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RAILWAY OPERATION

Учебно-методическое пособие по английскому языку
и профессионально ориентированной коммуникации

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Целью данного пособия является ознакомление студентов с профессиональной английской терминологией по специальности, выработка умений чтения, адекватного понимания и перевода текстов по специальности «Эксплуатация железных дорог». Материалы для текстов и упражнений взяты из современных специализированных и периодических изданий железнодорожной тематики.

Пособие состоит из вступления, 6 частей, соответствующих основным направлениям специальности, и 5 приложений, включающих трактовку значений основных транспортных аббревиатур и Incoterms, а также списка использованной литературы. Каждый раздел состоит из базового текста и упражнений, направленных на закрепление изученного материала и выработку речевых навыков в профессиональной коммуникации.

Соответствует ФГОС 3+ по формированию общепрофессиональных компетенций на занятиях по иностранному языку и профессиональной коммуникации для студентов специальности «Эксплуатация железных дорог».

Одобрено к изданию кафедрой «Иностранные языки».

CONTENTS

INTRODUCTION

Railways in Russia play a greater part in freight and passenger traffic operation, with the share of about 85 % cargo traffic and 40% of passenger traffic.

The Russian rail system is world class by any measure. It is an immense network, stretching across eight time zones spanning countries from central Europe to Central Asia, from Kaliningrad on the Baltic Sea in the west to Sakhalin on the Sea of Japan in the east and from Murmansk on the Barents Sea in the north to the Black Sea in the south. It is the world's third largest network (85,200 route km of which half is electrified) and freight tone-km (after the USA and China), fourth in terms of passenger traffic (after China, India and Japan), second in terms of traffic density (after China) and is the leader in terms of average length of freight movement. The Russian railway system ranks third in the world in terms of rail sector employment after China and India.

Although a number of private companies provide freight services, manufacture, repair locomotives and rolling stock, Russian Railways (RZD), a 100 per cent state-owned joint-stock company, and its subsidiaries is by far the largest group of companies in the Russian railway sector. The railways play an important role in the Russian economy. In 2012 rail cargo accounted for 85 per cent of total freight shipments in Russia, more than most other countries. The railway's freight modal share grew steadily, increasing from 71 per cent in 1992 to 80 per cent in 2000 to 85 per cent in 2012. For passengers, the Russian rail system carried 27 per cent of the traffic, a modal share second to road transport. The railway's modal share for passengers fell consistently from 37 per cent in 1992 to 34 per cent in 2000 to 27 per cent in 2012. The economic and financial performance of the Russian railway sector is influenced by the performance of the domestic and international economies, the approved tariffs and the success of the government's reforms associated with the transition from a centrally planned to a market economy (for example, the legal and regulatory framework; tariff and price regimes; the tax regime; monetary policies and reforms; financial sector reforms; labour market policies; social policies to ameliorate some of the costs of the transition). Traffic trends provide a broad indicator of the business environment in which railway companies operate and compete.

Railway networks are complex technical systems. Investments in railway infrastructure are expensive and already constructed railway infrastructure is not easily adjusted or changed. Dimensioning and constructing railway lines and networks therefore require extensive knowledge of future operation and demand. However, experience shows that the traffic often develops differently than expected. This means that railway infrastructure has to be designed for flexibility, i.e. for

different operational conditions. To achieve such flexibility, a deep knowledge of infrastructure, timetable and perturbation properties, as well as inter-correlations between these, is essential. Thus, infrastructure configuration, timetable design and delays play important roles in the competitiveness of railway transportation.

Unit 1

MARSHALLING YARDS

Ex. 1. Read the text and try to guess the meaning of the words in bold.

MARSHALLING YARDS CLASSIFICATION

A marshalling yard can be classified according to the:

- value in **a network operation**;
- the type of assorting devices;
- the number of sorting complete sets;
- **a relative location** of the basic yards.

According to the value in a network operation the marshalling yards are divided into basic, auxiliary and regional.

As for the assorting devices the yards may be **hump** or **flat**.

According to the number of sorting complete sets they may be **unilateral** or **bilateral.**

And according to a relative location of the basic yards they may have parallel, combined or consecutive arrangement.

A marshalling yard may include a yard itself, a locomotive yard, a wagon yard, a load yard and **approach lines**.

Shunting work at marshalling yards can be classified according to the function, disposition and the **implementation complexity**.

According to the function it is divided into:

- breaking up trains;
- making up trains;
- coupling or uncoupling of cars with or from the trains;
- cars transposition from one fleet to another;
- cars feed to the field of freight or technical operations and cars doing up;
- others.

According to the disposition it is divided into:

- marshalling;
- grouping;
- special.

According to the implementation complexity it is divided into **ordinary** or **complex**.

Marshalling yards are one of the most important parts of every railway infrastructure. Means of mechanization and automation are being built to achieve as efficient forming of freight trains as possible. Modern, fully automatic systems based on extensive utilization of computers are being implemented. Their main function is to make freight trains into unit trains and divide according to their destinations. One part of these systems is responsible for automatic routing of coupled or isolated cars

through the ladder. The other part is automatically regulated by retarders the speed of the cars on their way into the destination tracks in the classification bowl. The state-of-the-art marshalling systems provide not only these basic automation functions.

Ex. 2. Read the text again and say if the following sentences are true or false. Correct the false sentences.

1 The main function of fully automatic systems is to achieve as efficient forming of freight trains as possible.
2 According to the number of sorting complete sets the marshalling yards may be hump or flat.
3 Shunting work may include parallel, combined or consecutive arrangement.
4 The retarders automatically regulate the car speed and divide freight units according to their destinations.
5 Breaking and making up trains, as well as coupling or uncoupling of cars comprise a part of the shunting work.

Ex. 3. Find the English equivalents of the following phrases in the text.

1) формирование и расформирование поездов;
2) подъездные пути;
3) подача вагонов к фронтам грузовых или технических операций;
4) взаимное расположение основных парков;
5) тип сортировочных устройств;
6) последовательное расположение;
7) значение в работе сети;
8) замедлители скорости вагона;
9) прицепка вагонов к составам и отцепка от них;
10) перестановка состава из одного парка в другой.

Ex. 4. Fill in the gaps with the appropriate words from the box changing the word forms if necessary and translate the text.

route	make up	service	bulk	empty	yard	distance
feature	wagon	train	appropriate	master		engine

Through trains are generally formed for the conveyance of goods in ____ over varying distances. However it would be nonsense to imagine that goods of each class will materialize at the loading point in such quantities as to ____ a train load at a time. A merchant, for example, may have a consignment of apple crates numerous enough to fill up two wagons which have to be delivered to a point a few stations down the line. To handle goods items of this kind a special kind of ____ was run known as a Section train, also known as a Shunting ____ .

A section train runs over short ____ (usually from one marshalling ____ to the next), and consists of a wagons mixture bound for different wayside stations along the route. The main ____ of these trains is the geographical order in which the wagons are marshalled. Thus, if A, B, and C refer to successive stations along the ____, the first two wagons next to the ____ will be for station A, the next one for B, the following three ____ for C, and so on. This arrangement is essential so that when the train halts at a place, it becomes a simple matter for the engine to extract the wagons for that station before depositing them at the goods shed for unloading.

Not all wagons deposited at the goods shed will be loaded ones - some of them could be empties too. For example, when a station ____ finds that a consignment large enough to form one or more wagon loads has been booked at his goods shed, he informs the Control office saying that he needs so many ____ wagons for loading. Control which receives several such requisitions for empties, consolidates the data and passes on the information to the yard which forms the train giving them instructions to attach the ____ number of empties to the train for distributing at various points.

Ex. 5. Put in prepositions where necessary and translate the text.

Contrary ____ road traffic, ____ rail traffic the infrastructure is never a public good. The transport ____ companies always have to pay ____ using the tracks and stations. Traffic contracts usually have a quite long life. Often it is ten years or even more. While negotiating and signing the contract it is almost impossible to forecast the development ____ track and station fees as well as the development ____ the energy prices. Normally the task ____ bearer takes the risk ____ these infrastructure fees and rising energy prices. The way this is done is not unique. You find contracts ____ a price adjustment clause. Here the orderer's fee changes automatically when track or station fees or energy prices change. There are contracts ____ the possibility to renegotiate ____ case ____ changes and contracts ____ infrastructure fees as items ____ transit ____ the transport companies. ____ this case the fees are directly paid ____ the task bearer.

Ex. 6. Read the text and try to guess the meaning of the words in bold.

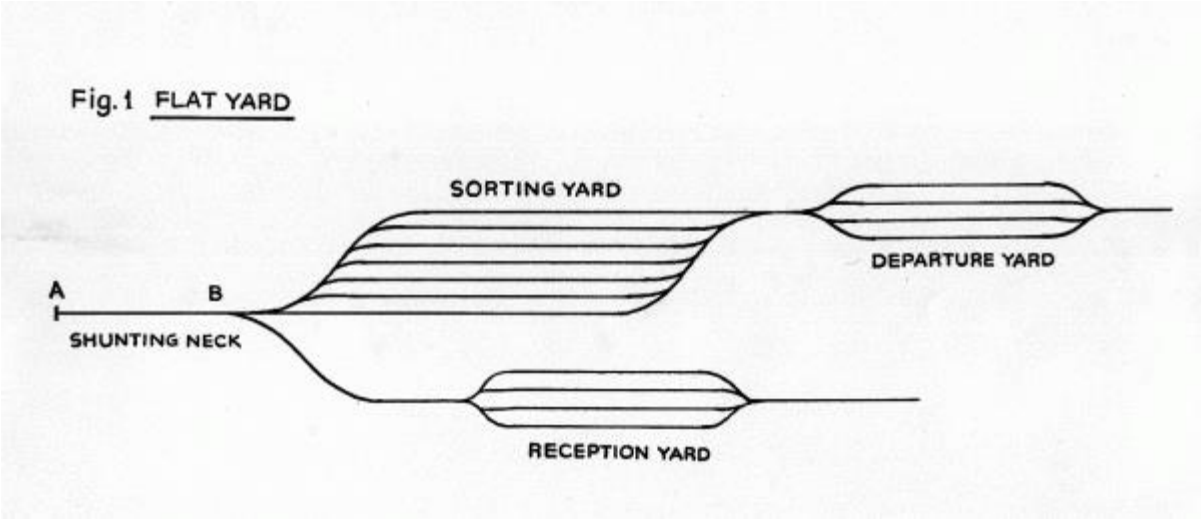
MARSHALLING YARDS OPERATION

As it was mentioned above, marshalling yards, depending on the kind of shunting they employ, may be classified into the following three types:

1 **Flat yards**
2 **Gravity yards**, and
3 **Hump yards**

Below in Figure 1 there is an example of a flat yard which shows three basic ingredients of every yard, namely, the **reception yard**, the **classification yard** (also known as the sorting yard), and the **departure yard**. On arrival, a freight train is

received in the reception yard and the engine is sent to the loco **shed**. Adjacent to the reception yard, we see the classification yard, where each line is reserved for wagons going in a particular direction. The subject of nomination of lines is dealt with in greater detail at a later stage; the process of sorting consists of **breaking up** a train and depositing wagons in the sorting yard on lines nominated for various **destinations**.



To sort a train that has arrived a shunting engine **attaches** to the train from the left end and draws it out of the reception yard onto the **shunting neck** AB. The engine pushes the train towards the sorting yard after which it draws back into the shunting neck. A second **push-pull operation** will deposit another set of wagons on the appropriate line in the sorting yard. The push-pull method is employed in flat yards where the whole **layout** is built on level ground. This is the simplest arrangement, but it also turns out to be more costly to operate as the shunting engine continually moves up and down while sorting is in progress. Flat yards may be found at places where goods traffic is light. Though simple in construction, they are incredibly slow in operation.

Another kind of yard is the gravity yard where a gentle **slope** on the shunting neck falling towards the sorting lines assists wagon cuts in rolling down by themselves without engine assistance. Gravity yards are considered ideal, but topographical features often do not favor such an arrangement.

The best compromise is the hump yard. This is illustrated in Fig. 2 below which shows reception lines joining up into a single line which slowly begins to **ascend** an artificially made “hump” or hill. When the track has risen to a **height** of around 8–10 feet it levels off and begins to **descend** towards the sorting yard.

The sorting yard points were operated from a set of ground **frames**, although in later days these came to be replaced by a single elevated cabin. It will be seen that the yard above doesn't have a shunting neck as in the flat yard shown earlier. The shunting neck is not needed in this case as the reception and sorting yards are in continuation and a train can be directly pushed from the reception area onto the hump for sorting operation.

