

## UKRAINIAN WATERWAYS AND DEVELOPMENT OF INTERNATIONAL TRANSPORT CORRIDORS

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### **Abstract**

In the field of a water transport it is planned to carry out in Ukraine construction of new and reconstruction of existing infrastructure (regarding corridors № 9; TRACECA; Baltic - Black Sea) in such ports as Ilyichevsk, Odessa, Yuzhny, Mariupol. To connect some countries - new members of EU to the system of European waterways in the considered region two approaches are considered. The first approach considers an expansion of an opportunity of use of the main regional waterway – the Danube River. Realization of this approach is provided by restoration of navigation by the Ukrainian part of Danube, providing an exit to the Black Sea. The second approach foresees creation of new inland water-transport links providing more rational and uniform distribution of freight traffics from the Central and Northern Europe. The main task of this approach is to use of such powerful waterway as the Dnepr River (the third largest river in Europe), running into Black Sea. By present time some interesting initiatives directed on connection of the European countries, not having own way to Black Sea (Poland, Baltic, Belarus), to Dnepr have been offered.

Keywords: Waterways; Ports; Danube, Dnepr, Transport corridors  
Topic Area: G5 Regional Transport Issues in South/East Europe

### **1. Introduction**

Concerning Ukrainian waterways in international aspect one can mention importance of such main rivers as Danube (with ports of Reni, Izmail and Ust-Dunaisk in the vicinity of Danube mouth) and Dnepr (connecting central part of the country including Kiev with Black Sea). Other rivers have local importance and cannot affect on international cargoes turnover.

Now four of nine international transport corridors pass on territory of Ukraine: №3, №5, №7, and №9. Last years Ukraine conducts an active policy of support of the European initiatives on the international transport corridors and offers the variants of corridors to the European community.

However, in spite of the fact that Ukraine wins first place in Europe on factor of transit, the degree of today use of Ukrainian transport infrastructure is still low. So creation of transport corridors and their occurrence in the international transport system is recognized as a priority nation-wide direction of development of Transport-Road-Complex (TRC) of Ukraine.

### **2. Ukrainian waterways in international aspect**

As is known, for performance of the EU program directed on development of a transport corridor from the Western Europe through Black sea, Caucasus and Caspian Sea to the Central Asia, in May, 1993 in Brussels at the international conference there was a put forward idea of creation of international transport corridor TRACECA. By calculations, TRACECA should provide a flow of 100 thousand containers a year. Now

TRACECA is the most perspective international transport corridor which development is recognized by EU as the major transport task of the region. The corridor Europe - Caucasus - Asia can (and should) become a link between other international transport corridors. So, in Ukraine (ports of Odessa and Ilyichevsk) TRACECA incorporates to a corridor №9, in Romania (port of Constanta) it is connected with corridors №4 and 7, and in Bulgaria (ports of Burgas and Varna) TRACECA joins a corridor № 8.

The very important problem of creation a new artificial waterway Danube – Black Sea was discussed in Ukraine during a number of years (earlier used channel Prorva became unsuitable for navigation and its restoration was recognized as inexpedient). Now optimal variant of the decision of this important and actual problem is applied.

The other approach foresees creation of new inland water-transport links providing more rational and uniform distribution of freight traffics from the Central and Northern Europe. The main task of this approach is to use of such powerful waterway as the Dnepr River, running into Black Sea.

The Dnepr, which flows through Ukrainian territory, is the third largest river in Europe and has strongly influenced the development of Ukrainian river shipping activities.

There are indeed many river ports and quays along the banks of the Dnepr and Yuzhny Bug River. Ukraine's ten major river ports, namely those of Chernigov, Kiev, Cherkassy, Dneprodzerzhinsk, Dnepropetrovsk, Zaporozhie, Nikopol, Novaya Kakhovka, Kherson and Nikolayev, used to handle up to 100 million tons of cargo annually in former Soviet Union times.

However, following the collapse of USSR and the ensuing economic crisis, the flight of river tonnage going off to seek work on the Danube led to an abrupt fall in cargo handling at these river ports.

As early as 1992, Ukrainian river ports began to be floated for joint-stock ownership. And in 2002, already four of them, Zaporozhie, Dnepropetrovsk, Kherson and Nikolayev river ports were integrated into JS Ukrrihflot (Ukrrihflot@carrier.kiev.ua), which now owns a substantial share of these ports' stock.

For providing of optimum use and rational development of inland waterways and also seaports of the Black Sea – Azov Sea region it is necessary to speed up working out and official approval of the regional transport ways network. Regarding seaports this task is carried out within the framework of program TRACECA, and also by Steering Committee of Black Sea PETRA and working group on transport of the Organization of the Black Sea Economic Cooperation.

