

## **Introduction**

Research Designs and Standards Organization (RDSO) was established in 1957 as an attached office of Railway Board. The status of RDSO has been changed from an 'Attached Office' to 'Zonal Railway' with effect from 1<sup>st</sup> January, 2003.

RDSO has been instrumental in identification & assimilation of technology suitable for Indian operating & climatic condition and has ensured rightful adaptation of imported technologies, wherever felt necessary. RDSO's role is of applied research and of a facilitator for technology development, adaption, standardization, and deployment for the Indian Railways as an advisor and not the executor. RDSO undertakes service engineering studies and also tests products of equipment vendors for compliance to the respective specifications. RDSO discharges its duties as Technical Adviser to the Ministry of Railways. This is the premier research, design and standards organization set up with a view to evolve appropriate design of Railway equipments and systems for improved safety, reliability and maintainability. RDSO also carries out validation of designs by way of performance trials under defined operating conditions.

### **Functions of RDSO**

RDSO functions as a centre for acquisition, absorption and development of new technology and up-gradation of existing technology for the Indian Railways. RDSO is the sole R&D organization of Indian Railways and functions as the technical advisor to Railway Board (RB), Zonal Railways (ZRs) and Production Units (PUs). Its major functions involve:

- Maintenance of overall system standards for the Indian Railways
- Development, adoption & absorption of new technologies for use on Indian Railways
- Development of new & improved designs
- Development of standards for materials & products for Indian Railways
- Technical investigation, statutory clearance, testing, technical guidance to zonal railways and providing consultancies.
- Service engineering to improve reliability and safety of equipments/product/rolling stock/asset affecting train operation
- Vendor approval and inspection of critical & safety items of Rolling stock, Locomotives, Signaling and Telecommunications equipments and Track components

RDSO also offers international consultancy services in matters pertaining to design, testing and inspection of railway equipments as well as survey for construction of new lines.

**List of Auditee units & their Profile & Core activities**

| Sl. No | Name of Department     | Named of Apex Units   | Name of Audit Units  | Name of implementing units | Brief Profile of the Auditee  | Core Activities of Auditee  |
|--------|------------------------|---|--|----------------------------|---|---|
| 1      | 2                      | 3   | 4  | 5                          | 6   | 7   |
| 1      | General Administration | ED/Administration I & II  | Administration Section, Training Section, Central Library, Publication Section, RTI Cell, Misc. Advance Section, Manager Canteen and EMS Section | RDSO, Lucknow              | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc.   | ED/Admn-I :functions related to EMS, Central Library, Publication and Public Relation & function as CPRO.<br>ED/Admn-II: Matters related to Administration Branch, Complaint/Suggestion web portal, R&D Section, Misc. Advances, Training Section & RTI Section. Further functions as CPIO, liaison work of Associations & Societies  |
| 2      |                        | Secretary to the Director General, RDSO, Lucknow                                | Secretary of the Director General, RDSO, Lucknow   | RDSO, Lucknow              | The Secretary to Director General, RDSO, is of the JAG (Selection Grade) officer, is primarily responsible for assisting Director General, RDSO . | Looks after the works pertaining to the Director General, RDSO's Cell alongwith rest house booking and other works  |
| 3      |                        | Chief Personnel Officer including Hindi Officer & vigilance Cell, RDSO, Lucknow | Section – 1 to 7, Legal Cell, Pass Section, Recruitment Section vigilance cell, Welfare Section, Misc. section, RDSO, Lucknow                    | RDSO, Lucknow              | Directorate is headed by the CPO and assisted by the Directors, Dy Directors APO etc.   | CPO looks after the following sections : (a) All the Gr. 'C' Non Gazetted Sections, Advances, Misc. & Rectt. Section looked after by DA-III. (b) Gr. 'D' Non Gazetted Estt., Salary, Legal & Pass Sections looked after by JDE. (c) Gazetted and Policy Section looked after by DDE-II. (d) Confidential Section is dealing with all confidential matters including posting, transfer of Gazetted officers etc. looked after by Assistant Secretary/Confidential.<br>The various Sections are: (1)Establishment-I (2) Establishment-II (3) Establishment-III (4) Establishment-IV (5) Establishment-V (Advances & Policy) (6) Establishment-VI (7) Establishment-VII (8) Recruitment Section (9) Legal Cell (10) Welfare Section (11) Pass Section (12) Misc. Section |
| 4      | Civil Engineering      | Executive Director, Quality Assurance QA-II, Civil, RDSO, Lucknow               | Executive Director, Quality Assurance , QA-II, Civil, RDSO, Lucknow  | RDSO, Lucknow              | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc  | The main Activities of Directorate are as under:<br>Multi sourcing and Vendor development for Specified Items – Fresh approval of Vendors – Re-assessment and Re-Certification of approved Vendors – Up gradation/ Down gradation of Vendors–Publication of Master list of approved Vendors & its up-dation. – Assessment of Production capacity of vendors. Concrete Sleeper Plants – Development of New Concrete Sleeper Plants – Development of existing Concrete Sleeper Plants for manufacture of Special Sleepers – Oversight Inspection of concrete Sleeper Plants Quality checks on Materials supplied at   |

