KARACHAGANAK PETROLEUM OPEREITING B.V.

EXECUTIVE SUMMARY

ENVIRONMENTAL AND SOCIAL STATUS OF THE KARACHAGNAK OIL AND GAS CONDENSATE FIELD

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INTRODUCTION

Following a drop in post-Soviet era production, Kazakhoil (the state oil company) and each of the companies that comprise the Karachaganak Petroleum Operating B.V. ("KPO"), also called the Karachaganak Integrated Organization ("KIO"), signed a 40-year Final Production Sharing Agreement (FPSA) in 1997 with the government of Kazakhstan, aiming to maximize the production of hydrocarbons from the giant Karachaganak field ("the Project"). KIO is a consortium of ENI-Agip of Italy (32.5%), British Gas of the United Kingdom (32.5%), ChevronTexaco of the USA (20%) and Lukoil of Russia (15%). British Gas and Agip are the project Operators within KIO. The Karachaganak field is located in the Uralsk region of northwestern Kazakhstan. Total proved oil reserves are 1.2 billion tonnes (9.996 billion barrels (bbls) and 13 trillion cubic feet of gas (Tcf).

The Project, which represents the second phase ("Phase 2") in the Karachaganak field development, is expected to increase liquids production from the current 100,000 barrels/day (bbl/d) to more than 220,000 bbl/d, and to increase gas production to 1.3 billion cubic feet per day (BCF/d). Optimum liquids recovery requires that up to 40% of the gas be re-injected back into the reservoir. Content of H_2S in the formation fluid is approximately 3.5% and that of CO_2 is 5.5% (molar calculation).

The Project includes the: a) deepening and workover of 85 wells; b) refurbishment of the existing primary separation facility and construction of an additional facility; c) construction of a gas/condensate separation facility and installation of gas injection compressors; d) construction of a 635 km liquids pipeline; e) significant environmental remediation work at the existing site (due to contamination during the Soviet era); and, f) construction of a web of infield pipelines, road, railway and related infrastructure, including a 120 MW gas fired power plant to supply the Project and the local community with electricity. The current development program, referred to as Phase 2 Initial Program, commenced in 2000 and is expected to be complete in 2004 at a cumulative cost of US$4.027 billion. The Project employees 11,300 people, 88% of whom are Kazakh.

SECTION 1. KARACHAGANAK FIELD HISTORY AND FACILITY DESCRIPTION

1.1. Brief History

Karachaganak Oil and Gas Condensate Field (KOGCF) is situated in Burlinsky district of West-Kazakhstan oblast of the Republic of Kazakhstan. The administrative center is Aksai town located 16 km southwest of the field. The population of Aksai is about 27,000 people. The nearest settlements to the Field include Tunghush, Beryozovka, Zhanatalap, Karashyganak, Dimitrov, Zharsuat and Bestau. The oblast center – Uralsk city is at 150 km distance of the Field.

Figure 1.1. General Karachaganak Oil-Gas Condensate field layout

Exploring, development and the initial phase of the field operation were carried out in the Soviet period and that has predetermined the footprint of the field and operations. In the immediate post-Soviet period in Kazakhstan, environmental legislation did not exist. During that period, the field fell in to disrepair and problems occurred including: a well blowout which traveled laterally before emerging to the surface several kilometers away (the surface crater is called a "gryphon"), inappropriate disposal of cuttings, wells with internal overpressure, improperly abandoned wells, unavailability of waste water treatment systems and waste recycling, and lack of general maintenance. It only became possible to solve these problems through foreign investments.

A Production Sharing Principles Agreement (PSPA) was signed among BG, Agip, Gazprom, the state-owned company Kazakhoil, and the government of Kazakhstan on March 2, 1995. At the time of the PSPA signing, production was in decline due to reservoir mismanagement and lack of funding, and the field was in disarray. BG/Agip - Gazprom began to rectify the situation and commenced workover of some wells with two rigs and installed compression to recompress process gas, removed 32 old rigs, began soil remediation on the Gryphon, and reduced flaring. The PSPA enabled BG and Agip to commence the initial clean up of the field as well as to engage in negotiations with the government for a final PSA.

After two years of parallel negotiations, a Final Production Sharing Agreement (FPSA) was signed on November 17, 1997. In the meantime, Gazprom assigned its stake to Lukoil, and BG and Agip in turn each sold 10% to ChevronTexaco, so that the final signatories and their interests in the current FPSA are: BG and Agip, 32.5% each, ChevronTexaco, 20%, and Lukoil, 15%

forming the Karachaganak Integrated Organization ("KIO"). The FPSA is the legal document that governs the Project and expires on November 17, 2037. One condition in the FPSA was for an Environmental Monitoring and Mitigation Plan for the 40 year life of the FPSA. Each year KIO develops a plan of action for that year which is derived from the 40 year monitoring and mitigation plan. Quarterly reports are then submitted showing progress against that years' plan.

Since 1995 a number of Environmental Impact Studies have been completed and approved including studies for the export pipeline, the field area including KPC, gryphon area, waste management complex, polygon drilling waste area, power plant, KPC access railway, monitoring of the flora and fauna in the Ural River Valley, and a comprehensive environmental baseline survey of the field. Monitoring plans have been formulated from the EIA's to ensure that construction has been properly conducted.