Now annual increase of needs in transport services in Ukraine is 4-5 %, volumes of transportations of cargoes till 2005 will increase for 27-28 %, passengers – on 2,7 %, and in the long term prospect (till 2020) the forecast for increase of cargoes turnover is 1,5-2 times, and for passengers – 1,3-1,5 times.

In the field of a water transport it is planned to carry out in Ukraine construction of new and reconstruction of existing infrastructure (regarding corridors № 9; TRACECA; Baltic - Black sea) in such ports as Ilyichevsk, Odessa, Yuzhny, Mariupol.

### **3. New possibilities in water transport and international corridors development**

The interesting prospects one can see in rational combination of free economic zones (FEZ) and the international transport corridors. According to expert assessment, combination of FEZ and international transport corridors in the considered region may produce significant effect and create for Ukraine one of the most perspective of transport arteries of intercontinental value. Both Baltic Sea-Black Sea corridor and international transport corridor Europe-Asia will attract to Ukraine a powerful transit flows, including

links between Southern Asia and Europe, Africa and Europe, the Middle East and Europe, Central Asia and Europe.

In development of the international transport corridors and waterways such organization as GUUAM (Georgia, Ukraine, Uzbekistan, Azerbaijan and Moldova) has the large potential opportunities too. In September, 2000 during Millennium Summit in New York leaders of "five" have signed GUUAM memorandum and have proclaimed «a new phase of development of association». One of the basic items of the memorandum recognizes as an unconditional general priority the effective functioning of a transport corridor Europe – Caucasus - Asia and necessity of development of its infrastructure, and also providing of its reliability and safety. It was confirmed on the Yalta Summit (June, 6-7, 2001, Ukraine) and was reflected in Yalta GUUAM Charter where the basic purposes, principles, directions of cooperation as well as organizational structure of GUUAM were determined.

#### **4. Ukraine/Russia interaction in inland water transportation and corridors development**

For Ukraine it is important to assess also a condition of development of transport flows in the neighboring states (states of European transport corridors), in particular in the Russian Federation. Under forecasts, the volume of foreign trade of Russia till 2010 in comparison with 1998 will increase by 70-75 %, and export-import transportations – on 30-35 %. According to experts, a cargo turnover of container cargoes on a direction the Western Europe - East Asia will make 250 billion dollars (10-15 % of them will pass by the Russian transport communications). In 2001-2010 Russia plans to spend 600 billion roubles for development of corridors' infrastructure. Thus the main freight traffics inside Russia will go on axes West - East and North - South.

During the second Euro-Asian Conference on Transport on September, 12, 2000 in Sankt-Petersburg the Intergovernmental Agreement on international transport corridor "North - South", between Republic of India, Islamic Republic of Iran and the Russian Federation has been signed. Kazakhstan, Belarus, Azerbaijan, Armenia, Bulgaria and Bahrain have declared intention to join the Agreement. Among possible candidates on participation are considered also Turkmenistan, Saudi Arabia, Kuwait, United Arab Emirates, Indonesia, Malaysia, Sri Lanka and some other countries, including European: Finland and Lithuania. The cargo turnover of Russia with Caspian countries and India in 2000 was 23680 thousand tons, and in 2001 – 24985 thousand tons.

Corridor "North - South" may include some different routes in involved regions:

- Trans-Caspian Sea option
- waterway Caspian Sea - Volga River - Baltic Sea including route to Volga-Don channel and further to Black Sea ports
- railway and automobile transportation.

Now transportations between participants of the Agreement by the corridor are carried out only according to the first option. Joint-stock company "Astrakhan Shipping Company" was established in Russia for work on this corridor.

It may be foreseen that development of the second option regarding Black Sea direction and well known deficit of Russian ports throughput capacity will lead to Ukrainian sea ports and waterways involvement in the transit transportation process. Existing reserve of Ukrainian sea ports throughput capacity (about 30 % for the present state) and their universal possibilities of cargo handling (see also corresponding article in this edition) allow to consider the Ukraine as prospective potential partner for "North - South" corridor participants.

On the European direction which provides transport-economic relations North - South, the Russian experts underline importance of such directions:

- Finland border – Sankt-Petersburg - Moscow - Kiev - ports of Ukraine on Black Sea.
- Sankt-Petersburg - Pskov - Nevel - Vitebsk - Kiev - ports of Ukraine on Black Sea.

Both routes are parts of the European international transport corridor № 9.

The transport policy of Russia has significant importance for Ukraine. It is enough to mention that 70 % of import freight traffics come to Ukraine from Russia, 65 % of the transit cargoes transported through territory of Ukraine are Russian goods. In structure of transit prevail such cargoes as coal, oil and mineral oil, iron and manganese ore, ferrous metals, chemical and mineral fertilizers, grain. All these goods Russia exports to Europe through both on-land transitions and using seaports of Ukraine to all continents of the world.