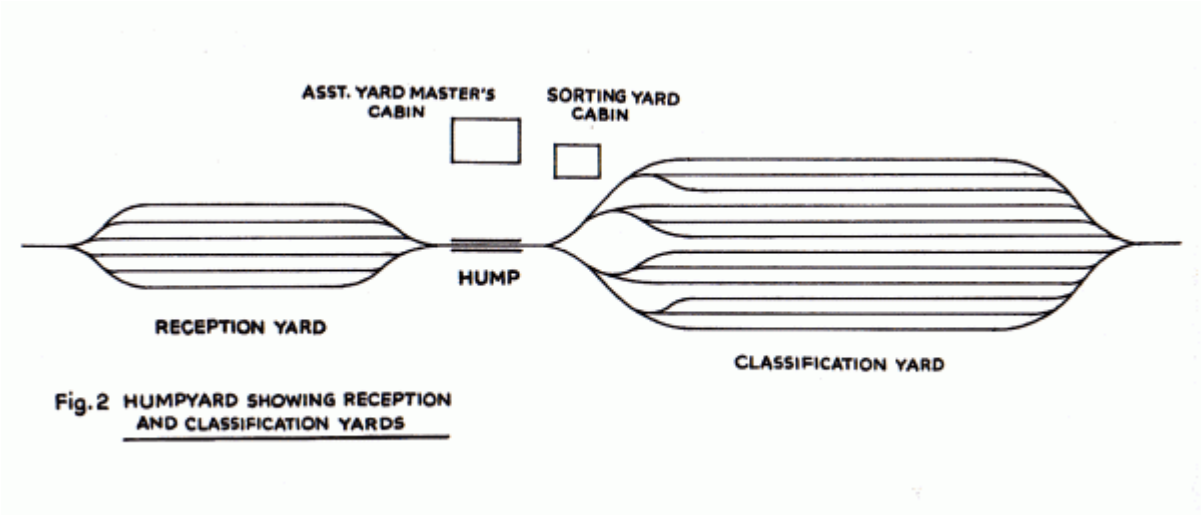


Fig. 2 HUMPYARD SHOWING RECEPTION AND CLASSIFICATION YARDS

Ex. 7. Read the text again and say if the following sentences are true or false. Correct the false sentences.

1 The main ingredients of every yard are the same: the reception lines, the classification lines and the departure lines.
2 The process of sorting trains on hump yards includes attaching the shunting engine and depositing wagons in the sorting yard on lines nominated for various destinations.
3 A set of ground frames replaced lately the single elevated cabins.
4 At the flat yard reception lines gradually join up into a single line ascending an artificially made hill.
5 After reaching a height of around 8–10 feet the track begins to ascend towards the sorting yard.

Ex. 8. Translate the following expressions from the text.

1) to break up a train;
2) a slope on the shunting neck falling towards the sorting lines;
3) to push a train onto the hump for sorting operation;
4) to join reception lines into a single line;
5) push-pull operation;
6) a height of around 8–10 feet;
7) to move the shunting engine up and down while sorting is in progress;
8) to build on level ground.

Ex. 9. Match the following word combinations with their definitions.

A section train	is a place where goods trains and other loads (such as wagons coming in from a nearby goods shed) are received, sorted out according to a plan, and new trains formed and dispatched onwards.

Gravitation yard	is a term used to describe a goods train which runs from one goods yard to another without having to attach or detach wagons, or load and unload parcels at stations on route.
Hump yard	runs over short distances (usually from one marshalling yard to the next), and consists of a mixture of wagons bound for different wayside stations along the route.
The sorting sidings	requires the formation of a certain slope and the topography of the country may not easily lend itself to this.
Flat yard	are situated between reception and departure lines and their number depends on the number of destinations and groups of stations to which wagons have to be dispatched.
A through train	is one in which the wagons are pushed up by an engine and gravitate down the opposite slope into various sidings.
A marshalling yard	all movements of wagons are carried out with the help of engines.

Ex. 10. Using the Appendix II on page 49 describe the main principles of marshalling yard management.

Ex. 11. Using the Appendix V on page 52 describe the technology of line stations and marshalling yard operation.

Ex. 12.Translate the following sentences into English.

1 Станции – это раздельные пункты, имеющие путевое развитие и устройства, позволяющие помимо скрещения и обгона производить пассажирские и грузовые операции, маневровую работу, сортировку вагонов, формирование, расформирование поездов и т.д.
2 Промежуточная станция кроме пропуска, скрещения и обгона поездов производит пассажирские (продажа билетов, посадка, высадка) и грузовые операции: прицепка и отцепка вагонов от сборных поездов, подача их к местам погрузки и выгрузки.
3 Основное назначение участковой станции – обработка транзитных грузовых и пассажирских поездов, а именно: смена локомотивов и локомотивных бригад, технических осмотр вагонов. Кроме обработки транзитных, участковые станции принимают, формируют, расформи-ровывают и отправляют участковые, сборные, а если нужно и другие поезда.

4 Главная задача сортировочной станции – это переработка мощных потоков транзитных вагонов, расформирование, переформирование и формирование поездов при помощи сортировочных горок.
5 Пассажирские станции расположены в крупных городах с большим объемом пассажирских перевозок. На этих станциях выполняются операции только с пассажирскими поездами различных категорий.
6 Основная задача грузовой станции – это массовая погрузка и выгрузка грузов из вагонов, их технический осмотр и ремонт.
7 Число путей в сортировочных парках устанавливают исходя из числа назначений и размеров вагонопотоков в соответствии с планом формирования поездов.
8 Число путей в парках приема, отправления и для транзитных поездов определяется в зависимости от размеров движения и числа примыкающих к станции направлений в соответствии с Правилами и техническими нормами проектирования станций и узлов.
9 По способу производства маневров сортировочные станции разделяют на горочные и безгорочные. Наиболее прогрессивными являются горочные станции с объединенными парками приема и отправления поездов для всех примыкающих линий.
10 Горки подразделяют на автоматизированные, механизированные и немеханизированные. Автоматизированные и механизированные горки оборудуют специальными устройствами для торможения вагонов (вагонные замедлители) и электрической централизацией стрелок и сигналов.
11 Основным показателем, характеризующим работу горки, является ее перерабатывающая способность, т.е. максимальное число вагонов, рассортированных в течение суток.

Vocabulary

auxiliary *adj.* – вспомогательный
bilateral *adj.* – двусторонний
unilateral *adj.* – односторонний
consecutive arrangement – последовательное расположение
passenger yard – пассажирская станция
goods (freight) yard – грузовая станция
marshal *v* – сортировать
marshalling yard – сортировочный парк
locomotive yard – локомотивное депо
wagon yard – вагонное депо
load yard – грузовой двор
approach lines – подъездные пути

making up trains – формирование поездов
breaking up trains – расформирование поездов
cars doing up – уборка вагонов
disposition *n – (зд.)* характер (маневровых работ)
stub station – тупиковая станция
through station – промежуточная станция
coach yard – отстойный парк для пассажирских вагонов
freight house – товарный склад, пакгауз
flat yard – безгорочный парк
gravitation yard – горочный парк
hump – сортировочная горка
engine *n* - двигатель; локомотив
departure lines – отправочные пути
siding *n* – боковой путь, ветка
shunting *n* – маневрирование; **shunting engine** – маневровый локомотив;
shunting work – маневровая работа
shunting neck – входной путь
brake *n* – тормоз
reception line – путь приема
density *n* – плотность
collision *n* – столкновение
couple *v* – сцеплять; *ant.* **uncouple**
arrangement *n* – расположение, размещение, компоновка
shed *n* – депо
halt *v* – останавливать(-ся)
layout *n* – схема, план, расположение
slope *n* – наклон, уклон, скат
ascend *v* – (ant.) **descend**
height *n* – высота
grade *n* – уклон
frame *n* – рама, каркас, корпус

Unit 2

FREIGHT RAIL TRANSPORTATION

Ex. 1. Read the text and try to guess the meaning of the words in bold.

CONSIGNMENT NOTE

There exists some definitions concerning the rules of goods carriage by rail.

"Carrier" means the contractual carrier with whom the consignor has concluded the contract of carriage pursuant to the Uniform Rules, or a subsequent carrier who is liable on the basis of the contract.

"Substitute carrier" means a carrier, who has not concluded the contract of carriage with the consignor, but to whom the carrier referred to has entrusted, in a whole or in part, the performance of the carriage by rail.

"General conditions of carriage" means the conditions of the carrier in the form of general conditions or tariffs **legally in force** in each Member State and which have become, by **the conclusion of the contract** of carriage, an integral part of it.

"Intermodal transport unit" means a container, **swap body**, semi-trailer or other comparable loading unit used in intermodal transport.

By the contact of carriage, the carrier shall undertake to carry the goods for reward to the place of destination and to deliver them there to the **consignee.** The contract of carriage must be confirmed by **a consignment note** which accords with a uniform model. The consignment note shall be signed by the **consignor** and the carrier. The signature can be replaced by a stamp, by an accounting machine entry or in any other appropriate manner. The carrier must certify the taking over of the goods on the **duplicate** to the consignor. The consignment note shall not have effect as a **Bill of Lading**.

A consignment note must be made out for each **consignment**. In the absence of the contrary agreement between the consignor and the carrier, a consignment note may not relate to more than one wagon load. Moreover, it must contain the following particulars:

- the place and the date of taking over the goods;
- the name and address of the carrier who has concluded the contract of carriage;
- the name and address of the consignor;
- the place of delivery;
- the description of the nature of the goods and the method of packaging, and, in case of the dangerous goods, the description provided for the Regulation concerning the International Carriage of Dangerous Goods by Rail;
- the number of packages and the special marks and numbers necessary for the identification of the consignment in less than full wagon loads;
- the number of the wagon in the case of carriage of full wagon loads;

- the gross weight or the quantity of the goods expressed in other ways;
- a detailed list of the documents which are required by customs or other administrative authorities and are attached to the consignment note or held at the disposal of the carrier at the offices of a duly designated authority;
- the number of the railway vehicle running on its own wheels, if it is handed over for the carriage as goods;
- the entries made by the consignor concerning the number and description of **seals** he has **affixed** to the wagon.

Where applicable the consignment note must also contain the following particulars:

- the cost which the consignor undertakes to pay;
- the declaration of the **value of the goods** and the amount representing the special interest in delivery;
- the agreed transit period.

If the consignment note does not correspond with the entries in the consignment note or if the provisions relating to the carriage of goods accepted subject to conditions have not been complied with, the result of the examination must be entered in the copy of the consignment note which accompanies the goods, and also in the duplicate of the consignment note, if it is still held by the carrier.

When the consignor loads the goods, he shall be entitled to require the carrier to examine the condition of the goods and their packaging as well as the **accuracy** of statements on the consignment note as to the number of packages, their marks and numbers as well as the gross mass of the goods or their quantity otherwise expressed. The carrier shall be obliged **to proceed with the examination** only if he has appropriate means of carrying out. The carrier may demand the payment of the costs of the examination. The result of the examination shall be entered on the consignment note.

It shall be equivalent to the delivery to the consignee if, in accordance with the prescriptions, in force at the place of destination,

- the goods have been handed over to customs at their premises or warehouses, when these are not subject to the carrier's supervision;
- the goods have been deposited for storage with the carrier, with a forwarding agent or in a public warehouse.

After the arrival of the goods at the **place of destination**, the consignee may ask the carrier to hand over the consignment note and deliver the goods to him. If the **loss of the goods** is established or if the goods have not arrived on the **expiry of the period**, the consignee may assert, in his own name, his rights against the carrier under the contract of carriage.

The authorized person may refuse to accept the goods, even if he has received the consignment note and paid charges resulting from the contract of carriage, so long as an examination which he has demanded in order to establish loss or damage has not been carried out.

Ex. 2. Read the text again and say if the following sentences are true or false. Correct the false sentences.

1 "Substitute carrier" means a carrier, who has concluded the contract of carriage with the consignor.
2 By the contact of carriage, the consignee shall undertake to carry the goods for reward to the place of destination and to deliver them there to the shipper.
3 If the contrary agreement between the consignor and the carrier is absent, a consignment note may relate to more than one wagon load.
4 The shipper shall arrange a consignment note for each cargo dispatch.
5 The carrier is required to examine all the goods and their packages while the loading.
6 The consignor must examine the condition of the goods and their packaging, the accuracy of statements on the consignment note as to the number of packages, their marks and numbers as well as the gross mass of the goods or their quantity otherwise expressed.
7 The consignee may ask the carrier to hand over the consignment note and deliver the goods to him after the arrival of the goods at the place of destination,
8 If the loss of the goods is established in transit or if the goods have not arrived on the expiry of the period, the carrier may assert, in his own name, his rights against the consignee.

Ex. 3. Find the English equivalents of the following phrases in the text.

