



Analysis of Opportunities for Introduction of Environmental Management Systems at Arkhangelsk Region Companies

ANALYSIS OF OPPORTUNITIES FOR INTRODUCTION OF
ENVIRONMENTAL MANAGEMENT SYSTEMS AT
ARKHANGELSK REGION COMPANIES

Description of the Selected Companies, Assessment of Their Attitudes and
Opportunities to Introduce the Corporate Environment Management System



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SUMMARY

Arkhangelsk Region is one of the focal points of Northwest Russia with 3000 km of coastline on three Arctic seas (Barents, Kara and White seas), which help strengthen economic ties with many countries around the world. Arkhangelsk region borders the Republic of Karelia, the Vologda region and the Murmansk region.

The region has a total area of 589 900 km², 39% of which is occupied by forests, The region's administrative structure includes the Nenets Autonomous District, 20 administrative districts, 14 cities, 38 towns, about 4000 rural communities, and the island archipelagos of Novaya Zemlya and Franz Josef Land.

Figure 1. Districts of the Arkhangelsk Region

Districts and towns denoted by figures:

1. The Mezen district
2. The Primorsk district
3. The town of Severodvinsk
4. The town of Arkhangelsk
5. The town of Novodvinsk
6. The Kholmogory district
7. The Pinega district
8. The Leshukonsky district
9. The Onezhsky district
10. The town of Onega
11. The Plesetsk district
12. The Vinogradovsky district
13. The Kargopol district
14. The Nyandoma district
15. The Shenkursk district
16. The Vernetoesmsky district
17. The Konosha district
18. The Velsk district
19. The Ustyia district
20. The Krasnoborsk district
21. The Lensky district
22. The Kotlas district
23. The town of Kotlas
24. The town of Koryazhma
25. The Vilegodsky district
26. The town of Naryan-Mar



The population of Arkhangelsk Region as of January 1, 2000, was about 1 500 000 people, most of which live in urban areas (1 086 500 people). The population density is about 2.5 people per km².

The region shelters a significant number of industrial companies of which the following ones are of major importance:

Kotlas PPM. The company, which is controlled by Ilim Pulp group, is the largest pulp and paper mill in Northwest Russia. The core products are sulphate pulp, paper, carton board and paper bags. The company produces about 15% of total Russian pulp and about 20% of the carton board.

Arkhangelsk PPM. Arkhangelsk PPM is one of the largest pulp and paper producers in Russia and Europe. The mill, which belongs to Titan group, holds the first place in Russia by production of packaging board, and the second by pulp production.

ArkEnergO. ArkEnergO is a regional energy company, which provides for heat and electricity to individual and industrial energy consumers of the Arkhangelsk region. The company incorporates

Arkhangelsk Combined Heat and Power Plant, Severodvinsk CHPP #1, Severodvinsk CHPP #2 and 5 network operators.

SevMash. SevMash is the largest Russian atomic submarines and ships producer located in the town of Severodvinsk in 35 km from the city of Arkhangelsk. In the Soviet Times the company specialized solely in supplying submarines to Russian military fleet. Nowadays, the company is involved in production of drilling platforms, equipment for modernization of railroad bays for forest transportation, pontoons, and other specific civil products.

Solombala PPM. Solombala PPM is one of the largest producers of unbleached sulphate pulp in Russia. Besides market pulp, the mill also produces packaging paper, the production volumes being rather small.

Arkhangelsk Base of Trawling Fleet. Arkhangelsk Base of Trawling Fleet (ABTF) is one of the oldest fishing companies of Russia. The company, which is presently belongs to the state, was established in 1920. At present the company's fishing fleet consists of 24 ships. The company produces cod-liver and whale oil, canned fish and fish products, fish flour and frozen fish.

Solombala LDK. Solombala LDK is one of the largest sawn timber producers in the Northwest Russia. The production capacities of the company allow for processing of 800 thousand m³ of raw wood annually. Besides the sawn timber the company produces several associated products, such as packaging materials, construction-related materials, and pulp chips.

Onezhski LDK. Onezhski LDK, a large sawn timber producer, is located in the northern part of the Arkhangelsk region on the shore of the White Sea in the town of Onega. The company produces about 250 thousand m³ of sawn timber a year.

Arkhangelsk Trade Sea Port. Arkhangelsk Sea Port is the second largest port of the Russian North (after the port of Murmansk), which is located in the mouth of the North Dvina river in 50 km from the Dvina Gulf of the White Sea. The port is the focal point of cabotage links with the regions of the Russian North. It plays very important role in exports of forest products from Russia.

Severnoe Morskoe Parohodstvo. Severnoe Morskoe Parohodstvo (Northern Steamship Company), a shipping company, has been successfully operating in worldwide cargo shipping since 1870. NSC fleet of multi-purpose ice-classified dry cargo vessels with DWT (deadweight) varying from 2.500 to 14.000 tons, carries logs, sawn timber, pulp-and-paper products as well as other cargoes. The company operates 43 ships.

Zvezdochka. Zvezdochka Engineering Plant is the leading Russian shipyard specializing in repair and modernization of submarines, naval ships and civil ships and other vessels of any class and purpose. Several years ago the yard mastered construction of cargo ships, trawlers, floating oil/gas drilling platforms in the area of Arctic Seas. Besides this, Zvezdochka has substantial experience in design and construction of floating mooring lines and pontoons. The company also started diamond cutting activities several years ago. Zvezdochka presently operates the largest in Russia specialized ship propeller production.

SeverAlmaz. The company was established in 1992 in order to develop the recently discovered diamond mine named after Lomonosov. The reserves of mine are estimated on the level of USD 12 billion. At present the company is preparing to commercial exploitation of the diamonds deposit.

The present report is dedicated to investigation of opportunities for the mentioned companies to start projects on EMS introduction.

1. GENERAL OVERVIEW OF THE REGIONAL ECONOMY

Economic developments

The economy of Arkhangelsk Region has traditionally been based on the exploitation of forests, fishing, and transportation. High costs of building infrastructure has limited its development to a few key projects, such as the main railway, the main motor road, a few ports, power stations, etc. Outside of cities and towns, infrastructure is almost non-existent. Economic activity is concentrated in a few key sectors, and, partially as a result of Soviet time monopolization and gigantism, the largest share of output is produced by several large industrial enterprises.

The base of the regional economy is *the forest industry*. Rich and manifold timber resources, as well as preferable location in proximity to local and European consumers of wood-related products created prerequisites for the development of the forest industry in the Arkhangelsk region. The rapid development of forest industry in the Arkhangelsk region during the Soviet times was mainly driven by the existence of large and relatively accessible forest stock. Forests of the region cover the area of 22 million hectares; the stock of wood is estimated at the level of 2.4 billion m³. Thus, the Arkhangelsk region can be rated as 2nd in the North-West in terms of existing raw wood stock (after the Republic of Komi). However, comparing to the Republic of Komi, the infrastructure of the Arkhangelsk region provides for more favourable conditions for forest exploitation. About a half of regional raw wood stock falls at coniferous wood.

In 2003 the turnover of forest companies of the region amounted to RUR 27.9 billion (about USD 910 million). The companies produced 7.9 million m³ of raw wood, 1.9 million m³ of sawn timber, 18.8 million m² of fiberboard, 72.2 thousand m³ of plywood, 1 million m³ of pulp chips, 1.895 million tons of pulp (including 735.2 thousand tons of market pulp), 333.4 thousand tons of paper, 705.3 thousand tons of carton board and 331.7 millions of copybooks.

The fish industry is one of the traditional industries of the region. Local fishing companies caught over 120 thousand tons of fish in 2003. Output of processed and canned fish was 94.7 thousand tons. The fish exports amounted to 902 tons.

The fuel industry is the other major sectors of regional economy, which is presently characterized by rapid development. Due to large unexploited reserves, oil companies consider the Arkhangelsk region a very promising place for development of new projects. Russian and international oil companies are pursuing opportunities in the development of the Timan-Pechora oil field—the most active being Lukoil, Rosshelf, Conoco Statoil, Norsk Hydro and Tatneft. Since oil companies will be targeting international markets, transportation of oil from new deposits to the consumer will be an important issue. Pipeline capacity is limited and railroad is not the best option because oil cannot be transported during the winter months without heating due to low temperatures. The capacity of railroad network is not sufficient and rail transportation is not cost effective in times of low oil prices. Oil companies will have to either build an oil terminal and a new pipeline, or find alternative methods of bringing oil to the market. There are huge gas reserves in the region and on the sea shelf. Stockman gas field is among Gasprom's best prospects for future growth. Besides gas exploration and extraction, the gas pipeline through Vologda Region to Arkhangelsk is currently under construction. A methanol plant for processing of gas is also being built near Arkhangelsk.