We have to mention that Ukraine is not happy of the fact that the share of Russia in transit cargoes transportation through the Ukrainian seaports is constantly reduced: from 85 % in the middle of 90<sup>th</sup> up to 63 % in 2000. It is connected to a purposeful policy of Russia on reorientation of export-import freight traffics to own ports.

The second major factor of a transport policy of Russia is development of its own transit potential as a transport bridge between Europe and Asia.

In December, 2001 the Government of the Russian Federation accepted the Federal Program «Modernization of Transport System of Russia» in which qualitative updating of all types of transport and a number of inter-branch programs are determined. Prospective total amount of financing (in the prices of 2001) for the period of 2002-2010 was determined as 4646,3 billion roubles (approximately 150 billion dollars). One of components of the Federal Program is the program «International Transport Corridors» determining a transit policy of Russia in the beginning of XXI century.

Russia estimates the losses stipulated by transfer of cargoes to ports of the adjacent countries in 1 billion dollars per year. According to Russia's, now (because of lack or absence of own reloading capacities) more than 25 % of the Russian foreign trade turnover of goods go through ports of Ukraine, Baltic and Finland.

Last years the Russian oil companies have essentially reduced transit of oil in a direction of Odessa, having left this route to the Kazakh companies. The further reduction of transit of the Russian oil through seaports of Ukraine is predicted.

In 2001 Ministry of Railways of the Russian Federation has cancelled export railroad rates/taxes for the basic Russian cargoes sent to own ports; this action has deprived the Ukrainian ports of competitiveness.

If to speak about new perspective initiatives and development of concrete projects of the Ukrainian - Russian cooperation in sphere of internal waterways it is necessary to mention so-called Big Ring Project. The project was developed by the international company «Interlighter». It suggests that the 7<sup>th</sup> Danube transport corridor should be extended to Astrakhan on Volga River in Russia. The Ukrainian Danube Shipping Company (UDSC) hold negotiations on organization of the traffic by that route with the Russian enterprises North-West Shipping Company and Donrechflot. UDSC has specific proposals concerning carriage of various machinery from Hungary, Austria, Germany to the Caspian Sea by waterways including rivers of Russia. But the prices for passage through the Volga-Don Canal repel solvent customers.

## **5. Baltic Sea – Black Sea: by waterways**

By present time some interesting initiatives directed on connection of the European countries, not having own way to Black Sea (Poland, Baltic, Belarus), to Dnepr have been offered.

Let's stop briefly on some of the most perspective and real, in our opinion, projects.

An interesting and prospective idea was proposed about two years ago. It concerned a creation of a new inland transport corridor Latvia-Belarus-Ukraine by waterway Daugava – Dnepr. According to designers, the length of this waterway will be 2330 km. Its operation will provide essential increase of cargo turnover on the direction “Baltic Sea – Black Sea”. There are different expert evaluations of possible turnover: the modest indicated figure is 10 million tons per year, more optimistic assessments conclude several times more by 2010.

One can expect some technical problems when constructing a new waterway. First of all it concerns construction of the channel (80 km length) between the Belarus cities of Orshas and Vitebsk. Another important task is improvement of Daugava River; to make it navigable it is necessary to construct in Latvia at least 3 water engineering systems (including dams, locks, etc.).

According to preliminary assessment, to provide all necessary construction works it's necessary to invest about EUR 5 billion; the total cost of the project reaches about EUR 6 billion. As it was indicated in the press, Icelandic investment bank Kaupthing was ready to invest required means in this project.

According to experts evaluation it may be possible to start construction works in 2004 and to complete the project 6 years later.

In connection with above-stated we would like briefly to overview situation with Belarus, which recently makes active efforts on development of inland waterways and cargoes transportation by water (particularly, by sea). Since 2000 a transportation of a part of the Belarus export by waterways via Ukraine is carried out. One of the main directions is transportation of potash fertilizers by inland waterways to Nikolayev Merchant Sea Port ([www.portnikolaev.com](http://www.portnikolaev.com)) where they are overloaded on the sea-going vessels.

Nowadays Belarus has quite good cargo base. By estimation of experts, the freight flows from this country with use of sea transport exceed 15 million tons a year. The part of them are directed to Baltic Sea, a part - to Black Sea, and today between ports of the countries surrounding Belarus there is a serious competition to serve the Belarus export. Among other one can mention Kaliningrad (Russia), Ventspils (Lithuania), Klaipeda (Latvia), Nikolayev (Ukraine).

