Implementation of Railway Freight Corridors

17th November 2015
Capacity augmentation to cater to growth in volumes

Rail Freight Business
- At over 1100 million tonnes is 4th in the world in rail freight volumes; targeted to grow to 1500 million tonnes in the next 5 years.

Network Expansion
- About 20,000 track km including two High axle load Dedicated Freight Corridors of 3300 km in next five years

Rolling Stock
- Enhanced level of rolling stock procurement and new manufacturing facilities for High Horse Power electric & diesel locomotives
- High axle load and high capacity wagon development & procurement
- Introduction of train set technology
2 corridors: Eastern & Western

Target for commissioning: 2019

Expected completion cost: Rs.81,500 crore (US$ 13 billion)
Future DFCs at planning stage

- Feasibility study for additional 4 corridors:
  - **North-South corridor** (Delhi-Chennai – 2343 kms, completion cost USD 17.4 bn)
  - **East-West corridor** (Howrah-Mumbai) – 2328 kms USD 18.42 bn
  - **East Coast corridor** (Kharagpur Vijayawada) – project report September 2015
  - **Southern corridor** (Chennai-Goa) – project report March 2016
DFCs under implementation

• 3300 km route length
  – Eastern DFC – from Dankuni to Ludhiana (1856 km), all double line except single line Ludhiana – Khurja (400 km)
  – Western DFC – from Jawaharlal Nehru Port (JNPT) to Dadri (1503 km) – double line

• Capacity creation – 150 to 180 freight trains each way each day against max of 50/60 freight trains each way today on trunk routes.

• Traffic
  – EDFC - Coal, Iron & Steel
  – WDFC - Container, Fertilizer, Coal
## Projected Traffic on Eastern & Western DFCs

<table>
<thead>
<tr>
<th>CORRIDOR</th>
<th>2021-22</th>
<th>2026-27</th>
<th>2031-32</th>
<th>2036-37</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDFC</td>
<td>153.2</td>
<td>181.7</td>
<td>213.6</td>
<td>251.0</td>
</tr>
<tr>
<td>WDFC</td>
<td>160.9</td>
<td>203.3</td>
<td>241.3</td>
<td>284.3</td>
</tr>
</tbody>
</table>

(in million Tonnes)
Technology in DFC

**Indian Railway**
- **Height**: 4.265 m
- **Width**: 3200 mm
- **Container Stack**: Train Length 700 m, Train Load 5,000 Ton

**DFC Routes**
- **Height**: 7.1 m
- **Width**: 3660 mm
- **Container Stack**: Train Length 700/1500 m, Train Load 13,000 Ton

**Corridors**
- **Western Corridor**
- **Eastern Corridor**
## Technology in DFC

### Indian Railway Routes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axle Load</td>
<td>22.9 t / 25 t</td>
</tr>
<tr>
<td>Track Loading density</td>
<td>7.67 t/m</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>75 Kmph</td>
</tr>
<tr>
<td>Average speed</td>
<td>25 kmph</td>
</tr>
<tr>
<td>Grade</td>
<td>Upto 1 in 100</td>
</tr>
</tbody>
</table>

### DFC

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axle Load</td>
<td>32.5t / 5 t</td>
</tr>
<tr>
<td>Track Loading density</td>
<td>12 t/m</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>100 Kmph</td>
</tr>
<tr>
<td>Average speed</td>
<td>70 kmph</td>
</tr>
<tr>
<td>Grade</td>
<td>1 in 200</td>
</tr>
</tbody>
</table>
Status of DFC Funding

Eastern DFC

- World Bank is funding USD 2.725 billion which is over 70% of the project cost in Mughalsarai-Ludhiana section (1183 kms)
- World Bank funding is in three phases
  - Khurja-Kanpur (343 kms, APL-1)
  - Kanpur-Mughalsarai (390 kms, APL-2)
  - Ludhiana-Khurja-Dadri (447 kms. APL-3)
- Loan agreement for APL-1 signed in October 2011
- Loan agreement for APL-2 signed in December 2014
- Loan agreement for APL-3 to be taken up 2015-16 (loan sanctioned)
Status of Western DFC

• Flagship project of Indo-Japan cooperation in the infrastructure sector
• JICA funding 100% of the eligible project cost
• First ODA funding under the STEP scheme
  – Prime contractors Japanese or Japanese-led JVs
  – Approx. Rs.12000 crore (US$ 2 billion) goods from Japan
• Largest civil and systems contracts in the Rail sector
• 65% of the civil construction contracts awarded
• 65% of the electrical and signalling contracts awarded
• Balance contracts by April 2016
• Project commissioning by 2019
Status of Western DFC Funding

– JICA is funding Rs.38,722 crore (JPY 550 billion) which is 77% of project cost

– Funding is in two phases
  • Phase-I (Rewari-Vadodara, 930 kms)
  • Phase-II (JNPT-Vadodara & Rewari-Dadri, 569 kms)

– Funding for both phases is tied up and loan agreements for first tranche for both phases signed
  • Phase 1 – 90 billion JPY (Rs 6300 crore)
  • Phase 2 – 136 billion JPY (Rs 9580 crore)
Western DFC connectivities

• Ports of
  – Jawaharlal Nehru Port
  – Mumbai Port
  – Dighi/Rewas
  – Nandgaon/Nargol
  – Hazira
  – Dahej
  – Pipavav
  – Kandla
  – Tuna
  – Mundra

• Hinterland container terminals in
  – Delhi area
  – Haryana
  – Punjab

• Power plants in Northern and Western India
Further Prospects

• High Speed Rail projects
• Locomotive manufacturing facilities
• Passenger coach manufacturing
• Rail components manufacturing
• Station development
THANK YOU