|   |  |   |  |               |  |  |
|---|--|---|--|---------------|--|--|
|   |  |   |  |               |  | Consignee end for ERC, GRSP, GFN and metal liners. Purchase Inspection of Five Safety critical P-Way Items Viz. CMS Crossings, Grooved Rubber sole Plates, Glass filled Nylon Liners, HDPE Dowels and AT Welding Portions. Up gradation of Schedule of Technical Requirements (STRs) & Quality Assurance Plans (QAPs) Training of Zonal Railway Officers for inspection of P-way components as required.   |
| 5 |  | Executive Director, Works, RDSO, Lucknow                      | i) Town Engineer, RDSO, Lucknow<br>Senior Section Engineers, Sector-A, B, C and Service Buildings, RDSO, Lucknow | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , Town Engineer ADE etc | Works directorate is dealing with unification and standardization of works matter, issue guidelines/specification of works matter. Works directorate conducts Works Standard Committee meeting and follow up action on Works Standard Committee items and other technical issues cropping up from time to time, through unit of Director/Works. Works directorate is also responsible for maintenance of RDSO offices, colony & other infrastructural assets including construction of new assets and preparation of works Programme through unit of Director/Civil  |
| 6 |  | Executive Director, Track Machine & Monitoring, RDSO, Lucknow | Executive Director, Track Machine & Monitoring, RDSO, Lucknow  | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ARE etc.              | The main functions of the directorate are as under-<br>a. Track Monitoring by Track Recording Cars including upgradation and development of recording system, Testing of Track components like Sleepers, Fastenings, welds etc. in Track Lab, Preparation of Track Machine Manual, Maintenance instructions and Guidelines like, List of critical Spare Parts, Inspection-Checklists, Maintenance Schedule Manuals, Revision of specifications, Indigenization of Spare parts etc. for Large Track Machine, Development and Standardization of Small Track Machines.<br>b. Study and testing of different track components in simulated dynamic conditions for assessment of their service life and properties<br>c. Conducting field trials<br>d. Development, standardization and adoption of small track machines and P.Way measuring tools including approval of their manufacturing sources.<br>e. Adoption of large track machines on Indian Railways and improving their maintainability and reliability in the field in a cost effective manner. |
| 7 |  | Executive Director, Bridges & Structures, RDSO, Lucknow       | Executive Director, Bridges & Structures, RDSO, Lucknow  | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc               | The main functions of the Bridge and Structures directorate are as under-<br>a. Evolving new standard designs of bridges (Steel, RCC, PSC and Composite etc.) for the latest loading standards<br>b. Development of new loading standards as per the needs of Indian Railways<br>c. Speed clearance of new rolling stocks and locomotive for permitting its use on existing bridges  |