Though Belarus is not the sea state, its government has accepted the program of development of sea transport. According to this program 10 «river - sea» type vessels are to be built. First of them - vessel "Nadezhda" (“The Hope”) - is already constructed at the ship-yard in Gomel-city. This vessel works on transportation of potash fertilizers to Nikolaev. Between navigating periods Belarus authorities plan to use their fleet for work on Danube routes.

In Belarus there is an extensive system of inland waterways: about 2000 km in length and 10 river ports in operation. The big role here plays Dnepro-Bugsky channel which exists more than 200 years. During former Soviet times there passed up to 30 vessels a day. Now the waterway which may participate in connecting the East and the West is almost forgotten. Nevertheless, if some ideas related to the linkage Black Sea – Baltic Sea will be realized, we can expect arising of interest to this waterway too. First of all we mean very prospective route Black Sea – Dnepr — Dnepro-Bugsky channel — Vistula — Oder — Baltic sea which idea is in discussion since end of 90's of the last century. In fact this waterway is the shortest route from Black Sea up to Baltic Sea but its arrangement needs serious investments regarding necessity to construct or renew several locks in Brest (Belarus) and on the river Bug (Poland). Meanwhile in Belarus some works on reconstruction of locks on the Dnepro-Bugsky channel according to European standard are already started.

## 6. Prospects of Ukrainian sea ports development

Presented below material is based on principles which are put in the Program of Development of Sea Merchant Ports of Ukraine till 2010 and in the Concept of Development of Transport-Road Complex of Ukraine till 2020. The basic objectives of the Program are:

- to create reliable material base of seaports which corresponds in a quantitative sense - to requirements of development of the Ukrainian economy and foreign trade, and in a qualitative sense - to the highest world standards
- to strengthen interaction of sea merchant ports other adjacent types of transport and cargo owners in the frame of logistical systems and the international transport corridors which pass on territory of Ukraine
- to increase a level of navigating and ecological safety in sea merchant ports
- to increase efficiency of state regulation of activity and development of sea merchant ports which will provide realization of interests of the state without restriction of economic independence of the enterprises.

The basic directions of the Program contain a complex of technical-technological, economic and organizational – legal measures which provide:

- creation and modernization of terminal complexes, implementation of progressive transport-technological systems, their correspondence to the world standards;
- creation of conditions which assist increase in volumes of the international transit transportations through Ukrainian ports;
- creation and development of legal base of transport and transport-technological providing of ports activity in interaction with other types of transport, harmonization of the current legislation regarding the international shipping laws;
- reforming of management methods and forms of economic activities of ports aiming their correspondence to requirements of development of the transport services market and world practice of ports management by way of structural transformations and dividing of administrative and business functions;
- regulation of ports activity on state and regional (municipal) levels in view of their importance in the general system of economy of Ukraine, the international and local transport networks;
- creation of data bases in order to increase competitiveness of ports of Ukraine, as well as providing of conditions of information and technological interaction and coordination of work of different types of transport.

The basic program task is entering to operation in 2002-2010 the specialized reloading complexes in seaports of total capacity 30 mln t a year.

The major productive parameter is increase of volumes of cargo turnover in the Ukrainian seaports on 30 % (from 89 million tons in 2001 up to 115 million tons in 2010).

Sea merchant ports at the present stage are the basic part of sea transport of Ukraine. For five years since 1996 till 2001 elements of stabilization of work of ports were indicated; it was reflected in increase of volumes of cargo and passengers turnover.

So, during 1996 - 2001 in ports has increased:

- cargo handling - on 59% (and it reached 89,0 mln t)
- income - almost in 3,1 times, and the balance profit has increased thus in 1,5 times.

Are stepped up volumes of investments into seaports, in particular to Odessa, Ilyichevsk, Yuzhny, Mariupol.

The further development of ports is supported by the "Program of stabilization and development of sea and river transport of Ukraine till 2005". Dynamics of freight flows resulted in Table 1.

Table 1. Dynamics of freight flows which pass through seaports of Ministry of Transport of Ukraine during 1998 – 2003

Parameters	1998	1999	2000	2001	2002	2003 (January-June )
Cargoes in total, mln t	69,4	80,85	84,1	89,04	106.287	55.85
Including:						
Liquid cargoes	17.51	25.82	25.62	27.61	31.055	19.02
Bulk and Dry-Bulk cargoes	25.24	27.80	29.50	29.50	45.10	22.47
Boxes/Packages	23.07	27.23	28.97	27.91	30.12	14.35
Among them:						
Export	35,1	41,0	40,0	45,27	55.31	24.98
Import	2,1	2,4	3,0	3,53	34.78	26.41
Transit	30,4	34,1	36,5	36,03	42.97	26.67
Short sea transportation	1,8	3,2	4,5	4,21	44.99	15.60

The basic owner of transit cargoes is the Russian Federation (80 % of total amount of a transit freight flows through the Ukrainian seaports).