The machine building in the region is represented mainly by Zvezdoychka and Sevmash, two large enterprises of the nuclear submarine shipbuilding located in Severodvinsk. During Soviet times, these companies built nuclear military submarines but now their product line has expanded to include various types of civil ships — mainly fishing trawlers and ice-resistant platforms for oil exploration and extraction on the sea shelf. The companies are also active in several nuclear safety, conversion, and nuclear submarines utilization programs. Sevmash has received an order from Rosneft and Gasprom to build an offshore ice-resistant platform for oil field "Prirazlomnaya" in the Pechora Sea. The total cost of the project is USD 1 billion. Sevmash is also a contractor of several oil companies to manufacture sea shelf platforms for oil and gas development in Sakhalin. Zvezdoychka has a contract from the Finnish shipbuilding company, Azipod, to supply screw propellers for civil ships. The company is also Norway's contractor to build bearing structures for tidal electrical power stations. Zvezdoychka has experience in designing and manufacturing of floating bridge piers, pontoons, pontoon bridges of different length, ships, fishing

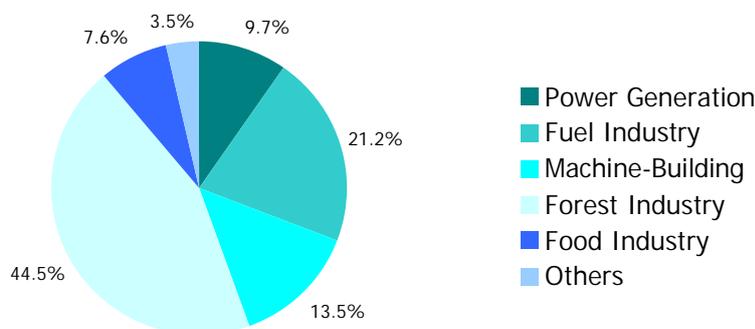
trawlers, jack-up drilling rigs for exploration and exploitation of oil and gas offshore wells in Russian Arctic. However, attraction of investment is difficult due to the fact that the enterprise is still government property and is engaged in Russian military programs.

The extraction of diamonds is a new direction of the region's economy development. The only development-ready diamond deposit in Europe named after Russian scientist Lomonosov is located in the Arkhangelsk Region. Gems and diamonds make up 60% of the raw material content. Russian diamond company ALROSA plans to begin extraction of diamonds in 2004 (SeverAlmaz). A plant for processing of 5.6 million tons of ore a year should be completed by 2006. According to the press-service of the Arkhangelsk administration and to ALROSA's own comments, the total investment in the exploration project exceeds USD 350 million over a period of several years. In 2004, the company plans to invest approximately USD 100-110 million in the development of deposit.

Industrial Production Structure

As it was mentioned above, in the industrial production structure the leading positions belong to the forest industry, fuel industry, machine-building and the food industry (including the fish industry).

Figure 1. Industrial Production Structure of the Arkhangelsk Region in 2002



Source: GosKomStat, 2003.

In 2002, the regional industrial output amounted to RUR 54.9 billion (about USD 1.75 billion). Industrial production index totaled 101.0%. The registered unemployment rate is 2.3% (the Russian average is 1.31%).

Investments

The volume of foreign investment in the Arkhangelsk Region economy is insignificant. In 1999 the foreign investments reached its peak of USD 349 million, thus amounting to 3,6% of total foreign investments in the Russian economy. Such a rapid growth was primarily determined by the implementation of several large-scale projects of gas and oil production in the Nenezky autonomous district that is embodied in the Arkhangelsk Region territory. These are the companies of the district that attracted 99% of the total investments.

Table 1. Foreign Investment in the Arkhangelsk Region Economy in 1996-2002, USD thousand*

	1996	1998	1999	2000	2001	2002
Total	14988	22784	348624	39008	50499	272387
Incl. FDI	3940	10489	400	1381	1420	96452

Source: Goskomstat

Corporate Sector

As of January 1, 2003, 21696 enterprises were registered in the region. Most of the registered enterprises belong to the private sector. The leading regional enterprises are:

- § Kotlas PPM
- § Arkhangelsk PPM
- § ArkhEnergO (power generation)
- § SevMash (Severnoe Mashinostroitelnoje Predpriyatje, machine-building)
- § Solombala PPM,
- § Arkhangelsk Base of Trawling Fleet
- § Solombala LDOK (sawn timber producer),
- § Onezhski LDOK (sawn timber producer),
- § Sea Port of Arkhangelsk
- § Severnoe Morskoe Parokhodstvo (logistics, sea transportation)
- § Zvezdochka (amchine-building)
- § SeverAlmaz (diamonds mining)

Environmental Issues

The environment of the region is exposed mainly by the companies of pulp and paper industry (Kotlas, Arkhangelsk, Solombala PPMs), mechanical wood-processing companies (more than 60 of them are located in the region), Arkhangelsk and Onega hydrolysis mills, power generation companies (Arkhangelsk Combined Heat and Power Plant, Severodvinsk HPP #1, Severodvinsk HPP #2, municipal boiler houses), state nuclear shipbuilding companies (Zvezdochka and SevMash), Plesetsk space-vehicle launching site and Nenoksa nuclear testing ground.

In the year 2002 the industrial emissions to the air in the region amounted to 268.48 thousand tons, including 76.5 thousand tons of solid particles, 113.9 thousand tons of sulfur dioxide, 43.8 thousand tons of carbon oxide, 24.5 thousand tons of nitric oxide, 5.0 thousand tons of carbohydrates, 3.3 thousand tons of volatile organic substances and 1.66 thousand tons of other liquid and gaseous substances.

The largest emissions to the air were done by the companies of the forest industry (about 83.4 thousand tons or 31.1% of total regional emissions to the air). Besides this, companies of power generation are among the largest air polluters – their annual air emissions amount to about 77.5 thousand tons or 28.9% of total regional emissions to the air.

The total regional emissions to the water amounted to 516.99 million m³ in 2002, including:

- § 57.56 million m³ of non-treated waste water,
- § 459.43 million m³ of partially treated waste water that is about 94.7% of total waste water processed by industrial waste treatment facilities,
- § 25.79 million m³ of waste water that is treated in proper way and comply with all necessary standards.

Only 20 of 379 companies, which intensively use water in their production cycle, provide for appropriate water treatment with all norms met. The most common substances in the industrial wastes are oil products (40 tons), suspended substances (20 940 tons), phosphorus (331 tons), phenols (5 tons), iron (25 tons), zinc (0.2 tons).

As for solid wastes, 451 companies of the region provided for 3292.6 thousand tons of solid wastes in 2002, including:

- § 31.4 thousand tons of waste of 1st class of danger,
- § 1.6 thousand tons of waste of 2nd class of danger,
- § 54.8 thousand tons of waste of 3rd class of danger,
- § 2147.4 thousand tons of waste of 4th class of danger,
- § 1057.4 thousand tons of waste of 5th class of danger,

The following environmental indicators (per person and per sq km) characterize the ecological situation in the Arkhangelsk region in 2002:

1. Emissions to the air

- § Per sq km: 0.6 tons
- § Per person: 193.2 kg

2. Emissions to the water

- § Per sq km: 1.25 thousand m³
- § Per person: 377.4 m³

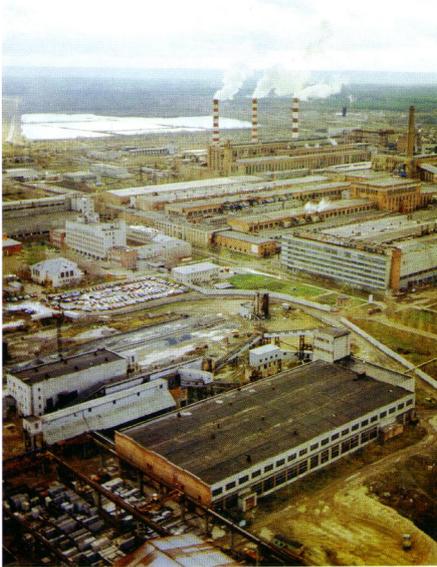
3. Toxic wastes

Per sq km: 7.8 tons
Per person: 2403.7 kg

During the recent years we can observe the positive trend of steady decrease in emissions. For example, in 2002 the industrial emissions have decreased by 16.4 thousand tons as compared to 2001.

2. CORPORATE SECTOR

2.1. Kotlas PPM.



Place of the Company in the Regional Economy

Kotlas PPM is the largest pulp and paper mill in Northwest Russia. The mill is located in the south part of the Arkhangelsk region in the town of Korjashma. The core products are sulphate pulp, paper, carton board and paper bags. The company produces about 15% of total Russian pulp and about 20% of the carton board. More than 65% of all products are exported. The mill exports its products to Great Britain, Germany, Holland, France, Austria, Italy, Spain, Greece, Serbia, Croatia, Hungary, Poland, Bulgaria, Czech Republic, Slovakia, Iran, Turkey, Egypt, Lebanon, Cyprus, Cambodia and Mongolia.

Operational Performance

The designed capacity of the mill is about 950 million tons of pulp a year. Since 2002 the company has been producing more than 900 million tons of pulp a year. During the recent years the company has been showing sustainable operational performance.

Table 2. Operational performance of Kotlas PPM

	1997	1998	1999	2000	2001	2002	2003
Total pulp, tons	572356	482859	634860	753055	795063	900237	912529
Sulphate bleached pulp, tons	232410	193168	258157	249538	299712	-	-
Viscose pulp, tons	47845	56463	59379	69549	74014	-	-
Paper, tons	158784	160571	194011	230865	225839	239570	249489
Offset paper, tons	57698	61054	74417	78920	79481	87500	85319
Carton board, tons	168998	141833	199711	229457	262367	266047	270942
Bags, thousand	132525	118802	110269	10508	12212	114828	117313

Source: internal accounts of OAO Kotlas PPM, analytical review "The results of the activity of Russian pulp and paper industry in 2003" (RAO Bumprom).

At present there are plans to establish sawn timber production on the base of the mill's infrastructure. The business plan of the project assumes designed capacity of a new mill equal to 500-700 thousand m3 of sawn timber a year.

In 2004 the company plans to proceed with energy saving and environmental protection programs. It is supposed to invest USD 36 million for this purpose.

Financial Performance

The company showed stable financial performance in the recent years. However, the mill's financial result was influenced by the conflict of Ilim Pulp, the mill's owner, with Basic Element group, which is led by Mr. Deripaska, an aluminum magnate. Basic Element was trying to gain control over the mill and was nearly successful in this.

