

No.2021/Tk-I/(P)/Cross Approval

New Delhi. Dated 13-05-2022

Director General,
RDSO,
Manak Nagar,
Lucknow.

Director/IRICEN,
Pune.

Principal Chief Engineer(s),
All Zonal Railways.

Chief Administrative Officer/Cons.,
All Indian Railways


**विषय/Sub: Policy for Development/Adoption of new Products/
Technologies for Track/Bridge Items.**

संदर्भ/Ref: Board's letter No. 2013/Tk-II/22/7/4 (Genl Policy) dated
08.03.2016.

There are various technological upgradation taking place in India with the collaboration of international partners. Also, many such products are developed world wide and adopted on other advanced Railway systems. Similarly some of these product/technologies are in use in Indian systems like Metros and DFCCIL. Therefore to abreast with the latest technology/products available, a well formulated policy is essential for Development/Adoption of new Products/ Technologies for Track/Bridge Items to keep pace with the latest innovations and modern developments and also to meet the emerging functional needs of changing times, while maintaining requisite fairness & transparency in the process along with creation of an environment conducive to promotion of genuine innovations/developments.

Board (MI) in consultation with Finance Directorate of Railway Board has approved the subject policy, which is enclosed herewith for further necessary action. This is in supersession of Board's letter No. 2013/Tk-II/22/7/4 (Genl Policy) dated 08.03.2016.

DA: As above.


(Atul B. Khare)
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प्रतिलिपि/Copy to:

ED(B&S), ED/CE(G), ED(L&A), EDTK(M&MC), ED(Works), ED(Proj. Monitoring),
ED(FS) Railway Board for information.

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Policy for Development/Adoption of new Products/Technologies for Track/Bridge Items

1.0 Introduction:

In view of high axle load and higher speed, it is absolutely essential to have a highly reliable, robust track infrastructure with complete mechanized inspection, monitoring & maintenance. The track infrastructure should require minimum maintenance effort due to reduction in availability of maintenance window. Considering such a horizon, IR need to improve its rails, fastening systems and induct a versatile high output track machines for inspection, monitoring and maintenance of tracks. There are various technological up gradation taking place in India with the collaboration of international partners. Also, many such products are developed world wide and adopted on other advanced Railway systems. Similarly some of these product/technologies are in use in Indian systems like Metros and DFCCIL. Therefore to abreast with the latest technology/ products available it is proposed to induct them on IR with below mentioned Guiding principles:

- **Adoption of Products/technology used on DFCCIL and other BG networks in India**

- **Cross Approval Policy: Definition**

The products/technologies patented/ non- patented which are already being used successfully on any of the world Railways for last three consecutive years and might be useful for IR.

- **Expression of Interest (EOI)/Request for Proposals (RFP)**
- **Products/technology outside EOI/RFP**

2.0 Adoption of Products/technology used on DFCCIL and other BG systems in India

2.1 The products/technologies are already being used successfully over DFCCIL/ BG Metro/SPV Rail systems in India having similar traffic conditions e.g., passenger or mixed traffic, and also, the products/technologies which are non gauge dependent will qualify under this category. Introduction of these technologies will be proposed by RDSO/Zonal Railways/concerned Directorate's of Board and a generic RFP will be invited by RDSO from the firms who have supplied it on these systems.

2.2 Scrutiny

The proposal will be scrutinized by a committee consisting of PED/ED RDSO, PED/ED, Railway Board and one of the PCE of Zonal Railway and a preliminary assessment will be carried out on the cardinal principles listed at Para 3.0. The committee will also examine the deviations made and required in the technology/product, requirement of field trial its duration etc. The field trial of the product/technology may be carried out in case changes/deviations/modifications have been made (if found necessary), on any one representative railway nominated by Board for a maximum period of 3 months.

2.3 Procurement

Product/Technology for field trial will be procured on single tender basis in case of patented items and by open tender in case of non-patented item by the nominated railway once approved by Board.

The cost of such trials will be charged to track renewal works/Bridge works estimates. If specific provision is not available in sanctioned estimate, the same will be charged against the 'contingencies' provision, with the approval of estimate sanctioning authority.