|   |  |   |   |               |  |   |
|---|--|---|---|---------------|--|---|
|   |  |   |   |               |  | <ul style="list-style-type: none"> <li>d. Design of platform shelters, microwave towers and other structures of standard nature.</li> <li>e. Formulation, updation and revision of Code of practices for the Design of Steel/RCC/PSC and Arch Bridges as well as sub-structure</li> <li>f. Investigation and rehabilitation schemes of old bridges for running of heavier trains</li> <li>g. Inspection of welded plate girders and open web girders during their fabrication for use on the railways</li> <li>h. Study of structural characteristics of bridge girders. Effect on bridges due to train load including longitudinal forces.</li> <li>i. Field trials and laboratory tests for validation of existing provisions and evolving new criteria for design and strength assessment techniques.</li> <li>j. Preparation of manuals and guidelines on aspects related to inspection and maintenance of bridges.</li> <li>k. Study of bridge hydraulics, scour and river training works</li> <li>l. Represent Indian Railways in various committees of Bureau of Indian Standards and Indian Road Congress.</li> <li>m. Rendering consultancy services to the Zonal Railways concerning bridge structures in gauge conversion project.</li> <li>n. In house software development for analysis and design of bridges and other structures.</li> <li>o. Proof checking of designs and bridges submitted by consultants through Zonal Railways.</li> <li>p. Developing list of competent manufacturers of girder bridges and bearings.</li> <li>q. Preparation and updating of all codes, manuals and specifications for design, construction and maintenance of bridges</li> </ul> |
| 8 |  | Executive Director, Track Design, RDSO, Lucknow | Executive Director, Track Design, RDSO, Lucknow | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | Main functions of directorate are Research, Design and Development of Rails, Welding Technology, Sleepers, Fastenings, Turnouts, Long Welded Rails, Ultrasonic testing etc. The Track Design Directorate also provides consultancy to <b>Zonal Railways</b> on the matters pertaining to track Development and standardization of new innovations reported by the Railways. The main strength of Track Design Directorate is its capability to develop, evaluate and manage design, drawings and specifications besides standardization of new track components for Indian Railways. Design and development in diverse areas such as rail technology, rail flaw detection, points and crossings, switch expansion joints, concrete sleepers, track fastenings, rail welding, rail stress calculation, design of fixed structure gauge, clearance of new rolling stock etc   |

|    |            |   |   |   |  |  |
|----|------------|---|---|---|--|--|
| 9  |            | Executive Director, Geo-Tech.Engg., RDSO, Lucknow                     | Executive Director, Geo-Tech. Engg., RDSO, Lucknow                          | RDSO, Lucknow   | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ARE etc | Geo-technical Engineering Directorate deals with Geo-technical Engineering matters of Indian Railways. It has well equipped laboratory with all conventional and latest modern soil testing facilities. Main functions of the directorate are as follows:-<br>a. Advise on matters concerning Geotechnical Engineering to Indian Railways<br>b. Framing and updating Guidelines/Manuals/Specifications for Earthwork, Ballast and Tunnels.<br>c. Super check of earthwork in new constructions, as and when directed by Railway Board.<br>d. Consultancy on Geo-technical Engineering problems to various Zonal Railways.<br>e. Training of Railway personnel in Geotechnical Engineering.<br>f. Applied Research in Geotechnical Engineering.<br>g. Adoption of new products/technologies pertaining to Geo-technical Engineering<br>h. Monitoring quality and progress of Formation Rehabilitation<br>i. Overseeing the function of GE organization of Railways  |
| 10 |            | Executive Director, Inspection & Liaison, Electrical, Bhopal & Jhansi | Executive Director, Inspection & Liaison, Electrical, RDSO, Bhopal & Jhansi | Executive Director, Inspection & Liaison, Electrical, RDSO, Bhopal & Jhansi | This unit is headed by the Executive Director and assisted by the SSE.                                   | The functions of the office of the Executive Director (Inspection & Liaison), Electrical, Bhopal and Jhansi is limited only to inspection of the BHEL, Bhopal and Jhansi and CGL, Bhopal in respect of parts of Electric Locomotives and Electric Locomotives  |
| 11 | Electrical | Executive Director, Electrical Loco, PS & EMU, RDSO, Lucknow          | Executive Director, Electrical Loco, PS & EMU, RDSO, Lucknow                | RDSO, Lucknow   | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | The functions of the Electrical Directorate include design and development of different kinds of electric locomotives and their equipments keeping pace with the changing technologies and need of the times, guiding the <b>Zonal Railways/Production Units</b> with regard to problems experienced by them in the maintenance and operation of electric locomotives and their equipments, acting as a pivot, between <b>Railway Board and Zonal Railways</b> in all technical matters pertaining to the performance of electric locomotives over Indian Railways.<br>The role of the Electrical Directorate is primarily to design and develop new locomotives and equipments with modern technologies and also to assist the ZRs/PUs in improving the reliability, keeping the maintenance requirements of the locomotives to minimum and act as the technical advisor to <b>Railway Board</b> . A wing of Electrical Directorate also undertakes inspection of various electrical and mechanical equipment pertaining to rolling stock at Bhopal and Jhansi units of Bharat Heavy Electricals Limited. |