Table 3. Financial Performance of Kotlas PPM, USD million

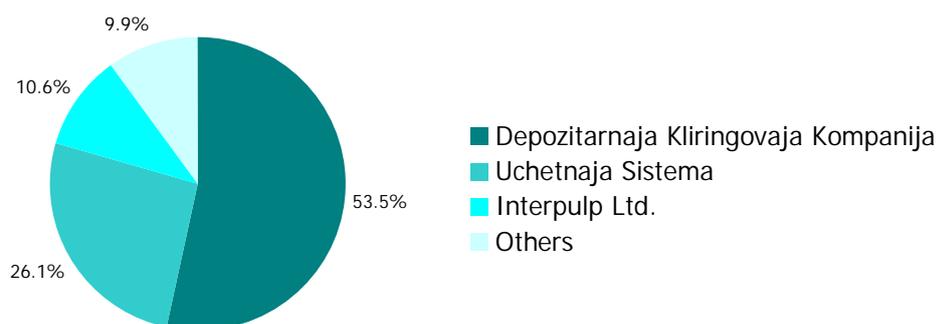
	2000	2001	2002	3Q 2003
Shareholder's equity, USD million	143.7	130.4	140.5	153.9
Sales, USD million	243.2	220.9	235.16	131.85
Net Profit, USD million	27.4	11	15.66	6.47

Source: Company's Financial Statements 1999-2002.

Ownership Structure

The present mill's owner is Ilim Pulp group, the largest forest group in Russia. The group controls the company through nominal shareholders (Depositarnaja Kliringovaja Kompaniya, Uchetnaya Sistema) and Interpulp Ltd, which is an offshore company based on Maine Island.

Figure 2. Ownership Structure of Kotlas PPM



Source: www.skrin.ru

Personnel and Management

The company employs about 8 000 people.

Yury Zayats (right photo) is the mill's Managing Director.

The company's operations are supervised by Mr. Zakhar Smushkin (left photo), major Ilim Pulp's shareholder.



Environmental Impact

Kotlas PPM is one of the major polluters of the Arkhangelsk region. In 2002 company's emissions to the air amounted to 10.4 thousand tons that is 4.4 thousand tons lower as compared to 2001. Kotlas PPM provided for 3.9% of total regional emissions to the air and 12.5% of emissions to the air of the regional pulp and paper industry.

The company used 263.27 million m³ of water in 2002. Kotlas PPM demonstrated significant reduction of emissions to the water in 2002. The emissions has decreased by 27.91 million m³ due to the decrease in water consumption as a result of a resource saving program.

Opportunities for EMS Introduction

In the year 2002 Kotlas PPM went through ISO 9001 and ISO 14001 certification. The company stated that it is ready to cooperate with the Ministry on implementation of concrete environmental protection projects.

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2.2. Arkhangelsk PPM



Place of the Company in the Regional Economy

Arkhangelsk PPM is one of the largest pulp and paper producers in Russia and Europe. The mill holds the first place in Russia by production of packaging board, and the second by pulp production, which is a clear indication of the company's leading position in the pulp and paper industry. Exports account for 30-40% of all sales, and the mill's products are delivered to 50 countries.

Arkhangelsk PPM is presently a member company of Titan Group. Titan Group is the second by size forest group in Russia after Ilim Pulp. The group is in Top 100 companies of Russia and had the consolidated turnover approaching USD 300 million in 2003. The group specializes mostly in production of pulp and carton board, especially various types of packaging board. As of the end of 2002, its share in the Russian packaging board market was about 30%, while in the corrugated board market – 13.4% and in the Russian pulp production – 13.1%. In the year 2002 the group produced 730 thousand tons of pulp, including 207 thousand tons of market pulp and 407 thousand tons of packaging board. The group employs more than 20 000 people.

Operational Performance

The total production capacity of the mill is more than 700 thousand tons of pulp per year. Among the medium-run goals is increasing the mills capacity up to 800-850 thousand tons of pulp without substantial investments. Wood supply division and preparatory workshop are ready to process up to 4,5 million cubic meters of raw wood per year. JSC Arkhbum is responsible for handling all issues related to deliveries of raw materials to the mill and sales of its products.

The mill has been showing improving operational performance in the recent years.

Table 4. Operational Performance of Arkhangelsk PPM

	1999	2000	2001	2002	2003
Total Pulp, tons	662280	698545	673660	730435	770745
Bleached sulphate pulp, tons	229185	236564	238632	237401	244154
Including market pulp, tons	203255	217726	208830	203499	216927
Paper, total	53477	59490	67817	77403	80138
Medium layer of corrugated board, tons	215444	218496	193081	237381	248981
Corrugated board, tons	110011	116208	119794	117343	130224
Universal carton board, tons	48454	54358	50651	52066	53725
Boxboard, million m2	125.68	121.6	126.464	119.62	124.28
Fiberboard, thousand m2	7940.8	7763.4	7898.9	8058.7	8223.4
Copybooks, million	269.3	278.8	290.8	296.8	331.6

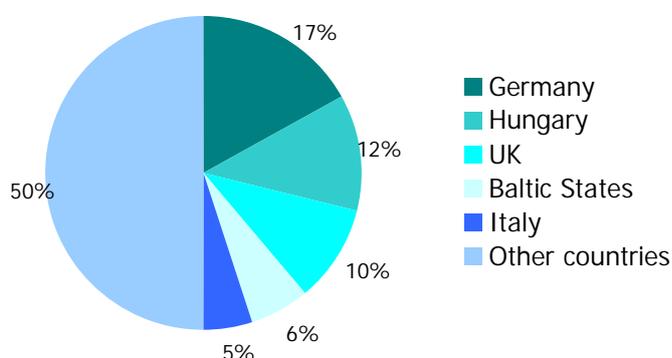
Source: www.appm.ru

In the 1Q 2004 the mill produced 204 045 tons of pulp, including 57 346 tons of market pulp, 20 240 tons of paper, 115 870 tons of packaging board, 31.7 million m2 of corrugated board, 2 122 thousand m2 of fibreboard and 88.9 million of copybooks.

Financial Performance

As Arkhbum is the exclusive trader and supplier of Arkhangelsk PPM, we should analyse financial performance of Arkhbum in order to see the financial results from selling products of Arkhangelsk PPM. In 2003 JSC Arkhbum sold 215.4 thousand tons of market pulp, 346.3 thousand tons of carton board, 65.7 thousand tons of paper, 122.3 million m2 of corrugated board and 314 million copybooks. Arkhbum exports about 40% of products produced by Arkhangelsk PPM. JSC Arkhbum was for many times acknowledged as the best exporter of Russia by the Ministry for Economic Development. Arkhbum is the member company of Association of Environmentally Responsible Forest Enterprises of Russia of WWF.

Figure 3. Arkhbum's Exports by Country in 2003



Source: Arkhangelsk PPM Operational Statement for the 4Q of 2003.

The financial performance of the company is positive, but has not been stable during several recent years. Financial statements of Arkhbum and financial results of Titan Group show that nearly all Titan group's

turnover fall at forest products that are sold exclusively through Arkhbum and only USD 6 million falls at non-forest companies and services.

Table 5. Financial Performance of Arkhbum

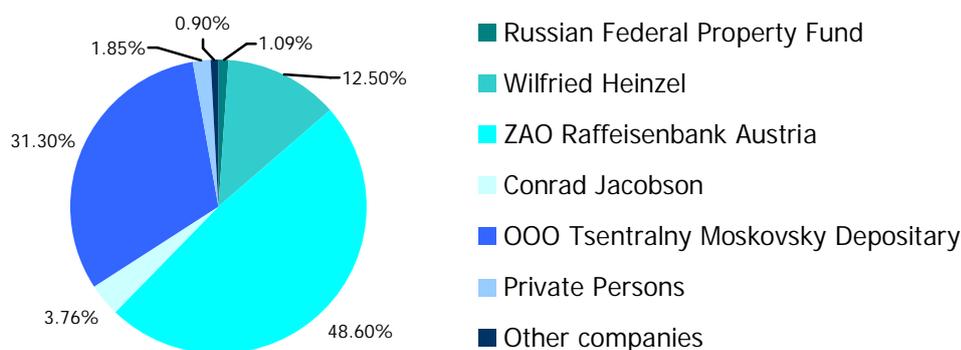
	1999	2000	2001	2002
Sales, USD million	317.8	361.1	312.5	287
Gross Profit, USD million	78.3	61	44.9	33.0
Net profit, USD million	12.7	9.1	11.8	2.4

Source: Balance sheets of Arkhangelsk PPM 2000-2002.

Ownership Structure

Arkhangelsk PPM, being the main asset of Titan Group, is not owned by the group itself. The group manages the mill having in mind the interests of friendly shareholders. We expect that ownership structure with participation of foreign nominal shareholders (traders) have been chosen in order to prevent hostile takeovers from the side of other Russian players. Besides this, this allows for drawing in cheap loans from foreign banks for modernization of the mill and other purposes.

Figure 4. Ownership Structure of Arkhangelsk PPM



Source: Expert Tower (ECAM).

Supplementing the presented ownership data that represent official information from the state registration bodies, we can add that, referring to public information, 54.1% in Arkhangelsk PPM have been accumulated by Pulp Mill Holding GmbH, which is supposed to proceed with further consolidation of shareholding in the mill. Besides this, in some sources there was mentioned that 20% shareholding in the mill belongs to companies affiliated by St. Petersburg Banking House that is controlled by Mr. Kogan. Another shareholding is said to be controlled by Continental Management group.

In this respect, Raffeyenbank and Tsentralny Moscovsky Depository can be the nominal shareholders who represent the interests of Pulp Mill Holding GmbH, St. Petersburg Banking House and Continental Management. Raffeyenbank probably holds shareholding of Pulp Mill Holding GmbH and Tsentralny Moscovsky Depository probably holds shareholdings of St. Petersburg Banking House and Continental Management.