For work with specific cargoes in ports there are specialized reloading complexes. Last years in some seaports new specialized complexes for nontraditional cargoes were constructed.

In 10 Ukrainian seaports the specialized reloading complexes of different purpose are operated:

- chemical bulk cargoes - Yuzhny
- bulk-oil cargoes - Odessa, Reni, Theodosiya
- food bulk cargoes - Ilyichevsk, Odessa, Berdyansk
- coal and ores - Yuzhny, Nikolaev, Mariupol
- chemical cargoes and mineral fertilizers (bulk) - Yuzhny, Odessa, Kherson, Ilyichevsk, Nikolaev
- grain cargoes - Odessa, Ilyichevsk, Nikolaev, Kherson
- containers - Odessa, Ilyichevsk, Mariupol, Izmail
- wheel cargoes (Ro-Ro) - Ilyichevsk, Skadovsk, Reni
- railway ferry complex - Ilyichevsk.

Existing specialized reloading complexes of coal and ore in Nikolaev and Mariupol, the specialized complex of food bulk cargoes in Ilyichevsk are in operation almost 25 years and demand repair and significant modernization. There is also a lack of capacities of the specialized reloading complexes for chemical cargoes, mineral fertilizers, cement, containers, grains.

Thus sea trading ports of Ministry of Transport of Ukraine have for today a reserve of a throughput capacity about 35 %, but it concerns mostly reloading complexes of universal purpose with crane kind of mechanization of reloading works.

Occurrence in sphere of the foreign trade and transit transportations of nontraditional kinds of cargoes, participation of Ukraine in network of international transport corridors has caused need of development of corresponding capacities of reloading complexes and infrastructures of sea merchant ports, including port railways and stations.

Dynamics of prospective volumes of cargoes handling in sea merchant ports of Ukraine are presented in tab.2.

Table 2. Cargo handling in sea merchant ports of Ukraine for the period 2002 - 2007 (2010 \*), thousand tons

Ports	2002	2003	2004	2005	2006	2007
Odessa	28545	29325	30100	30250	30415	30685
Ilyichevsk	13830	14860	16870	17710	18360	19660
Yuzhny	13550	13860	13990	14120	14260	14400
Belgorod-Dnestrovsky	840	855	865	880	890	900
Nikolaev	3730	3845	3960	4080'	4195	4310
Oktyabrsk	970	985	995	1005	1015	1025
Kherson	2400	2400	2405	2500	2500	2500
Sevastopol	250	260	265	270	275	280
Feodosiya	3380	3390	3410	3430	3440	3450
Kerch	885	845	815	785	765	740
Mariupol	8000	8100	8200	8500	8700	9000
Berdyansk	2450	2590	2690	2795	2995	3320
Izmail	4675	5025	5385	5730	6090	6455
Reni	3160	3450	3750	4145	4645	5280
Ust-Dunaisk	1800	2000	2100	2200	2500	2600
Yalta	160	165	170	175	180	185
Evpatoria	500	520	540	550	580	600
Skadovsk	300	450	480	560	600	630
Totally	87625	92925	96990	99685	102405	106020

\* the total volume of cargo handling by sea merchant ports of Ukraine in 2010 on a basis of forecast by National Academy of Science of Ukraine is estimated in 115,0 mln t.

It is necessary to note that the cargo base of the Ukrainian ports on the Danube was sharply reduced owing to the general influence of group of negative factors among which the important place occupies sharp deterioration of conditions of navigation on Ukrainian part of Danube:

- blocking navigable ways on the Yugoslavian site;
- sharp increase of tariffs and rates on Sulina channel in Romania;
- absence of a national deep-water navigable connection Danube-Black Sea;
- absence of a national railway route to the city of Reni;
- a tariff non-agreement at transportations of cargoes by railway transportation (in common Moldova and Ukraine) to the port of Reni;
- the state support by other countries of development of the Romanian port Constanta and navigable canal Chernovoda.

Events of the last decade negatively influenced on social and economic state of Reni, Izmail and Ust-Dunaisk seaports.

Navigation on Prorva channel was stopped because of the lack of means for permanently increasing volumes of annual dredging works.



Structural changes of cargo base of seaports which are predicted, significant volumes of nontraditional cargoes, such as sulfur, cement, mineral fertilizers, other bulk cargoes which demand the increased intensity of the processing, special ways of transportation, storage and loading, special environment protective measures demand presence of the specialized reloading complexes in sea merchant ports.

Accordingly construction of new reloading complexes, reconstruction of existing ones, modernization and updating of reloading equipment of seaports, duly updating of auxiliary port fleet, improvement of an infrastructure of ports are necessary.

Construction of the specialized reloading complexes which provide enlargement of the nomenclature's list and volumes of cargoes handling (which are the competitive goods in the foreign market) are considered as most economically and technologically favorite.

