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EXPORTAT OF LIQUID ARGON TO AZERBAIJAN

Kassabekov M. *Logistics manager of Service maintenance department at Joint-stock company "National company "Astana EXPO-2017", Astana*

Kassimov U., Kassabekov M. *professors of Eurasian National University named after L. Gumilev, Astana*

The article describes the following export operation:

- International combined transportation of liquid argon from the territory of the air separation plant in Temirtau (Kazakhstan) to Bina railway station (Azerbaijan) using consignee's private tank-wagon designed for argon shipping in bulk by railrway;
- Shipment of cargo by main Kazakhstani railways to Aktau port (Kazakhstan), from Aktau port to Alyatport (Azerbaijan) by ferry and further cargo delivery to Bina railway station by Azerbaijan railways;
- Shipment of empty wagons owned by Linde Gas Kazakhstan along the route of Bina railway station, Baku (Azerbaijan) – Zhanaaul railway station, Temirtau (Kazakhstan) by main railways of Azerbaijan, Russia and Kazakhstan.

Primary reason of choosing of key export product was description of 3PL services for the client, in both import and in export directions.

In this regard, I chose liquid argon as a key export product, which is being produced and exported by Linde Gas Kazakhstan to Azerbaijan.

Figure 1 shows the export schedule of the products "Gases inert - Argon" under the heading 28 04 21 00, for the last five years.

«Inerting gases - Argon» contains the diagram of exporting goods under HS Code 8 04 21 00 over the last five years. Exports of argon grew in average by 20-25% annually. In 2014, export of this product has grown by 70% in comparison to last four years. This information shows that inerting gases have a great growth potential, taking into account production capacities enhancing currently and development of new transportation corridors in Kazakhstan built within the framework of the Strategy.

Also this figure includes data on countries where argon has been exported. It is evident that major share falls on neighboring country. This is due to the fact, that liquid argon is highly sensitive to timing of transportation.

Till the end of 2014, argon has never been exported to Azerbaijan. After updating the data for the first half of 2015, exports of argon will appear in trade statistic of Kazakhstan, which is the result of the contract of Linde Gas Kazakhstan with its partner in Azerbaijan for supply of industrial gases for the whole 2015.

The first consignment of argon under that contract was exported to Azerbaijan by truck in cistern semi-trailers in mid-January 2015.

After shipping the first consignment by truck, the client made a decision to export the cargo by railway, under Incoterms 2010 Rules -DAPBina railway station (Azerbaijan). The decision was taken in order to reduce the transportation costs and, subsequently, to increase volume of load per one consignment, since the truck can carry no more than 20 tons of argon per one run.

The decision of cargo supply to Azerbaijan by railroads lead to signing of a contract between Linde Gas Kazakhstan and Lomer Point Bridge for rendering 3PL services by the latter. This contract enhances cooperation and indicates the mutual trust between two companies.