Recent application to Ministry for Antimonopolic Policy from the side of Pulp Mill Holding GmbH for consolidation of 97.27% of Arkhangelsk PPM shows that this company tries to increase its shareholding in Arkhangelsk PPM. Referring to the public sources, Pulp Mill Holding GmbH carries out negotiations with St. Petersburg Banking House on acquisition of its shareholding in the mill in order to accumulate 75% shareholding. However, they have not been successful yet. Mr Zinner, Managing Director of Pulp Mill Holding GmbH, has announced that Arkhangelsk PPM is supposed to exit Titan group, but Mr. Krupchak is to proceed with the mill's management. Pulp Mill Holding GmbH is said to belong to a private person from Austria, but that is unconfirmed information.

Personnel and Management

The company employs

Vladimir Beloglazov (left photo) is Managing Director of Arkhangelsk PPM and Member of the Board of Arkhangelsk PPM.

Mr. Anatoly Krupchak (central photo), the head of Titan group and, probably, owner of the mill's major shareholding, supervises operations of the mill.

Mr. Heinz Zinner (right photo) is presently Chairman of the Board of Arkhangelsk PPM and Managing Director of Pulp Mill Holding GmbH.



Environmental Impact

Arkhangelsk PPM is the largest air and water polluter of the Arkhangelsk region. In 2002 the company provided for 19.45 of total regional emissions to the air (62.3% of emissions of the regional pulp and paper industry). The emissions to the air amounted to 52 thousand tons in 2002 that is 2 tons less as compared to 2001. Arkhangelsk PPM consumed 175.08 million m³ of water in 2002.

The company implements environmental protection program, which assumes investing about USD 5 million for environmental purposes a year. In 2003 in the course of this program the company carried out reconstruction of drainage system of settling tanks at biological waste water treatment, reconstruction of settling tanks and grates at mechanical waste water treatment, tuning lime regeneration machines at pulp and carton board productions. Besides this, the new waste storage was built and put into operation.

Opportunities for EMS Introduction

In the year 2004 the company plans to accomplish ISO 14000 certification. The company has ISO 9001:2000 certificate and it was confirmed in February, 2004.

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2.3. ArkhEnergo





Place of the Company in the Regional Economy

ArkhEnergo is a regional energy company, which provides for heat and electricity to individual and industrial energy consumers of the Arkhangelsk region. The company incorporates Arkhangelsk Combined Heat and Power Plant, Severodvinsk CHPP #1, Severodvinsk CHPP #2 and 5 network operators. In 2003 ArkhEnergo has acquired heat networks from municipality of the city of Arkhangelsk and plans to acquire heat networks of the town of Severodvinsk. The company was established in 1956 and was privatized in 1993. In 2001 the company was incorporated into SEUK (Northern Energy Managing Company), a subsidiary of UES of Russia, which now manages ArkhEnergo Operations.

Operational Performance

The total generation capacity of ArkhEnergo amounts to 1 696 MWt. Brief characteristics of the company's generating capacities are presented below.

Arkhangelsk CHPP: 6 turbines with total capacity of 450 MWt, 6 steam boilers with productivity of 420 tons per hour each, 3 hot-water boilers with productivity of 180 GCal per hour each.

Severodvinsk CHPP #1: 5 turbines with total capacity of 188.5 MWt, 5 steam boilers with productivity of 1320 tons per hour each, a hot-water boiler with productivity of 135 GCal per hour each.

Severodvinsk CHPP #2: 4 turbines with total capacity of 410 MWt, 4 steam boilers with productivity of 2 000 tons per hour each, 4 hot-water boilers with productivity of 100 GCal per hour each.

The company has been showing improving operational performance in the recent years.

Table 6. Operational Performance of ArkhEnergo

	2002	2003
Electric power generation, million kWh	2 848	3 211
Purchased electric power, million kWh	1 199	925
Losses of electric power, million kWh	672	653
Sales of electric power, million kWh	3 126	3 209
Sales of heat power, thousand GCal	5 197	4 974

Source: www.energo.arh.ru

The further development of ArkhEnergo will be driven by the coming restructuring, which assumes establishment of separate companies for power generation, sales and power networks operations.

Financial Performance

The company showed poor operational performance in the period of transition. The company had a usual problem with payments collection that in turn resulted in the company's great debt to suppliers and creditors that had mainly been restructured just recently.

Table 7. Financial Performance of ArkhEnergo, USD million

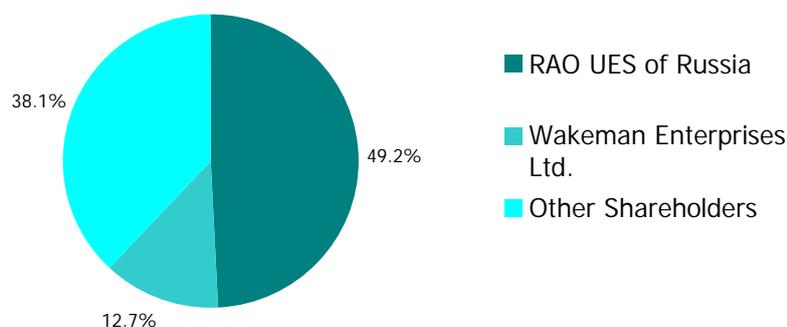
	2000	2001	2002	3Q 2003
Shareholder's equity, USD million	113.77	108.49	189.47	194.68
Sales, USD million	106.55	146.33	150.35	124.12
Net Profit, USD million	-16.13	-0.28	0.36	-0.335

Source: www.skrin.ru

Ownership Structure

The major company's shareholder is RAO UES of Russia (49%). The other large shareholding (12.7%) belongs to Wakeman Enterprises Ltd., a Cyprus-based offshore company. The nominal shareholder for another 11% shareholding is Depozitarnaja Kliringovaja Kompanija.

Figure 5. Ownership Structure of ArkhEnerg



Source: www.skrin.ru

At present the company is managed by SEUK (Northern Energy Managing Company), a subsidiary of UES of Russia, which also managed VologdaEnerg and KostromaEnerg, regional energy companies of the Vologda and Kostroma regions, correspondingly.

Personnel and Management

The company employs about 5 800 people.

The company is managed by SEUK.

Valentin Sanko is Managing Director of SEUK.

Gennady Binko is Deputy Managing Director of SEUK responsible for management of ArkhEnerg.

Environmental Impact

The company is one of the largest air polluters in the region. The environmental impact of power plants incorporated into ArkhEnerg is presented in the following table.

Table 8. Environmental Impact of Power Plants of ArkhEnerg

	<i>Emissions to the Air, thousand tons</i>		<i>Share in Regional Emissions to the Air, %</i>	
	<i>2001</i>	<i>2002</i>	<i>2001</i>	<i>2002</i>
Arkhangelsk CHPP	26.01	24.52	9.1	9.1
Severodvinsk CHPP #1	43.05	37.84	15.1	14.1
Severodvinsk CHPP #1	12.13	12.8	4.2	4.8

Source: *Report on Ecological Situation in the Arkhangelsk region, 2002.*

Opportunities for EMS Introduction

The company is presently not interested in cooperation with the Ministry on ISO 14 000 introduction.

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2.4. SevMash



Place of the Company in the Regional Economy

SevMash is the largest Russian atomic submarines and ships producer located in the town of Severodvinsk, Arkhangelsk region, in 35 km of the city of Arkhangelsk. In the Soviet Times the company specialized solely in supplying submarines to Russian military fleet. Specifically, in the period from 1977 to 1989 the plant produced 6 atomic submarines of Typhoon type. For example, a well-known Kursk submarine was constructed at SevMash. In the period of transition the state order has substantially decreased and the financing was unstable. This drove the company to shift to production of civil goods. Besides construction, repair, and modernization of submarines and ships, the company is presently involved in production of drilling platforms, equipment for modernization of railroad bays for forest transportation, pontoons, and other specific products. The company's production site occupies the territory of 6 km². SevMash operates more than 11 000 units of machine-building equipment. The company has more than 70 licenses related to its operations.

SevMash is one of the key customers of Severstal, a steel producer located in the Vologda region. The companies cooperate on development of new steels for accomplishing SevMash's military orders. Severstal provides for about 60 thousand tons of steel a year to SevMash.

Operational Performance

SevMash is a company, which operations are based on unique orders. There are several relatively large ongoing projects at the plant:

1. Construction of drilling platform (ordered by SevMorNefteGaz)

SevMash constructs sleetproof drilling platform that is named Prirazlomnaya. The platform is destined for oil extraction in the shelf of northern seas. The construction has started in 1997 and engaged about 40% of the company's staff. SevMash is supposed to build a basement for the platform, while the upper part will be dismantled from Norwegian Hutton platform, which was used in North Sea for 12 years. For several years the construction of platform was frozen due to the lack of financing. In the beginning of 2003 SevMorNefteGaz has made a new contract with SevMash and the construction of the platform continued. The total cost of the project is about USD 1 billion. The total weight of the platform will exceed 85 thousand tons.

2. Construction of submarines for China.

SevMash is supposed to build two diesel-electrical submarines for Chinese military fleet. The order was granted in 2002 by RosOboronExport, the sole exporter of Russian military goods. The construction started in the middle of 2003. Severstal provided for special sorts of steel for submarines construction.

3. Equipment for modernization of railroad bays for forest transportation.

This is not traditional order for SevMash, but this allows for reasonable utilization of the plant's production capacity. The contract on production of 300 sets of specialized removable units was signed with PromRegionSnab and is executed in cooperation with Arkhangelsk branch of Northern Railways. SevMash makes metallic facilities and railroad specialists mantle them. The first lot was delivered in April 2004, while the order is to be closed by the end of 2004.

