

HaRakevet

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הרכבת

A Quarterly Journal on the Railways of the Middle East
Edited and Published by Rabbi Dr. Walter Rothschild PhD
Passauer Strasse 4, D-10789 Berlin, Germany
e.mail:Rothschild-Berlin@t-online.de



97:01 Train No. 639 from Hod-Hasharon-Sokolov to Yaune West headed by Euro-4000 #1408 enters Bat-Yam Komemitut station on 09.04.2012.
(photo: Aharon Gazit)

EDITORIAL

In terms of the political developments, the situation in most of the Middle East over the past quarter has simply continued to go from bad to worse - or from worse to even worse. In terms of infrastructure planning on Israel Railways, however, there is incredible news to report - and the removal of the single-track bottleneck between Lod and Na'an now enables full use to be made of a high-capacity realigned fast double-track system also towards the south of the country. Plans for extensions along the Jezreel to Beit Shean, into the Galilee towards Carmiel and maybe further, and down to Eilat are now taking serious shape, whilst construction work continues at full pace in several areas. IR is reorganising several of its activities, separating Freight and Real Estate, is acquiring new rolling stock and new or second-hand diesel locos, is working towards its electrification plans.....

And we have just received news of what, if it were ever to become reality, would be a new standard-gauge railway version of the Silk Route. To be honest, much of the plan appears unrealistic under current conditions - any line linking Iran and Afghanistan and Turkey and China and various former Soviet republics (which in any case currently

still use the Russian broad gauge) would be complex, not counting issues such as couplings for through-running rolling stock. Nevertheless, the fact is that China is reaching out towards the west. And China is a country which takes railways and their construction very seriously, and is prepared to invest. The future looks as though it could be very interesting, even though it may take some time before the first through container train from Shanghai reaches Hamburg.....

Once again current news has tended to crowd out historical items. We have a lot of information on Iran's railways on file - almost enough for a 'special edition'. But let us see what the coming months bring.

Enjoy!

The Editor.



97:03 Present and Future: The grade separation project at Herzl Street in Rehovot. This is a complex project, as it is on the main entrance to the city from the north. The four lanes have been reduced to two, diverted to one side of the road. This results in frequent traffic jams, especially when a train crosses. Quite a few ancient trees have been removed. It is slated to take two years to complete. (Photos: Jeremy Topaz).



פרוייקט
קבלן
רס
מנהל
אדוא

NEWS FROM THE LINE.

(i). INDUSTRIAL (IN)ACTION.

On 14.03.2012 the Railways' Workers' Union announced that all freight movements were to be suspended; this would mean a daily loss to the IR of some \$265,000. The management clarified that, despite some published reports, there is no instruction for any work to be performed by employees of sub-contractors.

On 18.03 the Labour Tribunal accepted the Railways' position to undertake disciplinary proceedings against workers who abused the court and attacked the General Manager. Meanwhile, due to the workers' actions, the infrastructure works on the Kiryat Motzkin - Nahariyya line which were planned for between 14. and 24.03.2012 have been postponed to an indefinite date.

However, on 28.03 Sybil wrote that earlier that week negotiations had finally been brought to a successful conclusion, and the railway workers committed themselves not to strike for at least another three and a half years!

(ii). ACRE GRADE SEPARATION.

On 19.03.2012 the National Roads Co. announced that on Tuesday 20.03 a by-pass road section, length 1.1km. and replacing the older alignment of Road No. 4 just south of Acre will be opened. This section is a preparation for a grade separation for the line to Carmiel planned to pass through here.

(iii). TUNNEL RESCUE EXERCISES.

In mid-March the Railways carried out an extensive exercise in fire-fighting inside a train situated in a tunnel. This took place near Modi'in.

(iv). AKKO - CARMIEL LINE WORKS.

On 02.05.2012 work started on boring the Gilon tunnels on this line, currently under construction. The Chinese workers commenced with a brief ceremony including prayers for good luck, and this was widely broadcast in the media.

(Another report claims work by the Chinese infrastructure company CCECC, together with the Israeli construction company Danya Gebus, started on 23.04.2012.) There will be 28 cross-tunnels between the bores to enable evacuation when necessary.

Whilst the Ministries concerned are in favour of the project, there are still voices criticising the \$0.9M cost, claiming that a Rapid Transit service could bring better results for lower investment costs. Minister Katz however announced that design works will start this year for the extension of the line from Carmiel to Kiryat

Shemona in the Upper Galilee near the Lebanese border.

(v). BUILDING WORKS ON NAHARIYYA LINE:

On 02.05.2012 IR announced that from Friday 04.05 until 11.05.2012 services would be suspended between Haifa Central the 8 and Nahariyya, and from Saturday night 12.05 until Friday 18.05 (inclusive) there would be no service between Kiryat Motzkin and Nahariyya. Traffic along the whole line would resume on Saturday night 19.05.2012. These changes had been planned for at least a month previously but had been delayed due to the workers' sanctions and protests regarding privatisation. Track doubling works will continue, as well as works connected with the road tunnels under the nearby Mount Carmel.

(vi). EXTENSION OF WINTER TIMETABLE:

Winter will be longer this year... On 16.05.2012 IR announced on its website that the current winter timetable (Winter 2011-1/2012) had been extended to Friday 13.07.2012 inclusive. The original plan had been to introduce the summer timetable at the beginning of June, but this has been delayed due to the sanctions of the employees during their protests - this slowed down the rate of works and thus affected also the project to reduce Tel-Aviv - Beersheva times to 50 minutes.

(vii). A BUSINESS EVENT FOR RAILWAY CONSTRUCTION COMPANIES.

From 4-5th. June a conference will be held at the Carlton Hotel, Tel Aviv, hosted by the state-owned Israel National Roads Company, "responsible for the development, operation and maintenance of about 6,000km of interurban roads and highways in Israel. At the core of the road network are approximately 500km of high speed, high capacity highways that interconnect the major urban centers of Tel Aviv, Jerusalem, Haifa, Ashdod, Ashqelon and Be'er Sheva." The advertising flyer goes on :-

"Following the successful realization of its 2006-2010 work plan, the INRC assumed a new work plan for 2011-2016 at an unprecedented scope of 8 Billion Euros. As part of the work plan, the Government decided to transfer responsibility for new railway construction to the INRC. In particular, two large-scale railway construction projects will be executed:-

- HaEmek Railway - 60km of a new passenger and freight single railway line that will connect Haifa to Beit She'an, including construction of 5 stations.

- Acre - Carmiel railway - 23km. of a new passenger and freight electrified double railway line, including boring of 5km-long

double tunnels and 2 stations. The line will extend the existing coastal railway to Carmiel.

The INNRC has split these projects into a number of Design-Build (DB) tenders, and offers international contractors an opportunity to bid on contracts in Israel. Thus, in 2011 an Israeli-Chinese bid prevailed over four others JV (Joint Ventures) that competed for construction of the Acre - Carmiel (Gilon) Tunnels.

The next significant opportunity for international contractors is the construction of about 100km of superstructure, including around 900km of ballasted track and 10km of slab track in the Gilon tunnels, telecommunication infrastructure and systems for the Gilon tunnels. This tender is scheduled for publication at the beginning of 2013.

Bearing this in mind, the INRC has initiated an international networking event to unveil its railway projects, in order to provide a platform for Israeli construction companies to establish links with reputable and experienced international contractors specializing in railway construction in Europe and to promote partnerships between them."

Potential participants are provided with an outline programme - the second day includes a tour along the proposed routes, and interpreters will be provided.

[Ed. notes: This seems a very sensible idea; Israeli construction companies have the workers and equipment already to hand, whereas international experts would be able to design and provide their own expertise - and financing. Intriguing is that the Emek line is still planned as single track - how long, one wonders, before complex and expensive doubling will be required?]

(viii) . MADONNA SPECIALS.

On 31.05.2012 IR was to operate three special trains from Bnei-Berak station (adjacent to Ramat-Gan Stadium) after the show by international singer Madonna. Two trains would head northbound and call at Herzliyya, Netanya, Hadera-West, Binyamina, Haifa-Hof-HaCarmel, Haifa-Central-The 8, Hutzot-Hamifratz, Akko and Nahariyya. One train would head southbound and call at Tel-Aviv-Savidor, Tel-Aviv-Hashalom, Tel-Aviv-HaHaganah, Lod, Rehovot, Yavne-East, Ashdod and Ashkelon.

(ix). TUNNEL VISION ON THE JERUSALEM LINE.

On 24.05.2012 Transport, National Infrastructure and Roads Safety Minister Mr. Yisrael Katz visited the work site of Tunnel No. 1, being bored between Latrun (near the Trappist Monastery) and Sha'ar HaGay, a total length of 3.5km. 700m. of

the tunnel is currently complete and he travelled in a works train normally used for transporting the tunnel wall segments.

(x). NEW TIMETABLE AND PROPOSED CHANGES AND IMPROVEMENTS TO IR SERVICES.

From a press release by IR of 04.06.2012:

The new General Manager Mr. Boaz Zafrir presented today the substantial changes to the railways intended to be implemented soon, with the introduction of the new Summer 2012 Timetable and the integration of several projects designed to bring significant improvements to passenger services.

The new timetable will be introduced on 14.07.2012 and includes the following:-

- 45 additional trains on Sundays; on Mondays - Thursdays an additional 42 trains.

- New trains will join the existing fleet of 383 coaches, and should drastically reduce congestion by adding 35,000 new seats.

- Additionally service times on Fridays will be extended and on Saturday nights services after the Sabbath break will start earlier than has so far been provided.

- On the rebuilt and upgraded line to Beer-Sheva two trains will run each hour each direction at rush hours; the journey time will be reduced for fast trains from the current 76 to 55 minutes (unlike the 55 minutes originally planned!) - and these fast trains will stop only at Kiryat Gat. Other regional services will stop at all intermediate stations - Kiryat Gat, Lehavim-Rahat, Lod, and a new stop at Ben-Gurion International Airport. From August 29 2012 there will be two trains per hour all day.

- The new timetable will add 24-hour services also to the line from Ashkelon to Ben-Gurion (albeit with changing at Lod during the daytime). Combined with the Beer-Sheva service which will also eventually run through the 24 hours, this will mean that the South of the country can no longer be considered a periphery.

- Time improvements will include: Kiryat-Gat to Tel-Aviv, from 44 to 32 mins.

Tel-Aviv - Jerusalem (still on the rebuilt 'old' line), from 93 to 75 minutes. (Aharon notes: This is not much longer than the bus journey at rush hours, the only setback is the remote location of Malkha station!)

Tel-Aviv - Beit Shemesh: from 43 to 36 minutes.

These improvements are partly due to the shared section of line from Lod to Na'an Junction which has undergone extensive realignment and double-tracking.

Additional improved services:

- Bicycles will be carried on all trains and on all services in off-peak hours between Sunday and Thursday, and all day on

Fridays.

- Wireless Internet on trains.

- By the end of 2012 all stations should be equipped with Passenger Information Systems (PIS) provided on digital boards, announcing train arrivals, platform number etc.

(xi). PUNCTUALITY.

The Punctuality Index will be more accurate and reliable. It has already been improved in rush hours from 88.06% in 2010, 85.23% in 2011, to 91.94% in the first quarter of 2012. Since the introduction of special bus services for soldiers on Sundays and Thursdays the average punctuality of trains at rush hours on these weekdays reached an unprecedented 91% compared with about 50% prior to this!