1.2 Development Plans

The FPSA divided the overall development of Karachaganak into four distinct phases:

(a) Phase 1 commenced in 1995 when the PSPA was signed which enabled the operators to start work on improving overall safety in the field and preserve or update existing facilities. This continued until the FPSA in November of 1997. ChevronTexaco and Lukoil joined the project in 1997.

(b) Phase 2 commenced in 1998. From 1998 through 2000, KIO spent about US$200 million to clean the field from the Soviet-era mismanagement, upgrade Unit 3 and repair the basic infrastructure. This interim period was called Early Work, or the Y2K part of the overall Phase 2 development. KIO's obligations in Phase 2 are divided into two sections: Phase 2 Initial Program and Phase 2 Maintenance.

Phase 2 Initial Program ("the Project") began in earnest in the fall of 2000 when the Main Works Contractor, Consolidated Contractor Company Saipem ("CCC Saipem") began the construction work on Karachaganak Processing Center (KPC), Unit 2 and the export pipeline. The main objective is to construct new facilities and to upgrade the existing facilities to allow the export of up to 55 MMbbl/y (7 MMt/y) of stabilized condensate to the Caspian Pipeline Consortium (CPC) at the end of the period. The Initial Program will be commissioned by early 2004.

Phase 2 Maintenance program requires the maintenance of at least 63 MMbbl/y (8 MMt/y) of liquids, necessitating the drilling and workovers of additional wells and related processing capabilities, as well as reinjection of additional gas.

(c) Phase 3 – envisions the increase of the condensate production to about 95 MMbbl/y (12 MMt/y) and installation of additional gas processing facilities to handle 177-353 Bcf/y (5-10 Bcm/y) of associated gas ("Gas Project");

(d) Phase 4 – envisions the liquids production plateau at 95 (12 MMt/y) and gas at 883 Bcf/y (25 Bcm/y).

Under the terms of the FPSA, in the 13th Contract Year (2010) KIO and the Republic of Kazakhstan (RoK) will establish a fund into which KIO will deposit money over the life of the Project for decommissioning. During the last five Contract Years (2032-2037), KIO will use

money from the fund to remove all physical assets that the ROK elects not to retain and to restore the land. These costs are eligible for cost recovery.

The main objective of Phase 2 Initial Program is to export 55 MMbbl/y (7 MMt/y) of stabilized liquids via CPC to world markets in addition to those it sends to the Orenburg Gas Processing Plant (OGPP) and the mini-refinery. To that end, KIO will increase the field's production capacity from 37.6 MMbbl/y (4.5 MMt/y) of unstabilized liquids in 2000 to 84.2 MMbbl/y (10.5 MMt/y) of stabilized and unstabilized liquids[1] by the liquids peak production in 2004. Orenburg will continue to receive unstabilized condensate in decreasing amounts from 2003-2010. Of the total gas produced, 232 Bcf/y (6.6 Bcm/y) will be required for reinjection to maintain the target levels of liquids extraction to CPC. The associated gas extracted and not reinjected will continue to be sent to Orenburg.

This will require 125 producing wells (40 existing and 85 work-over) and 14 injector wells. In addition, 11 wells will be deepened, six of them horizontally, five of them vertically. To achieve these targets, the US$4 billion project cost entails the construction of new facilities, revamping and expanding existing facilities and completion of a drilling and work over program. A description of the facilities required and hydrocarbon flows for 2004 (when peak liquids production of 55 MMbbl/y is achieved) is provided below.

1.3 Facilities

The current facilities at Karachaganak consist of Unit 3, the new KPC access railway, old Unit 2 (Unit 2 will be rebuilt) and infield and export lines to Orenburg. At the completion of the Phase 2 work, the main Karachaganak facilities will consist of the export pipeline to Atyrau and three main production components: (i) the existing (upgraded) Unit 3, (ii) the newly constructed Unit 2, and (iii) the Karachaganak Processing Center (KPC).

[1] KIO sends unstabilized liquids to both Orenburg and the mini-refinery, but will send only stabilized liquids via CPC to world markets