4. Reconstruction of Dmitry Donskoi atomic submarine.

The company started modernization of the submarine in 1989. In the transition period the reconstruction was stopped due to the lack of financing from the side of the state and continued only in 2001. The reconstruction was accomplished in 2003.

5. Containers for transportation of nuclear wastes

In 2003 the company produced 24 containers for storage and transportation of nuclear wastes.

6. Construction of small floating nuclear power plants.

The company is preparing to start construction of the first experimental floating nuclear power plant for own electricity generation. Afterwards, the company plans to supply floating NPPs to the settlements of Russian North.

7. Construction of Jury Dolgoruky and Severodvinsk

Jury Dolgoruky is an atomic military submarine of the 4th generation. The construction of the submarine has started in 1996 and is supposed to finish in 2005-2006. Severodvinsk is also an atomic military submarine of the 4th generation, which construction started in 1993.

SevMash is a military-oriented company and information on its operational performance is not disclosed.

Financial Performance

The turnover of the company (including military orders) is estimated on the level of USD 500 million a year.

Ownership Structure

SevMash is a federal state unitary enterprise that is 100% shareholding is owned by the State.

Personnel and Management

The personnel of the company is about 30 000 people.
David Pashaev is Managing Director of the company.

Environmental Impact

The company is one of the major polluters in the town of Severodvinsk. SevMash emitted 0.43 thousand tons of pollutants to the air in 2002 that is nearly the level of the year 2001. The company's share in regional air emissions is not so large – it provides for 0.2% of total regional air emissions.

The company is characterized by a substantial radioactive threat, as the storage of radioactive waste (radionuclides) is located on its territory. The storage is located in 16 km from the town of Severodvinsk. At present the storage is not environmentally safe and there were cases of radioactive waste leakages to underground waters. There is a federal program aimed at creating environmentally sound storage at this site.

Opportunities for EMS Introduction

The company has gone through ISO 9001 certification. ISO 14000 standards have not been introduced yet, but the company plans to start this process in the near future and is ready to negotiate with the Ministry on the matter.

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2.5. Solombala PPM

Place of the Company in the Regional Economy

Solombala PPM is one of the largest producers of unbleached sulphate pulp in Russia. Besides market pulp, the mill also produces packaging paper, the production volumes being rather small. The mill uses pulp chips delivered by sawmills in the production process. The products are exported to over 30 countries in the South-East Asia, the Middle East, Africa, Europe, America, Belarus, Ukraine and Uzbekistan.

At present the company incorporates three structural units:

- § Own harvesting division;
- § Pulp production;
- § Small-scale packaging paper production.

Operational Performance

The production capacity of the mill is 260 thousand tons of sulphate pulp a year, 7.7 thousand tons for packaging paper a year and 12 thousand tons of chemicals a year. Being a narrowly specialized business, the mill further concentrates on its key products, purposefully increasing the output of pulp and simultaneously reducing production volumes of non-core products, such as paper. The mill has been showing increasing operational performance in the recent years.

Table 9. Operational Performance of Solombala PPM

	1999	2000	2001	2002	3Q 2003
Pulp, tonnes	140460	185720	203060	214770	176335
Sulphate pulp, tonnes	140460	185720	203060	214770	176335
Market pulp, tonnes	133433	177560	194606	N/a	163955
Packaging paper, tonnes	5952	6952	7067	3568	2868

Source: www.sppm.ru.

Financial Performance

Being an export-oriented company, Solombala PPM is appreciably affected by the world market prices. The financial state of the mill can be assessed as satisfactory despite its somewhat slackened financial performance in 2000-2001, which was largely due to the general weakening of the pulp market and the pulp prices falling worldwide. Moreover, during that period the company began a large-scale modernisation, which affected the figures of its gross and net profits.

Table 10. Financial Performance of Solombala PPM

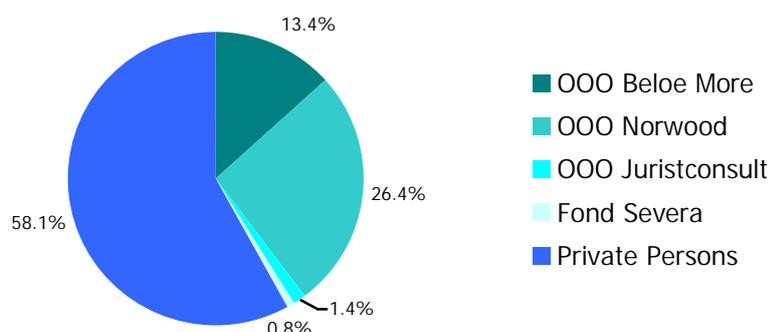
	1999	2000	2001	2002
Sales, USD million	37.2	37.5	53.3	66.2
Gross Profit, USD million	7.6	14.8	12.4	21.7
Net profit, USD million	4.5	3.1	-3.0	1.8

Source: Balance sheets of Solombala PPM for 2000-2002.

Ownership Structure

Solombala PPM constitutes an independent holding, which includes a number of affiliated businesses. Available data on the structure of ownership do not tally. According to some sources, the owners include Ecocomplex, a joint Russian-Finnish company, which holds 40% shareholding in the mill. According to others, the greatest stake in the Mill belongs to private individuals. What is obvious, however, is that the top managers of the SPPM wield a considerable and steady control over the mill. Moreover, the mill is one of the industry's few concerns that is practically free from the influence of foreign owners.

Figure 6. Ownership Structure of Solombala PPM



Source: www.skrin.ru

Until 1995, the mill's shares were listed at Russian Trading System. However, due to the absence of any transactions in these equities, they were struck out of the RTS listings.

Personnel and Management

The mill employs about 2 300 people.
Nikolai Lvov is Managing Director of Solombala PPM.



Environmental Impact

The operations of Solombala PPM are of a great importance for environmental situation in the city of Arkhangelsk, because the city's wastewater treatment facilities are based mainly on the mill's facilities.

The mill is one of the largest air polluters of the region. It provided for 13.3 thousand tons of emissions to the air in 2002 that is about 5.1% of total regional emissions to the air. It should be noted that emissions has decreased substantially in 2002 as compared to 2001, when the mill emitted 22.2 thousand tons of pollutants to the air and accounted for 7.8% of total regional emissions to the air. The mill used 36.49 million m³ of water from the Basin of North Dvina River in 2002.

Opportunities for EMS Introduction

In October 2000 Solombala PPM obtained a certificate of compliance of its system of quality control with ISO 9002:1994. The company is presently finishing introduction of ISO 14 000 standards and plans to deliver package of documents for certification in May 2004.

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2.6. Arkhangelsk Base of Trawling Fleet



Place of the Company in the Regional Economy

Arkhangelsk Base of Trawling Fleet (ABTF) is one of the oldest fishing companies of Russia. The company, which is presently belongs to the state, was established in 1920. At present the company's fishing fleet consists of 24 ships. The fishing is done in many seas and oceans of the world. The company produces cod-liver and whale oil, canned fish and fish products, fish flour and frozen fish.

The main ports of visit are Las-Palmas at Canaries, Lisbon in Portugal, ports of UK, Germany, Norway, Iceland and Faroe Islands. The company owns all necessary infrastructure for fish storage and primary processing. The storage facilities allow for storing 2 thousand tons of frozen fish.

Operational Performance

The company operates fish processing plant, which was put into operation in 2001 on the territory of Maimaksanski fish port. The plant's production capacity allows for processing up to 10 tons of fish and produce up to 5 tons of fish products a day. The product range of the plant consists of 40 articles, including smoked fish, salt fish and preserves of herring and mackerel. The company owns its fish shop in Arkhangelsk and operates fish department in local shopping centre.

Financial Performance

At present the company is going through bankruptcy procedure, which was initiated in April 2004. The company has a great debt burden, which was mainly accumulated in 1995-1997. At present the company has debt in taxes exceeding USD 10 million and wages debt for nearly a year of operations to more than 3 000 employees. Due to low wages and debt, the company has lost 36 experienced captains and technicians in 2004. Only a half of 24 available trawlers is presently goes to sea. For the last year, four managing directors have changed in a company.

It should be noted that the company make some actions in order to overcome the crisis. Specifically, in 2004 the company received a loan of USD 3 million for preparation to fishing activities. Besides this, the company has achieved to get fishing quota for 80 thousand tons of fish, including 17 thousand tons of gadoids. This would allow the company to overcome the crises in a couple of years. However, the current bankruptcy procedure can lead to quota halt.

At present, several companies from Moscow and St. Petersburg pretend for ABTF's management. In 2003 the interested parties discussed the idea of privatization of the company. Natsionalnie Rybnie Resursy (National Fish Resources), a Moscow-based company, would like to purchase majority shareholding. However, the decision on privatization was not done. The company has already sad experience of privatization in the 1990s, when the new owners were selling out ships and sold fish using shadow schemes that led to further bankruptcy and nationalization.

The turnover of the company amounted to USD 54.3 million in 2002. The net profit was deeply negative in 2002 – minus USD 18 million.

Ownership Structure

The company is the state unitary enterprise that is its 100% shareholding belongs to the state.

Personnel and Management

The personnel of the company exceeds 3 000 people.
Nikolai Tarasov is presently Acting Managing Director of the company.

Environmental Impact

The company is not among the largest regional polluters. Its environmental impact is mostly determined by its fishing practice, loading-unloading activities. As the capacity of fish processing is not so large, it does not have substantial environmental impact.

Opportunities for EMS Introduction

At present the company is in bankruptcy state and, referring to the company's representative, the introduction of standards is only possible in case of 100% grant from the side of the Ministry.

