

Note:

1. The contract shall be governed by the provisions of GCC 1999 edition and standard specifications 1987 edition up to the date corrections thereto.
2. The General conditions and special conditions as per attached sheets will apply. Where there is any conflict between these special conditions of contract on one hand and standard specification and general conditions of contract of Tender inviting Authority on the other hand, special conditions of contract shall prevail
3. Large number of men and machinery are deployed by the contractors for reclamation of crossing. It is therefore essential that adequate safety measures are taken for safety of the trains as well as the work force.
4. The contractor shall not start any work without the presence of railway supervisor at site.
5. Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, it should be ensured that there is no infringement to the railway's schedule of dimensions. For this purpose the Area, where road vehicles are required to ply, shall be demarcated and acknowledge by the contractor. Special care shall be taken for vehicle/machinery such that there is no infringement to the running tracks.
6. The supervisor/workmen should be counselled about safety measures. A competency certificate to the contractors shall be issued by ADEN, which will be valid only for the work for which it has been issued.
7. Supplementary site specific instructions wherever considered necessary shall be issued by the Engineer-in-charge.
8. The tenderer shall submit a certification from RDSO, Lucknow to the effect that the offered technology for in situ reconditioning of CMS crossing is recommended for field trial and approved by Railway Board for extended trial/regular use.
9. The original manufacturer/ equipment manufacturer/ patent holder can authorise the agency to execute the work in-situ reconditioning of CMS crossing using Technology "TRANSLAMATIC ROBOTIC WELDER" approved by RDSO for regular use on Indian Railways
10. A Traffic block of approximately 2 hours duration will be provided for executing reconditioning of a single CMS crossing in situ. The renderers should keep this aspect in mind while quoting their offers.

SPECIAL CONDITIONS OF CONTRACT FOR IN-SITU RECONDITIONING OF CMS CROSSINGS

1. WORK SPECIFICATIONS.

- 1.1. When the work will be done during the running Traffic Conditions, necessary speed restriction/caution/block will be arranged by the Railway. However, for safety purpose two flagmen will be provided by the Railway at Railway's cost.
- 1.2. The work shall confirm to manual for Re-conditioning of Medium Manganese (MM) steel point & crossings, SEJs and CMS crossings 1996 published by RDSO Lucknow.

2. SCOPE OF WORK.

- 2.1. The responsibility for obtaining all material required against the contract shall rest entirely with the contractor.
- 2.2. The rate for the re-conditioning work shall be inclusive of all costs of contractor's labour, material consumables, tools & plants, Generator, Grinding machine along with grinding stone/file etc. templates for finishing etc. Complete. No electricity will be supplied by the Railway. Material & machinery will be carried to and from site by the contractor's own cost. The accepted rate is deemed to be inclusive of all incidental works.
- 2.3. The contractor shall be responsible for proper filing, grinding of reconditioned work and finish to the specified limit tolerance after reconditioning to the full satisfaction of the site in charge.
- 2.4. Crossing wise register will be opened by SE/P. Way and wear measurement should be recorded for each crossing separately before actual welding is taken in hand. The Register should be signed both by SE/P. Way and contractors.
- 2.5. Wear of the crossing should not be more than as prescribed in IRPWM Para 237(3) (e). However, site in-charge shall be final authority for deciding the crossings to be reconditioned.
- 2.6. Work will be done during the daytime only and when the weather is clear.
- 2.7. The railway should place a detailed programme 15 days in advance for reconditioning of CMS crossings to the Firm.
- 2.8. It shall be ensured by the Railway Supervisor that subject crossing are sound and free from defects as It is very necessary to get full service life of reconditioned crossings.

- 2.9. Where work of reconditioning of CMS crossing is done in situ under traffic the contractor shall have no claim on the Railways, if suitable block/caution order is not available. However, appropriate extension to time of completion will be given by the Railway.
- 2.10. The Railway shall be entitled on any time during the currency of contract to increase or decrease the quantities of items shown in the said contract by not more than 25% and will give reasonable notice in writing of any such increase or decrease to the contractor.