With the purpose of increase of volumes of cargoes handling, optimum use and development of reloading potential which is predicted on prospect till 2010, in seaports it are planned:

- (a) construction of new reloading complexes for
- grain cargoes (Ilyichevsk - 1,2 mln t, Odessa - 1,2 mln t, Nikolaev - 1,5 mln t, Berdyansk - 0,8 mln t, Mariupol - 1,2 mln t, Kerch-0,5 mln t);
  - a soy and shrot (Ilyichevsk - 1,5 mln t, Reni — 0,7 mln t);
  - cement (Ilyichevsk - 1,5 mln t);
  - cargoes in containers (Mariupol - 0,56 mln t);
  - Ro-Ro cargoes (Reni - 0,415 mln t – completing of construction);
  - general cargoes (Ilyichevsk - 3 mln t, Odessa - 0,9 mln t, Yuzhny - 1,0 mln t, Nikolaev - 1,0 mln t);
  - wood cargoes (Belgorod-Dnestrovsky - 0,5 mln t);
  - liquid chemical products (Ilyichevsk - 1 mln t);
  - mineral fertilizers (Kherson, Berdyansk);
  - the granulated sulfur (Ilyichevsk - 4,0 mln t);
  - the liquefied gases (Ilyichevsk - 1,2 mln t, Reni - 1,2 mln t);
  - vegetable oil (Odessa, the second turn - 0,5 mln t);
  - sand (Odessa - 0,25 mln t);
  - bunkering bases (Ilyichevsk - 1,2 mln t);
  - motor oils (Odessa);
  - passenger complex/sea station (Theodosiya)
- (b) reconstruction of existing reloading complexes for:
- mineral fertilizers (Nikolaev; Ilyichevsk – increase of cargo turnover 0,7 mln t);
  - vegetable oil (Ilyichevsk - increase of cargo turnover 0,6 mln t);
  - grain cargoes (Mariupol);
  - coal pitch (Reni);
  - coal (Mariupol);
  - general cargoes (Odessa - increase of cargo turnover 0,5 mln t);
  - sea station (Odessa, Sevastopol);
  - passenger berth (Yalta).
- (c) purchase of auxiliary port fleet (excepting the icebreaker for providing year-round navigation in the Sea of Azov (Mariupol, the state budget), passenger vessels for Sevastopol) is predicted to provide due to own and attracted investments:
- transport self-propelled and non-self-propelled small vessels (Kerch, Theodosiya, Yalta);
  - sea tug-boats, towing boats (Ilyichevsk, Odessa, Yuzhny, Kherson, Kerch);
  - pilot vessels (Ilyichevsk, Odessa, Yuzhny);
  - bunkering and fire vessels (Ilyichevsk, Yuzhny);

- floating berths (Mariupol, Sevastopol, Yuzhny);
- floating cranes (Kerch, Theodosiya);
- environmental vessels (Ilyichevsk, Yuzhny).

The significant place in the Program of development of ports till 2010 is allocated to purchase of modern highly technological reloading equipment, namely mobile cranes, container and gantry cranes, etc. which total cost is estimated about 800 mln hrn. Purchase of equipment in the maximal degree will be carried out under the leasing scheme.

Active investment policy of sea merchant ports is based on own and attracted means aimed to increase efficiency of existing terminals and construction of new modern highly technological specialized reloading complexes.

Among them one can mention:

- terminals for new kinds of cargoes (terminal for mineral fertilizers in port Odessa - one of the most modern in the Black Sea - Mediterranean Sea area; terminal for liquefied gas in the port of Odessa, terminal for grain in the port of Nikolaev)
- improvement of technology for discharging of traditional cargoes which will provide an intensification of processing of trucks (reconstruction of reloading complexes for general cargoes and metals in ports Odessa, Yuzhny, Mariupol)
- development and modernization of railway/trucks ways and other port objects for providing requirements concerned formation of an effective infrastructure of the international transport corridors (the container terminal at ferry complex in the port of Ilyichevsk within the framework of the Euro-Asian corridor, the overpass in the port of Odessa and others).

All this will support seaports' competitiveness in the general system of the international transport links.

Tasks of the Program stipulate harmonization of legislative base which adjusts activity of seaports with the legislation and the international agreements of Ukraine and its adaptation to the corresponding legislation of EU.

First of all completion of changes and amendments to the Code of Merchant Navigation is foreseen. Development and approval of a package of branch legislative acts (rules, regulations, instructions), which comment some items of the specified law, will be worked out simultaneously.