(xii). NEW FREIGHT SUBSIDIARY COMPANY.

By the end of the first quarter of 2012 a new subsidiary company for freight had been created. It will commence operations in the third quarter this year and a strategic partner will join the company at the beginning of 2013.

The aim is to double freight haulage within four years and to triple it by the end of the decade, thus achieving a revenue of \$87M in 2016 and \$128M in 2020.

(xiii). NEW REAL ESTATE SUBSIDIARY.

A new subsidiary to handle the Railways' Real estate will be established towards the third quarter of 2012; the principles will be drawn up and agreements with the Public Lands Administration will be signed. There are some thirty sites comprising 5M square metres with an estimated value of \$2.18 Billion.

(xiv). REFORM IN ROLLING STOCK MAINTENANCE.

Maintenance of 30% of the IC3 Flexliner diesel multiple units and the future electric train sets will be outsourced; All maintenance and test procedures will be updated to the most modern standards and the work will adhere strictly to the manufacturer's instructions.

(xv). LABOUR RELATIONS:

The apparent recent calm has been on the surface only. During the second week of June the head of the Railway Workers' Union, Mrs. Gila Edrei, described as "famous for her big mouth", told the judge that she is still indecisive about the agreement. She was then removed from the courtroom and has been accused of contempt of court.

(xvi). REOPENING OF RAMLA STATION.

Ramla station has been closed for about a year during the rebuilding and

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doubling work on this section of line. It was reopened on Saturday night 16.06.2012. A second platform has been built with an overhead pedestrian bridge; the existing platform (itself not very old) has been renewed and a new parking area has been constructed.

97:05:

TENDERS.

(i). Tender No. TM/KB/03/12: Manufacture and Supply of Dolomite Crushed Stone Ballast for various Railway sites. The contract is for 12 months with optional extensions of up to additional 72 months. Latest date for submissions: 03.04.2012.

(ii). Tender No. TK/SR/05/12: Providing GSM/UMTS Cellular Phone Services for the Railways' employees, their families and retired employees. The contract is for 36 months with optional extensions of up to additional 72 months. Latest date for submission of proposals: 03.04.2012.

(iii). Tender No. RC/SR/03/12: Providing service for Purchase of Advertisements and Announcements in Newspapers. Contract is for 12 months, with optional extensions up to additional 48 months. Submissions by 08.05.2012.

(iv). Tender No. MS/RC/2012/3: Erecting and Operating automatic Machines for Sale of Kosher Food and Drinks at railway stations. Contract is for 60 months; submissions by 14.05.2012.

(v). Ultrasonic Flaw Detection: Request for Information: On 06.04.2012: Israel Railways Ltd. ("ISR") hereby requests information from potential service providers with regards to ultrasonic rail flaw detection services. The designated scope of services includes the provision of the equipment (both vehicle and ultrasonic detection system, and including the dispatch of the vehicle to and from ISR's site); operation of the equipment (both vehicle and ultrasonic detection system); performance of the ultrasonic rail flaw detection tests on ISR network, technical and professional analysis, submission of reports, etc.

(vi). EILAT LINE - REQUEST FOR EXPRESSIONS OF INTEREST.

"The Israel National Roads Company (INRC, henceforth: the Company) has been assigned responsibility by the Israeli Government for the design and execution of a high-speed railway to Eilat. The Company is currently conducting a preliminary estimation of the project, as part of the preliminary design, which includes railway infrastructure, superstructure, electronic systems, operational stations, mobile equipment, signalling and communica-

tions systems, etc. In order to ensure that the estimation will be as accurate as possible, the Company plans to order a review of the estimation that will be conducted by a foreign design firm that specializes in the design and supervision of electric high-speed railway construction, including cargo trains.

The Company invites design firms meeting these criteria to express their interest in executing this review assignment. Interested firms shall provide information demonstrating that they have the necessary experience and personnel to perform the aforesaid services. It is anticipated that the work will start in July 2012 and be completed by August 2012. Expressions of Interest must be delivered electronically to the address below not later than September, 2012. Mr. Edward Yosilevsky.”

(vii). CARMIEL AND BEIT SHEAN LINES - REQUEST FOR INFORMATION.

On June 18, 2012, INRC published a Request For Information that relates to an international tender for executing a project for the construction of the superstructure, telecommunication and tunnel system works for two railway lines:

1. Akko (Acre) - Carmiel
2. Haifa - Bet Shean

All interested parties can refer to the RFI documents in the following link:

<http://www.iroads.co.il/he/content/request-information-about-international-tender-execution-project-construction-superstructure>. The RFI is open until July 12, 2012. For clarification questions, please contact attorney Adv. Ayelet Diskin by email: ayeletd@iroads.co.il or by telephone: +972-3-7355926.

(viii). Tender No. LO/RC/08/11: Supply of an 18-ton loading capacity diesel-powered forklift for the Kishon Workshops at Haifa. Submission of proposals by 06.06.2012.

(ix). Tender No. TK/RC/01/12. Annual Framework agreement for the Supply of Electrical Equipment and parts for railway sites over the whole network. The contract is for 12 months with optional extensions of up to additional 48 months. Proposals by 20.06.2012.

(x). Tender No. MS/RC/3012/3: Introducing and operating Automatic Sales Machines for Kosher Drinks and Food at the Railways' Passenger Stations. The tender may also include permission to operate such machines in the passenger rolling stock fleet. Contract is for 60 months; Proposals by 14.05.2012.

(xi). Tender No. TM/KB/91/12. Rebuilding and Maintaining Bridges and Engineering Structures. The contract is for 12 months with optional extensions of up to additional 48 months. Submissions by 02.07.2012.

(xii). Tender No. NO/SR/04/12. Cleaning

Services for the Railways' Rolling Stock. The contract is for 24 months with optional extensions of up to additional 36 months. Submissions by 16.07.2012.

(xiii). Tender No. CA/SR/14/12. Providing 'Headhunting Services'. The contract is for 12 months with optional extensions of up to additional 48 months. Proposals by 05.07.2012.

(xiv). Tender No. BN/KB/01/12. Constructing a Control and Monitoring Centre at the Beer-Sheva Operating Depot. Implementation time: 12 months. Submission of proposals by 08.07.2012.

(xv). SUPPLY OF SECOND-HAND OR REFURBISHED DIESEL-ELECTRIC LOCOMOTIVES.

1. ISR is interested in purchasing Second hand/Refurbished Diesel Electric Locomotives which will be supplied in the shortest possible time and which shall meet ISR's technical and operational needs.

2. ISR intends to purchase an initial quantity of 10-12 Second hand/Refurbished Diesel Electric Locomotives with an option to purchase additional locomotives.

3. Requirements and documents for participation in this Process may be reviewed in the internet publication titled "Supply of Second hand/ Refurbished Diesel Electric Locomotives, at ISR's website - <http://www.rail.co.il/EN/Tenders/Pages/TenderListHome.aspx> [See Below.]

THE TENDER FOR SECOND HAND DIESEL LOCOMOTIVES:

The Tender appeared also on the IRJ website on 21st. May 2012, stating that the locos needed to have EMD power units and a top speed of 140km/h.. (The document in the Editor's possession speaks of 110km/h minimum.) The Bidder should be "a railway company and/or has proven experience in manufacturing and/or repairing and/or upgrading of Second Hand / refurbished Diesel Electric Locomotives." Prices are to be DAP (= 'Delivered at Place') and a full technical proposal is to be submitted. The full 23-page document gives us a great deal of information concerning both what IR is looking for and what the current operating conditions are. Though not all the technicalities are interesting to all readers, especially those of us who are not engineers, and we omit a lot including a full list of loading gauges for each track at each station and much minutiae concerning air-conditioning etc. in various Attachments, Annexes and Appendices, we give here a shortened, but nevertheless fairly comprehensive summary. (Note that the air-conditioning refers to Couchette and Sleeping cars! As yet IR possesses neither of these. Are there plans?)

General

ISR is considering purchasing of Diesel Electric locomotives for freight traffic. The information provider shall present all relevant information required to assess the offered

Locomotives focusing on:

- Type of locomotive, relevant history.
- Performance characteristics.
- Description of all main systems and components - type, new/ refurbish/as is, or any other relevant information needed to evaluate the offered Locomotive. The locomotives shall be in a good condition, ready for operation on all ISR tracks. The DE loco shall be in compliance with the hierarchy of the norms and standards is as follows:

- 1) Israel Legislation.
- 2) European / American Norms.
- 3) UIC, EN, ERI Reports.
- 4) Technical Specifications for Interoperability TSI.
- 5) National Norms and Standards.

The performance of the locomotive shall allow a continuous operation of the Loco on the operational conditions as defined in Attachment E.

Annual average mileage - 50,000 miles. The specific environment of the Israel Railways has to be taken into account: Loco shall

operate properly under all climatic conditions in Israel, defined in Attachment B.

- High temperature, high humidity and sun load (temperature on top of the track!)
- Sand and dust (clogging the air filters)

1. The Max axle load 22.5 ton. (Including all provisions and a full fuel tank).
2. The DE Loco shall drive Up to 3600 tons freight trains.
3. Dynamic braking system.
4. A spring applied-air-released parking brake shall be provided.
5. The DE Loco shall be equipped with standard UIC coupler and buffers. Coupling and uncoupling of locomotives is manual.
6. Pneumatic coupling shall be performed by standard UIC compatible hoses and fittings.
7. The diesel electric locomotives shall be fitted for multiple unit operation and shall be capable of operating up to three units in close consists.
8. A failed DE Loco shall be able to be towed by other vehicles.
9. The main reservoir pipe and the brake pipe (control pipe) shall be coupled, so that the brake of the failed vehicles can be supplied. It must be possible to tow a Loco with a locomotive without main reservoir pipe.
10. The gauge in Israel is 1,435 mm and suits the requirements of UIC.
11. Rail inclination is 1 in 30.
12. Loading gauge - see attachment A.4 for permissible loading gauge. The gauge shown is a kinematic gauge. Dynamic

movements shall be based on the worst effects generated by:

The minimum under clearance for worn wheel conditions shall be 102 mm above top of rail.

14. The DE Loco shall be equipped with a VHF- radio system according to the requirements of ISR (MOTOROLA XTL 5000) including antennae of type KATHREIN and an additional hand microphone. The arrangement of the operating parts and microphone shall be approved by the ISR.

15. The conception and design of the locomotives shall achieve the highest practically possible safety level for the driver.

16. The fire safety shall be in accordance with Israeli Standard IS 5435 as well as the Israeli statutory regulations; other acceptable norms in USA or Europe (as EN 45545) shall be taken into account. The information provider shall indicate the applicable norms the Loco is complying with.

18. The specific conditions of the Israel environment with the high sun load, high temperature, high humidity in a dusty environment have to be taken into account.

19. The exterior paint scheme and markings will be defined by Israel Railways in the early phase of the Agreement.

20. The information provider shall be able to submit operations and maintenance manuals.

24. The information provider shall indicate the average Km. between the wheel reprofiling.

26. The front windshield shall be from laminated glass and shall provide maximum safety to the operator.

28. Roller sun blinds shall be provided on each window. They shall be of a heavy duty, railway proven type, designed in a way to allow stopping and holding the roller blind in every position. The colour shall be outside silver / inside anthracite.