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2.7. Solombala LDK



Place of the Company in the Regional Economy

Solombala LDK is one of the largest sawn timber producers in the Northwest Russia. The production capacities of the company allow for processing of 800 thousand m³ of raw wood annually. Besides the sawn timber the company produces several associated products, such as packaging materials, construction-related materials, and pulp chips. The enterprise is export-oriented – 65% of output is exported to UK, Germany, Holland, France, Egypt and other countries. Solombala LDK cooperates effectively with the companies of other Russian regions. Specifically, the company has agreement with harvesting companies of the Vologda region on raw wood supply. The enterprise was privatized in 1992. The register of shareholders included 5238 private persons. The group around Solombala LDK also includes

Lesozavod #3, another large sawn timber producer, which allows for processing of 650 thousand m3 or raw wood a year and more than 20 harvesting companies.

Operational Performance

The company's operational and financial performance is considerably influenced by the world market conditions. For example, deterioration of the market conditions for sawn timber in 2001 led to the decrease in the company's output by 13.1% as compared with the year 2000. However, in the year 2002 the mill's output began to grow and the company plans to reach 100% utilization of capacity by the end of 2002. The company's management stated also that the financial performance of the mill is also influenced by the unstable exchange rates. For example, relatively stable RUR/USD exchange rate and falling EUR/USD rate during 2001 led to decrease in the company's earnings, because the company sells its products mainly to the European countries with payments in euro. Vice versa, the situation with exchange rates was beneficial in 2003-2004.

Table 11. Operational Performance of Solombala LDK

	2003	1Q 2004
Raw wood processed, m3	557 089	142 270
Sawn timber produced, m3	248 485	64 101

Source: www.sldk.ru

The company plans to increase sawn timber production in 2004 as compared to 2003.

Financial Performance

The company showed poor operational performance in the recent years. In our opinion, the official financial performance of Solombala LDK is not fully representative. Probably, the company uses friendly traders for tax optimization purposes (probably, Timbex) or decrease profit before taxes in some other way.

Table 12. Financial Performance of Solombala LDK, USD million

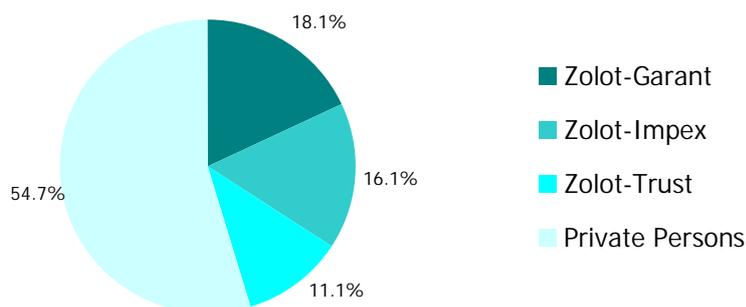
	2000	2001	2002	2003
Shareholder's equity, USD million	3.73	3.4	2.54	2.93
Sales, USD million	31.87	30	29.69	32.5
Net Profit, USD million	0.36	-0.137	-0.09	0.4

Source: www.skrin.ru

Ownership Structure

The largest shareholders of Solombala LDK are Zolot-Garant (18.1% shareholding), Zolot-Impex (16.1% shareholding) and Zolot-Trust (11.1% shareholding). The small shareholdings (54.7% in total) are owned by private persons.

Figure 7. Ownership Structure of Solombala LDK



Source: www.skrin.ru

We admit that the mentioned companies are controlled by the former and present managers of Solombala LDK.

Personnel and Management

The company employs about 2 600 people.
Ivan Novikov is Managing Director of Solombala LDK.



Environmental Impact

The company has problems with storage and utilization of bulk and wood chips and it has constructed boiler house for burning of high-moisture bark and wood chips. The company cooperates with WWF in definition and implementation of its environmental policy. It is also involved in the pilot project of World bank on sustainable forestry.

Opportunities for EMS Introduction

The company started introduction of ISO 9000 standards in 1994 and is presently complies with ISO 9001 standard. In December 2003 Solombala LDK began FSC certification for the forests harvested by the company's harvesting divisions and for this moment forest of one harvesting company complies with FSC. At present Solombala LDK is considering opportunities for introduction of ISO 14 001 EMS.

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2.8. Onezhski LDK



Place of the Company in the Regional Economy

Onezhski LDK, a large sawn timber producer, is located in the northern part of the Arkhangelsk region on the shore of the White Sea in the town of Onega. The company is one of the oldest one in the regions – it started operations in 1911. The company incorporates raw wood storage with log sorting line, two sawing workshops, drying and packaging workshop with 10 drying units and two automated packaging lines, sawn timber storage site with four covered warehouses, mooring line and railway loading facilities, a boiler house with two black oil boilers and two bulk and wood chips boilers with total capacity of 40 MWt, and wood-processing workshop.

Operational Performance

The company has been showing sustainable operational performance in the recent years.

Table 13. Operational Performance of Onezhski LDK

	<i>2002</i>	<i>2003</i>
Sawn timber, thousand m3	233.5	245.7
Pulp wood, thousand m3	147.2	N/a

Source: www.arharea.ru

The largest consumers of produced sawn timber are companies from European countries (94.5% of total consumption), such as the UK, Holland, Belgium and Germany. The pulpwood is delivered to pulp and paper mills of Arkhangelsk region, Republic of Karelia and Finland.

Financial Performance

The company has been showing satisfactory financial performance in the recent years.

Table 14. Financial Performance of Onezhski LDK, USD million

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2Q 2003</i>
Shareholder's equity, USD million	13.321	13.776	13.237	15.745
Sales, USD million	26.891	21.426	24.488	14.712
Net Profit, USD million	2.767	0.47	0.84	1.827

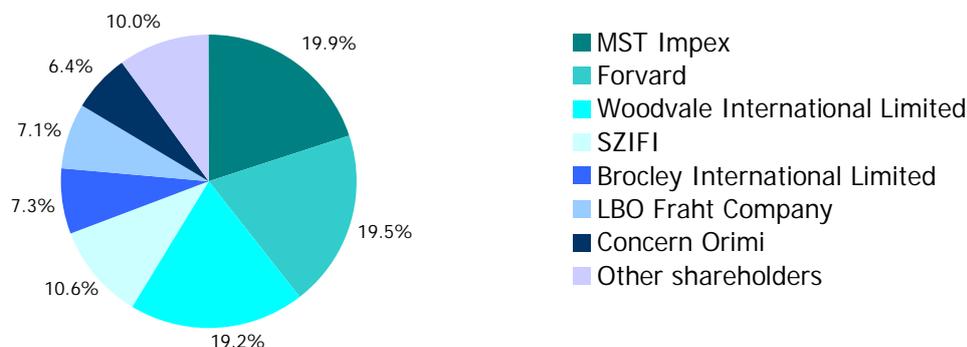
Source: www.skrin.ru

During the last three years the company carried out partial modernization of its production capacity. The total investment in this amounted to USD 12 million. In the course of modernization in December 2001 the first line of new sawing workshop was introduced and the biofuels boiler, which generation capacity amounts to 6.6 MWt, was put into operation. Besides this, new raw wood storage facility and new sorting line were introduced allowing for processing up to 800 thousand m3 of raw wood a year.

Ownership Structure

At present Onezhski LDK is controlled by Orimi, St. Petersburg-based group of companies. The largest shareholders of Onezhski LDK are ZAO MST-Impex, ZAO Forward, Woodvale International Limited, OOO Severo-Zapadny Institut Finansov i Investitsiy (SZIFI), Brocley Court International Limited, LBO Fraht Company, ZAO Concern Orimi. The remaining shareholders own 10% of the company's shares.

Figure 7. Ownership Structure of Onezhski LDK



Source: www.skrin.ru

Personnel and Management

The company employs more than 1 500 people. Sergei Igritski is presently Managing Director of Onezhski LDK.

Environmental Impact

The main environmental problem of the company is utilization and storage of bark and wood chips. The distance to nearest pulp and paper mill exceeds 200 km and this makes transportation of pulp wood not economically feasible. At present wood wastes are stored on dump, but the enterprise is forced to get rid of them until 2006. One of the solutions for this problem could be using of biofuel boilers instead of black oil ones. Besides this, the construction of fuel pellets production could also be carried out. The management of the company considers construction of fuel pellets production, but the demand for pellets is observed during 4-5 months a year, so the feasibility of construction is presently not clear for the management.

Opportunities for EMS Introduction

The company is presently preparing to introduce ISO 14 000 EMS. Besides this, several harvesting divisions of Onezhski PPM are in the process of FSC certification.

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2.9. Arkhangelsk Trade Sea Port



Place of the Company in the Regional Economy

Arkhangelsk Sea Port is the second largest port of the Russian North (after the port of Murmansk), which is located in the mouth of the North Dvina river in 50 km from the Dvina Gulf of the White Sea. The port is the focal point of cabotage links with the regions of the Russian North. The duration of open water navigation is 6-7 months. The port plays the most important role in exports of forest products from Russia. The port specializes in handling pulp, sawn timber, coal, machinery, and other goods. Due to the insufficient deepness, the port is not able to handle ships with tonnage exceeding 25 thousand tons (draft up to 9.2 meters, length up to 175-200 meters). The length of the mooring line is more than 3 km. The port is served by 3 railway stations of the North Railways. The most part of export cargoes are delivered to Germany, Spain, Italy, UK and Netherlands. JSC Arkhangelsk Trade Sea Port is the largest operator of the seaport of Arkhangelsk.

The company operates the only container terminal on the Russian North. The terminal is located on the site of 98 thousand m² and is capable of storing of 5762 TEUs, including up to 200 refrigerator containers and 2200 containers with dangerous goods. The turnover of the terminal can reach 75 thousand TEUs a year.