Reforming of state regulation system and of bases of industrial - economic activities of ports is offered to be realized by structural transformations which are based on such main principles:

1. fixed capital of ports (berths, moles and breakwaters, shore protection structures, territories, water areas, approaching ways, reloading complexes, etc.) is state property and is not subject to privatization
2. functions of port authorities are divided on:
  - a. management of a state property and development of a fixed capital;
  - b. providing of safety navigation on water areas of ports and supervision of safety of navigation according to laws, rules and the international agreements of Ukraine in the field of merchant shipping;
  - c. commercial economic activities concerning service of vessels, cargoes and passengers.
3. de-monopolization of industrial activity in ports is provided: the competition environment is created due to functioning on their territories and water areas of commercial structures which compete for service of vessels, cargoes and passengers (stevedore, forwarding, agency and other organizations).

Functioning of all enterprises in port is regulated by the state economic measures (a tax and tariff policy, subventions, etc.). Efficient management of the state property in ports is

carried out by Administration of Sea Port. As a result of the specified structural transformations, in the ports there is a distribution of administrative and economic functions which allows to involve market mechanisms to the full. The Administration of Port transfers in rent to stevedore, agency, transport-forwarding and other structures the port capacities and creates conditions for their effective utilization.

The Program provides two-staged transition to full distribution of administrative and commercial (economic) activity in seaports of Ukraine. At the first stage the mixed scheme is possible in which Administration of Port provides both functions of property management and functions of the operator in some kinds of activity.

In ports, in which necessary conditions are already provided, the other form of economic activity may be applied. This activity is based on interaction with commercial companies which have corresponding industrial and investment opportunities as well as access to formation of cargo base. Such form of the organization of economic activity has passed long approbation in the Odessa Sea Merchant Port and was confirmed by achieved high efficiency.

At the second stage full distribution of state-legal (administrative) and economic (commercial) functions is carried out in ports, and the Administration of Port concentrates on realization only state-legal functions concerning the state supervision of navigation and management of port's property using for this purpose both administrative rights and market mechanisms (rent and other economic agreements, a price policy, etc.). Side by side with it, Port Administrations develop and carry out an investment policy, implement programs of reconstruction and construction of port objects, use new technologies.

The basic idea of the Program relates to stimulation of capital investments in construction of the specialized reloading complexes of necessary specialization and capacity, development of railway and truck transportation communications due to own and involved financial resources and duly entering in operation according to predicted term of coming freight flow.

Regarding Governmental decisions concerned participation of seaports in system of the international transport corridors, it is necessary to define in corresponding normative documents items on the organization of interaction of domestic seaports with administration of the international transport corridors according to the international standards.

During last years investment activity on sea transport is carried out by realization of investment projects of modernization and construction of reloading complexes in seaports. More than 70 % of all investments are carried out due to own means of ports. The total amount of investments into development of Ukrainian ports in 1996-2000 has made 1,5 billion hrn. The most significant volumes of investment took place in Odessa, Yuzhny, Ilyichevsk and Mariupol ports. The part of investments on these ports in total amount of investments for 1996-2000 makes about 83 %.

With the purpose of attraction of transport flows and increase in volumes of cargo handling:

- in Ilyichevsk port in 1998-2000 the mineral fertilizers terminal as well as grain terminal were constructed;
- in Yuzhny port general cargoes terminal was constructed;
- in the Odessa port four-kilometer truck overpass was built;
- works on reconstruction of some berths in Yuzhny, Mariupol and Odessa ports are carried out;
- the mineral fertilizers terminal was constructed in Nikolaev port.

Investment projects in framework of "Program of creation and functioning of a national network of the international transport corridors" foresee for the period till 2003 construction of new and reconstruction of existing reloading complexes and berths in ports of Ilyichevsk, Odessa, Yuzhny in volume of financing about 500 mln hrn.

The need for the further construction of port complexes stipulated by the Concept of Development of Ports of Ukraine till 2020 is confirmed. The total need of investments till 2010 on development of port complexes of Ukraine is estimated in volume of 2,3 billion hrn. Besides additional investments are necessary for updating of port fleet by tug-boats and other auxiliary vessels as well as by passenger vessels.

Investment activity of this Program is based on such opportunities:

- self-financing due to own means;
- attraction of the private capital, credits and investments of domestic and foreign funds and organizations;
- budgetary financing for some objects of the state value;
- use of concessions for large infrastructural projects.

Simultaneously with the specified forms of investment real and rather perspective mean is attraction of investments of cargo owners interested in improvement of production delivery, in particular by creation of joint enterprises.

Table 3. Volumes of necessary investments into development of Ukrainian ports (Ministry of Transport), mln hrn.