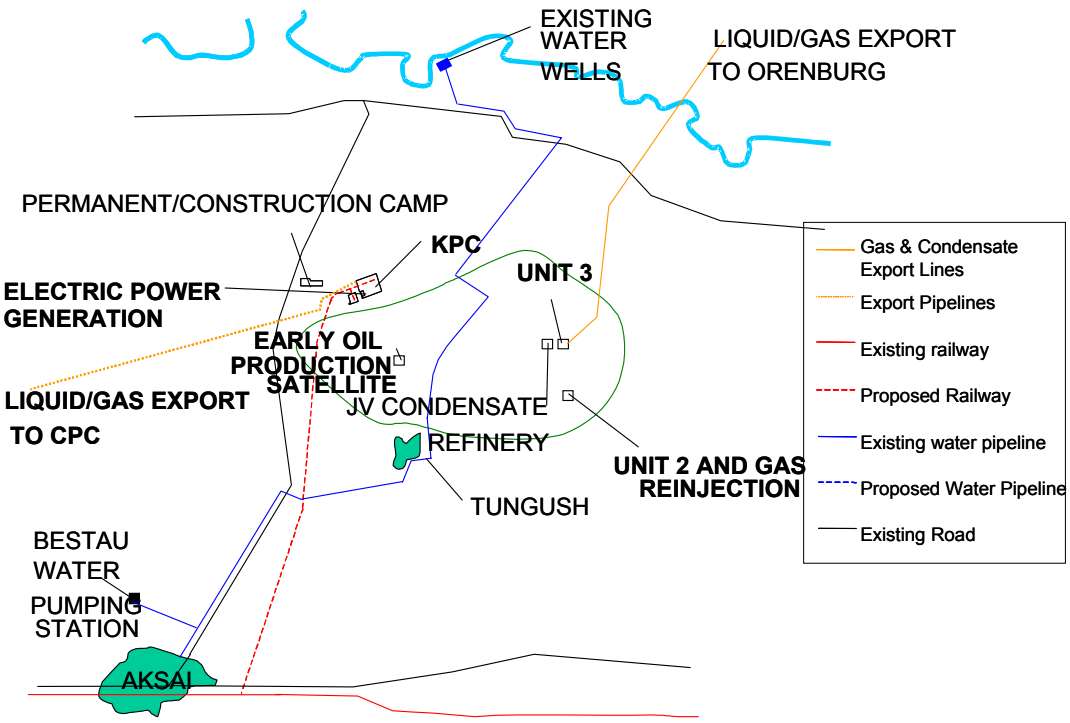


Fig 1.2 Main Karachaganak Field Facilities upon completion of Phase 2

1.3.1 Karachaganak Field

Unit 3: Unit 3 is an existing facility inherited from KarachaganakGazprom. It was established as a satellite-processing center for the Orenburg plant, where reservoir fluids (oil, condensate and gas) are partially separated and transferred to OGPP some 130 km away via several pipelines for subsequent stages of processing. Unit 3 continues to be a satellite to OGPP and currently processes 36.3 MMbbl/y (4.6 MMt/y) of liquids and 162.5 Bcf/y (4.6 Bcm/y) of gas.

The existing facilities at Unit 3 will continue to export gas and condensate to Orenburg until approximately 2005 when the plant reaches the end of its considered design life. (it will require re-certification at that time). Until then it will receive production from wells in the unit 3 area by means of dedicated flowlines.

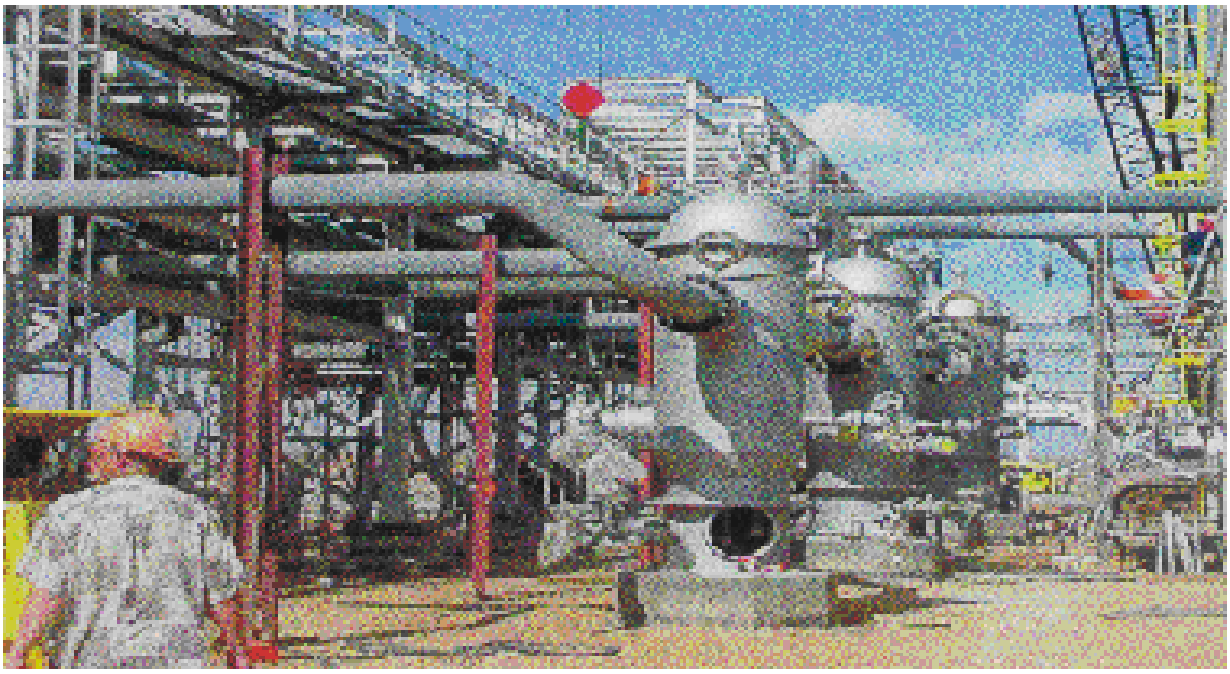


Fig 1.3. Unit 3

In 1995 and 1996 a number of upgrades were conducted at Unit 3 as follows:

- enhancement of unit's safety for providing emergency stop and relief of pressure in containers with hydrocarbons;
- gathering of low pressure vaporized gas instead of popping of gas at the flare;
- gathering and recycling of water-methanol mixture;
- general enhancement to secure safety;
- increasing of operation age through the supplying of spares and the facilities retrofit;
- improved management of processing trains due to new air compressors and air dehydration devices for instrumentation and automatic systems; and
- installation of thermal satellites on the basic devices working at external temperature.