1) заменяющий перевозчик;
2) общие условия перевозок;
3) интермодальная транспортная единица;
4) съемный кузов;
5) соответствовать принятому образцу;
6) отметка кассового аппарата;
7) дубликат накладной;
8) выполнять функцию коносамента;
9) превышать одну вагонную отправку;
10) находиться в распоряжении перевозчика;
11) сведения, внесенные в накладную;
12) точность записей в накладной;
13) место и дата приема груза;
14) правила о железнодорожной перевозке опасных грузов;
15) идентификация менее чем вагонных отправок;
16) номер единицы подвижного состава;
17) принять к перевозке в качестве груза;
18) количество и описание пломб, наложенных на вагон;

19) по истечении срока;
20) сдать на склад общего пользования.

Ex. 4. Think of the verbs that are most often used with the following nouns:

delivery, consignment note, goods, package, warehouse, losses, charges.

Ex. 5. Put the verbs in brackets into the correct tense and voice forms and translate the following sentences.

1 For Europe, maritime transport (to be) a catalyst of economic development and prosperity throughout its history.
2 For the last decades multimodal transportation (to facilitate) by the use of standardized containers, which (to permit) quick and efficient transfer of cargo from one carrier to another.
3 The challenging reform programme (to be) underway for 13 years and (to change) dramatically the Russian rail sector.
4 In 2012 rail cargo (to account) for 85 per cent of total freight shipments in Russia excluding pipelines.
5 The first marshalling yards in Russia (to develop) to make up trains when the transportation of freight (to increase) gradually.
6 Aggregate container capacity often (to express) in twenty-foot equivalent (TEU) with capacity equal to one standard 20 × 8 ft (6.10 × 2.44 m) (length × width) container.
7 The widespread use of ISO standard containers (to drive) modifications in other freight-moving standards.
8 The first overseas container (to reach) China in September 1973 which later (to set up) the country's first container berth in 1980.
9 Most goods (not to consider) sufficiently dangerous to require special precautions during carriage.
10 The rail transport (to organize) better than any other form of transport.
11 Storage is necessary in case where goods (to produce) at a distance from the customers.
12 In Europe nowadays rail intermodal services (to become) well-established between the major ports, such as Rotterdam, and southern Germany.
13 The Russian economy (not to perform) well during 2008–09 because of the events triggered by the global financial crises.

14 Railway capacity (to affect) by several factors, e.g. infrastructure design, timetable design, traffic mix, delays.

15 The new three wagon Tank Train (to test) in severe winter conditions on the Alaska Railroad last month.

Ex .6. Match the verbs from (a) with the nouns from (b):

a)	b)
to sign	customs formalities
to provide	by rail
to conclude	a consignment note
to agree	in the customer's interests
to load	the description
to complete	a contract
to hand over	all costs and risks
to bear	the goods
to act	the consignment
to transport	transit period

Ex. 7. Put the verbs in brackets into the correct non-finite verb forms and translate the following sentences.

1 Freight containers are reusable transport and storage units for (to move) products and raw materials between locations or countries.
2 The general plan will help (to achieve) a better utilization of transport infrastructure, (to include) through vehicle management and (to load) factors, and the pin-pointing of infrastructure investments that would benefit freight.
3 Containerization is a system of freight transport (to base) on a range of steel intermodal containers.
4 Intermodal transportation is a movement of freight from one mode of transport to another, commonly (to take place) at a terminal specifically (to design) for such a purpose.
5 There are frequent accidents (to involve) vehicles (to carry) dangerous goods and loss of containment often occurs to some extent.
6 Electronic Data Interchange (EDI) is an (to evolve) technology that is (to help) companies and government agencies cope with an increasingly complex global transport system.
7 Modern intermodality ensures the safe, reliable and cost effective control of freight movements (to transport) by several modes.
8 (to depend) on how much traffic they carry, railways can be built with a varying number of tracks.

9 The shipper is responsible for (to ensure) that the cargo is packed in an appropriate way for carriage.
10 Railway is a means of mass transport in vehicles (to run) on parallel rails.

Ex. 8. Make up sentences putting the words in the correct order.

1) and, consignee, legibly, of, each, address, the, must, package, marked, with, shipper, the, full, the, be;
2) to, documents, the, of, maritime, lading, referred, as, the, most, one, in, important, of, trade, bill, is, often;
3) are, Incoterms-2010, of, governed, force-majored, by, rules, circumstances, the;
4) are, between, moving, raw, reusable, and, freight, locations, for, containers, countries, transport, products, storage, units, materials, or, and.

Ex .9. Put in prepositions where necessary and translate the text.

Intermodal transport continues to be significant ___ the movement ___ freight. The railroad industry reports an approximately fivefold growth ___ trailer and container traffic ___ the railroads ___ 1965 ___ 1995. However, intermodal revenues ___ 2005, defined as rail trailer and container movements, were only $5.6 billion compared ___ total freight revenues ___ the United States of $420.2 billion. Although trailer and container traffic is frequently foremost ___ mind when intermodal transport is discussed, it is important to note that many other commodities can ___ fact be intermodal shipments. For example, all grain Intermodal Freight Transport moves off the farm ___ truck before being connected to those movements that will continue ___ water or rail, and a significant portion ___ grain transported ___ rail goes to water transportation. Many other bulk or semi-bulk commodities such as fertilizers and building products move intermodally. Another intermodal bulk commodity is coal, which goes ___ road, rail, or river before transfer to rail and river for domestic delivery or to ocean for export. Increasingly, traditional trucking movements from small packages to less than truck load (LTL) and truckload (TL) shipments are spending part ___ their time on rail. If intermodal transport was measured all multiple-mode single-bill shipments rather than the historical narrow measure ___ containerized freight, the tremendous significance ___ intermodal movements ___ the logistics and supply chain structure would be more apparent.

True broad measurement ___ intermodal movements would also affect the perspectives ___ private and public organizations toward the importance ___ developing intermodal infrastructure and information and communications capabilities. Overall, intermodal transport, both containerized and multiple-mode non – containerized, has performed satisfactorily ___ the last half ___ the 20th century as logistics has grown as a profession and responded to deregulation. The internationalization and globalization ___ resources and markets place demands ___ intermodal transport ___ ways never witnessed before. Two- and three-party partnerships give way ___ fully integrated supply chains. The competitive world ___

the future may be centered between global supply chains and their supporting modal and intermodal capabilities. This potential for worldwide competition between global supply chains has sometimes been labeled hyper competition and places new requirements ___ execution and implementation, including the coordination and integration ___ intermodal movements.

Ex. 10.Translate the following expressions into Russian and make up sentences with them.

1) the movement of freight;
2) grain transported by rail;
3) integrated supply chains;
4) worldwide competition;
5) new requirements;
6) integration of intermodal movements;
7) intermodal shipments;
8) bulk commodity.

Ex. 11. Translate the following text into Russian.

From 1999 onward the Russian economy generally performed well, driven largely by the 1998 rouble depreciation and the growth of exports of natural resources, for which international prices increased substantially. By 2012 GDP had doubled from the 1998 level, the exchange rate stabilized, inflation declined to single digits and both exports and imports increased substantially. The trend in freight traffic mirrored this economic performance. Freight traffic more than doubled between 1998 and 2008. The Russian economy did not perform well during 2008-09 because of the events triggered by the global financial crises. GDP fell by 7.8 per cent in 2009 before recovering in 2010 onwards. Freight traffic fell sharply in 2009, before recovering in 2010 and reaching 2.2 trillion km in 2012. Primary commodities dominate freight traffic on the Russian railway. Trends in rail freight traffic are related to the country's overall economic performance. RZD forecasts rail freight traffic to grow by 2 per cent per year up to 2030. Since 2012 there has been a soft transport market in Russia triggered by a fall in international prices for commodities and a weak recovery of European economies, the traditional market for Russian exports.

Trends in the railway sector, particularly freight traffic, will be driven by Russia's future economic performance, which is likely to be weak and uncertain in the short-term. RZD moves 40 million tons of freight in containers, about 7 per cent of total freight. RZD and private sector analysts predict that rail container transport will grow faster than overall rail freight traffic, doubling container traffic's share of railway freight by 2030. To capture market share of this container traffic, railway operators must offer value added services (for example, door-to-door services; logistics; warehousing) to complement basic rail transport. Between 2000 and 2008

rail freight traffic grew by 6 per cent per year, higher than the 4 per cent growth for road freight:

- coal: between 22 per cent and 25 per cent;
- oil products: 23 per cent;
- metallurgical cargos (in other words, iron ores; ferrous metals; scrap; coke): 17 per cent;
- construction materials (for example, sand, gravel, rocks, stones): 13 per cent;
- others: 20 per cent.

In 2014 RZD forwarded the documents to the government to establish the Integrated Transport and Logistics Company to create the conditions for increasing the volume of China - Europe transit container traffic carried by national railway companies to 1 million Twenty-Foot Equivalent Units (TEUs) by 2020.

Ex. 12. Translate the following sentences into English.

1 Современный транспорт базируется на прогрессивных мультимодальных и интермодальных технологиях, ориентирован на обеспечение доставки каждого груза по рациональной и оптимальной логистической схеме.

2 Для обеспечения бесперебойного перевозочного процесса на ОАО «РЖД» выстраивается инфраструктура компании, главной задачей которой является обеспечение безопасности движения.

3 Транспортный сервис должен обеспечивать доставку груза в заданное место и время с минимальными затратами, поэтому потребители транспортных услуг выбирают такие виды транспорта и способы транспортировки, которые обеспечивали бы наилучшее качество логистического сервиса.

4 В договоре об организации перевозок грузов определяются объемы, сроки и другие условия предоставления транспортных средств и предъявления грузов для перевозки.

5 Грузоотправители, грузополучатели, железные дороги несут ответственность за несоблюдение Правил перевозки опасных грузов в соответствии с действующим законодательством своих стран и международными соглашениями.

6 В международной торговле неуклонно растет применение грузовых контейнеров, ставших технической основой современных мультимодальных перевозок.

7 Обеспечивая доставку груза "от двери до двери", контейнеры имеют целый ряд преимуществ и стали объектами специальных исследований и нормативного регулирования в разных странах.

8 На причалах ОАО «Ростовский порт» одновременно может обрабатываться 16 судов грузоподъемностью до 5 тысяч тонн.

9 Транспортировка навалочных грузов имеет свои специфические особенности. К категории навалочных относятся грузы, перевозка которых

осуществляется без тарной упаковки, так как упаковывать транспортируемый груз невозможно или нецелесообразно.

10Транспортная компания должна досконально соблюдать правила перевозки навалочных грузов, чтобы предотвратить утрату части перевозимого материала или его порчу.

Vocabulary

accept *v* – принимать
arrive *v* – прибывать; **arrival** *n* – прибытие
bill of lading – коносамент (товарно-транспортная накладная на морские и мультимодальные перевозки)
carrier *n* – перевозчик; *syn***. transporter**
carriage *n* – перевозка; *syn***. transportation**
conclude a contract – заключить контракт
consignor *n* – грузоотправитель; *syn.* **shipper**
consignee *n* – грузополучатель
consignment *n* – партия груза
consignment note – товарно-транспортная накладная
damage *n* – повреждение, ущерб
deliver *v* – поставлять, доставлять; **delivery** *n* - доставка
destination *n* – пункт назначения
duplicate *n* – дубликат
examine *v* – осматривать, проверять; **examination** *n* – осмотр, инспекция, проверка
expiry *n* – истечение (срока)
gross weight (GW) – масса брутто
intermodal transport unit – интермодальная транспортная единица
full wagon load – повагонная отправка
hand over *v* – передавать
packaging *n* – упаковка, упаковывание
seal *n* – пломба
substitute carrier – заменяющий перевозчик

Unit 3

PASSENGER TRANSPORTATION ON RAILWAYS

Ex.1. Read the text and try to guess the meaning of the words in bold.

Year after year changes in passenger traffic were also **sensitive** to prevailing economic conditions and fell during periods of **economic contraction**. Although there were some years when passenger traffic recovered, during the past 25 years the volume of passenger traffic has fallen by nearly half from over 270 billion passenger kilometers (pkms) between1988 and 1990 to about 140 billion pkms between 2010 and 2015. About 1 billion passengers travelled on the Russian railway in 2013. RZD expects passenger traffic to increase by 30 per cent during the period up to 2030.