Operational Performance

In 2002 JSC Arkhangelsk Trade Sea Port handled 977 thousand tons of goods (870 thousand tons in 2001). All operators of the sea port of Arkhangelsk handled more than 3.3 million tons of various cargoes in 2002 and accepted more than 2 000 ships. Thus, the share of JSC Arkhangelsk Trade Sea Port is about

30% of the port's turnover. The largest customer of JSC Arkhangelsk Trade Sea Port is GMK Norilsk Nickel, a present port's owner, which accounts for one fourth of the company's cargo turnover. At present the port's capacity is utilized by nearly 25%.

Financial Performance

The company showed satisfactory financial performance in the recent years.

Table 15. Financial Performance of Arkhangelsk Trade Sea Port, USD million

	2001	2002
Shareholder's equity, USD million	7.46	6.98
Sales, USD million	8.69	10.20
Net Profit, USD million	0.227	0.022

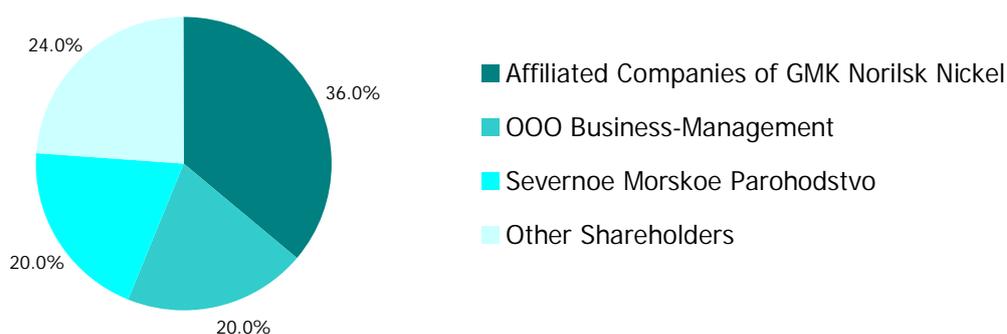
Source: Company's Financial Statements 2001-2002

At present a new project is considered that could increase utilization of the port's capacity and improve its financial performance. It assumes establishing a new route of transportation of Russian metals with the use of Belkomur railroad (Arkhangelsk – Syktyvkar – Kudymkar – Perm) through the port of Arkhangelsk to the port of Kirkenes in Norway and then to the ports of Asia and the United States. In Autumn 2001, JSC Arkhangelsk Trade Sea Port and the municipal port of Kirkenes have signed declaration on partnership and cooperation.

Ownership Structure

In 2003 the controlling interest in JSC Arkhangelsk Trade Sea Port was accumulated by GMK Norilsk Nickel group. At present the group has 56% shareholding in the port via its affiliated companies (including OOO Business-Management). Port is the group's second asset in the field of transportation – in 2002 the group has acquired controlling interest in Yenisei River Line.

Figure 8. Ownership Structure of Arkhangelsk Trade Sea Port



Source: www.bkg.ru.

Personnel and Management

The company employs 1 600 people. Sergei Kravchenko is Managing Director of the company.



Environmental Impact

The main environmental problem of the port is wastes utilization. The specifics of the port infrastructure is that its divisions are located in at least 10 km from each other, so this makes the approach to this problem much more difficult and complex.

Opportunities for EMS Introduction

The company has been working on introduction of ISO 9000 standards mostly in the field of loading-unloading works for at least 4 years. However, it has not come over certification procedure yet. The company is presently considering opportunity for introduction of ISO 14 000 EMS and ready to negotiate with the Ministry on this matter.

Contact information

The company's location and address: 52, Troitski Avenue, Arkhangelsk Region, 163000, Russia.

Phone: (8182) 210 580

Fax: (8182) 647 723

Email: port@ascp.ru

Web-site: N/a

Contact Persons

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Alexandr Rul, Head of Environmental Protection Department

Phone: (8182) 211 760

2.10. Severnoe Morskoe Parohodstvo



Place of the Company in the Regional Economy

Severnoe Morskoe Parohodstvo (Northern Steamship Company) has been successfully operating in worldwide cargo shipping since 1870. The company is headquartered in the city of Arkhangelsk. NSC fleet of multi-purpose ice-classified dry cargo vessels with DWT (deadweight) varying from 2.500 to 14.000

tons, carries logs, sawn timber, pulp-and-paper products as well as general, bulk, dangerous cargoes including IMO class 7, as well as 20- and 40-foot and reefer containers. NSC liner service provides regular shipments via Arkhangelsk and St. Petersburg. The ice-classed vessels of NSC traditionally deliver the most part of cargo to the Far North. Since 1975 the ships of NSC have been delivering machinery, equipment and prefabricated houses to Vangurey, Varandey, Dresvyanka and Bochurka and to some other Arctic settlements. In the year 2000 the company established its subsidiary in St. Petersburg.

The company operates the total of 43 ships, including:

- § 5 ships with DWT of 4 678 tons specialized in timber carriage,
- § 10 ships with DWT of 2 654 tons specialized in timber carriage,
- § 3 ships with DWT of 7 075 tons specialized in timber carriage,
- § 2 ships with DWT of 2 873 tons specialized in timber carriage and container carriage,
- § 11 ships with DWT 6 000 - 6 063 tons specialized in timber carriage and container carriage,
- § 5 ships with DWT of 14 203 – 14 220 tons specialized in timber carriage,
- § 1 ship with DWT of 13 955 tons specialized in timber carriage,
- § 6 ships with DWT of 4 054 tons specialized in timber carriage,

Besides this, NSC is a managing company for two ice-breakers that serve the port of Arkhangelsk ("Dixon" and "Captain Kosolapov") and one ice-breaker in the port of St. Petersburg ("Mudjug").

Operational Performance

In 2003 NSC delivered nearly 34 000 tons of general cargo to the trans-polar settlements of Varandey, Myadsey and Medynka. In comparison with the year of 2002 a dramatic increase in this particular group of cargo has been marked, namely the coastal trade (cabotage) grew by 5 times. "Perмнаftesnab", "Varandeyneftegaz", and "Naryanmarneftegaz" have been listed as the main clients for the year 2003. Referring to public sources 26 ships that belong to NSC are at the end of their life cycle.

Financial Performance

The company showed poor financial performance in the recent years. Referring to the company's managers, the loss for 2002 was driven by the dredging fleet that was handed to the company by the State.

Table 15. Financial Performance of Severnoe Morskoe Parohodstvo, USD million

	2001	2002
Shareholder's equity, USD million	42.99	38.90
Sales, USD million	59.63	61.21
Net Profit, USD million	-3.47	-1.25

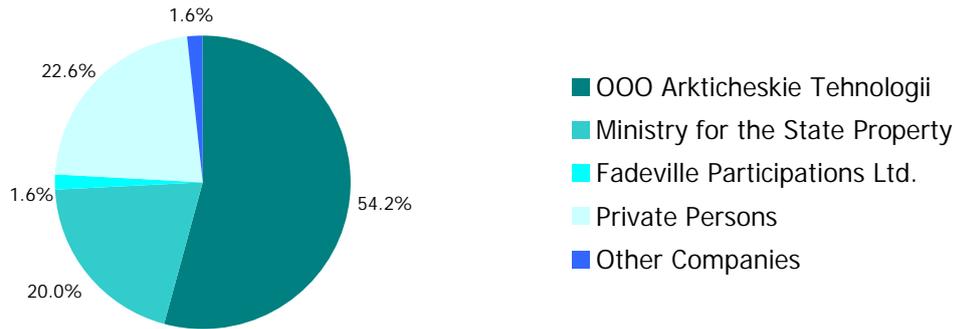
Source: Company's Financial Statements 2001-2002, www.ansc.ru

Despite the negative financial result, the company was able to purchase two second-hand ships in 2002.

Ownership Structure

The major shareholder of the company is OOO Arkticheskie Tehnologii, a Moscow-based company, which owns 54.2% shareholding. The other large shareholding (20%) is owned by the State (Ministry for the State Property). About 40 private persons own 22.6% shareholding.

Figure 9. Ownership Structure of Severnoe Morskoe Parohodstvo



Source: ECAM information agency.

Personnel and Management

The personnel of the company amounts to 2 850 people (including 1 900 people working at ships). Mr. Vladimir Uroshnikov is presently Managing Director of the company.



Environmental Impact

Referring to calculations on 199 port entries, the NSC's emissions to the air amounted to 0.278 thousand tons that is 0.057 thousand tons lower than in 2001. The company has a boiler house at its recreational centre, which emits 0.0363 thousand tons to the air. Main environmental threat of NSC concerns ships operations, including loading/unloading and possible emissions of black oil to the water.

Opportunities for EMS Introduction

The company presently cannot state its position concerning introduction of ISO 14 000 EMS.

Contact Information

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Contact Persons

Secretary of Managing Director
 Phone: (8182) 204 405

2.11. Zvezdochka



Zvezdochka Engineering Plant



Place of the Company in the Regional Economy

Zvezdochka Engineering Plant, which is Federal State Unitary Enterprise, is the leading Russian shipyard specializing in repair and modernization of submarines, naval ships and civil ships and other vessels of any class and purpose. The company is situated on the Yagri Island in the town of Severodvinsk. It was established in 1954.

Several years ago the yard mastered construction of cargo ships, trawlers, floating oil/gas drilling platforms in the area of Arctic Seas. Besides this, Zvezdochka has substantial experience in design and construction of floating mooring lines and pontoons. The company also started diamond cutting activities several years ago. Zvezdochka presently operates the largest in Russia specialized ship propeller production. It allows for production of more than 1000 of wide range propellers a year with weight varying from 20 kg to 50 tons. Zvezdochka cooperates with companies from the USA, the UK Canada and Norway.

Operational Performance

From the beginning of operations Zvezdochka completed repair and re-equipment of 113 submarines, including 80 nuclear-powered submarines, 76 naval surface ships and civil vessels (including patrol vessels, destroyers, large hunters, ice breakers, scientific-research ships, survey vessels, trawlers, tankers, steamships, tugs and other).

