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Working Party on Rail Transport
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RESEARCH ACTIVITIES IN THE FIELD OF RAILWAY TRANSPORT

Transmitted by the Government of Russian Federation

At its fifty-fourth session (3-5 October 2000), the Working Party asked Governments to provide information on research activities in the field of railway transport (TRANS/SC.2/194, para.53).

The information provided by the Government of Russian Federation is reproduced below for consideration by the Working Party.

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Main areas of research in the field of railway transport

Russia's railways occupy an important place in the international and national transport network. In terms of the entire national transport network, the railways currently carry 87.3% of freight and 44% of passenger traffic. Industrial recovery in recent years has paved the way for growth in freight and passenger traffic alike. One of the most effective methods of encouraging railway traffic is to develop and introduce new equipment based around modern servicing and repair techniques and state-of-the-art railway technology applied throughout the federal railway network.

The scientific, technical and industrial potential of the sector and the conversion enterprises and the research and design organizations whose assistance has been enlisted in carrying out the rail transport technical development plan are geared towards nine priority objectives in 2000:

1. Resource-conserving technologies;
2. Increased revenues;
3. Development of telecommunications and information systems;
4. The next generation of technical equipment;
5. Enhancement of railway technology;
6. Improved financial and economic performance of the railways;
7. Higher safety standards;
8. Tackling environmental problems;
9. Enhancement of working conditions and occupational safety.

The condition of current capital assets and the forecast growth in future railway operations mean that special attention should be paid to maintenance, repair, upgrading and optimal use of investments to ensure technical renewal of railway infrastructure and subsequent improvement in service quality.

At the present time the capital-output ratio of the transport network, the construction of major facilities, and the development of new rolling stock and equipment all require considerable investment, which, under existing conditions, is impossible without structural reform of the railway. The sector's management structure is poorly adapted to the general economic situation and thus acts as a brake on additional productivity gains on the railways. Accordingly, the Russian Government has set out a full range of programme goals for structural reform of the national railway system.

The main thrust of the plan for the technical development of rail transport in 2001 is to achieve structural reform goals and address the challenges and opportunities that will arise in the next few years. The following objectives and programmes have been formulated with a view to developing the sector:

- A programme to optimize the performance of railway operations;
- Improved safety of train movements;
- A programme to introduce information technology on the railways;
- Refinements in marketing policy and transport service;
- Improvements in economic and financial management;
- A programme to develop express and high-speed traffic;
- A set of measures to develop domestic locomotive construction;
- A set of measures to develop domestic wagon construction;

- A programme to develop passenger facilities;
- A programme to develop the permanent way;
- A set of measures to develop power supply facilities;
- A set of measures to develop signalling and interlocking;
- An occupational safety programme for the railways;
- An environmental programme;
- Structural reform of the federal railways;
- Improvement of training methods for railway personnel;
- State regulation of hygiene and disease control and occupational safety on the railways;
- Standardization, mensuration, certification and regulatory documentation;
- Development of promising new equipment and technologies;
- International scientific and technical cooperation;
- A programme to modernize communications networks;
- A package of resource-conserving technologies.

The content of the scientific and technical development plan for rail transport in 2001 is geared to supporting the objectives and programmes of the research and development plan, the purposes of which are:

- To meet strategic and tactical challenges in the field of freight traffic management and the culture and quality of passenger service;
- To implement technical, economic and organizational aspects of railway network operations in line with category, level and speed of traffic and weight and length of trains;
- To optimize technological processes and the number and operations of railway enterprises and sector-based organizations;
- To draw up plans for the formation of goods and passenger flows according to time-division, seasonal, and volumetric factors;
- To introduce new rolling stock and reliable railway infrastructure equipment with a long service life, making use of unstaffed (or moderately staffed) and safe technologies integrated into railway operations;
- Environmental improvements and enhanced occupational safety.