|    |                            |   |   |   |  |   |
|----|----------------------------|---|---|---|--|---|
|    |                            |   |   |   |  | <p>It also deals with service related technical problems, including standardization, indigenization of technology/sub-systems through industry and quality control/vendor base of vital items of Electric Locomotive assigned to RDSO by Railway Board. Work also includes evaluation of new technologies and up gradation of product for higher performance, reliability and economies in operation.</p> <p>Power Supply and EMU Directorate is engaged in developing design and standardization of electrical equipment and systems of Electric Multiple Units, Metro Rolling Stock, Train Lighting, Air Conditioning and Power Supply related items of coaches and development of initial vendors for these items, with a view to achieve the quality objectives for improved suburban and main line services to railway passengers in terms of better comfort, safety, reliability and efficiency</p>   |
| 12 |                            | Executive Director, Traction Installation, RDSO, Lucknow                                  | Executive Director, Traction Installation, RDSO, Lucknow          | RDSO, Luckow  | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | <p>Traction Installation Directorate (TI Dte.) is engaged in design, development, standardization and introduction of appropriate technology for equipment related to Traction Power Distribution (TrD) system for electric rolling stock. The Directorate is involved in evolving designs &amp; standards to improve the reliability &amp; availability of Tr. D. system.</p> <p><b>The main activities of the directorate are as under-</b></p> <ol style="list-style-type: none"> <li>a. Design, development &amp; standardization of equipment, systems used for 25k V A.C.</li> <li>b. Design, development &amp; standardization of equipment used 2x25 kV A.C. Traction system, Traction Sub-Stations and Over Head Lines.</li> <li>c. Design, development &amp; standardization of equipment used for DC traction system for Kolkata Metro applications.</li> <li>d. Safety studies of Metros being constructed under Metro Act.</li> <li>e. Design and standardization of Grid Substations.</li> <li>f. Providing technical consultancy to Railways and other private agencies in matters connected with Traction Installations.</li> </ol> |
| 13 | Signal & Telecommunication | Executive Director, Quality Assurance QA-III, S&T RDSO, Lucknow alongwith its other units | Executive Director, Quality Assurance, QA-III, S&T, RDSO, Lucknow | <ol style="list-style-type: none"> <li>i. Executive Director, QA-III, RDSO, LKO</li> <li>ii. Director, QA-III, RDSO, New Delhi</li> <li>iii. Director, QA-III, RDSO, Kolkata</li> </ol> | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ARE etc | The primary objective of Quality Assurance (S&T) Directorate is Development and Registration of vendors for supply of important signalling and telecommunication equipments and ensuring quality of the equipments through inspection of material at firm's premises & periodic quality audits.   |

|    |  |  |  |  |  |   |
|----|--|--|--|--|--|---|
|    |  |  |  | iv. Director, QA-III, Jaipur<br>v. Director, QA-III, Secundrabad<br>vi. Director, QA-III, Mumbai |  |   |
| 14 |  | Executive Director, Signal, RDSO, Lucknow  | Executive Director, Signal, RDSO, Lucknow  | RDSO, Lucknow  | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | The main activities of the Signal directorate are as under-<br>a. Design, development & Standardization of Signalling & Safety equipments.<br>b. Adaptation & absorption of emerging software embedded technologies.<br>c. Investigation, analysis & remedial measures of specific field problems referred by Zonal Railways / Railways Board.<br>d. Improving reliability of signalling equipments.<br>e. Providing technical assistance/guidance to Zonal Railways.<br>f. Vendor development for development items.<br>g. Testing of signalling items for vendor development & investigation.<br>h. Issue, review & revision of specifications, Test formats & STRs.<br>i. Issue of Pre-Commissioning Check Lists for vital signalling equipments   |
| 15 |  | Executive Director, Telecom, RDSO, Lucknow | Executive Director, Telecom, RDSO, Lucknow | RDSO, Lucknow  | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | Telecom Directorate is engaged in the task of development and standardization of telecom equipments/systems for use on Indian Railways. The main functions of the directorate are as under-<br><ul style="list-style-type: none"> <li>• Design and development of modern telecom equipment</li> <li>• Standardization of telecom equipment and systems</li> <li>• Adaption &amp; Absorption of emerging technologies</li> <li>• Improving reliability of existing equipments</li> <li>• Providing technical guidance to Zonal Railways</li> <li>• Investigating field problems referred by Zonal Railways/Railway Board</li> <li>• Issuing installation and maintenance manuals &amp; codes of practice</li> <li>• Laying QA standards for equipment manufacturers &amp; conducting quality audit</li> <li>• Vendor development to ensure supply of quality material and equipment to Railways</li> <li>• Testing and inspection of telecom equipment</li> <li>• Development of new products and their specification, specific to the need of Indian Railways</li> <li>• Installation and maintenance of Telecom assets of RDSO.</li> </ul> |