The enterprise executed complex elimination of 22 nuclear powered submarines, built 221 ships and vessels, including floating dock, floating pontoon piers, floating shops, a 500 m Pechora pontoon crossing, floating fodder plant, 6 hulls for harbor tugs for foreign customers, 5 dry-cargo ships project 16900, 2 trawlers project 50010 and other products.

As Zvezdochka is a company of the defense industry, the information on its operational and financial performance is not disclosed. Here we present the list of largest projects of Zvezdochka.

Under the Cooperative Threat Reduction Program and Conversion Protocol of the START I Treaty, Zvezdochka is in charge of complex elimination of Ballistic Missile Submarines of the I, II and III generation. For dismantling of hull sections, pipes, cable and other parts of submarines, the company uses both domestic and foreign equipment, which is delivered from the USA (Harris Shears, La Bounty, etc).

In cooperation with Norwegian Kvarner Kimek the company participates in the program named "Revival of the fishing industry in the Arkhangelsk region". In the course of this program the company started the project on construction of trawlers of 50010 project that are considered the best ever produced in Russia with characteristics complying with all international standards.

The selected projects accomplished in 2003:

- § In the year 2003 two submarines ("Yekaterinburg" and "Novomoskovsk") were repaired and modernized, the repair of the "Besstrashny" destroyer (project 956) was completed.
- § By the order of Inflat World Wide Inc. Shipping Company two fish-breeding factories were constructed for Norway.

Financial Performance

The turnover of the company amounted to USD 29.5 million in 2000. The net profit for 2000 amounted to USD 1.67 million. The financial information on the recent years is not disclosed.

Ownership Structure

The company is a federal state unitary enterprise that is it is fully controlled by the state.

Personnel and Management

The company employs about 8 700 people.
Nikolay Kalistratov is presently Managing Director of Zvezdochka.

Environmental Impact

In 2002 the company emitted 1.18 thousand tons of pollutants to the air that is 96.7% of emissions in 2001 (1.14 thousand tons). The share of company in total regional emissions to the air is rather low – about 0.4%. However, the company's environmental threat mostly concerns storing worn out nuclear-powered submarines at its territory, which are to be utilized. In 2002 the introduction of automated system for radiation control started at Zvezdochka. The company continues implementation of the federal program "Elimination and Utilization of Arms", which is mostly financed by the Ministry of Defense of the USA.

Besides this, the company is involved in Cleaner Production program. In the course of this program it has already implemented a number of environmentally focused projects, such as optimization of waste treatment, shift from chlorine technology to ultraviolet in the course of water cleaning and effective use of rubber from the utilized submarines.

Opportunities for EMS Introduction

In 1995 the company was certified in accordance with ISO 9 000 standard and plans to introduce ISO 14 000 EMS in the future. The company is ready to cooperate with the Ministry on EMS introduction.

Contact information

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Contact Persons

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Galina Boeva, Economist of Environmental Protection Department
Phone: (8184) 268 666

2.12. SeverAlmaz



Place of the Company in the Regional Economy

The company was established in 1992 in Svetly village of the Primorsky district in order to develop the recently discovered diamond mine named after Lomonosov. The reserves of mine are estimated on the level of USD 12 billion. The deposit is represented by 6 kimberlite pipes. The company plans to develop industrial zone near deposit in order to implement diamond processing and to manufacture final products.

The diamond deposit was discovered in 1980 and in 1987 the reserves of diamonds were officially announced. In 1992 the government decided to develop the deposit and in August 1992 JSC SeverAlmaz was established. In 1997 Alrosa, one of the world's largest diamonds producers, became a largest company's shareholder. In June 2003 the project of construction of mining enterprise was approved by the Russian government, and in September 2003 the preparations to the commercial exploitation of the deposit (mining works) started.

Operational Performance

The company presently is in the process of preparation to diamonds mining. During 2004 SeverAlmaz plans to dig into diamond ore and construct the first stage of ore mining and processing plant capable of processing of 1 million tons of ore a year. In the end of 2004 the company plans to extract first diamonds.

Financial Performance

At present the company's activities are financed by means of loans from the side of Alrosa and short-term loan of a number of Russian banks. In March 2004 SeverAlmaz has issued notes of credit (CLN) for the total sum of USD 100 million (maturity date is within 2 years, yield is 8.875%). The issue was organized by ING Bank NV and Web-Invest Bank. Due to high interest to this debt instrument from the side of investors, in a month after this the company has made additional issue for USD 50 million.

Ownership Structure

The shareholders of the company are represented by 12 companies and 230 private persons that are mainly the company's employees and deposit's discoverers. The majority shareholders are Alrosa company (92.3% through Solex, its subsidiary) and the State Property Management Committee of the Arkhangelsk region (5.1%). Alrosa is the second largest diamonds producer in the world after De Beers. The shareholder's equity of the company is equal to RUR 389.4 million (about USD 13 million).

Figure 8. Ownership Structure of SeverAlmaz



Source: www.severalmaz.ru

Personnel and Management

Number of employees: N/a
Mr. Eugeny Valuev is presently President of SeverAlmaz.



Environmental Impact

The ore mining and processing mill, which is presently being constructed, is the potential threat for the environment of the region.

Opportunities for EMS Introduction

The company has recently started operations and the introduction of standards is likely to be possible for the medium-run (3-5 years). The decision-making on introduction of EMS is to be made by Alrosa, a major company's owner.

Contact information

Location: Svetly Camp, Talagy Village, Primorsky District, Arkhangelsk Region, 163530, Russia.

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Contact Persons

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CONCLUSIONS AND RECOMMENDATIONS

The present report contains description of the majority of largest industrial companies of the Arkhangelsk region and their preliminary attitude to introduction of ISO 14 000 EMS. This part of the report summarizes preliminary position of the companies and gives a clue on further actions.

1. Kotlas PPM. The company already complies with ISO 9001 and ISO 14001 EMS. The company stated that it is ready to cooperate with the Ministry on implementation of concrete environmental protection projects in the future.
2. Arkhangelsk PPM. The company is presently introducing ISO 14000 EMS and plans to accomplish certification in 2004. The company already has ISO 9001 certificate, which was confirmed again in the beginning of 2004.
3. ArkhEnergo. The company is preparing to restructuring process in accordance with the general plan of restructuring of the Russian energy sector. It does not plan to introduce ISO 14 000 EMS in the near future and is not ready to cooperate with the Ministry on the matter.
4. SevMash. The company has already gone through ISO 9001 certification. ISO 14000 EMS have not been introduced yet, but the company plans to start this process in the near future and is ready to negotiate with the Ministry on this.
5. Solombala PPM. In October 2000 Solombala PPM went through ISO 9000 certification. The company is presently finishing introduction of ISO 14 000 standards and plans to deliver package of documents for certification in May 2004.
6. Arkhangelsk Base of Trawling Fleet. At present the company is in bankruptcy state and, referring to the company's representative, the introduction of standards is only possible in case of 100% grant from the side of the Ministry. Arkhangelsk Base of Trawling Fleet is likely to change its ownership in the near future and we recommend contacting this company later on.
7. Solombala LDK. The company started introduction of ISO 9000 standards in 1994 and presently complies with ISO 9001 standard. Nowadays, Solombala LDK is considering opportunities for introduction of ISO 14 000 EMS. In our opinion, this company could be one of the first good targets for introduction of EMS, as it shows sustainable performance and has reasonable management team. Besides this, the company should be very interested in introduction in EMS as it is bound to environmentally aware foreign consumers.
8. Onezhski LDK. The company is presently preparing to introduce ISO 14 000 EMS. However, there could be some help in this process from the side of the Ministry in order to create its positive image in the region and to make a successful story for approaching other companies.
9. Arkhangelsk Trade Sea Port. The company has been working on introduction of ISO 9000 standards mostly in the field of loading-unloading works for at least 4 years. However, it has not come over certification procedure yet. The company is also presently considering opportunity for introduction of ISO 14 000 EMS and ready to negotiate with the Ministry on this matter. In our opinion there are good prospects of cooperation between ATSP and the Ministry on EMS introduction.
10. Severnoe Morskoe Parohodstvo. The company presently cannot state its position concerning introduction of ISO 14 000 EMS. We recommend contacting this company later on, when the successful stories of EMS introduction at other regional companies are available.
11. Zvezdochka. In 1995 the company was certified in accordance with ISO 9 000 standard and plans to introduce ISO 14 000 EMS in the future. The company is ready to cooperate with the Ministry on EMS introduction. The company represents one of the most significant environmental threats for the regional environment due to working with nuclear reactors of submarines and storage of nuclear waste. In our opinion, the participation of the Ministry in EMS introduction at Zvezdochka could ensure the proper way of this process and result in reduced environmental risks both for Zvezdochka and other interested parties.

12. SeverAlmaz. The company has recently started operations and the introduction of standards is likely to be possible for the medium-run (3-5 years). We recommend contacting Alrosa, the company's main shareholder, in the beginning of 2005, when the first part of its ore mining and processing plant will be put into operation.

According to the goals of the present study, the selected companies can be separated into three groups.

- I. Companies that could stand on the first place in the project pipeline on EMS introduction in the region.
- II. Companies that could be approached later on (1-5 years).
- III. Companies that have already introduced EMS or are in the process of introduction.

In our opinion, SevMash, Solombala LDK Onezhski LDK, Arkhangelsk Trade Sea Port and Zvezdochka are in the first group. The second group is represented by ArkhEnergo, Arkhangelsk Base of Trawling Fleet, Severnoe Morskoe Parohodstvo and SeverAlmaz. Kotlas PPM, Arkhangelsk PPM and Solombala PPM represent the third group.