Unit 2: At the start of FPSA contract, Unit 2 was only partially completed and was never operational. KIO is currently building a new plant alongside the existing facilities of Unit 2 and the old Unit 2 is being cannibalized for spare parts as needed at Unit 3. Unit 2 is designed to produce a maximum of 233.1 Bcf/y (6.6 Bcm/y) of sour gas and 47.5 MMbbl/y (5.7 MMt/y) of unstabilized oil. Some wells in the Unit 2 area are already connected by flowlines to the unit. New flowlines and gathering centers will be installed for selected wells not currently connected. The unstabilized condensate from this unit will be sent to a new centralized Karachaganak Processing Complex (KPC) for stabilization and sweetening. The sour gas is to be reinjected into the reservoir by means of compressors that will be installed next to Unit 2, or piped back to the KPC for treatment. Production of up to 106 Bcf/y (3 Bcm/y) of sour gas at KPC will necessitate a 20" dry gas line direct from KPC to the re-injection facility at Unit 2.

Gas reinjection is necessary to maximize the overall liquid recovery over the life of the field, because Karachaganak is a rich gas condensate reservoir. Three injection compressor trains will be installed at Unit 2 and these will deliver gas to a total of 13 existing wells, which will be

converted for use as injectors. The compressors, each with a nominal capacity of 77.7 Bcf/y (2.2 Bcm/y), will be driven by gas turbines. Unit 2 is to remain in operation until 2036.

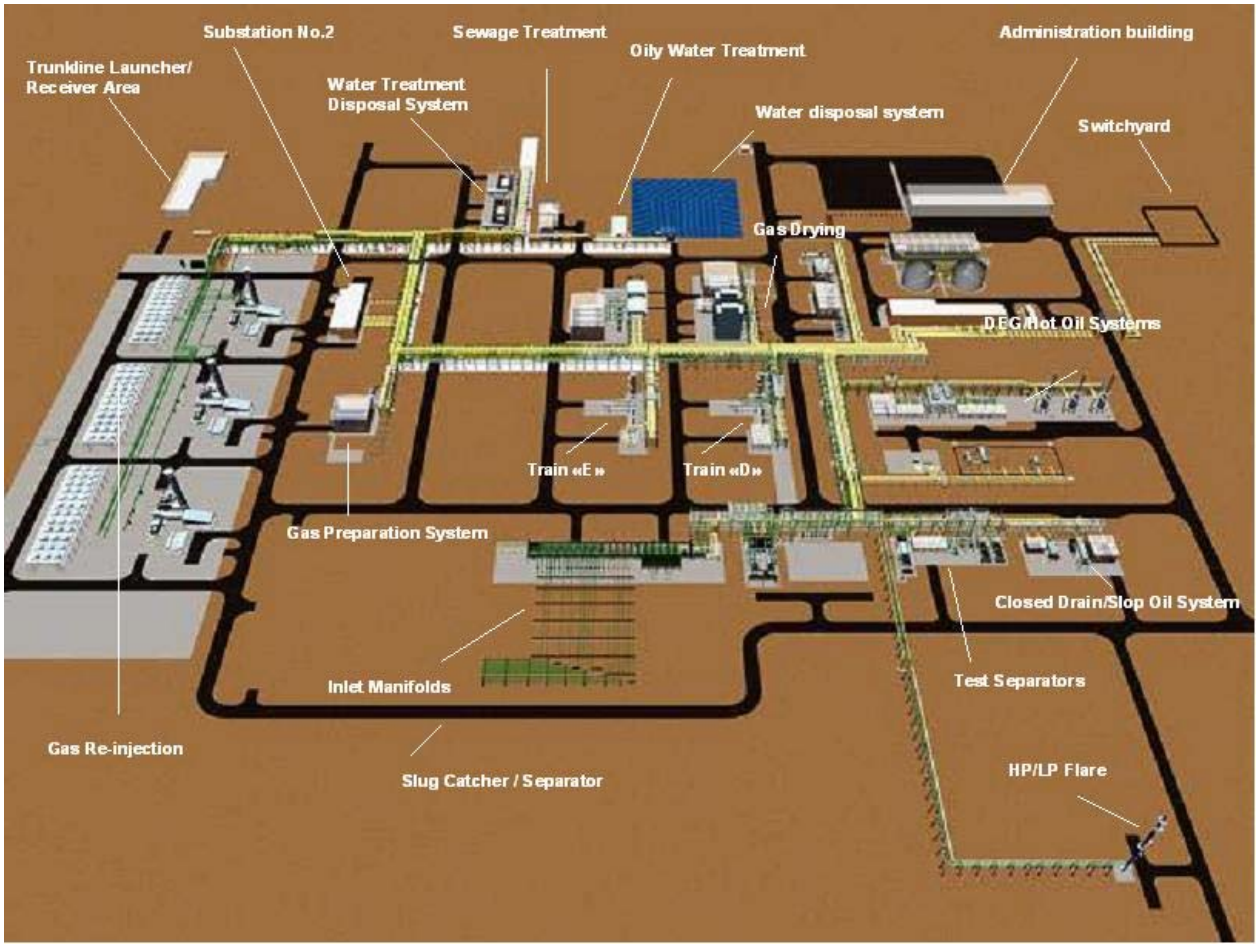


Fig 1.4 Main Objects of Unit 2

Karachaganak Processing Complex (KPC) – KPC will handle production through infield flowlines from producing wells in the western and northern areas of the field and will also process unstabilized liquid hydrocarbons from Units 2 and 3. The KPC facility will be comprised of three condensate treatment trains and associated sour gas and fuel gas sweetening treatment facilities with capacity of 56.9 MMbbl/y (7.2 MMt/y) for liquids and 176.6 Bcf/y (5.0 Bcm/y) for gas. The condensate is stabilized, sweetened, and exported via the new export pipeline. The sour gas is dehydrated and dew point controlled either for gas reinjection or export to Orenburg and some is sweetened for use as fuel gas. KPC is expected to come on line in May, 2003.