|    |            |  |   |   |  |   |
|----|------------|--|---|---|--|---|
| 16 | Mechanical | Executive Director, Wagon, RDSO, Lucknow   | Executive Director, Wagon, RDSO, Lucknow                                  | RDSO, Lucknow   | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | <p>Wagon Directorate is engaged in design and development of Freight Stock and its components according to the customer requirements. Objective of this directorate is to design freight wagons and their related components. The wagon directorate also renders consultancy to industry on special wagons for manufacturers executing export order. Wagon Directorate is the nodal agency of IR for all design and technical issues related to freight stock.</p> <p>Its main functions are:</p> <ol style="list-style-type: none"> <li>a. Design and development of wagons to cater requirement of industry.</li> <li>b. Formulating maintenance instructions for wagons.</li> <li>c. Redressal of manufacturing and maintenance issues related to wagons.</li> <li>d. Nodal agency for issue of speed certificate for wagons.</li> <li>e. Organizing oscillation trials of wagons</li> <li>f. Approval of wagon design of private parties.</li> <li>g. Vender Approval of Weigh Bridge suppliers and items controlled by Directorate</li> <li>h. Model Approval of Tippler</li> <li>i. Design and development of freight stock and its components and sub-assemblies</li> <li>j. Standardization of freight stock and its sub-assemblies.</li> <li>k. Technical investigation into operational and maintenance problems of Railways</li> <li>l. Providing technical consultancy to Railway Management and other Public Sector Undertakings in matter connected with freight stock</li> <li>m. Acquisition and assimilation of state-of-the-art technology in the field of freight stock</li> <li>n. Indigenization of freight stock components and sub-assemblies</li> <li>o. Provide consultancy services to industry for design and manufacture of special purpose wagons required for movement of special consignments</li> </ol> <p>Provide technical services to Indian manufacturers executing export orders</p> |
| 17 |            | Executive Director, Quality Assurance-I, QA-I, (Mechanical), RDSO, Lucknow alongwith other units | Executive Director, Quality Assurance-I, QA-I (Mechanical). RDSO, Lucknow | i. Executive Director, QA-I (Mechanical), RDSO, Lucknow<br>ii. Director, QA-I, I&L, RDSO, New Delhi | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | Quality Assurance (Mechanical) Directorate deals with vendor development (Multi-sourcing), Inspection of items for wagon, carriage & locomotives and inspection of wagons manufactured at Wagon builders' premises. Quality Audit of Railway units such as workshops, depots etc. is also being done on regular basis. Main functions of this directorate are as under;   |