The Federal Passenger Company, a wholly – owned **subsidiary** of RZD, began operating in April 2010 as a separate **entity** to provide long-distance passenger train services in Russia and internationally. The Federal Passenger Company sets its own **fares** for its premium passenger services but receives **subsidies** from the Government for providing lower class services at fares that are regulated. At the end of 2013 the company owned and operated a **fleet** of 22,894 **passenger coaches** and transported about 100 million passengers, virtually all of the long-distance rail passengers except for on the high-speed trains, Sapsan, operated by RZD. A few private passenger operators provide services by adding their passenger carriages to the Federal Passenger Company trains or linking city centers to airports (for example, Aeroexpress recently became fully private when RZD sold its remaining shares to private investors). These companies own and operate passenger coaches that are hauled by RZD locomotives. Private passenger operators set their own fares, sell tickets, provide on-board and station **staffing**, and may invest in station facilities. Local passenger entities (RZD divisions or subsidiaries in **joint ventures** with large municipalities or regional authorities) were created for local transport. RZD receives financial support from both the federal and local governments to partly compensate for loss-making regional and suburban services. Suburban rail enterprises are now jointly owned, subsidized by local governments and are no longer legally parts of RZD. However, many municipalities or regional authorities have been **reluctant** to cover their portion of subsidies to **commuter** joint ventures with RZD. As a result these companies reduced, for financial reasons, the number of commuter trains. There is little **competition** within the railway sector for the provision of passenger services. The railway does, however, face inter model competition. Most long-distance travelers can chose to travel by rail or fly (most prefer to fly to/from Siberia and the Far East). In the European part of Russia, buses compete with the rail sector to provide transport services. Buses and private cars provide an alternative for **commuter rail services**. However, these alternatives are not available everywhere or to everyone.

Ex. 2. Read the text again and say if the following sentences are true or false. Correct the false sentences.

1 The Federal Passenger Company became the owner of RZD in April 2010.
2 The Federal Passenger Company receives subsidies from the Government to set fares for its premium passenger services.
3 Thanks to the Government subsidies the fares of lower class services can be regulated.
4 At the end of 2013 the high-speed trains, Sapsan, transported about 100 million passengers.
5 Aeroexpress is one of the private passenger operators providing services by trains and linking city centers.

Ex .3. Find the following English equivalents in the text.

1) дочернее предприятие РЖД;
2) парк пассажирских вагонов;
3) поезда дальнего следования;
4) пригородное железнодорожное сообщение;
5) связывать цент города с аэропортом;
6) конкурировать с железнодорожным сектором в предоставлении транспортных услуг;
7) получать субсидии от местных властей;
8) продать акции частным инвесторам;
9) компенсировать убыточное пригородное обслуживание;
10) стать полностью частной компанией.

Ex. 4. Put in prepositions where necessary and translate the text.

Major efforts were made to improve the quality ____ services provided ____ passengers together ____ an increase ____ transport availability, people's mobility and sales, which were supported ____ the government. Summing up the results of 2012, first ____ all, we should note overall positive dynamics ____ all passenger transportation segments achieved due ____ the coordinated efforts ____ the passenger complex and the entire Holding Company. In January 2011, JSC "RZD" began to carry ____ long-distance passenger transportation only ____ high-speed trains and stopped performing suburban transportation.

It should be noted that the number ____ rail transport passengers has increased ____ the third year. Last year, a significant threshold was reached: ____ one year alone, railways transported more than 1 bln passengers.

____ order to increase the overall availability ____ transport services ____ its citizens, the government subsidizes a number ____ passenger transportation journeys, the transportation ____ certain population categories (e.g. students) as well as transportation ____ long-distance trains ____ passenger cars with reserved seats and ____ seating carriages. In addition to this, the federal budget compensates

railway companies for revenue losses resulting from the regulation of tariffs for the railway infrastructure and services usage. Moreover, regional governments reimburse the shortfall in income resulting from the regulation of tariffs for passenger transportation. However, the amount of compensation received does not cover even half of the losses of railroad transportation.

Ex. 5. Put the verbs in brackets into the correct non-finite verb forms and translate the following sentences.

1 The project (to work out) provides for the application of atomic energy for traction purposes.

2 The Russian rail system is an immense network, (to stretch) across eight time zones (to span) countries from central Europe to Central Asia, from Kaliningrad on the Baltic Sea in the west to Sakhalin on the Sea of Japan in the east and from Murmansk on the Barents Sea in the north to the Black Sea in the south.

3 The railway's freight modal share grew steadily, (to increase) from 71 per cent in 1992 to 80 per cent in 2000 to 85 per cent in 2012.

4 After (to be) stable at 2.5 trillion ton kilometers from 1985 to 1990, freight traffic fell by more than half between 1991 (2.3 trillion) and 1998 (1.0 trillion).

5 During the 1990s the volume of freight traffic (to carry) on the railway was adversely affected by the economic crisis.

6 Many large, state-owned enterprises, some of which were important railway customers, (to contract) or (to fail) as prices and markets were liberalised and other reform measures were adopted.

7 Major efforts were made to improve the quality of services (to provide) to passengers together with an increase in transport availability, people's mobility and sales, which were supported by the government.

8 (to sum up) the results of 2012, first of all, we should note overall positive dynamics in all passenger transportation segments (to achieve) due to the (to coordinate) efforts of the passenger complex and the entire Holding Company.

9 Suburban transportation in Russia is carried out by suburban passenger companies (to establish) with the participation of regions.

Ex. 6. Substitute the words and word combinations in Russian with their equivalents in English.

In November 2009 the (совет) of RZD directors approve the documents required for the establishment of the (дочерняя) company (в области) transportation of passengers. Federal Passenger Company started its economic activities on April 2010.

The (цель) of the company was to organize an effective business (в области) long – distance passenger transportation on the basis of cooperation with state authorities. The company functions as an independent market entity.

To ensure the availability of railway transport services for the population, the state regulates the tariffs for passenger transportation in day (вагонах) and second – class (вагонах). On the basis of a system analysis of (пассажиропоток) the company plans to change efficiently the start and end points of the (маршруты). In the area of (техническое обслуживание) и repair of the (подвижной состав) the main objectives are to reduce costs by (применяя) new materials and (внедряя) a new standard of (подвижной состав) servicing.

The business plan (показывает), that the created (дочернее предприятие) is able to gain a stable position in the market of long – distance passenger transportation and to conduct independent economic activities in all target areas, providing aggregate (рентабельность).

One of the main problems of the passenger sector is (нерентабельность). Today, in Russia, tariffs for more than 70% per cent of long – distance passenger transportation (регулируются). Under such circumstances the (перевозчик) is simply not interested in (развитие) services and (улучшение) its quality, being unable (повысить цену) of the tickets respectively.

On the other hand, RZD is bound (выполнять) a social function, as the level of (доход) of Russians does not allow the company (установить цену) of passenger transportation which would ensure (рентабельность).

Ex. 7. Read the text and make a short summary of it.

In Europe public passenger transport by rail is generally seen as a service of general economic interest. They are defined as the economic services which the public authorities classify as being of general interest and subject to specific public service obligations. This means that it is essentially the responsibility of public authorities, at the relevant level, to decide on the nature and scope of a service of general interest. Public authorities can decide to carry out the services themselves or they can decide to entrust them to other entities, which can be public or private, and can act either for-profit or not for-profit.

What does this mean for passenger rail transport? As public passenger transport by rail is seen as a service of general economic interest it is the duty of the public authorities to ensure that a certain level of transport opportunities is offered to the public. Some Regulations on public passenger transport services by rail and by road entering into force on 3 December 2009, take this approach into account. It gives the

responsible public authorities a wide range of possibilities to either produce the service by themselves using units under their own control or by public service contracts. Within this range of options is the possibility to grand exclusive rights for services on a connection or network to only one unit. The way the task bearer chooses for ensuring the offer of a sufficient level of transport opportunities determinates what is measured as transport companies' turnover.

Beside the rail transport companies providing the actual rail transport service and the passengers using the transport services offered other economic entities are of relevance in the area of rail transport services. It is important to emphasize especially the operators of the infrastructure and – depending on how the services are financed and organized – the traffic associations and the relevant public authorities or their depending units.

Ex. 8. Using the Appendix III on page 50 describe the main principles and operations concerning passenger train handling in home stations.

Ex. 9. Translate the following sentences into English.

1 Для наиболее рациональной организации перевозок с учетом особенностей различных групп пассажиров существуют следующие виды сообщений при перевозке пассажиров: пригородное, местное, прямое и международное.
2 Пригородное сообщение осуществляется в пределах участка, примыкающего к крупному узлу на расстояние 150 м, в некоторых случаях до 200 м.
3 Местное сообщение осуществляется между станциями в пределах одной железной дороги, прямое – в пределах двух и более дорог, а международное – в пределах двух и более стран.
4 Важнейшим условием организации пассажирских перевозок является обеспечение безопасности движения поездов и личной безопасности пассажиров.
5 В настоящее время железнодорожные пассажирские перевозки в нашей стране являются убыточными, поэтому одной из основных задач является снижение их убыточности за счет повышения производительности труда и улучшения организации всех подразделений железных дорог.
6 В зависимости от дальности следования пассажирские поезда подразделяются на три категории: пригородные, местные и дальние.
7 В зависимости от скорости движения и условий комфортности поезда делятся на пассажирские, скорые и высокоскоростные. Максимальная скорость скорых поездов 140 км/ч. Поезда, следующие со скоростью выше 140 км/ч, считаются высокоскоростными.

8 На выбор весовой нормы поездов и их скорости оказывает влияние мощность локомотива, тип профиля пути, конструктивные особенности подвижного состава и др.
9 Оборотом состава пассажирского поезда называется время в сутках от момента отправления пассажирского поезда со станции приписки до следующего ого отправления с этой же станции.
10 При построении графика пригородного движения необходимо учитывать время отправления и прибытия пассажирских поездов дальнего следования в соответствии с графиком их движения.
11 Сохранить передовые позиции на рынке транспортных услуг с одновременным снижением эксплуатационных затрат и привлечением дополнительных доходов возможно только на основе постоянного изыскания более современных методик в управлении грузовыми и пассажирскими перевозками на основе информационных технологий.

Vocabulary

seating carriage – сидячий вагон
passenger coach – пассажирский вагон
subsidiary *n* – дочернее предприятие
entity *n* **–** субъект
subsidy *n* – субсидия
staffing *n* – кадровое обеспечение
fleet (of cars, **coaches)** – парк (вагонов)
joint venture – совместное предприятие
operate *v* – эксплуатировать, управлять, функционировать
long-distance passenger train – пассажирский поезд дальнего следования
loss-making – убыточный
commuter rail services – пригородное ж.-д. обслуживание
threshold *n* – порог, пороговая величина, предел
reimburse *v* – возмещать
revenue *n* – доход (государства от уплаты налогов)
shortfall *n* – нехватка, дефицит
income *n* – доход

Unit 4

TRAIN MOVEMENT SCHEDULING

Ex. 1. Read the text and try to guess the meaning of the words in bold.

RAILWAY OPERATIONAL FEATURES

Railway operation is a wide research area. Some important fields are capacity analysis, **scheduling**, **rescheduling**, timetable stability analysis, traffic control, simulation and **energy consumption**.

Infrastructure configuration, timetable design and **delays** play important roles in the **competitiveness** of railway transportation. This is especially true on **single-track lines** where the run times and other timetable related parameters are severely restricted by crossings (train meetings). The crossings also make the lines' operation more sensitive to disturbances. **Double-tracks** with mixed traffic also show these features. In this case **overtakings**, where faster trains pass slower ones, imply restrictions on the timetable, cause delay **propagation** etc.

The timetable is essential for railway operation, it affects capacity, run times and sensitivity to disturbances. Stations and junctions play important roles in railway operation. At these, the **interaction** between trains reaches its maximum through commonly used track sections and platform tracks, passenger and crew connections etc.

Railway capacity is affected by several factors, e.g. infrastructure design, timetable design, traffic mix, delays, etc. The combination of periodically operated passenger traffic, with distinct traffic patterns, and a strict priority rule for timetable construction makes it possible to apply a generic model for **performance assessment** of different timetable designs. The operational features of a railway line are highly dependent on the timetable, i.e. mix and order of different train types.

The diagram of trains movement must provide:

- The performance of transportation plans of goods and passengers;
- The safety of trains traffic on stages and their passing through separate items;
- The higher industrial use of transport communication;
- The most effective use of carrying and fare capacity of sections and stations handling ability;
- The observance of the established duration of continuous work of locomotive crews;
- The possibility of works production under the current maintenance of a way, constructions, communication equipment and power supply.

In many cases railway operation is based on some kind of timetable **assumption** that implies only one or a few timetable variants tested. However, the timetable develops much faster than the infrastructure and sooner or later the system is operated differently than originally planned.

Ex. 2. Find the English equivalents of the following phrases in the text.

1) пропускная способность железных дорог;
2) работа локомотивных бригад;
3) конкурентоспособность железных дорог;
4) выполнение плана перевозок грузов и пассажиров;
5) соблюдение установленной продолжительности;
6) текущее содержание устройств связи и электроснабжения;
7) движение поездов по перегонам;
8) перерабатывающая способность станций;
9) управление движением;
10) использование пропускной и провозной способности участков.