Fig 1.5 KPC Construction

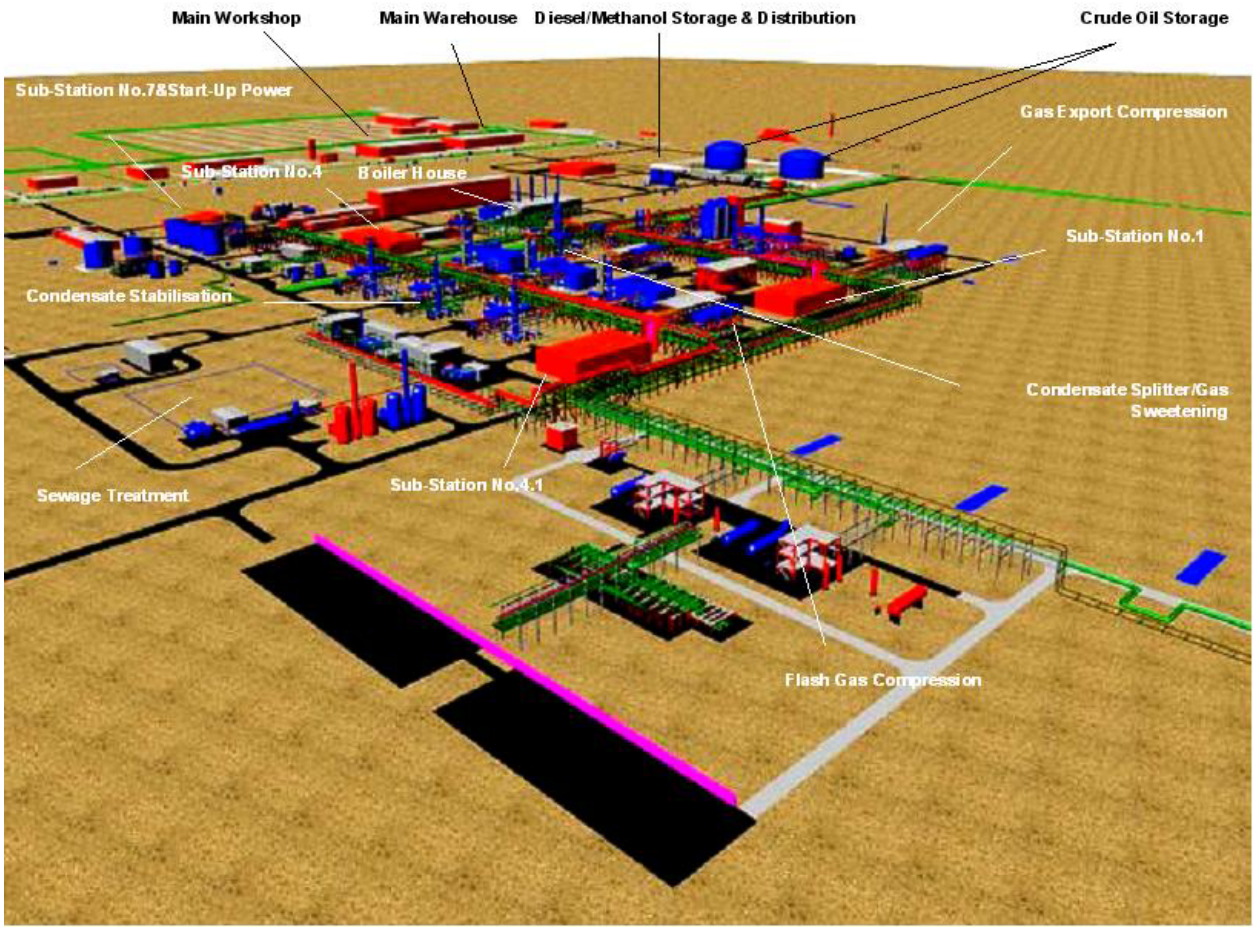


Fig 1.6 Main Objects of KPC

1.3.2 Infrastructure

Infield Pipelines - A system of pipelines will be installed to connect the three processing centers - Unit 3, Unit 2 and KPC. A new condensate pipeline will be laid from the Unit 3 area to KPC to collect the unstabilized liquid produced in Unit 3, which is not required for export to Orenburg. This condensate will be transferred to KPC for processing and finally exported via CPC to western markets.

An existing condensate pipeline from Unit 2 to Unit 3 will be modified so that it ties into this new line to transfer Unit 2 liquids to KPC. A new sour gas pipeline will be installed between KPC and Unit 3, and an existing condensate line between Unit 2 and Unit 3 will be converted for use as a sour gas line and will tie into the new line. An existing sweet gas pipeline network already feeds Unit 3. This will be extended so that it connects with KPC and Unit 2, allowing the fuel gas unit at KPC to feed Unit 2 and the gas reinjection compressors.

