

Technical Evaluation Process

1. Mandatory Requirements

Bidders are required to indicate if they comply with the mandatory requirements of the specification by completing the below tables and submitting the required proof. Bidders are to complete the line items for which they intend on bidding for. Please note that for any line item which a bidder indicates as not being approved for, the bidder shall be required to submit a technical proposal. The technical proposals shall be evaluated, and all successful bidders shall form part of the technical approval process. Category 1 turnouts refers to tangential turnouts. Category 2 turnouts refers to secant/tangential line turnouts, and are equivalent to the historical secant turnouts.

Table 1: Tangential Design (Category 1) Turnouts

| Mandatory Requirements | | Bidders Response | | Type of proof required | Location/Page no. of Proof in file |
|--|--|------------------|----|---|------------------------------------|
| | | Yes | No | | |
| Approved Tangential Design (Category 1) Turnouts | 1:9 60E1/UIC60 Tangential Design | | | Letter/reports issued by TFR/Spoornet or approved drawings indicating approval of 1:9 60E1/UIC60 tangential turnout | |
| | 1:12 60E1/UIC60 Tangential Design | | | Letter/reports issued by TFR/Spoornet or approved drawings indicating approval of 1:12 60E1/UIC60 tangential turnout | |
| | 1:20 60E1/UIC60 Tangential swing nose Design | | | Letter/reports issued by TFR/Spoornet or approved drawings indicating approval of 1:20 60E1/UIC60 tangential swing nose turnout | |

Table 2: Secant Design (Category 2) Turnouts

| Mandatory Requirements | | Bidders Response | | Type of proof required | Location/Page no. of Proof in file |
|--|----------------------------------|------------------|----|---|------------------------------------|
| | | Yes | No | | |
| Approved Secant Design (Category 2) Turnouts | 1:9 SAR48 Secant Design | | | Letter/reports issued by TFR/Spoornet or approved drawings indicating approval of 1:9 SAR48 secant turnout | |
| | 1:9 60E1/UIC60/S60 Secant Design | | | Letter/reports issued by TFR/Spoornet or approved drawings indicating approval of 1:9 60E1/UIC60/S60 secant turnout | |
| | 1:12 SAR48 Secant Design | | | Letter and or reports issued by TFR/Spoornet or approved drawings indicating approval of 1:12 SAR48 secant turnout | |
| | 1:12 60E1/UIC60 Secant Design | | | Letter/reports issued by TFR/Spoornet or approved drawings indicating approval of 1:12 60E1/UIC60 secant turnout | |

2. Technical Proposal

Bidders are required to submit a technical proposal providing the details of their intended designs and technology as part of their product offering to Transnet Freight Rail. The table below provides the evaluation criteria to be used to assess the technical proposals, bidders must ensure that the required proof is provided in the proposal. The proposal must conform to the requirements of the specification. Bidders must indicate all the types of turnouts they would like to propose for technical testing.

| Items | Mandatory Requirements | Bidders Response | | Type of proof required | Location/Page no. of Proof in file (e.g. Brochures/technical specifications etc.) |
|-------|---------------------------------|------------------|----|---|---|
| | | Yes | No | | |
| 1 | General Turnout Characteristics | | | Reference list of design standards and specifications followed. | |
| | | | | Gauge and Rail Cant Details | |
| | | | | Rail Fastening | |
| | | | | Rail Pad & Guide plate | |
| | | | | Concrete & Steel Bearer (Sleepers) | |
| | | | | Aluminothermic Welding Details | |
| 2 | Switch panel | | | Stock & Switch Rail Profiles and Rail metallurgy | |
| | | | | Slide Chair Details | |
| | | | | Baseplate Details | |
| | | | | Forge Transition Rails | |
| 3 | Closure panel/intermediate | | | Insulated Rail Joint | |
| 4 | Crossing Panel | | | Crossing Type & Metallurgy | |
| | | | | Check Rail Profile & Metallurgy | |
| | | | | Check Rail Support Bracket (Buttress) | |
| 5 | Signalling | | | Turnout Compatibility with TFR Signalling Equipment | |
| | | | | Universal Drive-point Cradle Mount | |
| | | | | External Rodding System | |

3. Technical Approval Process (Timelines dependent on number of turnouts proposed)

Phase 1: Design (± 5 months)

- Bidders are required to prepare design calculations and supporting drawings for design review.
- Bidders required to submit all information about the subsystem and components used in the turnout and a decision will be taken if further testing is required for the components like the fastening system, insulated Rail joint, rails etc.
- The calculations and drawings should detail the suppliers 100% compliance to specification.

Phase 2: Design Review (± 3 months)

- TFR technical team to review and approve bidders' designs for prototyping.
- Successful bidders are then conditionally approved.
- Bidders will be required to revise designs based on recommendations made from TFR technical team and prepare manufacturing drawings.

Phase 3: Due Diligence (± 3 months)

- TFR to sign off final design drawings for manufacturing.
- Bidder to provide manufacturing timeline with all required hold points where TFR approval.
- TFR to perform all necessary due diligence to ensure compliance of manufacturing facility and processes.

Phase 4: Prototyping (± 10 months)

- Bidders to manufacture prototype as per approved manufacturing drawings.
- Factory acceptance by TFR where possible

Phase 5: Testing (± 6 months)

- Manufacturing prototypes/samples are to be tested as per TFR requirements.
- Prototypes to be supplied and transported to site for assembly and installation.
- TFR to assess and monitor the performance of the turnout design during this stage.

Phase 6: Approval

- On completion of phase 5 all successful bidders are then added to the approve list.