Ex. 3 .Fill in the gaps with the appropriate words from the box and translate the text.

cost	routes	outbound	freight	crews
origins	departure	window	scheduling	number

Train _____ problem is to decide the route and the schedule of _____ or passenger trains such that: all railcars or passengers can be transported at minimum _____ and time from their _____ to their destinations. A train schedule provides trains and their _____, train arrival and _____ times at each stop in the route, itinerary for each shipment or passenger.

A shipment should be transferred between trains at minimum _____ of stations in its itinerary.

A shipment takes certain time to feasibly make a connection from an inbound train to an _____ train.

Number of trains which can depart from a terminal in a given time window is limited.

Locomotives and _____ must stay at a terminal for a given minimum duration before they are assigned to the next train.

Number of trains traveling on a track segment in a given time _____ is limited.

Ex. 4. Read the text and speak about the main problems of freight train scheduling.

Imported goods from other countries usually enter through ports and then transported inland. Train transportation is a cost effective way to move cargo from the ports to distant inland destinations.

Freight railroad management is a complicated problem as a whole. Thus, the overall management problem is usually decomposed into several sub-problems. They are: crew scheduling problem, blocking problem, yard location problem, train routing problem, locomotive scheduling problem, and trains scheduling and dispatching problem.

Due to the increased usage of rail as a mode of transportation, more and more trains are traveling on limited track resources. Thus a good schedule for the trains becomes vital in order to prevent the meltdowns of the rail network. When the networks are close to saturation, a well designed schedule can make a significant difference in minimizing the delay.

As opposed to passenger train scheduling, freight train scheduling needs a different approach. Passenger train schedules are relatively static and cyclic. The master schedule of passenger trains are normally developed several months before their execution, making passenger train scheduling less time restrictive. For freight train scheduling, the scheduling procedure is initiated very close to the time of the departure of train. In most cases, the departure times of a train is known just one day before its departure. And it is not unusual that freight trains depart without schedules beforehand. Hence, freight train scheduling focuses on both the solving time and the solution quality. The extra complexity of freight train scheduling also comes from the track configuration of the freight railways. The track configuration can consist of single track, double tracks and triple tracks. Normally each track does not have a dedicated direction. Whereas for networks dominated by passenger trains, most of the routes are double tracked with each track typically dedicated to a default travel direction, thus reducing the number of possible paths that a train can travel and subsequently the problem complexity.

The objective of operational scheduling for freight trains is to safely move each train from its origin to its destination as fast as possible so that the total delay of all the trains are minimized. The inputs to the scheduling problem are the network track configuration and the characteristics of each train (e.g. origin station, destination station, arrival time, train speed and length).

The length of the train can be longer than the length of a node. Thus a train can occupy several nodes simultaneously. In reality, a train can travel at various speeds. The acceleration and deceleration rates depend on a number of factors like locomotive power, train weight and track slope.

The schedule specifies the path each train takes and the arrival and departure times of each train on every node of the specified path. A path is the sequence of nodes to be traversed by the train, from its origin to its destination.

Ex. 5. Make up sentences putting the words in the correct order.

1) service, the, offered, methods, on, of, poorly, passengers, impact, performing, direct, the, quality, to, the, scheduling, have;
2) after, railway, for, regularity, end, the, the, negative, on, of, traffic, may, hours, the, of, last, disruption, effects, the;
3) of, most, in, critical, freight, one, components, the, transportations, passenger, is, the, train, or, schedule;
4) train, a, the, and, impacts, the, quality, of, cost, schedule, service, quality, operating, greatly;

5) in, very, arising, freight, to, high, the, train, scheduling, for, speed, trains, similar, that, transportation, problem, is.

Ex. 6. Using the Appendix IV on page 51 describe the main principles of train movement scheduling.

Ex. 7. Translate the following sentences into English.

1 График движения поездов является основой организации всей перевозочной работы на железнодорожном транспорте. График организует работу всех подразделений в единое целое. На его основе согласовывается деятельность железных дорог с предприятиями – грузоотправителями и грузополучателями, определяются показатели использования вагонов и локомотивов, осуществляется своевременная и безопасная перевозка пассажиров.

2 Соблюдение графика движения поездов и предупреждение его нарушений является главным условием для всех работников, связанных с организацией движения.

3 График движения поездов составляется на стандартной сетке с масштабом времени и расстояний.

4 По числу главных путей на участках графики движения поездов классифицируются на однопутные (двухсторонние), двухпутные (односторонние) и смешанные.

5 По соотношению скоростей движения графики бывают параллельные и непараллельные.

6 В зависимости от порядка следования поездов попутного направления графики бывают пачечные, пакетные и частично – пакетные.

7 Станционные и межпоездные интервалы являются основными элементами графика движения поездов.

8 Станционными интервалами обеспечивается безопасность движения, исключаются остановки поездов у входных сигналов и замедления их при входе на станцию.

9 Масса и длина составов грузовых поездов являются важнейшими технико-экономическими показателями, влияющими на пропускную и провозную способность линии, потребность в локомотивах и локомотивных бригадах, расход топлива и электрической энергии.

10 Пропускная способность железнодорожной линии – это максимальное число поездов, установленной массы и длины, которое быть пропущено по данной линии в единицу времени.

Vocabulary

timetable *n* – расписание
schedule *n* – график

single-track line – однопутная железная дорога
double-track line – двухпутная железная дорога
crossing *n* – пересечение, переезд
disturbance *n* – нарушение (нормальной работы), повреждение
overtaking *n* – обгон
itinerary *n* – маршрут, путь
delay *n* – задержка, опоздание
propagation *n* – прохождение, продвижение
fare capacity – провозная способность
section *n* – участок
crew *n* – бригада
disruption *n* –
meltdown *n* – крах, провал, катастрофа
saturation *n* – насыщенность
restrictive *adj* – ограниченный
path *n* – траектория, путь, маршрут
node *n* – точка пересечения

Unit 5

RAIL SAFETY

Ex. 1. Read the text and try to guess the meaning of the words in bold.

Most recent available data confirm that railways remain one of the safest modes of transport. Railway safety begins with strong rules, **regulations** and standards. It is concerned with the protection of human life and property through regulation, management and technological development of rail transportation. Safety is the main requirement to railway transportation.

Serious accidents are considered to be train **collisions** or **derailment** of trains, resulting in the death of at least one person or serious injuries to five or more persons or extensive damage and similar accidents with the same **consequences.** These accidents are rare on railways.

Any accidents involving dangerous goods may have catastrophic consequences in terms of human health impacts or environmental damage. This is why, in addition and without **prejudice** to the general **legislations** on railway safety, specific requirements on the classification, containment and loading/unloading of substances apply. Depending on the type and consequences, such accidents may also be reported as a significant accident.

Broken rails are the most common type of common accident **precursors**; they alone account for almost half of all reported precursors. Track buckles were the second most prevalent type of precursors in the past three years. The number of broken wheels and broken axles reported is relatively small compared to other precursor types.

Costs of accidents are the economic impact of fatalities and serious injuries, costs of delays, costs of material damage to rolling stock or infrastructure and costs to the environment. They are estimated using the common methodology: the economic impact of casualties can be estimated for all countries.

The accident rate per million train kilometres for each country was calculated by taking the total number of significant accidents in that country, dividing it by the total number of train kilometres, and multiplying it by one million.

Various types of train protection systems (TPSs) are installed across Europe offering different functionalities and consequently various level of safety **assurance**. Among them, the automatic train protection system (ATP), is the most advanced type of train protection systems. It is considered to be the most effective technical measure that infrastructure managers can implement to reduce the risk of collisions and derailment on mainline railways. It enforces **obedience** to signals and speed restrictions by speed supervision, including automatic stop at signal.

Proper **maintenance** of railway vehicles is vital in ensuring that they continue to deliver safe performance.

Ex. 2. Find the following English equivalents in the text.

1) сломанные оси, колеса и рельсы;
2) в зависимости от последствий;
3) системы защиты поезда;
4) уменьшить риск столкновения поездов;
5) техническое обслуживание ж.-д. транспортных средств;
6) защита жизни человека и имущества;
7) материальный ущерб подвижному составу и инфраструктуре;
8) законодательство по железнодорожной безопасности.

Ex. 3. Put in prepositions where necessary and translate the text.

The purpose ___ signaling is to inform the driver when it is safe to proceed ___ the line ahead. ___ early days the signalman was responsible ___ ensuring any switches were set correctly ___ allowing a train to proceed. However, mistakes were made and accidents occurred, sometimes ___ fatalities. The concept ___ interlocking ___ switches, signals, and other appliances was introduced to improve safety. Interlocking prevents the signalman ___ operating appliances ___ an unsafe sequence, such as setting the signal to clear while one or more points ___ the route the signal governs are improperly set. Early interlocking systems used mechanical devices both to operate the signaling appliances and ensure their safe operation, but contemporary interlocking systems perform using complex electronic circuitry.

A second area ___ safety concern was fog. Because ___ the propensity ___ heavy fog ___ some parts ___ the British Isles, fog signal rules were established ___ the UK railway system to keep train traffic moving without incurring the severe delays that would be necessary if drivers had to stop or travel slowly up ___ each signal and read its indication. During heavy fog, fogsignalmen would be stationed ___ distant signals ___ a lantern and detonators — small explosive charges that could be strapped ___ the rail to be exploded ___ the wheels ___ a train. The fogsignalman's duty was to repeat the indication ___ the signal using his lantern; the semaphore blade was usually obscured ___ fog and hence invisible ___ the driver ___ a moving train. If the distant signal were displaying Caution (warning that the home signal was ___ danger), the detonators remained ___ the rail and the fogsignalman would show a yellow lamp to show Caution; if the distant signal was clear, the detonators would be removed ___ the rails and a green lamp would be displayed.

Ex. 4 .Fill in the gaps with the appropriate words from the box and translate the text.

influence	protection	accidents	train
case	locomotives		distance

Automatic train _____ systems that transmit data via magnetic fields, emitted and received by magnets are mounted beside the rails and on _____. They have various forms. Simple systems may ____ trains only at given locations. If a train ignores a red signal, the emergency brakes are applied and the locomotive's motors are shut down. Systems like Integra-Signum operate in such a way. Additionally, they often ask the train driver to confirm distant signals that show stop or caution - if he does not confirm within a few seconds, the train is stopped. This is sufficient in _____ of trains following each other in braking _____, however it cannot always prevent _____ in stations where trains cross paths, because the distance from the red signal to the next obstacle may be too short for the _____ to brake.

Ex. 5. Make up sentences putting the words in the correct order.

1) data, fields, systems, via, automatic, magnetic, protection, train, transmit;
2) a, are, emergency, the, a, if, ignores, red, brakes, signal, applied, train;
3) specific, in, automatic, 1948, cab, the, the, warning, introduced, refers, to, system, form, of, limited, signaling;
4) for, has, signaling, low, density, a, installation, system, new, been, lines, on, developed;
5) full, of, to, remote, modern, control, sophisticated, systems, electronics, allow, control, train, locomotives, use.

Ex. 6. Substitute the words and word combinations in Russian with their equivalents in English.

SIX THINGS TO KNOW ABOUT RAIL AND COMMUTER TRAIN SAFETY

1 STAY ALERT.

Trains can come from either (направление) at any time and can be very (тихий). Around train tracks or in stations, obey all warning (знаки) and signals and use caution when using headsets or cell phones.

2 WATCH THE OVERHANG.

Trains are wider than the tracks; never sit on the (край) of a station platform.

3 STAND AWAY FROM THE PLATFORM (КРАЙ).

Pay attention to painted or raised markings at the platform (край), and stay (по меньшей мере) at least three feet from the train while it is coming in or out of the station.

4 WHEN ON BOARD, HOLD ON.

Hold on tight to poles or seats, and listen (внимательно) to directions from the train operator or conductor.

5 WATCH YOUR STEP.

Be careful getting on and off the train - there may be a (пространство) between the train and platform or step.

6 DON'T TAKE SHORTCUTS WITH YOUR LIFE!

Follow directional (знаки) and markings that let you know where it is safe to (пересечь) the tracks. (Пересечение) the tracks anywhere else is dangerous and (незаконно).

Ex. 7. Translate the following sentences into English.

1 Железнодорожный транспорт традиционно считается источником повышенной опасности, поэтому крайне важно обеспечить безопасность его функционирования, т.е. безопасность движения, грузов, пассажиров и т.д.

2 Опасные грузы перевозятся по железным дорогам в крытых вагонах грузовых поездов.

3 К опасным грузам относятся любые вещества, материалы, изделия, отходы производственной и иной деятельности, которые в силу присущих им свойств и особенностей могут при их перевозке создавать угрозу для жизни и здоровья людей, нанести вред окружающей природной среде, привести к повреждению или уничтожению материальных ценностей.

4 На транспортную тару и транспортные средства с опасными грузами наносят знаки опасности, соответствующие классу и подклассу, к которому отнесен данный груз.