Subjects of investments	Volume of investments			Sources of funding	
	In total for 2002-2010	Including		Own means, investments	State budget
		Up to 2005	2006-2010		
Construction and reconstruction of terminals	2316.3	1330,6	985,7	2316,3	-
Purchasing of vessels	725.5	293.9	431,6	323.0	402,5
In total for all ports	3041,8	1624,5	1417,3	2639,3	402.5

Program actions on improvement of a tariff policy in port pricing should be based on state regulation of port payments and tariffs for fulfillment by port necessary works connected with discharging of cargoes, and also contractual pricing on other services and works which are given to ship-owners, owners of a cargo and passengers.

The system of port tariffs should provide:

- system's stability and, at the same time, flexibility which allows to react to the current conditions of the market operatively;
- a level of profitability sufficient for providing the expanded reproduction of a port economy;
- competitiveness of Ukrainian ports in conditions of the transport services market.

For improvement of a tariff policy of the Ministry of Transport the Program foresees creation of the Concept of carrying out of a transport tariff policy in Ukraine in market conditions.

Tasks of the Program aim to improve working system of port tariffs which creates conditions for increase of efficiency of a tariff policy by carrying out of such actions as:

- reconsideration of the Collection of Tariffs for works and services which are given to owners of a cargo by seaports of Ukraine;

- development of Manual concerning calculation of a level of local tariffs, and also the list of works and services which are given to owners of a vessel and a cargo in seaports and are paid under these tariffs;

- development of Manual concerning application of tariffs for works concerned realization of cargo operations in sea merchant ports;

Preparation of normative documents on improvement of working system of port tariffs will be carried out with attraction of scientific potential and will be reflected in the branch plans of researches.

Providing of safety of navigation and prevention of environment pollution in sea merchant ports are priority strategic directions of work of seaports of Ukraine and are directed to realization of a state policy in the field of protection the population, territories, an environment, economy against negative influence of ports activities.

Actions on safety and on preservation of the environment which are stipulated by the Program, take into account requirements of the IMO and other intergovernmental organizations.

Tasks of the Program assume such actions on development and implementation of national norms, standards and rules concerning a safety of navigation and prevention of pollution, as:

- harmonization of national norms, standards and rules to the legislation of EU on items of a safety of navigation and prevention to environment pollution;

- decision of problems concerned navigation-hydrographic providing of navigation on water areas of ports, approach channels and ways according to norms of safety;

- realization of actions on fulfillment by Ukraine of obligations regarding provision of ecological and sanitary safety on water areas of ports;

- development of technologies and techniques which correspond to a modern level of achievements, for support of cleanliness of water areas, liquidation of pollution of the sea;

- creation and certification of control systems of safety and prevention of pollution in ports on the basis of the international standards ISO 9000, ISO 14000;

- creation of system of monitoring on ship ballast waters in ports of Ukraine;

- creation of system of monitoring on atmospheric air in ports of Ukraine.

Improvement and development of potential for good safety, including case of extreme situations, prevention of pollution which is connected with operation of fleet, ports and other enterprises of sea and river transport, will be carried out according to the legislation of Ukraine due to means of ports.

Preparation of legislative documents concerning safety of navigation and creation of system management of safety and preservation of the environment in seaports will be carried out with attraction of scientific potential of area and to be provided in branch plans of researches.

Programs of social and economic development of sea merchant ports of Ukraine till 2010 foresee a complex of the actions directed on improvement of social sphere as a basis for achievement of economic efficiency of industrial activity of any port.

For effective support and development of social sphere, optimum use and proportional interaction of technological resources and labor power in programs of social development of each port objects of social development are planned. These objects cover:

- increase of professional skill and mastering by new professions;
- increase of educational level;
- improvement of accommodation, public health services and consumer services;
- development of sport and network of sport constructions;
- attraction of employees to business management;
- expansion of cultural network;

- improvement of working conditions and carrying out of measures of safety of labor;
- keeping in order of branch system of public health services on sea transport.

The important point for carrying out a policy of social development of ports is providing of financial resources on all directions which concern to this area.

The further opportunities of development of social sphere in sea merchant ports will be determined by two factors:

- state legislation in the field of social policy;
- economic efficiency of activity of each port.

## 7. Conclusion

There are strong potential opportunities of attraction to Ukraine significant international transport flows (especially by waterways). As it was assessed, volume of transit transportations through territory of the country may increase already in the near future by 25-30 %, and in the long term – in several times. The main role in these plans may play creation of common transport system in the country including TRACECA corridor, the Euro-Asian transport corridor (Black Sea – Caspian Sea) involving Russian inland waterways (Volga River, Volga-Don channel), Danube corridor (№7), and a corridor Baltic Sea - Black Sea.

Ukrainian water transport potential is already involved in functioning of existing transport corridors and provides necessary services and support. There is also essential reserve of capacities (regarding both sea ports and inland waterways) and this gives a base for optimistic prediction of future Ukrainian waterways development as part of international transport corridors.

## References

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