3. QUALITY CONTROL

- 3.1. RDSO "Manual for Reconditioning of MM steel Points & Crossings, Switch Expansion joints (SEJs) and Cast Manganese Steel (CMS) Crossings- 1996" shall be followed. One complete sets of gauges (i.e. 52kg & 60kg, 1 in 12 & 1 in 8.5) as specified in this manual shall be used.
- 3.2. **Visual Examination:** - The CMS crossing, to be reconditioned, shall be inspected carefully and thoroughly to ensure that it is in good condition and free from surface defects.
- 3.3. **Table Grinding for surface preparation:** - The wear area shall be grinded by hydraulic and electrical grinders to remove the hard metal, cracks, micro cracks, cavities and other heterogeneous materials. If any crack or cavity is present and cannot be removed by grinding, the crossing shall not be reconditioned.
- 3.4. **Dye-Penetration Test:** - To ensure that the prepared surface is free from cracks and defects, the area to be reconditioned shall be checked by the approved quality Dye-Penetrant.
- 3.5. **Welding:** - The welding of three zones is to be performed one by one, i.e. putting single bead at a time in a zone. The welding torch should come from third zone to the first, automatically. Before starting of bead, it shall be ensured that the temperature at weld area is not more than 100 degree centigrade. Further, base material in the vicinity of weld deposit should not have the temperature more than 250 degree centigrade (within ½ inch from the weld) at any time. The welding parameters such as voltages, current etc. Shall be as per recommended by the manufacturer. The temperature shall be measured by thermo chalk or suitable device. The slag of weld shall be removed after each run continuously by applying a preening hammer and hard wire brush. The entire area of each zone shall be covered by a complete layer of weld material. The height of deposits shall be checked with the special gauges. Additional layer/layers on deficient areas should be applied till the requisite height plus grinding allowance is achieved. After ensuring that the sufficient metal has been deposited on all three zones, the welding machine/equipment should be removed from crossing and kept away from track.

- 3.6. **Grinding:** - The grinding of welded area is to be done by the hydraulic and electrical grinders to remove the excess metal and to achieve the requisite contour and profiles as per dimensions given in the drawing of the crossing. The grinding shall be carried out by to & fro motion of grinder and grinder should not be kept steady at any location for long time to avoid over heating of the weld metal
- 3.7. **Dye-Penetration Test:** - To ensure that the welded surface is free from cracks and defects, the reconditioned area shall be checked by the approved quality Dye-penetrant. If any crack or cavity is observed then the area should be cleaned and grinded again. After ensuring complete removal of defect, re-welding, grinding and testing etc. Shall be done as detailed above.
- 3.8. **Records:** - The wear of crossing and other parameters shall be recorded in standard proforma approved by RDSO.
- 3.9. **Painting (Primer):**- Two coats of primer (Red Oxide) shall be applied on the rebuilt areas.

4. MISCELLANEOUS

- 4.1. A competent Railway supervisor should be arranged to supervise the work. At site daily work assignment must be recorded in advance in a Log Book by the Railway supervisor. This Log Book will be separate from the site order book, meant for other order given to the contractor
- 4.2. The contractor shall employ a competent supervisor whose technical knowledge has been checked for such works and a certificate issued.
- 4.3. The work should only be permitted in the presence of the contractor's authorized supervisor.
- 4.4. Signalmen, who are Railway employees, should ensure that no work is undertaken without the presence of the contractors authorized supervisor.
- 4.5. The contractor shall not start any work without the presence of the SE/P.Way at site. In case, contractor's representative starts any work in absence of SE/JE(P.Way), it shall be treated as un-authorized and illegal tampering with the track and shall be liable for action under the "Indian Rly. Act".
- 4.6. The contractor will be responsible to ensure safety of his work and nothing will be left infringing in the track.
- 4.7. For effective utilization of supervisor, protection staff and machinery, minimum 10 nos.CMS crossings should be arranged in a section (section of SE/P.Way) for reconditioning.

- 4.8. In case of failure of reconditioned crossing the contractor shall have to do reconditioning at his own cost within a period of one month, which will be intimated by the engineer-in-charge in writing.
- 4.9. The reconditioned crossing should have guarantee of satisfactory working for 6 months. SD shall be returned only after satisfactory performance during guarantee period. In case of failure of any crossing within guarantee period, the reconditioned work will be done by the contractor at his own cost and nothing extra will be paid by railway for rectifying the defects. However Railway will ensure that proper fittings are provided on Points & crossings and Points & crossings are maintained properly.
- 4.10. (i) The crossings must give a service life of 80GMT after in-situ reconditioning. The parameters for measurement/assessment shall be governed by IRPWM Para No.237 (3) (e). However, in case of premature removal of crossing, RDSO/CTE will establish the cause of failure. Decision of RDSO/CTE shall be final and no claim will be entertained whatsoever once the cause is established.
- (ii) In case of failure due to improper reconditioning as established above clause 4.10(i), the firm shall do the reconditioning again at no extra payment.

5. INSPECTION

- 5.1. Inspection of reconditioned crossings will be done by Asst. Divl. Engineer of the sub division concerned or by the authorized subordinate not below the rank of SE/P. Way.

CONTRACTOR

DEN/Central/SC