5 Работники вагонного хозяйства магистрального и промышленного железнодорожного транспорта обязаны своевременно выполнять все виды технического обслуживания и ремонта вагонов и контейнеров, предназначенных для перевозки опасных грузов.

6 Вследствие погодных условий (ливень, туман, снегопад), может возникнуть плохая видимость показания светофора, что может привести к проезду запрещающего сигнала.

7 Соблюдение режима труда и отдыха локомотивных бригад в значительной степени влияет на безопасность движения поездов и на

обеспечение стабильного, безаварийного функционирования перевозочного комплекса в целом.

8 Уровень шума в кабине локомотива существенно влияет на концентрацию внимания машиниста. Источниками шума могут являться работающие вспомогательные машины, удары колес на стыках и неровностях пути.

9 На транспортную тару и транспортные средства с опасными грузами наносят знаки опасности, соответствующие классу и подклассу, к которому отнесен данный груз.

10 Работники вагонного хозяйства, магистрального и промышленного железнодорожного транспорта обязаны своевременно выполнять все виды технического обслуживания и ремонта вагонов и контейнеров, предназначенных для перевозки опасных грузов.

Vocabulary

accident *n* – авария, несчастный случай
appliance *n* – приспособление, устройство
blade *n* – крыло (семафора)
brake *n* – тормоз
contemporary *adj*. – современный
electronic circuitry – электронные схемы
emergency *n* – непредвиденная ситуация, крайний случай, авария
interlocking *n* – (ж.-д.) централизация, блокировка
fatality *n* – бедствие, смерть от несчастного случая
lantern *n* – фонарь; **lantern** *v* - освещать
obscure *v* – затемнять, делать неясным
occur *v* – происходить, случаться
point *n* – (ж.-д.) стрелочный перевод *syn*. **switch**
prevent *v* – предотвращать
safe *adj*. – безопасный **safety** *n*
sequence *n* – последовательность
shut down *v* – отключить, остановить (работу чего-либо)
signal box – пост централизации
regulation *n* **–** поправка, правило
collision *n* – столкновение
obedience *n* – подчинение
precursor *n* – предвестник
derailment *n* **–** сход поезда с рельсов
consequence *n* **–** последствие
buckle *n* – скоба, стяжка
axle *n* – ось
assurance *n* – гарантия, уверенность
maintenance *n* – техническое обслуживание

Unit 6

RAIL – PORT INTEGRATION

Ex. 1. Read the text and try to guess the meaning of the words in bold.

RAIL – PORT INTEGRATION IN ROTTERDAM

Rail transport to and from the port of Rotterdam is fast, efficient, reliable and sustainable. Transit times are short: your rail cargo reaches the German border within three hours. Many destinations in Europe can be reached by train within a day. Because of the short travel time rail transport is ideal for transporting cargo rapidly across long distances and it offers a good **solution** for transporting large volumes efficiently and quickly.

More than 250 weekly intermodal rail cargo services start and end at the port of Rotterdam. Rail offers excellent opportunities for transporting containers, **dry bulk**, **general rail cargo** and chemical products. Many of the terminals in the port have their own rail transfer facilities so that cargo at the terminal can be placed on a train immediately. The Rail Service Center Rotterdam is also located in the port of Rotterdam. It focuses fully on handling **shuttle trains** and combined transport.

Bulk cargo such as coal, iron ore, agricultural bulk, industrial minerals and biomass are traded in such large volumes that cargo **owners** usually **charter** a complete train. Rail cargo offers an **overview** of rail operators. The dry bulk terminals often have their own rail facilities so that bulk cargo can be on its way to its destination swiftly.

In addition to the existing rail cargo services, the port of Rotterdam needs and has **room** for new shuttle services to growth areas in Europe. Through the Rail Incubator project, the Port of Rotterdam Authority encourages this by supporting market parties to set up new services. The Port Authority is also prepared to co-invest to make these rail cargo services a success.

Currently, the port of Rotterdam is the starting point and terminus of about 250 rail shuttles weekly. All the preconditions for a further **expansion** of the rail connections to and from the port of Rotterdam are met. Container **throughput** in the port of Rotterdam will grow significantly in the coming years. The port of Rotterdam is very “rail-minded”. Almost all of the container terminals have their own rail facilities and the Betuwe Route, a dedicated freight railway, which provides a direct connection between the port of Rotterdam and Germany. The Rail Incubator allows the Port of Rotterdam Authority to remove a number of **obstacles** related to the creation of new rail connections. There are various options for cooperation and support. For instance, the Port of Rotterdam Authority is willing to co-invest in establishing new rail connections or increasing the frequency of already-existing rail shuttles.

The focus of the Rail Incubator is on European growth regions that currently have little or no connections to Rotterdam, such as Southern Germany and Central

and Eastern Europe. The quality of the services resulting from the Rail Incubator is guaranteed for the end user. The services will have at least two years to prove their **profitability**. The **fees** and transit times will be **competitive**, and the services will be monitored and improved continuously.

An extensive intermodal transportation network of rail, **inland shipping**, road, short sea and pipelines gives the port of Rotterdam the best possible connections to the rest of Europe. Depending on the volume, desired speed, expense and sustainability **goals**, it is possible to select from the various modes or combine the different transport possibilities, such as:

- Excellent network for intermodal container transport within Europe.
- Major European **destinations** reached within 24 hours.
- Selection or combination of rail, inland shipping, road, short sea and pipeline.
- Perfect located intermodal terminals.

Inland shipping is a reliable, safe, efficient and **sustainable way** of transporting cargo between the port of Rotterdam and destinations in Europe. Via transport per barge, large volumes of goods can be transported at low costs and with low CO2 emissions per ton. Transported by water, the cargo sails straight past **traffic congestion** and roadworks and can even reach Germany without having to pass through locks.

Ex. 2. Read the text again and say if the following sentences are true or false. Correct the false sentences.

1 Rail transport from the port of Rotterdam enables your cargo to reach the German border within three hours.

2 Existing terminals facilities in the port can not provide immediate cargo loading on a train.

3 A complete train is rarely necessary for chartering to transport bulk cargo such as coal, iron ore, agricultural bulk, industrial minerals and biomass.

4 Container throughput in the port of Rotterdam is about of 250 rail shuttles weekly.

5 All the preconditions for a further expansion of the direct rail connections with Germany have been already met.

6 The focus of the Rail Incubator will provide Southern Germany, Central and Eastern Europe to obtain more connections with the port of Rotterdam.

Ex. 3. Find the following English equivalents in the text.

1) сухие навалочные грузы;
2) речной транспорт;
3) создание нового железнодорожного сообщения;
4) пропускная способность;
5) обеспечивать прямое сообщение;
6) достичь пункта назначения в течение дня;

7) перевозить большой объем грузов;

8) выбор железнодорожного, речного, трубопроводного и морского видов транспорта;

9) фрахтовать поезд целиком.

Ex. 4. Put in prepositions where necessary and translate the text.

The port ____ Rotterdam is ideally located ____ the mouth ____ the Rhine and the Maas and provides high-frequency connections ____ destinations ____ the whole ____ Europe. From the terminals ____ Rotterdam an extensive fleet ____ inland vessels ____ transports your cargo ____ the Maas and the Rhine directly ____ the major economic ____ centers ____ the Netherlands, Germany, Belgium, France, Switzerland and Austria. Connections ____ the Main and the Danube ensure that transportation ____ cargo ____ water as far as the Black Sea is possible. Sailing ____ times vary from less than a day ____ destinations ____ the Netherlands, Germany and Belgium, ____ four days, ____ example ____ Rotterdam ____ Basel ____ Switzerland.

The flexible and modern fleet ____ thousands small and large inland vessels can be put ____ a wide variety ____ uses. It can transport dry and liquid bulk, containers and project cargo. Inland shipping is highly suitable ____ transporting large volumes. Inland shipping is strong ____ long-distance transport, but when combined ____ road transport ____ shorter distances it can also offer an interesting alternative ____ using road transport ____ the entire route. Inland shipping is responsible ____ around 50% ____ incoming and outgoing cargo ____ the port of Rotterdam and destinations ____ Europe.

Ex. 5. Fill in the gaps with the appropriate words changing the words forms if necessary from the box and translate the text.

location	port-rail	term	capacity	hinterland
trade	competitiveness	bulk	competitiveness	

At a time when connection with the _____ is becoming ever more important, many Latin American ports are upgrading their rail connections to turn them into a competitive differentiator. _____ connection is a strategic element of port development, both in economic and competitive _____ that reduces negative externalities on people and the environment. Not only does proper rail connection expands the port hinterland and so increase the capture of new value added freight services for the port, it also promotes growth in _____ without affecting the port-city relationship, by linking “spatially” fragmented processes without congesting the urban environment surrounding the port. Even though railways represent a tremendous opportunity to improve port _____, their effectiveness varies according

to the particular characteristics of each industry. Geographical and economic aspects, industry structure, type of foreign _____ and institutional structure are some of the factors influencing successful implementation. For example, concentration and geographical _____ have a major influence on potential transport volumes and thus on the _____ of rail, especially in the case of raw materials such as _____ minerals or agricultural products. Similarly, in cases where competition is mainly between port ranges, the railway has proved useful in competing effectively for discretionary cargo.

Ex. 6. Read the text and try to guess the meaning of the words in bold.

THE AZOV PORT

The Azov port is located on 15 km from a **mouth** of the river Don, on a line of 9-th intermodal corridor **intended** for movement of cargoes from the north to the south, and also is effective in work with freight traffics of the Balkan-Danube and Mediterranean directions. It is some kind of the main **gate** connecting Mediterranean Sea with internal water system of Russia and Caspian Sea. It allows to deliver cargoes in the central part of Russia, to Urals and Central Asia. The Port is a gate in Internal Water Transport System which passes through the Volga-Don channel further to Caspian Sea and through the river Volga and system of northern rivers. It is a convenient waterway to the industrial centers located in the European part of Russia.

Depth at **berths** is 4,5–8,5 m, depth of **access duct** is 4 m. **Width** of the river is about 400 m, during winter time icebreaking is carried out. The port works in conditions of all-the-year-round navigation, accepts vessels of type «river-sea» with **carrying capacity** up to 5 thousand tons. Since 1995 thanks to the investment program realization **throughput** of port has been increased up to 5–6 million tons of export-import cargoes a year. The port has the status "international". In its territory boundary, customs, sanitary, veterinary and quarantine services operate. The **total area** of port exceeds 24 hectares. The **reloading complex** of the Azov port includes a number of berths, specialized on an overload of metal products, wood, grain cargoes, ores, fertilizers, coal, mineral-building and general cargoes. Cargo berths of port are provided by the powerful complex of reloading technics including 30 portal cranes with carrying capacity up to 32 tons, and also all kinds of mechanization machinery for **auxiliary operations**. The port has the covered and open warehouse areas, the developed network of railway access exhibition ways. Interior tracks allow to accept up to seven routes **simultaneously**.

Within the realization limits of the investment program the third stage of the **JSC** «Azov Sea Port» construction of the specialized container terminal is being completed, this terminal being one of the largest in the region. The total area of terminal warehouses makes 50000 m², the length of the berthing wall is 268 m. The Terminal is equipped with modern container cranes and other specialized machinery. A designed capacity of the terminal is up to 75000 **TEU** in a year. The terminal is located directly on the territory of the basic cargo site of the Azov port and provided by automobile and railway access roads. In parallel with the construction

of the container terminal fast development of a port infrastructure, especially in a direction of an internal railway network is being carried out. The locomotives operating in the port allow to use **shunting tracks** which general extent exceeds 9 km with peak efficiency and in the further will increase within the limits of port development.

