UNECE Working Party on Rail Transport

Ministry of Transport

Egyptian National Railway at a glance

Geneva, November 2014
The railway network consists of:

1- four-tracks lines (20*4) 80Km
2- double lines (two-tracks) (1466*2) 2932Km
3- single lines (one-track) (3667*1) 3667 Km

Total length of ENR lines Tracks 6679Km

2891Km Total length of (station yards and sidings)

Total network length 9570Km

All tracks compliant with the international standard gauge of 1,435 mm
ENR Network

Single

Double

4-track
<table>
<thead>
<tr>
<th>Category</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lines on the Delta and Nile valley</td>
<td>4364Km</td>
</tr>
<tr>
<td>Lines on Desert</td>
<td>2315Km</td>
</tr>
<tr>
<td>Total network length</td>
<td>6679Km</td>
</tr>
<tr>
<td>Lines with Electrical and Electronic signaling system</td>
<td>10%</td>
</tr>
<tr>
<td>Lines with Electrometrical signaling system</td>
<td>3%</td>
</tr>
<tr>
<td>Lines with RETB signaling system</td>
<td>2%</td>
</tr>
<tr>
<td>Lines with Mechanical signaling system</td>
<td>85%</td>
</tr>
</tbody>
</table>
Bridges over Nile and waterways 511
Bridges over railway for cars 58
Tunnels for cars and pedestrian 37
Bridges over railway for pedestrian 179

Total (bridges ,tunnels) 885
<table>
<thead>
<tr>
<th>Type</th>
<th>Freight</th>
<th>PLD</th>
<th>PSD</th>
<th>ENR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADT 2475 Hp</td>
<td>45</td>
<td>24</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>ALSTOM 1200 Hp</td>
<td>-</td>
<td>25</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>EMD 3250 Hp</td>
<td>-</td>
<td>40</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>GE 1800 Hp</td>
<td>-</td>
<td>30</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>GE 4000 Hp</td>
<td>80</td>
<td>80</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>GM 1650 Hp</td>
<td>-</td>
<td>-</td>
<td>254</td>
<td>13</td>
</tr>
<tr>
<td>GM 2475 Hp</td>
<td>-</td>
<td>30</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>HENSCHEL 2475 H</td>
<td>99</td>
<td>63</td>
<td>5</td>
<td>170</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>167</td>
<td>294</td>
<td>13</td>
</tr>
</tbody>
</table>

Avg Age (years): 15.4, 8.1, 3.4, 15.3, 3.8, 31.6, 28.0, 30.3, 24.5
# ENR Coaches

## Passengers Long Distance Fleet

<table>
<thead>
<tr>
<th>Type</th>
<th>Fleet</th>
<th>Red Label</th>
<th>Operating fleet</th>
<th>Avg Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/C French</td>
<td>135</td>
<td>-</td>
<td>135</td>
<td>29,7</td>
</tr>
<tr>
<td>A/C Spanish</td>
<td>585</td>
<td>27</td>
<td>558</td>
<td>33,3</td>
</tr>
<tr>
<td>A/C Sleeping</td>
<td>138</td>
<td>5</td>
<td>133</td>
<td>35,7</td>
</tr>
<tr>
<td>Momayasa</td>
<td>1.046</td>
<td>39</td>
<td>1.007</td>
<td>18,1</td>
</tr>
<tr>
<td>Total</td>
<td>1.904</td>
<td>71</td>
<td>1.833</td>
<td>24,9</td>
</tr>
</tbody>
</table>

## Passengers Short Distance Fleet

<table>
<thead>
<tr>
<th>Type</th>
<th>Fleet</th>
<th>Red Label</th>
<th>Operating fleet</th>
<th>Avg Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motawara</td>
<td>1.493</td>
<td>192</td>
<td>1.301</td>
<td>29,7</td>
</tr>
</tbody>
</table>
Foreword

ENR restructuring and development plan is based on the results of the study that was made by Booz Allen Company from 2006 to 2008.

The transformation plan of ENR is based on five strategic priorities translated into 20 “rail compliant strategic projects”.

The Plan includes all the actions able to transform ENR in a transport Organization in line with its mission to be an efficient rail operator providing safety and quality public services and competitive commercial products on a sustainable financial basis.
Transformation Plan: 20 strategic projects

ENR Transformation Plan is expected to be completed within 2015 with a progress today of 70%.