2.4 Coordination

RDSO will coordinate the field trials and conclude the trials objectively immediately on

31/10/2022

Contd... 2

completion of maximum trial period of laying/installation of product. RDSO will prepare the evaluation report on the basis of feedback/reports received from zonal Railways/PU/PSUs from time to time and observations of RDSO officials during field visits/inspection and will forward the same along with its conclusions vis-à-vis the acceptance criteria and recommendations through the committee to Railway Board whether or not to go for usage on Indian railways or not.

2.5 Recommendation

Committee's recommendations for adoption will be considered in the Railway Board for adoption.

3.0 Cross Approval Policy

Adoption of Product/Technology under this scheme is based on following cardinal principles:

- i. Low life cycle cost;
- ii. Low maintenance cost;
- iii. Compatibility with existing system
- iv. Compliance to Indian Railway's or International standards;
- v. Impetus to Make in India effort;
- vi. It should lead to enhanced safety and speed on Indian Railway system and network.
- vii. Manufacturing, production to be carried out in India(preferably);
- viii. Transfer of technology should take place after a specified period.

The products/technologies of both patented and non- patented which are already being used successfully on any of the world Railways for last three consecutive years and might be useful for IR as well can be adopted by the procedure as elucidated below:

3.1 RFP

The fields/areas, where innovations/new products/new variations/new technology is being sought by IR will be proposed by RDSO/Zonal Railways/concerned Directorate's of Board and a generic RFP will be invited by RDSO for inviting firm/ institutions on the basis of performance parameters/broad generic specification/functional requirement prepared by RDSO and approved by Board.

3.2 Scrutiny

The proposal so received will be scrutinized by a committee consisting of PED/ED RDSO, PED/ED Railway Board and one of the PCE of Zonal Railway and a preliminary assessment will be carried out on the cardinal principles listed at Para 3.0 above. The committee will also examine the deviations made and required in the technology/product, necessity of development and approval of prototype and requirement of field trial and its duration etc. The field trial (if found necessary) of the product/technology will be carried out on 2-3 representative railway nominated by Board. However if the prototype of the product/Technology is tested and approved on similar system of world railways by any International certifying agency/ISA in last three years, its prototype will not be required to be tested.

3.3 Procurement

Product/Technology for field trial will be procured on single tender basis in case of patented items and by open tender in case of non- patented item.

The cost of such trials will be charged to track renewal works/Bridge works estimates. If specific provision is not available in sanctioned estimate, the same will be charged against the 'contingencies' provision, with the approval of estimate sanctioning authority.

3.4 Coordination

RDSO will coordinate the field trials and conclude the trials objectively immediately on

32 13/05/2022

completion of maximum trial period of laying/installation of product. RDSO will prepare the evaluation report on the basis of feedback/reports received from zonal Railways/PU/PSUs from time to time and observations of RDSO officials during field visits/inspection and will forward the same along with its conclusions vis-à-vis the acceptance criteria and recommendations through the committee to Railway Board whether or not to go for usage on Indian railways or not.

3.5 Recommendation

Committee's recommendations for adoption will be considered in the Railway Board for adoption.

4.0 Expression of Interest (EOI)/Request for Proposals (RFP):

The new products/technologies required and are under development/proposed to be developed for adoption on will also be introduced by calling of EOI/RFP as per process give below.

4.1 Proposal

The fields/areas, where innovations/new products/new variations/new technology are being sought by IR will be proposed by RDSO/Zonal Railways/concerned Directorate's of Board or a special committee All such fields/products/areas/items as well the respective performance parameters/broad generic specification/functional requirement will be prepared by RDSO and approved by Board. An open ended RFP will be uploaded on the RDSO's website outlining IR's functional requirements, broad generic specifications/performance parameters/acceptance criteria etc separately for each field/product/technology, to solicit the proposals from interested Firms/OEMs etc.

4.2 Preliminary Assessment and evaluation:

The concerned directorate in RDSO/Zonal Railways/concerned Directorate will examine the proposal vis-à-vis functional requirement/specifications/performance parameters as listed mentioned in the RFP based on Para 3.0 and will carry out a preliminary assessment of the same on these aspects based on the data/documents submitted by the firm including Lab testing reports. Wherever required, further information/clarification can be sought from the Firm by giving reasonable time.

4.3 Patented Technology

In case, the offered product/technology is claimed to be the patented one already, the patent registration details and documents/drawings submitted in support of the same, shall also be scrutinized by RDSO to verify that the offered product/process/technology/design is same as the drawings/description given in the patent registration/certificates. Only a registered patent under the Patents Act will be accepted as a basis to confer ownership right of the offered product/process/technology.