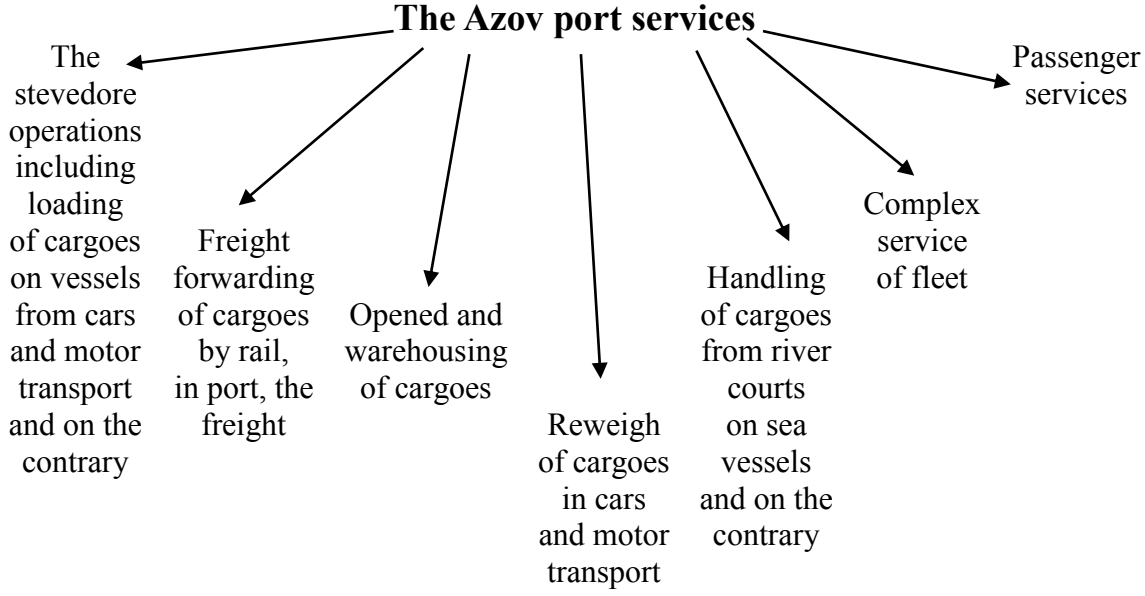
The greatest share in a port **turnover**, in the last few years, is made with coal, grain, cement, metal products. It is supposed to increase the volumes of containers handling. The basic export **streams** of cargoes are directed to Turkey, Bulgaria, Romania, Italy, Greece, Spain, Tunis, Egypt, Syria, Israel, Cyprus, the countries of Balkan peninsula. Import represents an insignificant part from total amount of handled cargoes, but with the opening of container terminal it is planned to increase a stream of import. It's worth to mention such Azov port's advantages as:

- convenient geographical position: the port is a gate in Internal Water Transport System;
- intermodal communications (access on a railway and a highway);
- all-the-year-round navigation;
- the effective reloading equipment;
- flexible system of operation and reasonable tariffs;
- qualified personnel;
- intensive development of port;
- presence of the areas for the further expansion.

The major advantage of the port is the opportunity of simultaneous acceptance of several railway routes.

Among strategic priorities of the Azov port it is possible to name:

- the further development of a port infrastructure;
- perfection of technology of cargo handling works;
- formation of logistical system of a **turnover** of port goods, including forwarding by rail and rendering of charter support;
- carrying out of flexible tariff policy.



Since December 1994, the Azov port has received the status of the international port and is opened for call of foreign courts. In port the constant, multilateral Check point through Frontier Russian Federation operates which renders all services on registration of opening/closing the border for passing courts (annually such services receive about 2000 courts) and physical persons irrespective of their citizenship.

Ex. 7. Complete the following sentences using information from the text.

1 The total area of the Azov seaport is more than …
2 The port has convenient geographical position being the gate in Internal …
3 The Reloading complex of the Azov port specializes on an overload of metal products …
4 The main advantage of the port …
5 Now the port is capable to handle up to …
6 One of the strategic port priorities is …
7 The stevedore operations in the port include …
8 The greatest share in a port turnover, in the last few years is made with …
9 With the opening of the port container terminal it is planned to increase …
10 The total area of terminal container warehouses in the Azov port …

Ex. 8. Find the following English equivalents in the text.

1) глубина у причалов;
2) мощный комплекс перегрузочной техники;
3) пропускная способность порта;
4) грузовые причалы порта;
5) железнодорожные подъездные выставочные пути;
6) коридор, предназначенный для переброски грузов с севера на юг;
7) гибкая тарифная политика;
8) экспедирование по железной дороге;
9) ледокольная проводка судов;
10) внутрипортовые железнодорожные пути.

Ex. 9. Match the following word combinations with their Russian equivalents.

reloading of export cargoes	транспортно-экспедиционное обслуживание (экспедирование грузов в порту)
cargo berths are provided by the powerful complex of reloading technics	возможность принимать грузы маршрутными отправками

to reduce charges for park of own cars	развитая сеть железнодорожных подъездных выставочных путей
an opportunity to accept cargoes routing shipments	перегрузка экспортных грузов
forwarding services (freight forwarding in the port)	снижать расходы для парка собственных вагонов
the developed network of railway access exhibition ways	грузовые причалы обеспечены мощным комплексом перегрузочной техники

Ex. 10. Translate the following sentences into English.

1 Порты – это транспортные узлы, где перевозка груза не заканчивается, а осуществляется перевалка с одного вида транспорта на другой, причем, в больших объемах и с применением всех сопутствующих процедур: таможенная очистка, пограничное оформление, работа различных органов государственного контроля.

2 Взаимодействие железных дорог с морским транспортом организованно в систему прямых смешанных железнодорожных сообщений.

3 Одной из ключевых проблем транспортной деятельности является снижение доли транспортной составляющей в цене товара.

4 ОАО «Ростовский порт» оказывает услуги круглогодично, 24 часа в сутки, осуществляет погрузки, перевалку и экспедирование внешнеторговых грузов.

5 Одновременно на причалах ОАО «Ростовский порт» может обрабатываться 16 судов грузоподъемностью до 5 тысяч тонн. Порт принимает и обрабатывает суда класса река-море.

6 Сегодня одним из важнейших вопросов взаимодействия железных дорог и портов является обеспечение информационного сопровождения грузовых перевозок.

7 В последнее время постоянно обсуждается вопрос о взаимодействии железнодорожного транспорта – ОАО «РЖД», морских портов: стивидорных компаний, морских перевозчиков и грузовладельцев.

8 Загрузка вагонов до установленных технических норм и обеспечение выполнения правил погрузки и крепления грузов входят в обязанности портов, а контроль за правильностью загрузки вагонов – в обязанности железных дорог.

9 Станция и порт перевалки ведут одновременно учет выполнения планов перевалки грузов с железнодорожного транспорта на водный и обратно, а также производят денежные расчеты по штрафам при невыполнении этих планов.

10 Стоимость доставки угля железной дорогой от производителя до морского порта плюс тариф на перегрузку – это та составляющая общей стоимости транспортных услуг, которая дает доход в бюджет страны.

Ex. 11. Read the text in Russian and render it in English.

В условиях рыночной экономики все основные виды транспорта являются частями единой транспортной системы, тесно взаимодействуют друг с другом, продолжают и дополняют друг друга. Морские порты России являются важным технологическим звеном на пути доставки товаров от производителя к потребителю. В последние годы портовым сообществом предприняты меры по развитию производственных мощностей, модернизации портового оборудования, внедрения новых технологий. Несомненно, положительным шагом в повышении привлекательности российских портов было проведение гибкой тарифной политики в области железнодорожных перевозок. Эти меры привели к стабильному росту грузооборота портов России.

На транспорте постоянно ведется работа, направленная на улучшение перевозок в смешанном сообщении, ускорение доставки грузов и обеспечение их полной сохранности, механизацию трудоемких перегрузочных работ и усовершенствование технологического процесса обработки судов и вагонов в перевалочных пунктах. Смешанная перевозка грузов совершается морским транспортом с участием железнодорожного. Передача грузов одним видом транспорта другому производится без участия в этом грузовладельца, перевозка оформляется единым транспортным документом на весь путь следования груза от начального пункта отправления до конечного пункта назначения. Для скоординированных действий морских портов и железнодорожных станций необходимо взаимодействие в рамках как оперативного, так и перспективного планирования.

Vocabulary

mouth *n – (зд.)* устье (реки)
access duct – входной канал
berth *n* **–** причал
gate *n* – ворота
intend *v* – планировать. намереваться
width *n* – ширина
depth *n* – глубина
carrying capacity – пропускная способность, *syn.* – **throughput**
reloading complex – перегрузочный комплекс
auxiliary operations – вспомогательные операции
stream *n* – поток
congestion *n* – затор, скопление
turnover *n* – оборот
stevedore n – стивидор (лицо, ведающее погрузкой и выгрузкой судов в портах)
hinterland *n* – внутренние районы страны, находящиеся далеко от прибрежной полосы или границы

Appendix I

Transport Abbreviations and Incoterms

AWB air waybill (накладная на авиаперевозки)

AWI live animals

B/L bill of lading (коносамент – оборотный транспортный документ, применяемый для перевозки грузов морским транспортом и в мультимодальных сообщениях)

CAO cargo aircraft only

CBM cubic metre (метр кубический)

CFR Cost and Freight (стоимость и фрахт)

CFS container freight station (контейнерная товарная станция – склад консолидации и деконсолидации контейнеров)

CIA cash in advance (оплата наличными вперед, аванс)

CIF cost, insurance, freight (стоимость, страхование, фрахт)

CIP Carriage and Insurance Paid To (перевозка и страховка оплачены до…)

CMR Convention on the Contract for the International Carriage of Goods by Road (Конвенция о договоре международной перевозки грузов)

CMR consignment note (транспортная накладная)

CO certificate of origin (сертификат происхождения)

COD cash on delivery (оплата наличными в момент поставки, наложенный платеж)

CPT Carriage Paid To (перевозка оплачена до…)

CUS customs duty (таможенная пошлина)

DAF delivery at frontier (поставка товара на границе)

DAT Delivered at Terminal (поставка на терминале

DAP Delivered at Place (

DC distribution center

DDP Delivered Duty Paid (поставка с оплатой пошлин)

DGD shipper’s declaration for dangerous goods

DGP dangerous goods (опасные грузы)

DMR demurrage fee (демередж, неустойка, которую владельцу судна выплачивает фрахтователь или грузовладелец за простой судна под погрузкой/разгрузкой сверх сталийного времени)

D/P documents against payments

DSC direct store delivery

DWT, dwt dead weight (полная грузоподъемность)

EAT foodstuffs

EDD estimated delivery time (предполагаемая дата поставки)

EDI electronic data interchange

EXW Ex works (франко завод,

FAS free alongside ship (свободно вдоль борта судна)

FCA Free Carrier (франко перевозчик) термин используются для любого вида транспорта, включая мультимодальные перевозки

FCL full container load (полная загрузка контейнера)

FEW forty foot equivalent unit (условная единица вместимости грузовых транспортных средств, соответствует объему 40-футового интермодального ISO контейнера)

FIW free into wagon (франко-вагон)

FFB free ferry berth (франко-терминал паромной переправы)

FOB free on board (франко-борт, свободно на борту)

FOQ free on quay (франко-набережная)

FOR free on rail (франко-вагон)

FOT free of tax (свободный от обложения налогом)

f.p. fully paid (полностью оплаченный)

FRO frozen goods

FTL full truck load (полностью загруженный автомобиль)

GATT General Agreement on Tariffs and Trade (Общее соглашение о тарифах и торговле)

GPC general purpose container

GPS global positioning system

GW, gr.wt. gross weight (вес брутто)

HGV heavy goods vehicles

ICE dry ice

IMC intermodal companies (компании, занимающиеся интермодальными перевозками)

IMDC international movement of dangerous goods (международные правила перевозки опасных грузов)

IMO international marine organization (международная морская организация)

IATA International Air Transport Association

IBC intermediate bulk

ISO international standard organization (международный стандарт качества)

JIT, j/t just-in-time (вариант доставки товаров «точно в срок»)

LCL less than container load (неполная загрузка контейнера)

LTL less than truck load (

NOD notice of dispatch (уведомление об отгрузке)

NT. WT., Nt Net weight (вес нетто)

PD picking up and delivery (вывоз и доставка)

PEF flowers

PER perishable cargo

r&a rail and air (перевозки по железной дороге и воздуху)

r&o rail and ocean (перевозки по железной дороге и морем)

RPB poison

RXB explosives

S/N Shipping note (уведомление об отгрузке)

TEU twenty foot equivalent units (условная единица вместимости грузовых транспортных средств, соответствует объему 20-футового интермодального ISO контейнера)

ULD Unit Load Device (грузовой модуль, грузовая единица)

VAL, VC valuable cargo (ценный груз)

VAT value added tax (налог на добавленную стоимость)