- Transport Sector
  - Regulatory framework

- ENR Organization and operating model

- Assets management and investment

- Revenues optimization

- Safety capabilities upgrade

1. Public Sector Framework
2. Operating Model
3. Efficiency Improvement
4. Human Resources
5. IT Systems and Procedures
6. Finance
7. No-Core Activities
8. Asset Improvement
9. ERMAS
10. Freight Services
11. Passenger Services
12. ERJET
13. Passenger Revenue Optimization
14. Safety
15. Customer Service
16. Communication
17. Procurement
18. Scrap
19. Maintenance
20. Quality Assurance
The transformation Plan of the Egyptian national railways pursue two main objectives:

1. Enhance skills and competence in order to manage ENR according to international standards of safety and quality of services through new practices, process reengineering and technology.

2. Open to cooperation with third Parties (domestic and international) through new projects and business opportunities.
Egyptian National Railways

Current projects
Upgrading signaling systems on ENR corridors

**Corridor 1:** Cairo-Alexandria
208 km – start realisation 13/2017

**Corridor 2:** Beni Suef-Asyut
250 km – start realisation 14/2018

**Corridor 3:** Tanta-Mansoura-Damietta
118 km – start realisation 15/2020

**Corridor 4:** Benha-Ismailia-Port Said
191 km – start realisation 14/2018

ETCS Lev.1 – main Corridors
770 km – start realisation 15/2020

1,057 will be equipped with electronic signalling system
1-Modernization of Cairo/Alex corridor

**Line description:**

- 208 km, double line, and equipped with relay interlocking

**Modernization scope:**

- Modernization of the signaling systems from relay interlocking to EIS (Electronic interlocking). The modernization comprises (signaling, telecommunication, CTC, power supply, ... etc.)
**Project objectives:**

- Increase the line capacity from 224 trains/day to 320 trains/day to cover the forecasted traffic demands.
- Supervision of the whole line from one CTC
- Increase the line speed from 140Km/h to 160Km/h

**Financing institution:**

WORLD BANK

**Project progress**

The project is under construction. The contract was signed on 26/5/2013
2-Modernization of

Beni Suef/Asyut corridor

**Line description:**

- 250 km, double line, and equipped with mechanical interlocking

**Modernization scope:**

- Modernization of the signaling systems from mechanical interlocking to EIS (Electronic interlocking), the modernization comprises (signaling, telecommunication, CTC, power supply, ... etc.)
Project objectives:

- Increase the line capacity from 90 trains/day to 200 trains/day to cover the forecasted traffic demands.
- Increase the Safety level
- Supervision of the whole line from one CTC
- Increase the line speed from 120 Km/h to 160 Km/h

Financing institution:
WORLD BANK

Project progress:
Waiting for the signing of the contract at the beginning of December 2014
3-Modernization of Benha / Zagazig / Port Said and Zagazig / Abu-Kebir Corridors

**Line description:**

213 KM, double line, and equipped with mechanical interlocking system

**Modernization scope:**

Modernization of the signaling systems from mechanical interlocking to EIS (Electronic interlocking), the modernization comprises (signaling, telecommunication, CTC, power supply, ETCSL1...etc.)
**Project objectives:**

Increase the line capacity from 90 trains/day to 200 trains/day to cover the forecasted traffic demands.

Increase the Safety level

Supervision of the whole line from one CTC

Increase the line speed from 120 Km/h to 160 Km/h

**Financing institution:**

Kuwaiti Fund + Arab Fund

**Project progress:**

The technical/financial proposals is Under Study
ENR Level crossings automation

1,332 level crossings on ENR network.

ENR has now a very huge project to develop all LXs on the network through many phases. To increase the safety level on it.
Rolling Stock

Modernization of Rolling Stock fleet by purchasing 212 A/C Coaches
Human resources main activities

- ENR new Organization
- Key performance Indicators
- New procedures of Medical tests for drivers
- ENR Managers assessment
- Discipline procedure (revision)
Egyptian National Railways

Future projects
Migration to ETCS lev.1 on board and track side on Alexandria / Cairo / Asyut main corridor

Line description:
• 582 KM, double, equipped with track side equipment and 400 locos

Modernization scope
• Migration from the current ENR ATC(ZUB) system to the international standard ETCS lev.1 on board and track side on the Alexandria-Cairo-Asyut main corridors
Project objectives:

meets the SIL4 (safety integrity level 4) requirements
Upgrade the system from ZUB(German system) to a common system which gives advantages concerning(interface with other systems ,spare parts,...etc.)
ETCS L1 is an upgradable system, which can be upgraded to Level2 without any loss of equipment.