|    |  |  |  |   |  |  |
|----|--|--|--|---|--|--|
|    |  |  |  | iii. Director, QA-I, I&L, RDSO, Mumbai<br>iv Director, QA-I, I&L, RDSO, Kolkata<br>v-Director, QA-I, I&L, RDSO, Bengaluru |  | a. Inspection of wagons against orders by Railway Board & private organizations<br>b. Inspection of safety items for Indian Railways & also for private organizations having bearing on safety of train running<br>c. Facilitating Indian Railways by making available Vendor Directory for critical & safety items/subassemblies<br>d. Biannual issuance of Vendor Directory, covering items dealt by QA, Motive Power, Wagon, carriage & M&C Directorate.<br>e. Quality audit of Railway Units.  |
| 18 |  | Executive Director, Carriage, RDSO, Lucknow                  | Executive Director, Carriage, RDSO, Lucknow                  | RDSO, Lucknow   | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | Carriage Directorate is engaged in the development of new designs/ specifications and upgradation/ standardization of the existing designs/ specifications of passenger coaches and its sub-systems. The main activities of the carriage directorate are: <ol style="list-style-type: none"> <li>1. Develop key drawings and specifications of new designs of coaching stock.</li> <li>2. Validation of design by tests and trials along with PUs and testing directorate of RDSO.</li> <li>3. Co-ordination with PUs and user railways in the area of failure investigation, design modification etc.</li> <li>4. Standardization of design between RDSO and two PUs.</li> <li>5. Development of new advanced materials for coach interiors</li> <li>6. Formulation of maintenance instructions of sub-assemblies like couplers, air-brake system, roller bearings etc.</li> <li>7. Statutory clearance for operation of new rolling stock</li> <li>8. Vendor development of safety items</li> <li>9. Optimization of suspension parameters for all types of rolling stock using vehicle dynamics simulation software, NUCARS and ADAMS RAIL</li> <li>10. Computer wing undertakes high end design activities like finite element analysis, vehicle dynamics simulation, crash analysis etc.</li> <li>11. Enhancing fire safety of trains.</li> </ol> |
| 19 |  | Executive Director, Engine Development & UTHS, RDSO, Lucknow | Executive Director, Engine Development & UTHS, RDSO, Lucknow | RDSO, Lucknow   | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | <b><i>Main activities of this Directorate are as under-</i></b> <ol style="list-style-type: none"> <li>a. Nodal directorate for approvals of Metro Systems related issues. Centralized documentation of metro technology, designs &amp; approvals.</li> <li>b. Single window in RDSO for interaction with Metro corporations/authority.</li> </ol>   |

|    |  |   |   |               |  |  |
|----|--|---|---|---------------|--|--|
|    |  |   |   |               |  | <ul style="list-style-type: none"> <li>c. Examine design approvals/design issues/technical issues/trials &amp; forward approvals. If necessarily needed would seek internal approvals/consultations with respective design directorates.</li> <li>d. Co-ordinating directorate for issue of speed certificates &amp; conducting oscillation trials.</li> <li>e. Stock/track/signal/electrical equipment validations tests. Assimilation of urban transport technology alternatives (skybus, monorail, metro).</li> <li>f. Develop knowledge expertise in urban transport solutions &amp; take up consultancies for the same.</li> <li>g. Nodal directorate to develop as knowledge base for high speed operations.</li> <li>h. Inputs to develop a high speed corridor at the RDSO test track, under development at Jodhpur Division of NWR. Identifying specific factors/technology (cab Signalling, remote track sensing, track maintenance, Rolling stock maintenance) defining the safety of high speed operations/ high speed corridors.</li> </ul>   |
| 20 |  | Executive Director, Motive Power, RDSO, Lucknow | Executive Director, Motive Power, RDSO, Lucknow | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ADE etc | <p>Motive Power Directorate is engaged in designs and standard works related with diesel-electric and diesel-hydraulic locomotives. The main activities of the directorate are as under:</p> <ul style="list-style-type: none"> <li>a. Development and standardization of locomotive systems, spares / components and sub-assemblies.</li> <li>b. Technical investigation into operational and maintenance problems of Railways.</li> <li>c. Providing technical consultancy to Railway Management and other Public Sector Undertakings in matters connected with Diesel Traction.</li> <li>d. Acquisition &amp; assimilation of state-of-the-art technology in the field of diesel locomotives and accident management equipments, e.g. 5500/6000 HP locomotive, 140 T Break down Crane.</li> <li>e. Development and indigenization of locomotive equipments / spares / components.</li> <li>f. Nodal directorate for issue of speed certificates for all types of rolling stock.</li> <li>g. Design development of locomotives, diesel rail cars, diesel hydraulic multiple unit, Diesel electric multiple unit, Rail buses, Breakdown cranes etc.</li> <li>h. Providing technical consultancy to Railway Board</li> </ul> |