29. The Loco shall feature an override protection (cow catcher).

30. Ladders shall be provided to allow the driver to board the locomotive from track level. The ladders can be fixed to the carbody.

31. Hand rails shall be mounted according to UIC 651 on both sides of the cab door in order to facilitate boarding of the locomotive. The handrails can be recessed into the side wall if required.

32. The driver's cab shall meet the requirements of UIC leaflet 651 "Design of driver's cabs for locomotives.

33. The driver's cab shall be equipped with a HVAC unit suitable for the environment conditions in Israel. Requirements as per Att. D shall be considered.

34. The operational control devices have to be grouped in order to allow a one-man operation preferably in the centre of the driver's cab.

36. The visibility from the driver's cabin for a sitting locomotive driver has to comply

with UIC leaflet 651, section 3 and appendix D at least.

37. An efficient and easily adjustable sun blind shall be provided. This blind shall serve as a protection against sun impact in case of an unused drivers cab

38. The windscreen wiper and washing system shall work reliably under all operating conditions up to the top speed including a headwind speed of 100 km/h. In cases of opposing trains and tunnels a blowing over of wiper blades has to be reliably avoided.

39. The arrangement of windscreen wiper should be orientated to the driver's main field of vision and has to be dimensioned thus at least two thirds of the front window is visible for him.

40. The drives of the windscreen wiper must be Heavy duty and proven electrical actuators shall be installed

41. Water capacity for the wiper system has to be mentioned

43. At each side windows fixed mirrors shall be fitted for observation of the train. If the mirrors exceed the loading gauge according to appendix A.2 the configuration shall be approved by ISR.

45. Suitable lighting for the driver's cab shall be provided.

46. Provisions shall be made in each driving cab to carry the following items of emergency equipment: Two 6 kg dry powder ABC fire-extinguisher in the engine room; One 2kg fire-extinguisher in the drivers cab.

47. The connection of the running gear to the carbody shall allow lifting of the Loco with the running gears attached (safety hooks). It shall however be easy to separate the bogies from the car by simple tools

48. The information provider shall state all relevant norms which the bogies were tested and are complying with.

49. Sanding devices shall be installed.

50. ATP system (INDUSI type) shall be installed. Scope of supply shall be determined during the Agreement phase.

51. A SIFA System shall be provided

53. The DE Loco shall be equipped with EMD diesel engine / generator set as a power traction system which was been proven in freight or passenger revenue operations in Europe or USA at least the last 10 years.

54. The DE Loco shall be equipped with traction motors, which has been proven in freight or passenger revenue operations in Europe or USA at least the last 10 years.

55. Sufficient cooling up to an ambient temperature of +47°C must be warranted.

56. The Information provider shall indicate the power reduction if any, under ambient temperature over 40 deg C.

58. The diesel engine shall operate with the fuel as defined in Attachment C.5.

60. The fuel tank capacity shall be no less than 6000 litres. 62 Mechanical fuel gauges shall be provided near the fuelling points on each side of the locomotive. A fuel level

indicator shall be provided to transmit fuel level data to the driver's cabs.

68. The head and tail lights shall be in accordance with UIC leaflets 534 and 651. It must be possible to switch on the combined aspects as well as to switch on and dim the lights from the driver's cab.

69. The high beam of the headlight shall be controlled and indicated on the operator's console. All operating devices (ballasts, sockets, lights) and lamps shall be approved by the ISR.

72. One train reversible control line – multi conductor cable including the 27 pins plugs and sockets, AAR standard. Use of the train line for the remote control of multi-unit operation with other locomotives.

73. Body shell – New/ refurbished / as is

74. Diesel engine - New/ refurbished / as is

75. Generator - Type , New/ refurbished / as is

76. Traction motors – Type, refurbished / as is

77. Bogie - New/ refurbished / as is

78 Brake components to be detailed

79. The information provider shall indicate the noise level in the driver's cabin

A filling point shall be provided on each side of the locomotive. The refuelling point will be at a height of about 1.1 meters. Fitting is type TODO as used with Israel Railways today. Automatic stop filling shall be installed. Scope of supply shall be determined during the project phase.

A. Rail Type and Track Quality

1. Rails on main lines are continuous welded except for the Beit Shemesh – Jerusalem line in which rails on curves with radius smaller than 170 [m] are connected with fish plates.

2. Horizontal Geometry:

Curves on main lines are with radius greater than 225 m with the exception of:

- One curve on Beit Shemesh – Jerusalem line with radius of 141 m.

- 56 curves on Beit Shemesh – Jerusalem line with radius of 200 – 150 m.

- One curve with radius of 191 m and 6 curves with radius of 210 – 225 m.

Curves on secondary lines are with radius of 120 m and more.

3. Vertical Geometry: Maximum gradient along the length of existing lines: 21 ‰ (the Beit Shemesh – Jerusalem line). Maximum gradient along the length of future lines: 27 ‰.

4. Length of rails:

- On main lines - Continuous rails; 36 m; 18 m.; - On secondary lines – 9 - 18 m.

5. Curves in depot: - Minimum curve radius in depot: 80 m

6. S-curves: R = 120 m – straight line = 6 m – R = 120 m

7. Vertical curves: Minimum vertical curve on line (concave / convex): 3'000 m

A.1.2 Rail Types

The following rail types are being used on the ISR network:
 - UIC – 60, UIC – 60 320 Cr; UIC – 54; U – 50; S – 49; U – 33.

The rails are installed with an inclination of 1 in 30 and in secondary sites with 1 in 20.

A.1.3 Sleepers

Number of sleepers for 1 km of track -

Position:	Dry	Wet	Dry	Wet	Dry	Wet
Sea Air at Coast Line	7.3	16.0	12.0	22.0	5.3	7.0
600 m from Shore	3.1	4.8	4.2	7.9	1.9	2.0
6000 m from Shore	1.1	1.4	1.5	1.7	1.3	1.4

minimum 1667.

Types of the sleepers: concrete monoblock, franko-bagon, wooden .

A.1.4 Switches

Types of the switches: 1/20, 1/12, 1/9, 1/8 from rails UIC 60, UIC 54 and U – 50.

A.2 General Criteria for Track Maintenance
 Remarks: Measurement distance according to Technical Specification of PLASSER measuring car model EM – 80 (*). Between “B” and “C” - correction during regular maintenance. From “C” till “D” - correction during: 7 days for twist, days for surface, 15 days for superelevation, 7 days for alignment, For gauge:

From 1428 to 1426 mm – 6 months,

From 1465 to 1467 mm – 6 months,

From 1467 to 1470 mm – 7 days, speed restriction up to 10 [km/h]

From 1426 to 1424 mm – 36 hours, speed restriction up to 10 [km/h].

A.3 Alignment

A.3.5 Gauge Increase in Curves

In tight curves widening of the gauge is done according to the following Radius R (in m) Addition to standard 1435 gauge dimension (mm)

>300 0 ; 250-300 5 ; 200-249 10 ;

<200 15

A.3.6 Cant

Maximum cant - 150 mm.

Cant deficiency varies according to the following formula:

$h = 11.8 v^2/R - 130$; h – superelevation in mm, ; V – speed in km/h.; R – radius in m. Maximum cant deficiency for conventional trains – 130 mm.

Transition curves are always cubic parabolas.

Normal length is given by: $L = 0.008Ev$.

Minimal length is given by: $L = 0.006Ev$.

L – length in m. E – cant in mm.; v –speed in km/h.

Cant is introduced at a regular rate along such transitions curves.

B. Climate and Environment

B.1 Climate conditions

Climate and Environmental Conditions

- Max. Ambient temp. 47 °C (shade)

- Min Ambient temp. Minus 5 °C

- Relative humidity 10% to 90%

- Altitude - 400 m to +800 m

- Sunny hours per year 3300 h

- UV Radiation MJ/m² per year 360 - 600

- Rainfall mm/year 400 - 800

Dust Conditions in the atmosphere (Microgram per m³ atmosphere)

Maximum Daily Value Average: NOx 1064 560 71; SO₂ 780 260 21; O₃ 312 143 84.

Suspended Dust - 350 100; Suspended Particulate Matter (SPM); Particle size to 0.5-1 micron

Sea Salt Concentrations in the Atmosphere (Micrograms per m³ atmo-

sphere)

Salt Element Na Cl SO₄

C. Various Detail Specifications

C.1 Lubricant for Flange Lubrication

The following lubricants are in use for the flange lubrication with Israel Railways:

Oil for flange lubrication

C.2 Sand

To be defined

C.3 Underfloor Wheel Lathe

Will be defined by ISR in the design phase.

C.4 Cleaning Agents

The following chemicals are in use for cleaning purposes with Israel Railways:

Liquid for wind shield washer: Type Wish Wash; Chemicals for car washer type acid cleaner

Chemicals for underfloor cleaning: Type tbd; Chemicals for interior cleaning: Type tbd

C.5 Fuel for diesel engines

Israel Standard - IS 107

September 1995; Amended May 1999.

Hydro-carbon fuels: Gas-oil for diesel engines and gas-oil for heating

C.6 Water specification

Typical Water Quality in Israel.

No. Parameter Unit Range

1 Hardness ppm 220-450

2 PH 6.4-7.5

3 Chlorides ppm 20-400

4 Alkalinity ppm 100-300

5 Ca ppm 45-100

6 Cr ppb app 3

7 Cu ppb app 3

8 Fe ppb app 68

9 K ppm 2-5.7

10 Mg ppm 20-30

11 Mn ppm app 6

12 HCO₃ ppm 110-400

D. Modifications to air-conditioning standard. Modification to EN 13129-1:2002(E):

‘Railway applications - Air conditioning for main line rolling stock - Part 1: Comfort parameters.’

5.1. The comfort conditions shall be satisfied between the limits of the external conditions given in Annexes E.1 and E.2. The comfort conditions shall be satisfied

between the limits of the external conditions given in ISR adapted Annexes E.1 and E.2.

5.2. 5 K below the minimum values and 5 K above the maximum values specified in Annex E, 5 K below the minimum values and 5 K above the maximum values specified in ISR adapted Annex E.

5.2. If they are placed under the underframe, 10 K above the maximum values specified in Annex E.

6.1.1 The contractual specifications shall define a regulation curve which shall be within the limits of the zone shown in Annex A. The regulation curve is defined in the ISR adapted Annex A. 6.6 The air speed in the comfort areas shall be in the zones defined in Annex B according to prEN 13129-2. The air speed in the comfort areas shall be in the zones defined in ISR adapted Annex B according to prEN 13129-2. 6.7.1 The total volume of fresh air added by forced ventilation to the comfort areas shall be in accordance with the values defined in Annex F. The total volume of fresh air added by forced ventilation to the comfort areas shall be in accordance with the values defined in ISR adapted Annex F. 6.7.2 A re-circulated air system shall ensure the operation (even in a degraded condition) if the design of the vehicle can permit the fresh air intakes to be temporarily blocked. In case of a failure in the cooling circuit, the ventilation system will continue its function of circulating the cabin air and supplying fresh air.

7. Within the performance defined in clause 8, it shall be possible to vary the temperature setting in each comfort area independently of the other areas by means of a control device that gives a minimum range of regulation of ± 2 K (+ 2 K and - 4 K for couchette coaches and sleeping cars) around the temperatures specified in clause 6. Within the performance defined in clause 8, it shall be possible for the crew to vary the temperature setting in each comfort area independently of the other areas by means of a control device that gives a minimum range of regulation of ± 3 K. 8.1 The preheating time is a question of exploitation which shall be specified by the operator. ISR requires a preheating time of 30 minutes from 0°C to 18°C. 8.2. At the minimum external temperature for the climatic zone defined in the contractual specifications, the mean At the minimum external temperature, the mean interior temperature shall be greater than or equal. Interior temperature shall be greater than or equal to + 22 °C in commercial service without passengers and solar radiation.