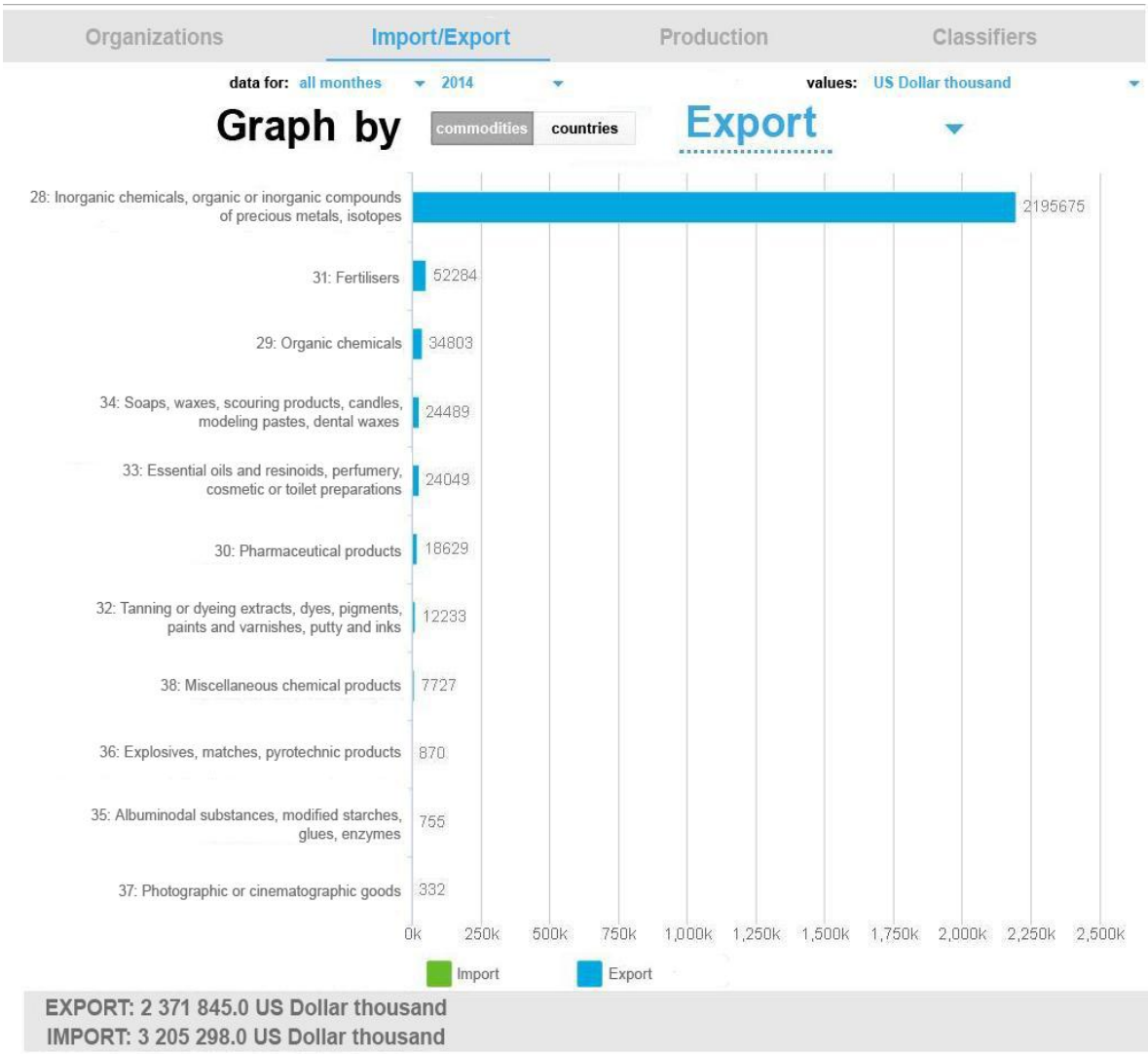
As agreed, Linde Gas Kazakhstan submitted a request to Lomer Point Bridge, which specified the following shipping information:

Cargo: Argon, HS Code 28042100;

Hazard class: 2.2. UN 1951;

Vehicle type and quantity: one tank-wagonownedbyLinde Gas Kazakhstan;

Wagon loading: 55 tons;