4.4 Non-patented Technology

In case, the offered product/technology is claimed to be non-patented or free from any IPR, the concerned vendor/Firm/manufacturer at the time of offering such product/technology/design, will also be required to submit an undertaking by them that it is not copied from an existing product/design/drawing, and it does not violate any valid/live patent and the same is not patented/developed by any other Firm/individual. And in addition, the firms will also be required to indemnify IR/RDSO/PU/PSU against any possible dispute/litigation in future pertaining to IPR infringement of any product/technology/design. It shall also be incorporated in the undertaking that the firm is fully aware of the fact that non-patented products/technologies shall not be entitled for any incentive or preferred treatment in case of its adoption by IR.

4.5 Evaluation

Detailed Evaluation, wherever warranted, will be completed within ONE months of completion of preliminary assessment, and detailed evaluation report will be submitted by

32
13/05/2022

Contd... 41-

RDSO to Board along with its recommendation whether or not to undertake field trials including the trial scheme and acceptance criteria.

4.6 Field Trials:

Thereafter, field trial may be ordered in limited quantity on 2 to 3 Zonal Railways covering diverse geographical, climatic and operating conditions, for a period of 6 months extendable to one year in case whether cycle is required for the product. The trial should generally cover stretches with sharp curves, steep gradients, heavy density routes, coastal areas etc., so as to represent different operating conditions which the product process/technology/design is likely to encounter during regular use. Field trial may be concluded if the performance of the product can be ascertained early due to early completion of required GMT on high GMT route.

4.7 Nodal Railway

The Board may also nominate a particular Zonal Railway/PU/PSU as nodal body to procure the new product process/technology/Design collectively for/on behalf of all zonal Railways where trials have been ordered, on single tender basis in case of patented product/technology, and by open tender in case the product/technology is non patented, so as to avoid multiple tendering & delays on this account. Due process will be followed by Railways/PUs/PSUs for this purpose.

The cost of such trials will be charged to track renewal works/Bridge works estimates. If specific provision is not available in sanctioned estimate, the same will be charged against the 'contingencies' provision, with the approval of estimate sanctioning authority.

4.8 Trial Locations and Monitoring

RDSO will issue the 'trial drawings'/STR and trial/monitoring scheme etc. as obtained from the firm to concerned Railways and also advise nodal Railway/concerned Railways. Above process will be completed by RDSO within one month of issue of orders for-trials by Board.

CTEs of Railways will select the section/locations for conducting trials. As far as possible, these should be on busy routes/higher axle load routes, coastal areas, sharp curves, steep gradients, etc. If two or more similar/same type of products of different make is to be put on trial, then they should preferably be laid in the same or adjoining block sections/locations for fair and objective comparison.

Within two months of issue of trial drawings/specifications/trial scheme etc. by RDSO, the nominated/concerned zonal Railway(s)/PU/PSU will place the P.O. for procuring the product/process/technology/design and also ensure that the same is supplied and laid/installed at nominated locations within reasonable time (2-3 months) from the date of issue of P.O. for initiating field trials.

4.9 Coordination

RDSO will coordinate the field trials and conclude the trials objectively immediately on completion of maximum one year of laying/installation of product. RDSO will prepare the evaluation report on the basis of feedback/reports received from zonal Railways/PU/PSUs from time to time and observations of RDSO officials during field visits/inspection and will forward the same along with its conclusions vis-à-vis the acceptance criteria and recommendations to Railway Board whether or not to go for usage on Indian railways or not.

4.10 Final Evaluation

Immediately on completion of the field trials, a special committee nominated by Board consisting of concerned PCEs/CTEs/CBEs of the Railways where trials were conducted, will prepare the final evaluation report after considering all the reports received from zonal Railways/PU/PSUs including observation of RDSO officials during field visits/inspection, and will prepare the final evaluation report, which will inter-alia include suitably

30/12/2022

assessment with respect to IR's functional needs, laboratory evaluation reports, field trial reports, inspection reports, reliability/maintainability analysis wherever required and comparative analysis including techno-economic/safely related comparison/analysis vis-à-vis the existing in-use products/similar new products offered by other Firms and the Overall performance vis-à-vis acceptance criteria etc. The final evaluation report of same/similar type of products (having same application usage) should generally be submitted together along with comparative analysis so as to facilitate conclusion regarding most suitable/best suited product technology for regular adoption on IR.