Waste Management Complex - The waste management complex (WMC) is being developed for solid and liquid waste as well as providing temporary pre-processed waste storing and disposal processed waste at appropriate sites**.**

The complex's capacity is 340 000 t/year and is fenced and surrounded by a berm. The WMC includes several processing units, so that each unit could manage a flow of waste or a group of the flows.
Basic WMC units:

- Drilling mud processing plant;
- Salt room;
- Rotating furnace;
- Main furnace;
- Cells for solid waste disposal;
- Drums washing and pressing facility;
- Water treatment and pumping plant.

Polygon – The polygon is for the storage of toxic solid waste and drilling sludge. It will have one cell to store liquid waste and the other three to store solid waste. To prevent water contamination from the storage sites the walls have specialized layers of 30-50 mm thick plastic and there are continuous monitoring wells to control underground water quality. KIO staff performs analysis on the waste to determine the toxicity characteristics of the waste and classification of the hazard class. KIO has adopted a protocol for the operation of the storage site, safety and labor standards.

Power Plant - The newly constructed power plant consists of 3 x 40 MW gas-diesel fired turbines and is located within KPC. The original design was for the installation of 3 simple cycle turbines with the option to install 3 additional turbines once the oil field achieves maximum level. The power generated will supply the KIO project and 17% (20 Mw) of the electricity generated will be delivered to the national grid. The power plant is equipped with low NO_x burners and a closed air system for the turbines. KIO personnel monitor air emissions on a regular basis for the following parameters: NO_2, SO_x, CO, hydrocarbons and soot.

Railway - The railway is 30 km long and serves as a link between Aksai and the Karachaganak oil field and includes a new substation at KPC. Fueling for the locomotives is provided at the KPC facilities and all the major repairs are conducted at the existing locomotive depot in Uralsk

(118 km west of Aksai). The railroad was constructed to transport construction materials to the field and may be used in the future to shuttle workers between Aksai and the field.

Potable Water Supply - KIO has constructed and operates a potable water system which provides potable water to the Field and to Aksai. The system includes a water treatment plant, refurbishment of the Bestau reservoir dam, and a new pipeline to KPC area.

Miscellaneous Support Infrastructure

- Three new infield roads – total length 12 km;
- industrial area (warehouses, workshops, laboratory, vehicle maintenance, fire station);
- accommodation (pilot camp, construction contractors camp, drilling contractors areas, utilities area) for up to 10,000 temporary workers

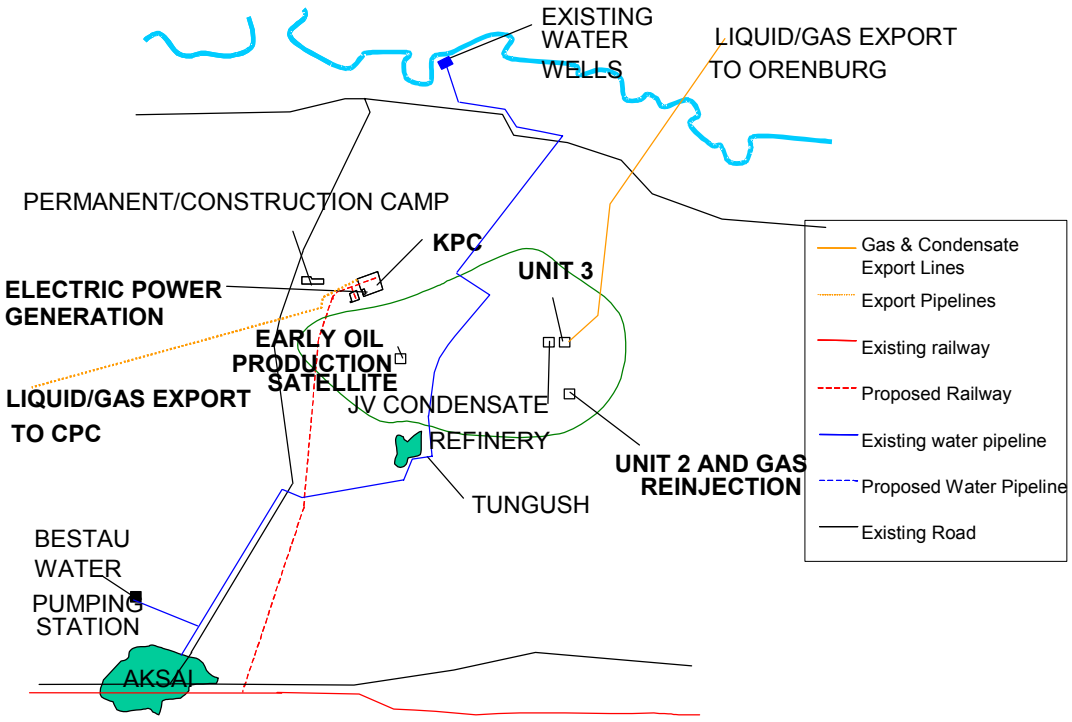


Fig. 1.7. Main Phase 2 Karachaganak Field facilities.