|    |  |   |   |               |  |  |
|----|--|---|---|---------------|--|--|
| 21 |  | Executive Director, Testing, RDSO, Lucknow  | Executive Director, Testing, RDSO, Lucknow  | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ARE etc | Testing Directorate undertakes design validations of all newly designed/ modified rolling stock developed in-house or imported, employing the latest state-of-the-art data acquisition and analysis tools and techniques. Besides undertaking actual field trials, this directorate has three laboratories for conducting stationery tests as well. Testing Directorate has also been entrusted with carrying out periodic track monitoring runs on Rajdhani and Shatabdi routes. Laboratory Tests are conducted on newly designed sub-assemblies and Rolling Stocks components as well as quality audit check for assessing the suitability by simulating service condition/field condition in three well equipped and modernized laboratories. Whenever a railway vehicle undergoes any modification or a new vehicle design is sought to be introduced, field trials are mandatory before the Commissioner of Railway Safety permits their introduction into the Railway system. Laboratory tests are conducted in three well equipped and modernized laboratories viz. Air Brake Lab, Brake Dynamometer Lab and Fatigue testing lab. |
| 22 |  | Executive Director, Research, RDSO, Lucknow | Executive Director, Research, RDSO, Lucknow | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director , ARE etc | Research Directorate of RDSO performs the following activities-<br>a. Conducting Governing Council Meeting (GCM)<br>b. Coordination activities for the meetings of Governing Council (GCM) and Central Board of Railway Research (CBRR)<br>c. Maintenance of Oscillation Monitoring System (OMS) of Indian Railways<br>d. Conducting Central Board of Railway Research (CBRR) Meetings<br>e. Coordinating for MOU with IITs and different Directorate of RDSO for R&D projects for multidisciplinary nature.<br>f. Coordinating with IIT/Kharagpur in establishment of Centre for Railway Research<br>g. Other consultancy projects with IITs/foreign institutions<br>h. Instrumentation support for field trials to various RDSO directorates.<br>i. Monitoring of Technology Mission on Railway Safety Projects<br><b>j. Monitoring of Technological Mission of Indian Railways (TMIR)</b><br>k. R&D projects of multi disciplinary nature<br>l. Coordination with foreign institutions.   |

|    |                       |   |   |               |  |   |
|----|-----------------------|---|---|---------------|--|---|
| 23 | Stores                | Executive Director, Store, RDSO, Lucknow        | i. AMM, Purchase<br>ii. AMM, Depot              | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, AMM etc | Stores Directorate caters to various materials requirements for RDSO, including advisory rule on matters pertaining to Stores. It has two wings viz. Purchase and Depot. Purchase wing deals with approximately 1500 demands/ annum, pertaining to items of civil maintenance, telecom maintenance and electrical maintenance to items ranging from stationery, computers, clothing, furniture, paints, oils, lubricants, tools and plants, small equipments, spares of machines and also of complex R&D items involving imports as well. Depot wing consists of 4 stocking wards, stocking and issuing about 500 items having annual turnover value of Rs. 3 crore. In addition there is a receipt and inspection ward and a scrap clearance section. All unwanted material is handed over to Alambagh/NR scrap depot, as the nodal scrap disposal centre. The directorate is ISO 9001-2008 & achieved 100% e-tendering for Global, Open and Limited tender through IREPS portal.  |
| 24 | Metallurgy & Chemical | Executive Director, M&C, RDSO, Lucknow          | Executive Director, M&C, RDSO, Lucknow          | RDSO, Lucknow |  | Metallurgical and Chemical Directorate are involved in the development of suitable materials as metals, non-metals, welding consumables, rubber, plastic, composite, anticorrosive coatings and lubricants. In addition, development work in respect of non-destructive testing of critical rolling stock and Permanent way components, reconditioning of work-out components, failure investigation of critical components and studies into fatigue and fracture behavior of materials is also carried out. All Metallurgical and Chemical testing and investigation of failed components in respect of track, rolling stock etc is done by this directorate   |
| 25 | Psycho Tech.          | Executive Director, Psycho-Tech., RDSO, Lucknow | Executive Director, Psycho-Tech., RDSO, Lucknow | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, JSO etc | Psycho-Technical Unit is instrumental in development and standardization of behavioral intervention programmes and their implementation earnestly addressing the safety concern of Indian Railways. The focus of the directorate is on job analysis, motivation, stress management, safety supervision, counseling and ergonomic appraisal of tools and work places. Main objectives of the directorate are to increase job performance, job satisfaction and motivation of employees as well as prevention of accidents due to human lapses. Main activities of Psycho-Technical Directorate are as follows: <ul style="list-style-type: none"> <li>a. Scientific job analysis</li> <li>b. Development and standardization of aptitude tests</li> <li>c. Estimation of training needs of employees' and providing guidelines for development of training programme</li> <li>d. Research on problems related to organizational behaviors</li> <li>e. Development and implementation of programmes for stress reduction</li> </ul> |