4.11 Adoption for Regular Use:

Special committee's recommendations for adoption will be considered in the Railway Board.

4.12 Review of RFP/EOI

Review of RFP/EOI will be carried out once in every year with respect to its progress/continuation/modification/closure and a report will be submitted to railway board.

5.0 Products/Technology outside EOI/RFP:

Sometimes, Firms may approach IR/Zonal Railways/RDSO offering new Product/technology, though the same might not have been solicited/ sought in the RFP. However, if the same is considered prima facie useful for IR by Board, it may be taken up for evaluation as per stipulations of para-4.2 to 4.5 Free of cost.

After Preliminary Assessment and evaluation, if any such Product/technology is considered fit for field trails, the RDSO will seek permission from Board for issuing EOI/RFP for soliciting proposals of similar Products/technologies from other prospective vendors/OEMs along with the proposed performance parameters (&/or broad specifications, if necessary) drawn on the basis of specific requirement of IR. Thereafter, the same procedure as elaborated in para-4.1 to 4.11 shall be followed.

6.0 Agreement for Transfer of IPR & Incentivisation for patented Products/ Technologies:

After receiving orders of Board for adoption of a patented product/technology, the patentee Firm and RDSO will sign the agreement to enable transfer of the IPR to RDSO, so that the drawings/specifications/STR of the product can be issued by RDSO and also to authorize RDSO to develop new vendors for manufacturing of the product. The incentive to the Firm in-lieu of transfer of IPR will also form part of this agreement.

Incentivisation will be as per the already approved model vide Railway Board letter no. 90/Track-II/22/7/6 dated 19.09.08 with the modification that the extent of the assured orders will 60% of total tendered quantity in first year, 50% in second year & 40% in third year 30% in fourth year and 25% in last year. The five year period of incentivisation will be reckoned from the date of award of first tender for such product anywhere on IR after the signing of agreement.

In case any item or technology is a composite item consisting of other items/technologies for which patent is held by other parties, It will be responsibility of the Firm to obtain and get the IPRs transferred in favor of the proposing firm.

7.0 Adoption of products in cases where IR do not need to acquire the patent.

Sometimes patented products from many OEMs are available in the market, all of which meet the generic specification/performance parameters and functional requirements stipulated by Railways, The procurement can be made from OEMs through competitive bids as per approved generic specification/performance parameters. Thus, there would be no need to acquire IPR/patent of any such product.

For such products, RDSO with the approval of Board will prepare the generic specification and acceptance criteria based on IR's functional requirements and invite EOI/RFP Offered products will go through the lab testing/field trials, as the case may be. After adoption,

30/12/2022

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such products can be procured from the OEMs empanelled by RDSO. Preferably three Firms should be empanelled by RDSO before initiating full-fledged procurement of the product so as to ensure adequate competition. The EOI/RFP for further empanelment shall always remain open ended, so that new Firms can apply for empanelment anytime. However, in cases, where the empanelment of Firms is not done or minimum three Firms are not available on panel, the product may be procured through open tender based on approved generic specification/performance parameters.

8.0 Non-patented product/Technologies:

After receiving orders of Board for adoption of a non-patented product/technology, the RDSO will publish its intent to issue drawings and adopt the product/technology on IR, with a view to invite objection/representation, in case, no objections are received within stipulated period of 30 days, the RDSO will ask the Firm to give its unconditional consent for issue of the drawings/STR, vendor development and procurement/use of the product on IR through other vendors. The Firm will also be required to indemnify IR/RDSO/PU/PSU against any possible litigation/disputes/liabilities in future pertaining to IPR of the product notwithstanding earlier no-objection received in response to the public notice. No incentive shall be admissible to the Firm offering non-protect/non-patented product/process/technology/design, as it cannot claim their legal ownership.

9.0 Make in India:

It will be mandatory by the firm to follow Government of India, make in India policy and the policy solicits manufacturing in India with defined local contents.

10.0 Notwithstanding any of above provision, it will be open for Board (ME), to order of any new item. On completion of such trials, reports will be submitted by RDSO/ Zonal Railway.

A handwritten signature in blue ink, followed by the date '13/05/2022' written in blue ink.