8.3. The precooling time is a question of exploitation which shall be specified by the operator. ISR requires a precooling time of 30 minutes from 40°C to 27°C. 8.4. At the maximum exterior temperature of the climatic zone defined in the contrac-

tual specifications, the mean interior temperature (Tim) shall be equal to the normal interior temperature setting (Tic) specified in 6.1.1 in commercial service with all seats occupied and solar gain. At the maximum exterior temperature, the mean interior temperature (Tim) shall be equal to the normal interior temperature setting (Tic) specified in 6.1.1 in commercial service with all seats

occupied, solar gain and 2 standees/m².

9.1.1. The coefficient k for the vehicle shall be less than or equal to the values according to Table 1: The coefficient k for the vehicle shall be less than or equal to 2 W/m²K at standstill.

9.4. With stationary vehicles, the overall level of noise generated by the air conditioning installation alone in the comfort areas, shall not exceed the values in Table 2: With stationary vehicles, the overall level of noise generated by the air conditioning installation alone in the comfort areas shall be quoted by the information provider in the tender documents.

9.7. When the Agreement specification requires it, the vehicle and its air conditioning unit shall be fitted in a manner that undue tympanic pressure variations do not occur.

9.9.1. The value of MTBF (Mean Time Between Failures) shall be quoted by the information provider at the time of tender.

E.2 Refer to EN13129-1 Table E.2 – Summer

Maximum exterior temperature = 47°C

Relative humidity at 47°C = 10%

Design Point 1 Temperature = 37°C

Design Point 1 Rel. Humidity = 60%

Design Point 2 Temperature = 30°C

Design Point 2 Rel. Humidity = 70%

Equivalent solar load (En) = 1050 W/m²
Clause by clause Modification to EN 13129-2:2004(E) : 'Railway applications - Air conditioning for

main line rolling stock - Part 2: Type tests.' The tests shall be carried out at the following temperatures: 0 °C ; +10 °C

8.4. The measurement of noise and vibration shall be carried out on a stationary vehicle with the air conditioning installation functioning at a level which corresponds to the maximum performance conditions of the customer's specification. 18 m³/h Fresh air flow rate; Cooling forced to maximum (set point not achievable).

Table A.1 – Tests in heating mode (Zone I – Winter)

Table A.1 – Tests in heating mode (Israel)
Use: Mean exterior temperature (Tem) 0°C
Instead of: Mean exterior temperature (Tem) –10°C

Use: Air speed ?160 km/h Instead of: ? 120 km/h.

Table A.2 – Variable external temperature tests (Zone I – Summer)

Table A.2 – Variable external temperature

tests (Israel): Use the following test conditions:

30°C instead of 28°C; 37°C instead of 40°C; 47°C instead of "+45 or +50" °C.

Air speed ?160 km/h instead of ?120 km/h.

100% occupancy means: full seating + 2 standees per sq.m.

D.1 Modifications to AC-Standards for driving cab

Air conditioning for driving cabs - Part 1: Comfort parameters. The cab of the DE Loco pilot car is considered to be of the category A.

7.2. Preheating of the drivers cab at minimum exterior temperature as defined in Appendix B.1 to Tim as defined in 7.1 shall not take more than 30 minutes 7.3 maximum interior temperature the maximum interior temperature under all climatic conditions as defined in Appendix B.1 with solar load, at full speed and with two occupants shall not exceed 27° C.

7.4. Pre-cooling of the drivers cab at maximum exterior temperature as defined in Appendix B.1 with solar load to 27° C shall not take more than 30 minutes.

7.5. Stand-by operation to be defined in Agreement. A parking mode feature of the driver's cab air-conditioning system shall be provided, keeping the maximum interior temperature at 30° C under the conditions as defined in 7.4 and the minimum temperature at 10° C under the conditions as defined 7.1

8.2. Interior temperature setting. The temperature control shall relate to the exterior temperature as defined in section 8.2.3 of EN 14813-1

9.5. Air speed. The air speed of nozzles, facing the driver, shall not exceed 0.3 m/s

9.6.1. The minimum fresh airflow rate of 30 m³/h/person is sufficient; the minimum fresh airflow rate shall be 60 m³/h

10.1. Heat transfer coefficient (k) < 2.3 W/m²K for the vehicle at standstill and at full speed.

Annex D Table D.1 – Definition of climatic zones -

Winter: Minimum exterior temperature - 5°C

Summer: Maximum exterior temperature = 47°C

Relative humidity at 47°C = 10%

Design Point 1 Temperature = 37°C

Design Point 1 Rel. Humidity = 60%

Design Point 2 Temperature = 30°C

Design Point 2 Rel. Humidity = 70%

Equivalent solar load (En) = 1'050 W/m²

E. Legislation, Norms and Standards

E.1 Israel Legislation: General rules to be observed:

E.2 Israel Norms and Standards: List of applicable Israeli Standards:

IS 107:1999 Hydro-carbon fuels: Gas-oil for diesel engines and gas-oil for heating

IS 1918 Accessibility of the built

environment

IS 5435 Fire protection

F. Locomotive – Train Interface

The reversible control train line cable is configured as follows:

(in the Coach and equivalent in the Loco - this latter is mostly but not always identical.)

1 Safety loop; 2 Alarm signal; 3 DV effort setpoint; 4 Battery negative; 5 Ready to run; 6 Generator field; 7 CV effort setpoint; 8 Forward; 9 Reverse; 10 wheel slip; 11 Cab interlocking ; 12 BV effort setpoint; 13 Battery positive; 14 Ready to depart; 15 AV effort setpoint; 16 Engine run; 17 Dynamic brake (B); 8 Right doors opening permission; 19 Left doors opening permission; 20 Dynamic brake warning; 21 Dynamic brake control (BG); 22 Doors opening cancellation; 23 Signal for ampermeter; 24 Dynamic brake setpoint; 25 Direct brake applied; 26 Battery positive Right doors opening permission warning; 27 Battery positive Left doors opening permission warning; 28 Battery negative; 29 Right doors opening permission warning; 30 Left doors opening permission warning; 31 Battery negative; 32 Battery negative; 33 Screen of wires 26/34 in the male side; 34 Battery positive; 35 Battery positive; 36 Spare; 37 Screen of wires 27/35 in the male side."

(xvi). TENDERS ALLOCATED.

(i). IR has announced that Taylor Dynamometer had won Tender No. MC/RC/05/11, worth \$849,740 for Design, Supply and Installation of a full testing system for Diesel Engines.

(ii). Tender TM/KB/02/11 for rail thermal welding has been won by Lesico Ltd.

(iii). Tender BN/KB/11/11 worth \$345.43M for construction of the new Railways' Management Complex in the Lod station area has been awarded to the Israeli form Ken HaTor Engineering.

(iv). Tender TC/MT/06/11 worth \$11,000 providing design, consulting and controlling services for schedules of the Railways' Development Programme has been won by local consulting company Si-Baribua (c2).

(v). Tender No. TC/MT/06/11 for designing the electrical high-voltage contact network for electric trains has been won by local (and international) company D. Bar-Akiva Consulting Engineers.

(vi). Tender No. HN/KB/01/122 worth \$2,155,000 for building the Yavne West station parking area has been won by local company Al-Trans Infrastructure Engineering and Development Works Ltd.

(vii). Tender No. TK/SR/05/12 for providing mobile radio-telephones for the railways has been won by Perlephone Communication Ltd.

(viii). Mr. Shimshon Yekham has been appointed as Manager of Sub-Contractors' Department by winning Tender No. MN/KB/01/12.

97:06.

LIGHT RAIL.

A. JERUSALEM.

Maybe no News is Good News, but the flow of information on scandals, hold-ups and problems has suddenly almost ceased!

(i). TICKETING ISSUES.

On 1st. Feb. Sybil wrote:

"Starting on February 1, monthly 'Hofshi Hodshi' tickets from Beit Shemesh to Jerusalem on Superbus Rav-Kav smart-cards are valid on the light rail. Previously these tickets were valid on buses within Jerusalem but not the light rail. Some bus routes from Beit Shemesh to Jerusalem are operated by Egged, and it is expected that a similar arrangement will be operating from March 1.

The light rail trains are now emblazoned with the CityPass logo, and there are route maps inside each car.

Since I can now go on it free of charge, today I went on the light rail for the first time since they started charging fares. I put my Rav-Kav card on the machine reader inside the train, and lo and behold, the green light came on!"

(ii). GRUMBLES. On 3rd. May Aharon wrote that Mr. Nir Barkat, Mayor of Jerusalem, had sent a scathing letter to City Pass due to many complaints from passengers concerning the bad behaviour of the company's Inspectors. They are described as being aggressive, using their authority to levy penalties even against naive and innocent users of the service. There was a meeting between CityPass and the Mayor but at the time of writing no formal response.

However on 18.06 Aharon reported that the Knesset Economics Committee had decided to accept a decision by the Municipality to create an External Appeal Committee (which will not include CityPass) to discuss the claims of passengers who have been forced to pay unjustified penalties on the LRV. The committee will comprise three members: one from the Justice Ministry, one member of the public, and one from CityPass. Many complaints had been sent to the municipality, and there were also demonstrations (some of them even violent) against CityPass inspectors.

(iii). RESCUE EXERCISE.

In the night Monday/Tuesday 14/15th. May an exercise was carried out

in which various Emergency Units from the Jerusalem area took part; the aim was to 'rescue passengers' from a 'burning tram' on the Calatrava Bridge.

(iv). PROGRESS! According to an R.I.S. report of May 2012 business has started to improve in the city centre along the Red Line alignment. This is encouraging.

(v). YOM YERUSHALAYIM.

On the 45th. anniversary of the city's unification (or liberation or occupation - it depends upon whom is being asked!!) which fell on Sunday 20.05.2012, CityPass organised a musical experience for the LRV passengers. Eight of the city's Symphony Orchestra musicians played popular Jerusalem songs and also classical music on the trams; the passengers were surprised but reacted positively and joined in with singing and applause. At the stations greetings boards were placed, and staff gave out festive balloons and sweets.

CityPass General Manager Yehuda Shoshani said: "The LRV daily ridership is now 80,000; it has brought a significant change to mass transit and we thus decided to share the joy with the public, who are proud to be a part of the first Israeli LRV."

B. TEL AVIV.

(i). In the Dutch 'Op de Rails' 4/2012 is noted (translation by Editor): "Following a lengthy period of stillness, it now looks as though Tel Aviv will at last start to get its metro and fast-tram network. In January the tendering process for the tunnels for two lines began - for the 22km. Red Line and 35km. Green Line. Several preparatory works were completed some years ago for the Red Line, but the consortium that was involved (which included HTM of Den Haag) did not get the necessary finance and was dissolved. Works have now been taken up by the Government. One proposal is for the Red Line to be completed by 2017 and the Green Line around 2020. Eventual plans envisage a network of seven lines, and although much of this would be in tunnel, the rolling-stock would be of tramway / Stadtbahn type, with low floors."