|    |          |   |   |               |  |   |
|----|----------|---|---|---------------|--|---|
| 26 | Traffic  | Executive Director, Traffic, RDSO, Lucknow      | Executive Director, Traffic, RDSO, Lucknow      | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, ATO etc | Traffic Directorate gives opinion/advice to all the technical directorates of RDSO being user directorate. It gathers users' requirements through market surveys, future projections, customer feedbacks, literature survey and by other available means and apprises the same to the concerned technical directorates of RDSO for improvement in various railway designs. This directorate interacts with its counter parts for evolving suitable future designs of coaches and wagon etc. to meet the increasing demands of traffic and undertakes studies pertaining to traffic and commercial discipline. Traffic directorate conducts feasibility studies pertaining to Operating and Commercial departments in respect of increasing efficiency line capacity, enhancing safety in train operations and improving the image of the organization in the eyes of the users leading to ultimate customer delight |
| 27 | Medical  | Chief Medical Superintendent, RDSO, Lucknow     | Chief Medical Superintendent, RDSO, Lucknow     | RDSO, Lucknow | Directorate is headed by CMS and assisted by OS to discharge the functions.                | The extra divisional hospital having OPD and Indoor Patient Treatment with pathological & Radiology facilities are situated in the RDSO campus and extending the medical facilities to the RDSO officers and staff  |
| 28 | Security | Chief Security Commissioner, RPF, RDSO, Lucknow | Chief Security Commissioner, RPF, RDSO, Lucknow | RDSO, Lucknow | Headed by the PCSC assisted by the ASC, Inspectors etc.                                    | Railway Protection Force (Security) office was formed in April 2012 vide Railway Board Letter No. 2012/Sec (E)/PO-2/1 dt.30.04.2012. Post of Chief Security Commissioner was created in 2011. Chief Security Commissioner is head of Security Directorate in RDSO. The main function of O/o the Chief Security Commissioner is as under – <ol style="list-style-type: none"> <li>1. To look after the security of the office buildings situated at RDSO and the premises of the colony.</li> <li>2. Issue of Identity Cards</li> <li>3. Provision of Security Guards at barriers in RDSO</li> <li>4. Action under Railway Act</li> <li>5. Action under RP(UP) Act</li> </ol>  |

|    |         |  |  |               |  |  |
|----|---------|--|--|---------------|--|--|
| 29 | Finance | Executive Director, Finance, PF, RDSO, Lucknow | Executive Director, Finance, PF, RDSO, Lucknow | RDSO, Lucknow | The Directorate is headed by the Executive Director and assisted by the Directors, Dy Director etc | <p>The main activities of the directorate are as under:</p> <ol style="list-style-type: none"> <li>a. Compilation of accounts and maintenance of ledgers of the organization as per scheduled laid down in the codal provisions/Railway Board guidelines.</li> <li>b. Disposal of all bills/claims of Railway employees and outsiders (Customers)</li> <li>c. Compilation of Budgets Estimates as per schedule and monitoring the budgetary control procedures through monthly financial review.</li> <li>d. Revision of PPO of retired employee and timely disbursement of retirement dues at time of regular retirement cases.</li> <li>e. Attending to Audit references as per schedule laid down by Railway Board.</li> <li>f. Tendering financial advice to the administration whenever required timely and correctly in all matters involving financial commitment and expenditure.</li> <li>g. Regular monitoring of financial progress of research project of SRESTHA, TMIR, IITs, CRR, Malaviya chair.</li> <li>h. Advising different directorate on GST, income Tax matter and applicable tax rate.</li> <li>i. To organize Customer Satisfaction Camps periodically.</li> </ol> |
|----|---------|--|--|---------------|--|--|