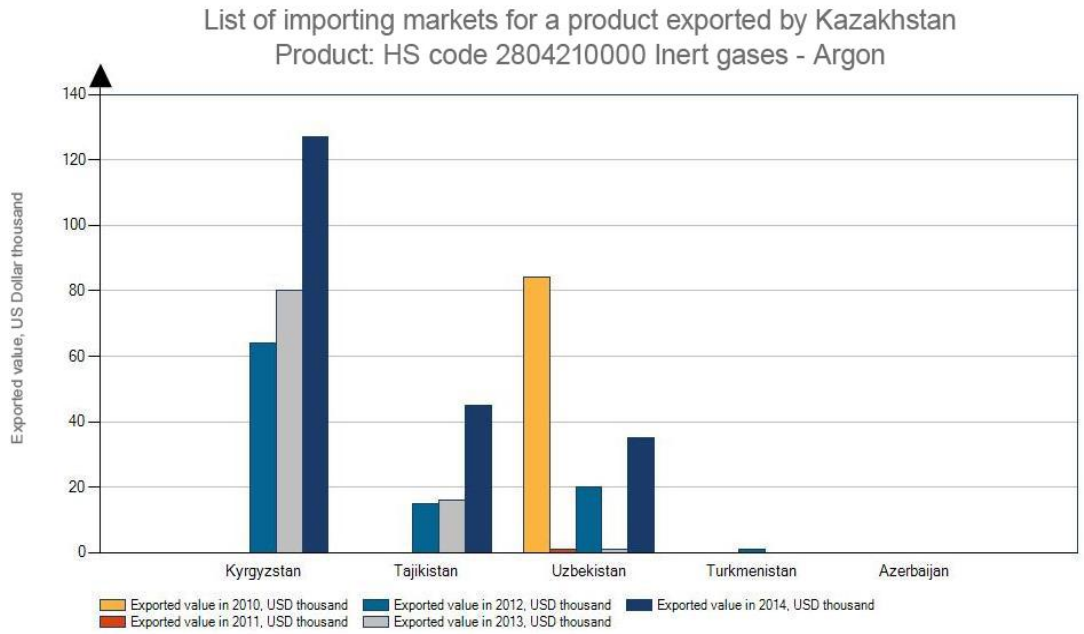


Figure 1 - Export indicator of a commodity group TNVED 28-38 for 2014. Comparative table of export of argon for 2010-2014.

Route: Zhanaul railway station (Kazakhstan) – Bina railway station (Azerbaijan) – loaded wagon; Bina railway station (Azerbaijan) – Zhanaaul railway station (Kazakhstan) – return of empty wagon.

Selection of optimum transportation route.

When selecting transportation route, it was necessary to take account the fact that the wagon is owned by Linder Gas Kazakhstan, the cargo shipper. Therefore, it was required to calculate the cost of delivery of loaded wagon to Azerbaijan and return of empty wagon to Zhanaaul railway station.

In order to choose the most efficient route, I considered three possible options.

First option, offered by the tariff calculus program, was transportation via the territories of Kazakhstan, Russia and Azerbaijan by railroads for both loaded and empty wagons.

Second option was transportation by railroads to Aktau port (Kazakhstan) with the use of ferry from Aktau port (Kazakhstan) to Alyat port (Azerbaijan), for both loaded and empty wagons.

Third option was combination of the two above, i.e. (i) transportation of loaded wagon by railroads to Aktau port and by ferry from Aktau port to Alyat port, and (ii) return of the empty wagon by railroads via the territories of Kazakhstan, Russia and Azerbaijan (the map for the movement of a laden and empty car is shown in Figure 2).

Figure 2 - The route of movement of a loaded and empty tank wagon,Route Zhanaaul-Bina-Zhanaaul

Third option was determined as the most cost- and time-efficient for the following reasons: (i) reduction of transportation of loaded wagon, which takes the majority of transportation cost; (ii) calculated transit time for wagon turnover is less for 5 days in average comparing to the other transportation options.

Along with the advantages of this route, there are disadvantages as well, namely:

1) Potential time increment of transit and delivery cost. Increment of transit time can be caused by a variety of reasons related to feature of the ferry service in the Caspian sea basin.

Departure of ferry from port depends on flooding of the ferry, which in average may take two to five days of lost time spent in waiting for ferry flooding. While waiting, Aktau port may charge demurrage penalty on the wagon, which in turn may incur insignificant increase of transportation cost. Unfavorable weather conditions may also affect the timing of wagon delivery to the destination point while waiting of ferry for more favorable weather.

2) Strict requirements to planning and processing of exporting through the ferry sector in Aktau port.

The Law of the Republic of Kazakhstan No. 266-II «On Railway Transport» of December 8, 2001 requires obtaining prior approval of departure of wagon with railway departments of port railway stations engagen in transportation - 10 days prior to the beginning of the calendar month on which the shipment is planned. The application shall specify the cargo shipper, departure station, commodity name, volume of goods in wagons and tons, port railway station, country of destination.

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