(ii). NTA Tender No. 022/2012: Providing Design Services for preparing a Survey of Environmental Effects foreseen by building the Purple Line:

General information: The Purple Line is one of 7 LRV lines to be created as part of the Greater Tel-Aviv Metropolitan Mass Transit System. It will be 33 km long with more than 50 stations, and will serve the cities of Petakh-Tikva, Yahud, Ramat-Gan, Tel-Aviv, etc. Due to its length and complexity, and the fact that different technologies may be used along the alignment (LRV along the whole the whole alignment, or combined LRV/BRT), the survey is to be carried out in two stages: The first stage will check the current situation and the offered alternatives and their effect on the urban and surrounding environment. The second stage will be based upon the findings of the first stage. Latest date for submission of proposals: 21.06.2012.

97:07.

NOTES AND COMMENTS.

(a). PALESTINE RAILWAYS ON FILM:

Chen Melling writes: "My son, Sagi, was born on the day of the Jewish Purim holiday, so it is only fitting that a friend (Aharon Gazit) has just sent me the following link from youtube, <http://www.youtube.com/watch?v=LpnqdxvuDPU>, which is a film documenting the Purim festivities in Tel Aviv, 1932. The interesting part (for us) starts around minute 1:52 and lasts until minute 2:25. This includes action shots around Tel Aviv station, including Baldwin H2, Manning Wardle M, a Sentinel-Cammel railcar and various gleaming PR carriages."

(b). THE FATE OF A JEWISH ENGINEER ON THE HEDJAZ RAILWAY.

Alfred Gottwaldt of Berlin has prepared a mini-biography of Paul Levy, from which the following is taken and translated:-

Paul Josef Levy was born on 17th. November 1876 in Stettin, second son of the businessman Julius Levy (1842-1920) and his wife Therese. Following training at a Technical High School Levy, like others of his generation (for example Julius Dorpmüller, 1869-1945, the later Reichsbahn-Generaldirektor, who went to China) spent some time working abroad.

The Hedjaz Railway was constructed by the German engineer Heinrich August Meissner (Meissner Pasha) (1862 - 1940), who had been active in the Ottoman Empire

since 1887. His activities strengthened the good relations between Sultan Abdülhamid II and the Kaiser and provided German manufacturers with work. The main line was 1,322km long from Damascus to Medina, and had over 1,500 bridges and culverts, two tunnels and a large number of stations. Officially the line was projected by the Ministry of Religious Foundations of Caliphs and Sultans of the Ottoman Empire, which at the same time wished to limit British influence on the Red Sea and the Suez Canal. In 1909 the Sultan was deposed and construction of the final 450km. to Mecca was abandoned.

Construction of this ambitious project began in 1900, and on 1st. Sept. 1908 almost the entire line could be taken into service. At an average speed of 30km/h a journey end-to-end took some three days, as opposed to six weeks by camel. A branch from Dar'a in Syria to the Mediterranean harbour at Haifa had been opened in 1904.

Paul Levy was a Machine Constructor, not a building engineer or an architect. Following his Abitur, probably in Danzig, he completed his studies in machinery construction in 1899. From 1904 he was presumably active in the depots and locomotive depots of the Hedjaz line. A proper main workshops at Damascus was only completed in July 1908. The low permitted axle loading of 10 tonnes, hefty gradients of up to 20 Promille and tight curves of 125m radius placed the builders under especially complex demands. The early locomotives came from the German builders of Hartmann, Henschel, Hohenzollern, Krauss and Jung, as well as Winterthur. Hermann Keller of Henschel & Sohn designed in 1908 a 2-4-6-0 Mallet tender locomotive. It took much effort to get a reasonable amount of standardisation of parts, and disagreements with the native officials were also a daily occurrence. The passenger carriages came from Nürnberg and Werdau. In 1911 Paul Levy wrote a report in the 'Organ für die Fortschritte des Eisenbahnwesens', on the rolling stock and motive power of the Hedjaz Railway: "The plush upholstery of the 1st. Class was replaced by leather, and the back rests were made smooth, without folds, so as to make the accommodation for the vermin less attractive." Many bogie goods wagons were acquired from Belgian manufacturers and from the Gothaer Waggonfabrik.

Initially Paul Levy was 'placed on leave from the Königlichen Eisenbahndirektion Danzig' for 'secondment for service in the Near East.' On 19th. May 1906 he had married his cousin Ida Levy (1884-1974) in Bad Polzin. They continued to live in Damascus till 1908 during the continued construction of the Hedjaz Railway, and later also in Beirut. Following this, from 1910 to 1912 Levy was officially placed on leave

by the KED Essen to work in German East Africa based at Dar-es-Salaam in modern Tanganyika. In Spring 1910 Heinrich August Meissner transferred to the Anatolian Railway Construction Co. (Anatolischen Bahnbaugesellschaft), which had taken over construction of the Bagdadbahn, but in 1912 Paul Levy returned to Germany.

From October 1910 he was appointed a 'beurlaubter Regierungsbaumeister' in the Prussian railway administration in Saarbrücken [i.e. he was officially on the staff lists there but on paid leave and sent to work abroad. This would be relevant also for seniority purposes. WLR] Later he was promoted to Baurat. In the First World War he served in railway service on the Russian Front, was wounded and was awarded the Iron Cross.

On 1st. October 1920, immediately on formation of the Deutsche Reichsbahn, Levy rose to Oberregierungs- und Baurat. From 1924 this position was renamed Oberreichsbahnrat. In 1923 he was divorced from his first wife Ida and moved to Bonn. In the following years we find references to him at the Reichsbahndirektion Altona, first as Dezernent for Workshop Operations in the department of Ernst Spiro (1873 - 1950), and he headed the section on Workshops Organisation until mid-1933. From 1930 he had been designated a 'Direktor bei der Reichsbahn' - the designation for directors outside the main headquarters staff.

From mid-1933 he was still Dezernent for Workshops and Heating Installations at the Wuppertal Direktion. This was a typical case of the demotion of 'Non-Aryan' railway officials during the early National Socialist period, for there were some thirty high Reichsbahn officials of Jewish background who could not be dismissed in 1933 as they had been combatant soldiers in the World War.

Following the issuance of the 'Nürnberg Laws' Paul Levy, and the other last still-remaining Jewish Reichsbahn officials, were sent into early retirement at the end of 1935; He was 59 years old. Following his dismissal he moved - by 1937 at least - to Berlin to be in the anonymity of a major city, where he also had other family members and other Jewish Reichsbahn acquaintances. During the Pogrom night of 9th. November 1938 his uncle Leo Levy was shot in Polzin. In October 1941, only a few days before Himmler's prohibition of emigration, he spoke for the last time with the Ecuadorian Embassy about his planned emigration. In April 1939 his daughter had married in London and thenceforward she lived in Chile and then in the USA; here three grandchildren keep his memory alive.

Paul Levy's second wife Charlotte had been born 3rd. October 1882 in Berlin. Following his time in Wuppertal they lived

in 1937 in Berlin-Zehlendorf, Albertinenstr. 31. From November 1940 the Levys had two rooms as sub-tenants in Wilmersdorf, Mestorstr. 54. At this period it was possible for Amtmann Berthold Stumpf to complain in the publication 'Die Reichsbahn' that Kurt Ewald's book "20,000 Textual Sources for Railway Information" ('200,000 Schriftquellen zur Eisenbankunde') displayed the appalling fault of still referring to articles written by Jewish authors. This referred to Paul Levy's article of 1911 on the rolling stock of the Hedjaz Railway.

Paul Levy described his last profession before his deportation as 'Machine Worker' - presumably as a Jewish Forced Worker at the age of 60. At least this is written in his own hand in the 'Vermögensklärung' (List of Assets) that Paul and Charlotte Levy had to complete, dated 17th. February 1943. Together with around a thousand other people they were deported on 26th. February 1943 with the '30th. Osttransport' and there unloaded on the 'Old Jew Ramp'. They never lived to see the next day. At this point the Reichsbahndirektion Berlin had already paid his 'Retirement Money' to the sum of 418.07 Reichsmark for the month of March 1943, and in October 1943 it demanded from the Property Liquidation Office of the Oberfinanzpräsidenten Berlin-Brandenburg the repayment of this amount."

(c). LOCOMOTIVES AT ASHDOD PORT:

'Industrial Railway Record' has run several articles by Paul Cotterell z'l' on the industrial locos in Israel. Issue 207, Dec. 2011 p.283 has a Reader's Letter from Huw Williams in response to the article in No. 196 p. 398, on the 'Elbram train mover' used at the Ashdod Coal Terminal:

"These locomotives were constructed by Bateman Materials Handling Limited of South Africa, an operating company of Elbeng Limited; formally [sic] E.L. Bateman. They are described as 'wheel mounted hydraulic train movers.' The principle of operation is roughly as described by Paul; a clamp on each side of the locomotive, situated between the wheels, engages in turn with the rail to push or pull the locomotive and its coupled load by the alternate operation of two double-acting hydraulic rams operating at 200 bar gauge pressure (about 2800psig). This maintains a smooth slow-speed motion. The rail clamps are trolley mounted and, with the hydraulic clamp released, trail behind the returning hydraulic ram.

The Elbram brand was developed from the 'Batequip' wall-mounted train pusher, which had been produced for the same duty, but suffers from the obvious disadvantage of being fixed in one position, thereby requiring a separate unit for each line at any location with multiple

load-out stations.

A list of customers, provided by Bateman Materials Handling in 1989, shows that eight locomotives had been constructed, most of them for the coal mining division of General Mining Union Corporation (Gencor). Each order seems to have been different, in that the five made up to September 1989 were designated Mark I, Mark II, Mark III, Mark IV and the Ashdod order as Mark V. All were powered originally by 160kW diesel engines, although an electrically-powered version was offered as an option. Train air-braking equipment was provided as standard, but a vacuum exhauster could be supplied on request. The standard weight of the locomotives is 52 tonnes giving a relatively high axle loading on only two axles. This is achieved by installing substantial ballast weights into the frame.

The locomotives are capable of direct drive movement, for example when they need to travel to a maintenance facility or for light shunting; In this mode they operate as a conventional four-wheel diesel-hydraulic and the rams are retracted to avoid damage at points and crossings. The technical specification in the brochure also provided in 1989, and based, as far as I can determine, on the Mark IV machines as supplied to Koomfontein Collieries in 1985, indicates that the locomotive is capable of travelling at up to 15 km/hour when running light. Load-out speed, when in normal operation, is preset at anywhere up to 14 metres per minute. Designed to be operated by remote control, the locomotives are also equipped for use by a driver in both modes. In its sales brochure Bateman comments that 'The use of remote control during free moving or shunting modes is not recommended.'

(d). ANOTHER DR WAGON AT KASSEL.

As well as Middle East, we also cover items of 'Jewish interest', very widely defined. Thanks to Reinhard Dietrich for a cutting about an 'Installation' called 'Die Rampe' at the Kassel University campus, by Eva Renée Nele, born 17.03.1932 and therefore now 80 years old. The photograph in the 'Hessisch-Niedersächsische Allgemeine Zeitung' of 17.03.2012 shows a wooden four-wheel DR van without markings, a side door open and life-size, twisted, bent figures standing before it.

(e). A PRECURSOR OF THE SCHIENENZEPPELIN?