1.3.3 Export Pipeline

The new buried Karachaganak Pipeline System, consisting of 635 km (395 miles) of 24" diameter pipe and two pumping stations, will transport sweet stabilized liquids from KPC to Bolshoi Chagan (an existing pumping station on the Atyrau-Samara oil line 180 km from the field) and then for 455 km along the existing pipeline corridor to the tie-in point to CPC, in Atyrau. Pumping stations will be located at KPC, Bolshoi Chagan and Atyrau. Intermediate block valves will be located along the pipeline at intervals of about 30 km with additional valves on each side of sensitive water courses. The pipeline is being installed via directional drilling under sensitive river crossings (including the Ural River), is segregating topsoil from subsoil during construction for later replacement, has avoided population centers (no one had to be

relocated) and archeological sites. It is cathodically protected and will have a SCADA system to continuously monitor pipeline pressure to detect leaks early. The pipeline can be shut in automatically from control centers in KPC or Atyrau. Construction is complete for the pipeline section from KPC to Bolshoi Chagan with approximately 50 % complete for the section from Bolshoi Chagan to Atyrau at this time. The pipeline will be operational by May, 2003.

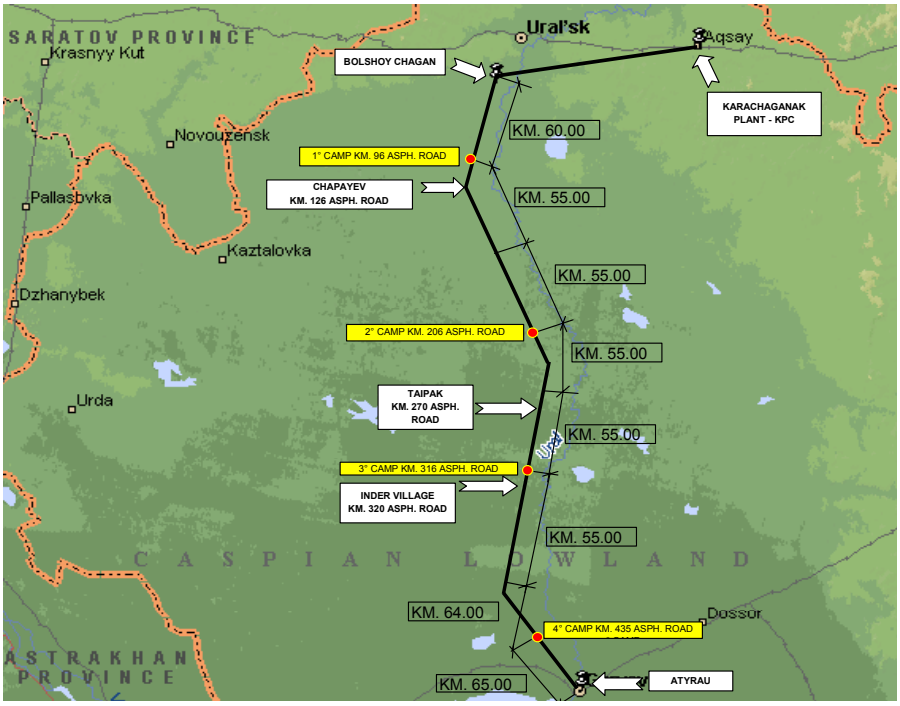


Fig 1.8 Pipeline route Bolshoi Chagan-Atyrau

1.4 UNIQUE HISTORICAL EVENTS

Because of the type of geological structure and past soviet practices, the Karachaganak Field has two unique historical events – the gryphon and the LIRA facilities (underground condensate storage caverns).

1.4.1 Gryphon

In 1987 (pre-KIO), well #427 suffered mechanical failures that resulted in a blowout and a crater formed 1.3 km's north of the well which is referred to as a Gyrphon. The contaminated surface area is 53 acres (521 hectares) and the crater is 500 m^2. During the blowout, which lasted in various phases for a 24 month-period, substantial quantities of condensate and gas were emitted, as well as underground waters with a high brine concentration. KIO in coordination with the National Nuclear Center (NNC-Aksai) have developed a monitoring program to determine the levels of soil, rock and water contamination in the Gryphon area. The program includes (i) sampling and analysis of the gryphon drift areas; (ii) establishment of eight permanent sampling stations; (iii) crater sampling and analysis – this will also monitor the water reservoir in the gryphon area; and (iv) ground sampling at 8 m deep. Preliminary results indicate that water contamination has not occurred. Currently, as part of a testing trial, KIO staff working in conjunction with Western Kazakhstan University, have planted native specimens in the Gryphon area which has had good success. See Figure 1.9 where the photo on the left is drift from the 1987 blowout, the center photo is during research and experiments with different salt tolerant plant species in 2000, and the right photo is the new vegetation in 2001.

FIG 1.9 "Land Reclamation progressing from 1987, 2000 to 2001"

1.4.2 LIRA Sites

During the Soviet period, nuclear devices were used on several of the underground salt domes to create caverns for condensate storage. Two of the underground explosions came to surface and are referred to as the LIRA sites. The liability along with the monitoring, care and maintenance of the underground Condensate Storage Caverns (CSC) were transferred to the Republic of Kazakhstan in conformity with Sections 17.15-17.20 of the FPSA pursuant to the CSC Study and Monitoring Program.

In 1999 and 2000 the Ministry of Energy, Industry and Trade of the Republic of Kazakhstan and the National Nuclear Center (NNC) of the Republic of Kazakhstan conducted analysis and monitoring of the Lira sites. The results of the analysis show that the levels of radionuclides are at background levels. Reports indicated that the levels for human exposure are 16 times lower than the recommended doses established by the NNC, and that drinking water and agricultural

products in the settlements of Zharsuat and Oblavka did not contain artificial radionucleids. It appears that the surface areas around the caverns have stabilized to background levels.