Financing institution:
WORLD BANK

Project progress
Waiting to open Financial Offers for the Consultant.
Equipping the following lines with Electronic Interlocking Signaling with ETCS level.

1 “Wayside and onboard”

1- Tanta / El-Mansoura / Domieta

2- Assiut / Sohag

3- Nagh Hammady / Luxor

3- Luxor / Aswan.
Rolling Stock

1- Purchasing of 10 new railway stock equipped with Air-conditioning.

2- Purchasing of 700 coaches with different types
High speed train

The path of high-speed train:-

Lines planned to have high-speed train in Egypt are:-
Link between Alexandria/cairo /Aswan
Link between hurghada_luxor
Snapshots perspective of the proposed train line
Snapshots perspective of the proposed train station
The new suggested lines are completely independent from the current Alex - Cairo - Aswan connections (electrified, faster and with a higher frequency between the relevant cities).
New line Alex - Cairo – Aswan

**Line characteristics**

**Alexandria - Cairo**
- Line length: 202 km
- Journey time: 1 hour (no-stop)
- Trainsets: 10 (960 seats each)
- Frequency: every 40 min. (then 30 min.)
- Passengers: from 7 to 20 Mln yearly

**Alexandria - Cairo - Aswan**
- Line length: 1087 km
- Speed Limit: 350 km/hr
- Construction period: 10 years (Alex – Cairo 4 years)
- Expected infrastructure total cost: € 10 billion
- Expected Rolling Stocks cost (35 trains): 875 Mln EUR
Network developments for freight

New railway sidings for freight transport to meet customer demand and increase rail share on transportation.

- **Transport of cereals**: construction of new sidings for below silos in coordination between ENR and GASC Authority:
  1. Kom abu Radi
  2. Sandub (Mansoura)
  3. Sheebin el Kom

- **Transport of cement**: construction of new siding of about 35 Km to connect three Factories to the rail network *(feasibility study).*

- **Transport of phosphate**: Qena-Safaga line rehabilitation due to 110 km of tracks stolen, work duration 35 months, costs:265 MEGP *(ON HOLD).*

- **El Fardan line**: rehabilitation of about 80 Km to connect Ismailia – El Fardan- Port Said east, work completion: march 2014, costs: 240 MEGP.
Freight transport plan and new target

Total tons transported by ENR trains over the last 15 years and the plan for the future.
Corridor 5 Sokhna-Port Said

- Cairo
- Benha
- Zagazig
- Ismailia
- Suez
- Port Said

Key Points:
- 10th of Ramadan
- Robeki
- Bilbeis
- 27 km
- 35 km

Industrial Areas:
- Suez industrial area
- East Port Said industrial area
- Adabeya
- Ain Sokhna
New siding for cement factories in Wadi Hagul
The current strategy for track renewals has two main scope:

- Bring the current cumulated backlog of 698 km to zero km within the next 13 years.
- Enhancing the level of internal track renewal production to not less than 140 km per year.

- Build an organization able to perform the asset management through procedures, systems, planning interventions through diagnostic systems and control.
ENR track maintenance: main actions

Bring the current cumulated backlog of 698 km to zero km within the next 13 years enhancing the level of internal track renewal production to not less than 140 km per year;

通过:

  (tender launched, waiting for offers - September 2013)

- **New 7 + 12 track renewals machines;** (2012 – 2015)
  delivery is on going (4 new machines in operation), other 3 will be delivered by October 2013; the final documents for the funding of the other 12 machines are under preparation at Ministry level.

- **Track Diagnostic machine (existing coach and new machine);** (2013 - 2015)
  (tender launched in August 2013)

- **Welding machine;** (2013 – 2014)
  (available from November 2013)

- **Two new World Bank loans for track renewals;** (2014 – 2018)
  (Procedure for request are on going with concerned Ministries)
THANKS