Several times in the past we have written about the remarkable invention of Baruch Katinka of around 1916, a 4-wheel wagon onto which an aeroplane motor and propeller were fixed, enabling

this 105cm.-gauge not-very-well-sprung vehicle to bound along the Hedjaz line and take German airmen from their base near Afule to Haifa for 'social breaks'. (See Harkaveit: 49:16, 50:6, 70:08(g) & 71.06(g)). This was understood as a unique forerunner of Kruckenberg's 'Flying Zeppelin' experimental high-speed railcar.

Now in 'Eisenbahn Geschichte' No. 51, pp.44f. is an illustrated article by Christoph Meyer entitled 'Luft-Fahrt auf Schienen' which describes the early efforts of the 'Modellversuchsanstalt für Motorluftschiff-Studiengesellschaft' (MVA) in Göttingen.

"Inspired by the 'Erste Internationale Luftschiffahrt-Ausstellung' (First International Airship Exhibition) in Berlin in 1909, the scientists of the MVA began to study the phenomenon of Flying carefully. The crew, under their leader Prof. Prandtl, researched pretty well anything to do with what we now call 'Aerodynamics', they also measured the airflow past fixed objects and how external forms affected airflow and therefore the air resistance. This was something totally new at that time. To these topics belonged also the attempt to find the best form of propeller that would most efficiently transform the energy it received into forward thrust.

This sort of thing could not be tested just on the drawing board and so some practical experiments were necessary. The air industry, still in its infancy, was in urgent need of the results of such research. But how could this be done? The best way, it was decided, would be to use a railway vehicle, as this would provide the least rolling resistance. But where could this be carried out? The KPEV (Prussian State Railways) vehemently refused to allow use of their lines, such as Göttingen - Bodenfelde, for any such tests.

But then the former 'Hannoversche Südbahn' line between Friedland and Arenshausen was considered. From 1867 to 1884 this had formed the main line between Göttingen and Halle, but then Eichenberg became the main crossing point between the East-West and North-South routes, and the line fell into near-disuse. The southern section of the route, from Arenshausen [on the Göttingen - Leinefelde - Eichenberg line] was still in situ as far as Hottenrode, where it served two tileworks and also some agricultural traffic. Here, no-one would disturb the Göttingen scientists and they would disturb almost no-one.

For the test runs the track was refitted, and there were special arrangements for manning the level crossings. In Arenshausen a branch of the MVA was formed, the 'Prüfstelle für Luftschrauben' ('Test Centre for Airscrews.') It is their experimental vehicle which is illustrated in the article - fitted with a 100hp petrol motor for the propeller drive, speeds of 70km/h

were anticipated. An ancillary 16hp. motor was later added and helped the machine, which weighed 2 tonnes, to get started. Almost all relevant measurement data was recorded automatically to provide information on the different forms of propeller. It is not yet known to what extent this data later influenced Kruckenberg's ideas. After all, the MVA was working on research for the air industry, not the railways. This latter only came later, when the wind-tunnel at Göttingen was employed to research the best forms of streamlining for locomotives."

So we may simply have evidence here of creative minds thinking alike, producing parallel solutions. Ed.

(f). A VIEW BACK.

The Editor was recently presented with a book "Israel: Eine Geographische Landeskunde" by Yehuda Karmon, published 1983 by Wissenschaftliche Buchgesellschaft, Darmstadt as Vol. 22 in a series. ISBN 3-534-08675-9. It is described (p. XV) as the first ever total geographical description of the country to appear in German. It is now, of course, totally out of date and this excerpt will illustrate why! The following is taken from Chapter 3:7 ('Transport', from pp. 112ff.) and is translated by the Editor:-

"In its historical past Israel was an important link between Asia and Africa on the one hand and the Mediterranean coast and Arabia on the other. Even in the Mandate period plans for international links, such as a plan for a railway to Iraq or the railway from Syria to Egypt, played a significant role. But in consequence of the closing of all land borders after the founding of the State of Israel the country remained dependent on air and sea transport for all international links. One exception, which was created following the Six-Day War, is formed by the 'open bridges' over the Jordan, open for passenger traffic (not for Israelis) and for goods for trade with the West Bank. With the conclusion of the Peace Agreement with Egypt a land link between the two was opened in 1980, though its extent remains unclear. For these reasons there is a sharp distinction made between inland and international traffic.

For internal traffic the railway plays only a subordinate role. In 1978 it conveyed only 2% of the total public passenger traffic and 6% of the freight. The main reason for the unimportance of the railways lies in the small area of the country. According to experience in other countries the point at which rail becomes more attractive for freight traffic lies at around 400km. distance, and there is no such point to be found in Israel.

The second reason is the moun-

tainous nature of the landscape, which would make railway construction very expensive. The only existing 'mountain' line is that from Tel Aviv to Jerusalem, which was built in 1891 for the purpose of transporting pilgrims, at a period when there was as yet no reasonable road link between the harbour at Jaffa and Jerusalem. Today only 2 - 3 passenger and a very few freight trains traverse this line daily. The only fairly intensive passenger line is that from Tel Aviv to Haifa, on which thirteen trains in each direction run daily.

In goods traffic, only transport of mass goods is really suited for conveyance by the railways, and in this respect the potential cargoes are limited. In essence this means the transport of mineral products from the Negev (potassium, phosphates) or mass imports such as oil products or grain. Agricultural produce is hardly transported at all by rail, although it was originally so planned that citrus fruits should be transported to the harbour by rail and therefore almost all packing houses were built at railway stations.

The railway network is 516km. long. Its major focal points, at which repair workshops are also situated, are at Haifa and Lod. The most important new line runs to the Negev; the line from Haifa (with connection from Tel Aviv) to Be'er Sheva was completed in 1955; it now reaches as far as the phosphate mines south of Dimona, and an extension to Eilat is currently in initial stages of construction.

The rolling stock fleet is rather outdated and consists of 40 Diesel locomotives, 95 passenger coaches and 2,100 goods wagons.

The influence of the railway is barely noticeable in the cityscapes, since the stations lie in the outer districts and never had the same influence on city development as was characteristic for Europe or North America.

In consequence almost the entire transport branch is directed to use of the roads, and Israel has one of the densest networks of roads in the Near East..... "

(g). RAILWAY MODELS.

(i). G12 Bo-Bo Diesel Loco.

The Australian firm 'Austrains' announced in 20122 that they would produce an HO Scale model of an early GM G12 type, as used also in Israel: - "Austrains goes international. In conjunction with the Flat Top T class project, we will be making the Kowloon - Canton Railway 51 class diesel electric loco. The first two of these locomotives were built by Clyde Engineering in 1955. They were based largely on the T class locomotives then under construction for the Victorian Railways. A further three units followed in 1957. The Hong Kong locomotives were basically the

same design as the VR T class but fitted with a 12 cylinder engine. No. 51 is preserved in the Hong Kong Railway Museum. The other four have been returned to Australia to become the CFCLA TL class. There are some dimensional differences in the length but these can be compensated for during the design phase.

The Austrains model will feature the locos as they were in various stages of their careers. This mainly involves colour schemes, various exhaust stacks and the addition of handrails. Sound will be an option."

(ii). Vossloh Co-Co. From Naumann's (a specialist in out-of-the-ordinary models) we have received more information on HO models of Middle East interest:-

The new IR Vossloh Co-Co No. 1401: Model Nos. 1140112DC for DC analog version, 1140112DCS for DC digital with sound, and 1140112AC for the AC version.

(iii). Syrian Coaches.

The Syrian CFS passenger coaches are classified as 'Limited Edition, only a few left', these are ex-DDR Type Y, 2nd. Class compartment coaches, with two separate running numbers. Articles do121 & 122.

Contact Naumann Modelleisenbahn, Chemnitzer Strasse 108, 51067 Köln, Germany. +49 - 221 - 6910699, or Service@Naumann-online.de

(h). THE BENNIE AIRSPEED RAILWAY.

In 'Backtrack' June 2012 pp. 374-377 is an article by Mike Zanker on this experimental overhead monorail, developed by George Bennie; a short test track was built over an LNER siding at Milngavie, near Glasgow, and in July 1930 the line opened to the public for visits and trial runs. A single prototype car was built with streamlined ends and a propellor at each end. After running till December that year the line became disused and was eventually dismantled in 1956.

What caught my eye was the following:- "Organsied parties were also carried. Ernest Furst, a resident of Palestine, had seen the initial press coverage; he contacted Bennie concerning a possible system connecting Jerusalem with Tel Aviv and the Dead Sea, popular weekend retreats for workers, but the rough country en route made normal transport difficult. On Tuesday 11th. August 1930 a large party from the Glasgow Jewish Community visited the test track; Bennie also arranged meetings in London with the Zionist Organisation and the Jewish Agency."

We know that nothing came from this. However, the idea cannot have been wholly strange to them. For in his ground-breaking, taboo-breaking science-fiction novel 'Alteuland' ('Old-New Land') the Viennese journalist Theodor Herzl in 1902 described a future prosperous, peaceful Palestine of 1922 with a network of electrified railways connecting with systems in neighbouring countries. (He also proposed that in 1925 all countries of the world should celebrate the centenary of the opening of the Stockton & Darlington Railway!)

His two main characters arrive at a rebuilt, revitalised Haifa in 1922 and are amazed at the difference between 'now' and their earlier visit 20 years earlier. "Hearing a slight noise above their heads, the friends looked up. There, some way above the top of the palm trees, a large carriage was hurtling through the air, with passengers looking out of the windows. The carriage had wheels on its roof, by which it was suspended from a strong bridge-like steel structure.

"That is the electric elevated," Litwak explained. "Surely you must have seen that in Europe."

"We haven't been to Europe for twenty years."

"But the elevated suspension railway is nothing new! There was one in Germany, between Elberfeld and Barmen, as early as the nineties of the nineteenth century! We installed them right from the first in our cities, because mass traffic could more easily be managed that way - and besides, the construction is cheaper than that of trams or normal elevated railways." [Barmen and Elberfeld were combined in 1929 into Elberfeld.]

(i). SAPPERS IN WORLD WAR 1.

In the 'British Overseas Railways Journal' No. 36 of Winter 2011/12 is a series of mini-biographies of engineers who served on Indian railways in the Colonial period, written by Julian Rainbow. On p. 202 is the life of Harold Lister Woodhouse, who became a Brigadier with CBE and MC, and lived 1887 -1960. From this:-

He was born at Prestwich, near Manchester, on 30th. Jan. 1887, educated at Birkenhead and Cheltenham, and was commissioned into the Royal Engineers on 25th. July 1906, attending the School of Military Engineering. He attended a year's mechanical course at Rugby with Messrs. Willans and Robinson, and was posted to India in 1909. His entire service was spent in India with the exception of the 1914-1918 and 1939-1945

Wars. Initially he was posted to the Military Works service as Assistant Garrison Engineer from 1908-1909 and built barracks at Karachi. Then he joined 25 Railway Company, Sappers and Miners and in 1911 he was employed on construction of the Delhi Durbar light railway. he commanded 25th. Railway Company in the East African campaign from 1914 -1918 and stayed with the 25th. Railway Company when it joined the Egyptian Expeditionary Force. Whilst in East Africa 25th. Railway Company was employed on construction of the 90-mile Voi-Moshi metre-gauge line. The line was through unsurveyed virgin bush, but construction was pushed forward rapidly. At times railhead advanced two or three miles a day, with bush clearing and survey parties only a few miles ahead, guarded by armoured cars.