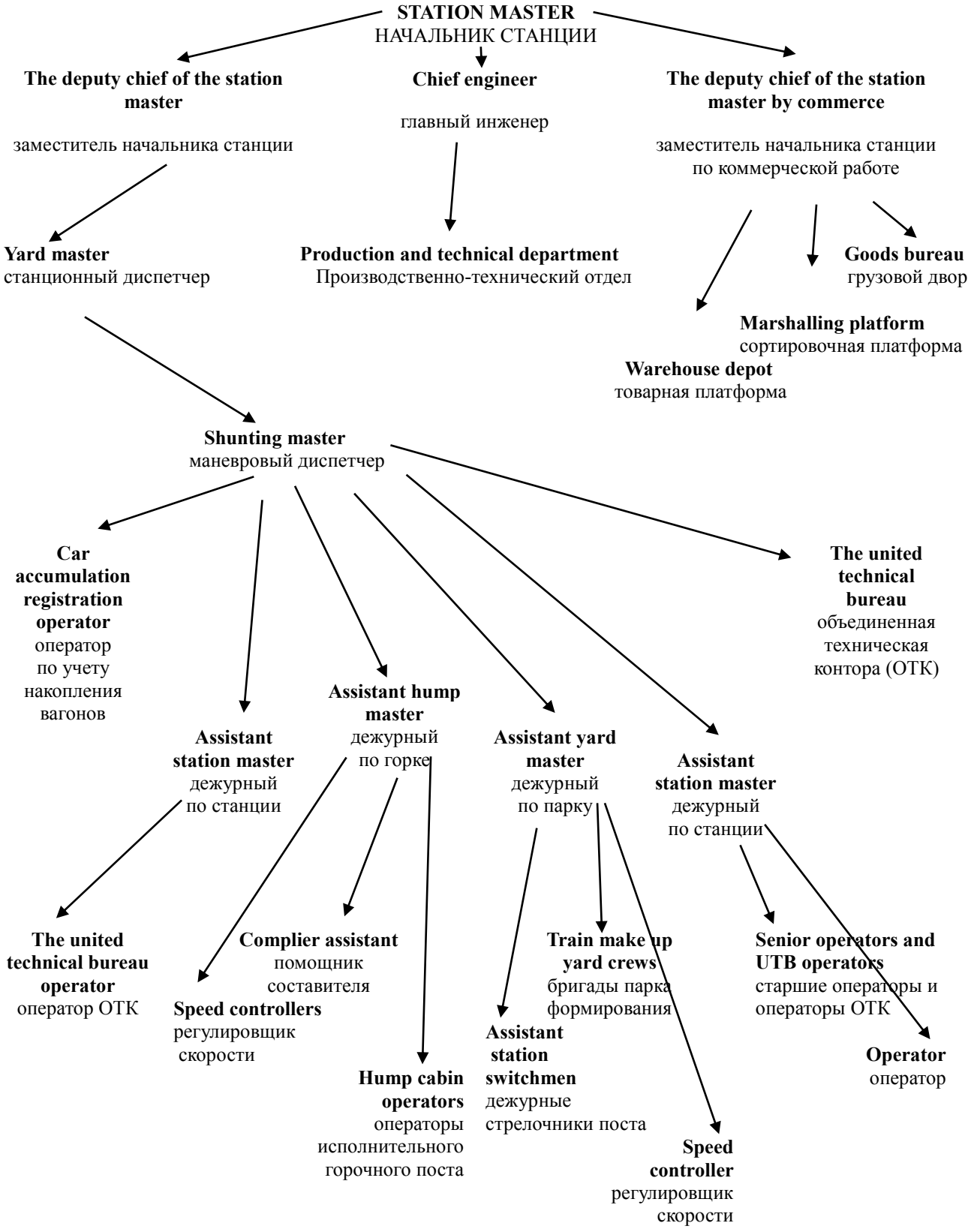
WET shipments of wet material not packed watertight

w.g. weight guaranteed (гарантированная масса)

whs warehouse (склад)

Appendix II

Marshalling Yard Management
Управление сортировочной станцией



Appendix III

Passenger Train Handling in its Home Station
Обработка пассажирского поезда на станции его приписки

Operations
Операции

Open line tracks of arrival
Перегонные пути прибытия

Going out of the station master assistant and the porters on the track of arrival (выход на путь приема дежурного по станции и носильщиков)

Passengers set off (высадка пассажиров)

Train checking (списывание состава)

Train locomotive uncoupling and its removing from the track (отцепка поездного локомотива и выход с пути приема)

The arrival of the shunting locomotive and train transposition to the technical station line (заезд маневрового локомотива и перестановка состава на пути технической станции)

Technical station
Техническая станция

Technical inspecting (технический осмотр)
Moving away of scavenging and boiler slag (удаление мусора и котельного шлака)
The cleaning of the running gear from the snow, ice and dirt (очистка ходовых частей от снега, льда, грязи)
Sanitary inspecting (санитарный осмотр)
Turning in of used linen and inventory (сдача использованного белья и инвентаря)
Turning in of a train by arrived crew (сдача состава прибывшей бригадой)
Supply of cars with fuel (снабжение вагонов топливом)
Reformation of the train (переформирование состава)
Train checking (списывание состава)
Cleaning of cars (обмывка вагонов)
Maintenance of the inner parts (ремонт внутренний)
Maintenance of the external parts (ремонт наружный)
Maintenance of electrical equipment (ремонт электрооборудования)
Inner cleaning of the car (внутренняя уборка вагона)
Supply of cars with water (снабжение вагонов водой)
Checking up of the train readiness for run by sanitary inspectors (проверка подготовки состава в рейс работниками саннадзора)
Shunting locomotive arrival and train bringing up for boarding (заезд маневрового локомотива и подача состава под посадку)

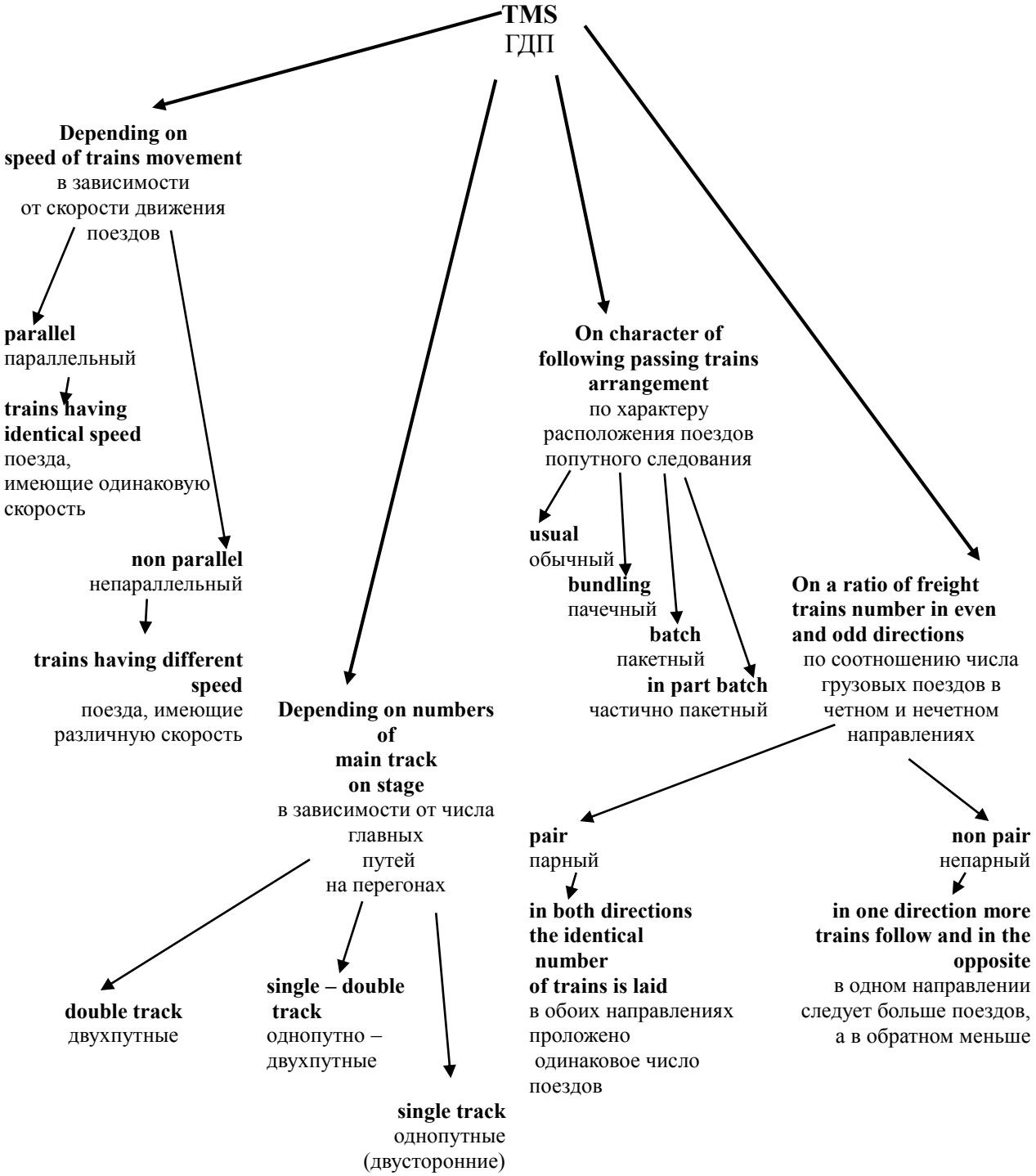
Open line tracks of departure
Перегонные пути отправления

The examination of the checked train (проверка правильности списанного состава)
Test check up (контрольный технический осмотр)
The coupling of the train locomotive and brakes testing (прицепка поездного локомотива и проба тормозов)
Passengers boarding (посадка пассажиров)
The testing of the train by the guard crew (прием поезда кондукторской бригадой)
Train departure (отправление поезда)

Appendix IV

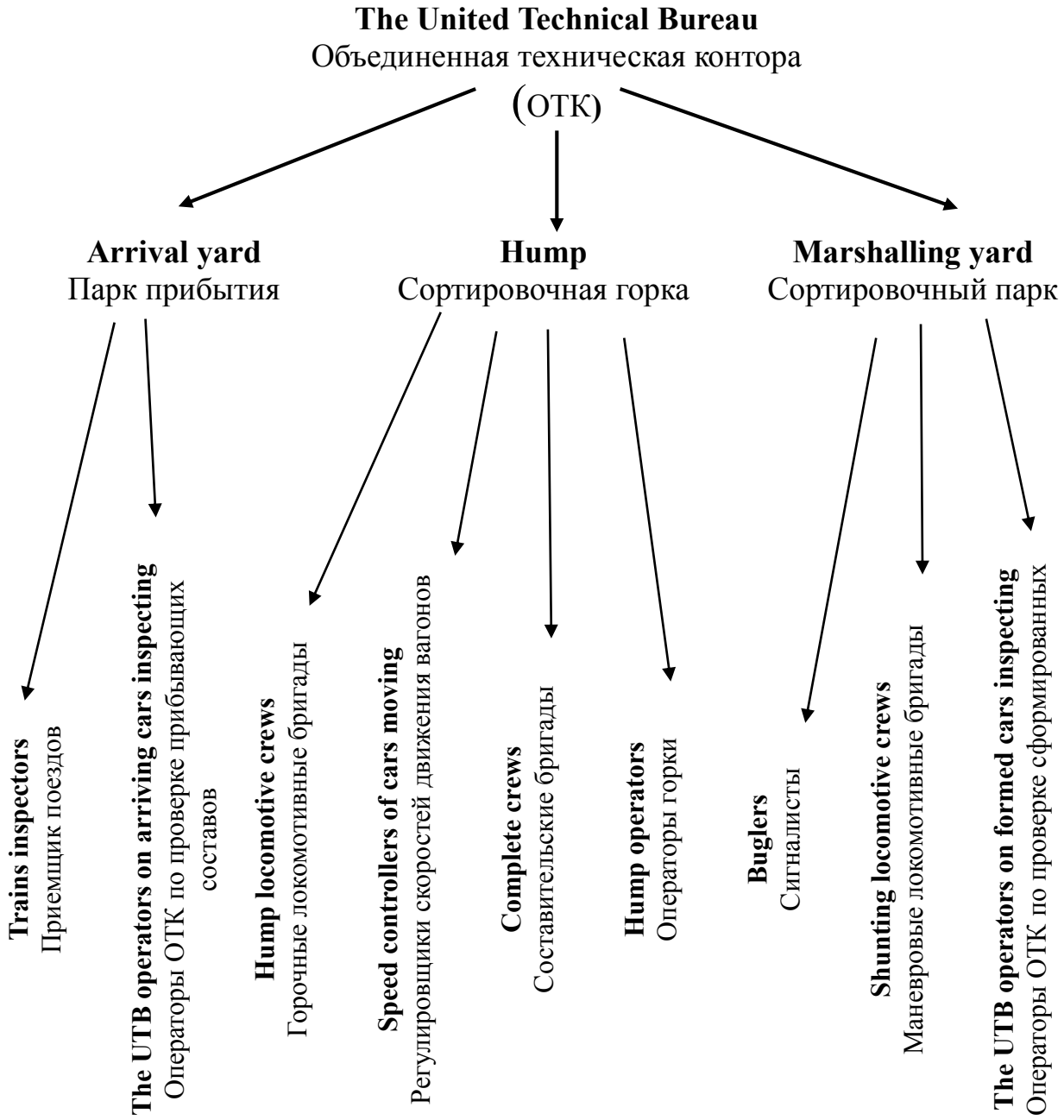
Train Movement Schedule
График движения поездов

The schedule is the basis of train movement organization
График – основа организации движения поездов



Appendix V

Line Station and Marshalling Yard Operation Technology
Технология работы участковых и сортировочных станций



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