. 7.15 crore to Swedish partner keeping Rs. 2.42 crore for IIT-Kanpur. MICC had agreed for the project."

(b) As a pursuance to above, a meeting was suggested to be held at IIT/Kanpur in the 1st week of April '17 between Chairman/TMIR, ED/E&R/RB and ED/Res/RDSO alongwith ED/ Wagon/RDSO to take appropriate decision on project details. Meeting could not be held as planned, due to other engagements of ED/E&R.

(c) Later, meeting was held on April 19, 2017 at Rail Bhawan by Member/Rolling Stock/RB and was attended by Chairman/TMIR, ED/E&R, ED/Wagon and ED/ME(Freight).

(d) During meeting with MRS on 19/4/17, ED/Wagon informed that the proposal was initiated by Wagon Directorate (RDSO), with following objectives -

(i) Design of a comprehensive transportation package, meeting the futuristic requirements of liberalised axle loads, liberalised schedule of dimensions and enhanced loop lengths, including development of next generation wagon/bogie designs, integrated with suitable loading / unloading / weighment systems.

(ii) Development of optimized design and production protocol for a hollow 25t axle, suitable for 'K' class Cartridge Taper Roller Bearing (CTRB), alongwith augmentation of capability of RDSO for axle optimization.

(iii) Development of material selection repository and digital guide for Freight car applications on Indian Railways.

(e) ED/Wagon further explained on 19/04/17 that -

Present designs of wagons over IR are optimized for schedule of dimensions, loop length and other parameters permitted over the Indian Railway system. The Dedicated Freight Corridor has been planned with more liberal permitted dimensions and longer loop lengths. Loadable cross sectional area of a wagon can be 43% higher than the existing loadable area on IRSOD. On Western Corridor of DFC, this area can be 93% higher. Full exploitation of these liberal dimensions may not be possible with the existing conventional 2-bogie wagons with 2-axles each.

The project aims at exploring all possibilities of transportation in DFC environment alongwith associated loading & unloading facilities. This will mark a paradigm shift in conventional design of existing wagons. After evaluating various options, focus will be on most optimal solution and complete design exercise for this solution. Project envisages complete design, leading to prototype manufacture and finally providing the most optimal solution for bulk transportation in DFC environment.

(f) MRS accorded approval to the proposal and mentioned that project involves significant capacity building in design, which is crucial to the Indian Railways. He advised for reducing the procedural delays by Board in taking up such capacity building activities and suggested that Chairman/TMIR may convey approval of the proposal to DST, without further delay and with full support from IR.

(iii) Item of 'In-Motion Weigh-Bridge', as Discussed in Meeting on 19/04/17 –

(a) ED/Wagon further mentioned to MRS regarding need of In-Motion Weigh-Bridge. It was apprised that a component of WILD (Wheel Impact Load Detector), indigenously developed earlier by RDSO, in collaboration with IIT Kanpur, which is currently operational at more than a dozen locations in the country, can, after necessary modifications, be deployed as 'In-Motion Weigh-Bridge' at full speed of train, even on main line, with a software which will be under full control of IR.

(b) In continuation to deliberation and consent of MICC during its earlier meetings, MRS also accorded his approval for taking up this project on priority and instructed ED/Wagon to make appropriate proposal to TMIR and seek proper sanction of MICC in its next meeting.

(iv) Initiation Phase-Development of Capability for Testing of High Speed Rolling Stock (IIT/Kanpur and Testing Dte./RDSO) –

(a) Sanction letter for initiation phase of this Project at a cost of Rs. 15 lacs has already been issued. Fund should also be transferred to the PI by RDSO.

(b) Discussions are underway with various agencies : CETEST, DB, KTH for formulation of the project proposal. There is a need to visit some of the agencies for further discussions and better appreciation of their capabilities.

5. ED/E&R mentioned that for industry participation to various agreed projects, Expression of Interest should be invited by the concerned nodal academic institution for each TMIR project.

6. It was decided by MICC that (i) For Geo-Tech. Engg. project; full sanctioned amount of Rs.1.68 cr. should be released by Railways; (ii) Initial phase money for Testing Project should also be released and (iii) Mission Office money, as decided during earlier meetings of MICC should also be released to the office of Chairman/TMIR and TMIR Camp Office at RDSO.

7. <u>IPR Policy</u> :

(i) As discussed in the last meeting of MICC on 20th Jan '17; DST and MHRD members of MICC may send their views to Co-Chairman/TMIR on the draft IPR document, on the basis of the IPR policy being followed in their Ministries. It will be circulated to all other MICC Members for discussion in the next meeting of MICC.

(ii) RDSO shall process for legal vetting of the proposed IPR policy and if required, services of IPR experts can also be taken by RDSO.

8. Amendments to Mission Management Manual (MMM) :

(i) Representatives of MHRD and DST mentioned that they shall transfer the funds directly to nominated academic institutions for the Projects which are agreed to by them for funding and not to the Railways.

(ii) It was also mentioned by DST that they may not be willing to participate in each Project. However, they will maintain their overall corpus of funds assigned to them (Rs. 75 cr.), by more funding (even upto 100%) in some projects.

(iii) It was also opined by the Members that total share of funding from the various consortium partners should be ensured by MICC. Money should initially be allotted by Ministry of Railways for going ahead to the sanctioned projects.

(iv) In view of above, it was felt by the Committee that modification to certain provisions of Mission Management Manual would help in smooth functioning of MICC and TMIR. Draft modifications will be prepared by ED/Research in consultation with Chairman & Co-Chairman/TMIR and will be circulated to all the Members of the MICC, so that it could be finalized in the next meeting of MICC and accordingly, approval of Board may be taken as improvement to the already approved Mission Management Manual.

9. Web-site of TMIR :

In terms of Para X of MMM website of TMIR is to developed and maintained by MICo Project. Chairman/TMIR was requested to get it organised through IIT/Kanpur for which he agreed. The website is expected to be ready by June '17 and a link to it will be provided by ED/Research in RDSO's website.

10. The meeting concluded with Vote of Thanks to the Chair and all the participants.

(No. 2015/CE-I/Innov./3/TMIR, New Delhi, Dated 26.04.2017)

(आलोक कुमार) 26/04/17

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Distribution :

- Director General, RDSO, Lucknow
- Chairman and all the Members of MICC to 'TMIR' (Technology Mission For Indian Railways)
- All the participants of the meeting.

Copy to :

- EDPG/MR and PS/MR for kind information of Hon'ble MR please.
- PS/MSR(S) & PS/MSR(G) for kind information of Hon'ble MSR(S) and Hon'ble MSR(G) please.
- PSO/Sr.PPS to CRB, ME, FC, MRS, MTR, MT, MS and Secretary for kind information of CRB, ME, FC, MRS, MTR, MT, MS and Secretary please.
- The Secretary, Ministry of Science & Technology and Secretary, Ministry of HRD, New Delhi for information please.
- General Manager and Pr.CE, Northern Railway, New Delhi for information please.