When German East Africa was occupied Woodhouse was in charge of repair work on damaged German lines, from Tanhga to Moshi and Dar-es-Salaam to Tabora. He was mentioned in despatches, and awarded the MC in 1917. 25th. Company was transferred to the Egyptian Expeditionary Force in 1918 and until 1920 they worked on the extension of the Palestine Military Railways and on the conversion from metre to standard-gauge of the Jaffa-Jerusalem line...."

[N.B. In fact the Turks had previously converted the main section of the line from Lydda to 1.05m gauge.]

Also referred to is:

Webb, Cecil Richard, OBE 1926, MC.

b. 17th. August, 1887, youngest son of Rev. S.G.M. Webb, late Rector of Newton Kyme, Yorkshire: m. 1922 Beatrice Helen Gordon, youngest daughter of Charles Gulland Ballingall, 1 s., 1 d. Educ., St John's School, Leatherhead, North Eastern Railway, 1904-14, Assistant Traffic Manager, Uganda Railway, 1914, war service British and German East Africa, (despatches and MC) Traffic Manager, Tanganyika Railway 1919-23, General Manager and Traffic Manager, Sierra Leone Railway, 1923-30, General Manager, Palestine Railways, 1930-42, Ministry of War Transport, Cape Town, 1943-45, Ministry of Transport (London) Railways Maintenance Division) 1945-47, living in Bexhill-on-Sea at time of death d. 4th. April, 1974

In fact we covered some biographical notes in Harakevet 36:15.

OTHER MIDDLE EAST RAILWAYS.

A. TURKEY.

(i). INDUSTRIAL LOCOS FOR TURKEY.

An article by Manfred Lohmann in 'Lok Magazin' 04/2012 p. 76 -7 describes postwar production of industrial steam locomotives to several 'standard' types by Krupp of Essen. This includes brief mentions of:-

In 1953 an 0-6-0T of the 'Knapsack' type was sent to a sugar factory in Ankara, and two more followed in 1960. (A total of 15 of these were built 1949-1961; 14.3t axle load, 400hp.)

One of the 'Hannibal' type was also 'exported to Turkey' - with no further details. This was also an 0-6-0T, 16.7t axleload, 510hp and 34 were built 1949-1961.

(ii). TRAMS IN BURSA.

In March the Turkish firm Durmazlar demonstrated at a Fair in Istanbul a mock-up of a new low-floor tram. Together with Siemens a prototype was then built and is being tested at the Bursa factory. There is talk of an order for fourteen such trams for the inner-city network in Bursa, for which two second-hand German trams have recently been acquired. .

Durmazlar is also working with Siemens on the development of a high-floor tram vehicle for the 'Stadtbahn' system in Bursa which is to be greatly expanded. (From 'Op de Rails' 4/2012.)

B. AFGHANISTAN.

From 'C.R.J.' No. 169, Spring 2012 p. 488: "On 21st. December 2911 the first train arrived at Mazar-i-Sharif from the Uzbekistan border over the newly-built 70km. line. Presumably this line is 1520mm gauge and operated by Uzbek Railways, though the projected internal Afghan railway system will be 1435mm gauge."

C. IRAN.

(i). INDUSTRIAL LOCOS.

Also 'old news' - from 'Eisenbahn Kurier' 3.1992 p.32: "The National Iranian Steel Corporation has ordered six diesel locos of MaK Type G 1204 for its steelworks in Esfahan. The locos are specially adapted for the climatic conditions in Iran. They are due to be shipped in pairs, one pair per month, from April 1992."

(ii). LINK TO KAZAKHSTAN.

Also from 'C.R.J.' 169, p. 489: "Early in 2012 a new rail link is due to open from Uzen in Kazakhstan via Turkmenistan to Gorgan in Iran. It will then form part of a through route from the Kazakh capital of Almaty to the Iranian port of Bandar Abbas. The new link is 677km. long, of which 137km. are in Kazakhstan, 410km. in Turkmenistan and 70km. in Iran. Presumably the new line is 1520mm gauge, the norm in Kazakhstan and Turkmenistan, so that there will be a break of gauge at Gorgan, the Iranian railway system being standard (1435mm) gauge."

D. LEBANON.

It is a while since any trains ran in the Lebanon, but in 'The Daily Star' newspaper of 13.07.2011, though it was sent to us as an online article on 26.04.2012, appeared the following, by Annie Siemrod:

"Elias Maalouf: the guardian of Lebanon's bygone locomotive era.

Jbeil. Growing up in Ecuador, Elias Maalouf heard tales of Lebanon's trains. His family hailed from the locomotive-centric town of Rayak, and both his grandfather and great-uncle worked for the railway. Once known as 'the city of trains', at one point as many as 3,000 of Rayak's inhabitants worked for the railroad in one way or another.

Lebanon's last train stopped in 1975, and by the time Maalouf made it to Lebanon in 1992, "We found nothing, You couldn't see one train", he says. Years later, Maalouf the university film student set out to make a documentary about the railway. His efforts were thwarted by the fact that Rayak's train station and factories had been turned into a Syrian Army base.

Maalouf finally managed to slip onto the base as the Syrian Army was in the final moments of its pullout from Lebanon. he saw the army packing their trucks to leave, and also spotted smoke coming from a nearby building. The railway's archives were on fire. "I burned myself trying to save some papers", Maalouf says. "The army saw me.... I was scared, and so I ran like a roadrunner. I took some papers and that's how it started. I started with a documentary, and it became something I needed to do. I need to help this

government bring back the railway.”

Six years later, Maalouf is a founder of Train/Train, a non-governmental organisation made up of railroad enthusiasts who want to preserve Lebanon's railway history, and push for a rebirth of the train system in the country. And he's still working on that documentary.

Lebanon's first train set off in 1895, and the Civil War brought about the end of locomotives here. In the intervening years, lines ran east to west and north to south, connecting the country with Syria. In addition to providing public transportation, Maalouf says the trains contributed to the war efforts in World Wars I and II, and at one point the railroad factories even managed to build military airplanes for the airport in Rayak. Maalouf has become an expert in the country's trains, researching and interviewing many aging former railway employees. His Jbeil studio is full of photographs of the railway and its people, and he himself is bursting with interesting anecdotes. He passes on one 'very lovely love story' told to him by a train conductor. "While going around a curve he saw a girl from the window. She was one of the people that [took] the train daily." Drivers didn't have personal contact with the passengers, so Maalouf says that every time the driver went round a curve, "he would wave his cap and sound the train's whistle so she would look." "In the end", Maalouf says, driver and passenger "fell in love, and they have children now."

Maalouf has an impressive archive of photographs, maps, and other documents about Lebanon's trains - including some that still reek of smoke from his 2005 adventure. They've come from former employees, their families, the archives, and internet research. A month ago, Maalouf received an envelope from Hong Kong, its postage decorated with trains. Inside were the original plans for a line between Rayak and Aleppo. The mail had come from an engineer who is writing a history of the railroad in Hong Kong. Maalouf says "many of the engineers that worked on the railway in Lebanon went on to build the railway in Hong Kong", hence the document's journey from Asia.

Maalouf and Train/Train's other railroad enthusiasts aren't just interested in the past. He hopes to see the trains running again. He cites the benefits of railroads as including a decrease in pollution, and increased access to education for those who live far from cities. He also boldly says that "I believe if we have trains in Lebanon, we have peace in Lebanon."

He says that the daily interaction of trains between sects and people from locations that would not otherwise interact, would diminish sectarian tension. "People on the train meet each other," he says. "They become a family."

Despite his obvious passion for

the subject, Maalouf says his half decade passion for locomotion isn't always fun. "It's like a curse. It's not only that I am obsessed with trains. It's like someone gives you this small child, and puts it in your hands. You have the responsibility to do something about it... but I need to do something else with my life." That doesn't seem likely to happen anytime soon. Maalouf does freelance film work, but he pours most of his energy into his documentary. He hopes it will eventually help support a Lebanese train renaissance. Until then, as for doing something else, "I just can't," Maalouf says. "I really can't."

E. SYRIA.

Old news: In 'Lok Magazin' 5/2012 pp. 84-86 is an article by Eward Sassmann on the manner in which the Semmering line in Austria was used to test and to demonstrate various locomotives - Austria also being a useful 'middle ground' between Western Europe and the East. This includes a small photo of a red railcar in the snow and the following:-

"In 1967 Simmering-Graz-Pauker AG delivered a total of seven Diesel railcars to the Syrian State Railways (CFS). They were a further development of the two prototypes 5047.01 and ABmot10 of 1960/16 and were extensively tested in winter 1967/8 on the Semmering."

G. SAUDI ARABIA.

(i). OPERATING AGREEMENT.

From 'European Rail Review' issue 3 of 2010 : "Saudi Railway signs Operation Agreement. Saudi Arabian Railways has signed a SR 278M deal with India's state-owned Rites company for the operation of a major mineral railway linking the northern Jelamaid region with Ras Azzour near the industrial port city of Jubail. SAR Deputy Chief Executive Officer Romah bin Muhammad Al Romah said the contract would be valid until the end of 2013, and added that it was signed for operating the railway line for the transportation of phosphate and bauxite from Jelamaid to processors in Ras Azzour. The new 1,486km-long north-south railway, which is estimated to open at the end of the year, would make Saudi Arabia a leading supplier of phosphate and bauxite in the world. Passenger traffic on the route would start in 2013, with trains passing by Riyadh, Sudair, Qassim, Hail and Al Jouf."

(ii). ETCS SGNALLING.

In the same issue is an article by Emmanuel Brutin on 'The Deployment of ETCS' - the European Traffic Control system. This includes: "...The common European system has now established its worldwide success. More than 33,000km. of lines are either already running or are contracted to be equipped with ETCS.

Nearly 50% of these are outside the European Union. Countries as diverse as China, India, South Korea, Taiwan, Libya, Morocco, Saudi Arabia, Algeria, Mexico, Australia or New Zealand have opted for ERTMS. Interestingly enough, these countries choose ERTMS for different kinds of applications, i.e. High-Speed lines in China, mixed traffic in the Middle East and suburban areas in Mexico... Interestingly, some regions such as the Middle East are even looking at ETCS as a way to ensure interoperability amongst different groups of countries - thereby opening new opportunities for the industry..."

H. DUBAI.

More on the Palm Monorail. (See 96:09 C (iii)):

Frau Volck-Duffy, a colleague of Reinhard Dietrich's took a ride on this recently and has sent the following observations on the current situation:-

- At the moment the line is used exclusively by tourists. Operations therefore begin only at 10am, which means that it is totally useless to the numerous employees of the Hotel Atlantis who need to get to work.

- If one buys a Return Ticket, one must return straight away without even getting out at the end station!

- The train is operated automatically, through a computerised programme and without a driver. This means that it is programmed to stop at all intermediate stations, which are complete but not yet opened, and one may not get out here. In any case these intermediate stations cannot be used as they are still surrounded by building sites.

- At present trains run every quarter-hour. [See pictures next page](#)

I. PALESTINE.

The Editor wondered whether to include this at all - certainly not tongue-in-cheek - because there ARE no Palestine Railways at present. But the following caught his attention:-

During the annual 'Naqba Day' in which Palestinians mourn the creation of the State of Israel, Governor Ribhi Chandakji of the autonomous town of Kalkilya in the West Bank formally unveiled the 'Train of Return'. The railway model symbolises the right of the refugees to return from exile to their homes. "The train is pointing towards Israel, said the Governor, "and it will remind us and our children of our right of return." ([see announcement and photo on page 17](#))

J. DUEWAG TRAMS IN THE MIDDLE EAST.

Marc Stegeman has sent part of an article in 'Op de Rails' of the Dutch

Some views of the Palm Monorail in Dubai.
(Photos: Fr. Volck-Duffy)



railway society NVBS, 5/2012, p. 259f. It concerns the articulated and other trams built by Duewag (Düsseldorfer Waggonfabrik) which have been sold second-hand to various countries. GT6 means 'Gelenktriebwagen with six axles', GT8 the same with eight axles. Several are in the Middle East, but for convenience we will deal with them together here:-

Egypt: Alexandria. Not all the Düwag GT6 trams acquired from Copenhagen are still present. Several have been scrapped, usually after being involved in accidents, and two have been returned to their old homeland. Nevertheless, one cannot manage even now without them. The former director of the Egyptian tramway concern described the acquisition of the 99 articulated trams, years later, as 'the best purchase ever.'

Iran: Mashhad. The Mashhad Urban Tramway Subway was officially opened on 9th. October 2011. Fourteen GT8 trams acquired from Düsseldorf in 1996 and 1997 have been standing for years at a bus garage. At least one of them, No. 2497, has received a total new livery (blue tints with a motif of water and birds) and has ridden over the new line with invited guests, before the new Chinese-built fast trams arrived.

Turkey. Antalya. The tourist tram service opened in 1999 has three MAN T4+B4 saloon tram sets from Nürnberg and uses these on the 5.1km. long line.

Gaziantep: Has fifteen Pt8 trams from Frankfurt, which were rebuilt by a Turkish loco works with modern streamlined cabs. Two Pt8's were also acquired for providing spare parts. There is apparently interest in acquiring more of these trams.

Konya. 60 Düwag GT8 double-articulated trams form the entire fleet.

K. NEW TRANS-ASIAN RAILWAY PROPOSED TO LINK CHINA WITH AFGHANISTAN, IRAN AND TURKEY.

Ovadia Siré sent the link to this rather remarkable item - reminiscent in parts of the geopolitical energies expended on the Bagdadbahn or the Trans-Siberian or the railways intot he North-West frontier of what was then India.

"China-Kyrgyzstan-Uzbekistan Railway Scheme: Fears, Hopes and Prospects
Publication: Eurasia Daily Monitor Volume: 9 Issue: 102
May 30, 2012. By: Roman Muzalevsky

"It is not important for China as to who will be building this railway line. The most important thing is that it is built," Chinese Ambassador to Kyrgyzstan Wang Kaiwen said recently about the China-Kyrgyzstan-Uzbekistan railway project, which Bishkek and Beijing seek to implement despite financial

and technical issues (www.aif.kg, April 30). In Kyrgyzstan, the project raises both fears of China's expansion and hopes that the landlocked republic would finally have a shot at integrating into the global economy. In China, the railway is viewed as a tool to promote cross-continental trade, develop its northwest region and ensure access to economic opportunities in broader Central Asia. If successful, the scheme would lead to major geopolitical ramifications, making regional actors, including Moscow, uneasy as China goes west across Eurasia.

On April 17, Chinese construction corporation CRBC agreed to perform a feasibility study for the project within a year. If built, the railway line would go from Kashgar in Xinjiang, through Torugart and Karasu in Kyrgyzstan, to Andijan in Uzbekistan, then across Afghanistan, Iran and Turkey as far as Europe. The Kyrgyzstan section of the line would cover 268.4 kilometers. China's section would span 165 kilometers. The cargo transit capacity of the line is expected to be approximately 15,000 tons. The railway is expected to help Kyrgyzstan enhance its position as a transit state in the land-locked region, connect to the Pacific Ocean, and link its economy to that of the outside world. For China, it is projected to complement the overloaded Trans-Siberian and Alashankou corridors, to accommodate its expanding trade across Eurasia, stimulate development of Western provinces and pave the way for further economic inroads into the resource-rich Central Asian region.

The sides are negotiating the width of tracks and forms of financing. China prefers 1,435-millimetre-wide tracks, which are used in Iran and Turkey, because this would allow direct transit and save on delivery times. Kyrgyzstan, however, uses 1,520-mm tracks that it inherited from the former Soviet Union. A railway with Chinese-type tracks traversing Kyrgyzstan, which hosts a Russian military base, is seen as a geopolitical blow to Moscow. The construction of the Turkmenistan-Uzbekistan-Kazakhstan-China gas pipeline in 2009 has already eased Russia's grip on Central Asia. As a Russian media report put it, "Changes in the transport routes will lead to a realignment of economic links, which will then lead to geopolitical changes" (www.centrasia.ru, April 24).

The talks on the railway scheme come amid tense relations between Russia and Kyrgyzstan. During his visit to Moscow in February, Kyrgyz President Almazbek Atambaev pressed Russian authorities to pay the overdue lease fees for its military base in Kyrgyzstan, pointing to delayed joint projects and China as an available provider of loans and a willing investor in the China-Kyrgyzstan-Uzbekistan railway. The former Kyrgyz President Kurmanbek Bakiyev also saw strained ties with Moscow and, during his tenure, looked to Beijing for assistance after failing to receive loans that Russia promised in return for an alleged deal to evict the United States from its base at Ma-

nas (www.centrasia.ru, April 24).

There are, however, unresolved financial and potential environmental issues facing the project. In May, Kyrgyzstan rejected the "Resources for Investments" scheme whereby China would get access to a number of mineral deposits in Kyrgyzstan in exchange for a government loan to build the rail line estimated at \$2 billion, the equivalent of approximately 74 percent of Kyrgyzstan's GDP, based on the official exchange rate. Besides being costly, critics fear that such a scheme would lead to an "ecological catastrophe" because areas around the deposits contain approximately 40 percent of all fresh water in Kyrgyzstan. Ambassador Wang purportedly said that China would respect the decision. "We do not have a right to insist. This will then be a purely commercial project based on market principles" (www.tazabek.kg, May 17; www.news-asia.ru, March 30; www.knews.kg, April 10). The sides are considering whether to use a concession for a Chinese company to run the railway for a number of years or to create a joint enterprise in order to finance the project.

China's regional economic expansion and nascent but rising nationalism in Kyrgyzstan explain the reluctance of Kyrgyzstani authorities to proceed with the "Resources for Investments" scheme. Some in Kyrgyzstan fear that the giant China will devour the tiny Kyrgyzstan, turning it into a Chinatown – a resource base for Chinese labor migrants. Han Chinese are already migrating to Xinjiang in big numbers, creating conditions for a "surplus workforce," while Uygurs could yet flee Xinjiang to Central Asia as refugees in case of a major government crackdown (www.kisi.kz, 2011). Moreover, approximately 90,000 Chinese nationals are reportedly staying illegally in Kyrgyzstan already (www.gezitter.org, May 2).

But with threats, come the opportunities. "We should not fear China's expansion and fence [it] out," Kyrgyz President Atambaev said, commenting on the project. "We should use to our advantage the fact that China is our neighbor. Even if we do not build the railway, they [the Chinese] will still come to us" (www.regnum.ru, May 3). Ambassador Wang emphasized that as party to the WTO and the SCO, China would like to do more to promote economic cooperation in fields like infrastructure, energy and railway transport (www.russian.china.org.cn, April 28). For China, doing so would speed up the development of its northwest regions, helping it turn Xinjiang into a financial and economic center in the broader region (www.kisi.kz, 2011). For Kyrgyzstan, this would translate into infrastructure development and investment needed to upgrade its fledgling economy following recent political upheavals.

There are more than 100 Chinese businesses in Kyrgyzstan. Many are traders in the largest Central Asian markets, on which Kyrgyzstan has relied to re-export ap-

97:09. A NEW TRAIN FOR PALESTINE!

TUESDAY, MAY 15, 2012

Qalqiliya unveils 'train of return' to mark Nakba & Abbas applauds steadfastness on Nakba Day



The train symbolizes return from exile.

<http://www.maannews.net/eng/ViewDetails.aspx?ID=486138>

QALQILIYA (Ma'an) -- Hundreds of students, local officials and activists gathered in Qalqiliya on Tuesday to commemorate the Nakba, the mass expulsion of Palestinians from their homes in 1948. Qalqiliya governor Ribhi Khandaqji unveiled the "train of return," a model train symbolizing the right of refugees to return from exile. Khandaqji said the train was facing Israel, and noted that the northern West Bank city was a short distance from Palestinian villages and towns confiscated in the Nakba. "This train will remind us, and will remind our children of the right of return," the governor added.

proximately 75 percent of its imported Chinese goods to Russia, Central Asia and beyond. This has created jobs for hundreds of thousands and boosted state revenues. In 2011, trade between China and Kyrgyzstan stood at \$5 billion; by 2010, trade between China and Central Asia equaled \$23.77 billion (China Daily, May 9; www.centralasiaonline.com, April 28; www.fergana.ru, Nov. 8, 2011; www.pr.kg, May 18).

Unfortunately for Kyrgyzstan, the global financial crisis, political instability, and the launch of the Customs Union (CU) comprising Russia, Kazakhstan and Belarus have reportedly killed a good chunk of the "Silk Road" trade coming out of China through Kyrgyzstan (www.kyrtag.kg, September 27, 2010, December 8, 2011). Russia views the CU as a way to offset Chinese economic expansion and as a step toward the creation of the Eurasian Union, encouraging Kyrgyzstan and Tajikistan to join it (www.rusbiznews.com, May 2). But neither

Kyrgyzstan nor Tajikistan rushes to do that. Some studies, including by the Asian Development Bank (ADB), say that joining the CU would increase the price and decrease the amount of goods re-exported from China through Kyrgyzstan to Russia and Kazakhstan (ADB, April 11). The reduction in exports would affect hundreds of thousands of people engaged in trade (www.fergana.ru, November 8, 2011).

The China-Kyrgyzstan-Uzbekistan railway is viewed as a way to help Kyrgyzstan balance Russia's regional plans. But another railway may help Bishkek do the same regarding China as well. Experts in Russia propose building an Indo-Siberian railway network to promote Russia's own development and to counter China's economic influence. The line would connect the Urals, Siberia, Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan and India. In this scenario, Kyrgyzstan would need to build a railway linking the more urbanized and industrialized

north in the Chuy Valley with the more rural and agricultural south in the Fergana Valley (www.kabar.kg, April 20; www.rusbiznews.com, May 2; www.knews.kg, April 20). The violence between Uzbeks and Kyrgyz in the southern city of Osh in 2010 stressed the need for economic integration initiatives to bridge the gap between the relatively poor south and well-off north. Both the North-South and East-West transport initiatives could help Kyrgyzstan integrate from within and without.

As a Central Asian, land-locked, and formerly-Soviet country neighboring China, Kyrgyzstan has no choice but to look to all directions. Kyrgyzstan's government believes that cooperation with China and the China-Kyrgyzstan-Uzbekistan railway offer just that opportunity, even if both could displease Moscow or domestic critics who fear Beijing's economic expansion across Eurasia."

Ever felt you were just knocking at a wall? Works begin on the Gilon tunnels on the line to Carmiel.

(Photos courtesy of Aharon Gazit)





הרכבת



97:11 Some views of the Carmelit in Haifa. (Photo: Haifa Municipality).