A concept for promotion of radiation safety at the LIRA facility and the Contracting Area was developed in 1999/2000 and discussed at the International Seminar on Nuclear physics Techniques in Investigations of Radiology at Nuclear Testing Sites which was sponsored by NATO. Leading specialists from USA, Europe, CIS countries and Kazakhstan participated and reviewed and approved the protocol.

In addition, one of the multinational companies directly involved in the project has independently tested and confirmed that there is no harmful exposure of employees of Karachaganak. The LIRA area is fenced off, there are no Karachaganak operational facilities within the fenced area nor, do KIO employees enter the area.

SECTION 2. CURRENT ENVIRONMENTAL STATUS AND HSE PROTECTION

2.1. Brief Description of Natural Conditions

The climatic conditions for the Project are characterized as highly continental with temperatures ranging between a high of 43^{o}C in July to a low of –44^{o}C in January. The area is characterized with east and southeast winds with occasional blizzards. Average snow thickness is 24-27cm. Annual average rainfall in the field area changes from 239 up to 273 mm.

Especially dangerous weather phenomena include gale force winds (velocity exceeds 15 m/sec), dust storms, blizzards, thunderstorms, fog, etc. In the Project area yearly storm winds occur for 25-41 days, dust storms - 40-46 days, blizzards - 22-39 days, thunderstorms - 15-20 days and fogs - 31-38 days.

The Field area represents a plain 80-130 m above sea level crossed by a system of gullies and gorges 5-10 m deep. It has been plowed and farmed for many years and the only natural vegetation remaining is at small sites along gullies and ravines. There is low seismic activity in the area and the nearest earthquake epicenters are at the distance of hundreds kilometers in the South Ural and Caucasus regions.

The source of domestic-potable and service water supply of the Field is the ground water of Upper-Quaternary and contemporary alluvial strata. KIO has constructed and operates a water treatment facility that provides potable water to the project as well as to the Aksai community. The Ural, Ilek, Utva, and Beryozovka rivers cross the Field. The Beryozovka River and one of its minor rivers, the Konchubai Gulley, are controlled by a series of seven dams, that predate the development of the Field. The dams were constructed by the Government of Kazakhstan (GOK) to provide a water source for the villages in the area. KIO has upgraded one of the dams and maintains the five dams within the Field. The water of Konchubai pond is used for technical purposes of drilling and gas production.

The fauna of the Field area is sparse since it has undergone considerable agricultural and industrial development but includes 4 fish species, 3 amphibiotic species (frogs and toads), 2 reptile species (snakes and lizards), 149 bird species and 16 mammal species (common field and

house mice, red-cheeked gopher, European hare, common hamster, gray hamster, brown rat, water vole, little shrew, badger, fox, caress and Siberian polecat, wolf, and elk).

The only Red Book species include two nesting species of birds (little bustard, demoiselle crane) and 4 migratory bird species (osprey, steppe eagle, eagle owl, black-headed herring gull).

2.2 Regulatory Setting

The Constitution of the Republic of Kazakhstan assures a healthy and vitally favorable environment for the citizens. This is enacted through a series of laws, codes, decrees, and regulations. The Project complies with the requirements of the FPSA and will comply with the World Bank Group Safeguard Policies and Guidelines. Following are some of the key ROK laws.

Law of the RoK «On Environmental Protection» (1997, with annexes) assures a healthy and vitally important environment; gives basic legal, economic and social principles of environment protection for the sake of present and future generations; provides for harmful environmental impact preventive production, maintaining natural homeostasis and nature management. The Law develops economic mechanism of natural environment protection and nature management control; regulates environmental quality control including kinds of standard and approval procedure; formulates ecological requirements to productions and other activities and principles of ecological assessment as well. The Law governs the problems of control and inspection, accommodation of environmental disputes, responsibility for the legislation contempt and damage compensation.

Law of the Kazakh SSR "On Atmospheric Air Protection" (1981) provides for atmospheric air protection; establishes maximum concentration limits of pollutants in the atmospheric air, atmospheric negative affects, as well as environmental emissions limits. In the Law the requirements are developed concerning disposal, designing, construction and start-up of enterprises, structures and other units causing air impact. The Law regulates state control for atmospheric air negative effects, observation and control for atmospheric air protection; provides for responsibility for appropriate legislation and disputes accommodation on air protection contempt.

Decree of President of the Republic of Kazakhstan authorized as law «On Oil» (1995) establishes that ecological basis for oil-relation operations is the Project «Planned Activity's Environmental Impact Assessment» reconciled with the State Ecological Expertise. The documents states the necessity of ecological monitoring conducted prior to oil-related operations for the whole activity period; identifies the procedure of oil-related operations in emergency ecological areas and specially protected natural and cultural objects.

The RoK Government Decree dated June 18, 1996 № 745 «On adoption of united regulations concerning development of oil-and-gas fields of the Republic of Kazakhstan». The regulations include basic standards and requirements to phased industrial development of oil-and-gas fields available in the territory of the Republic of Kazakhstan. This includes special attention to geological exploration of the fields, reserves account, planning and effecting of rational system of different wells and field facilities development, construction and exploitation and also control for development, subsoil and environmental protection.

The RoK Government Decree dated July 21, 1999 № 1019 "On adoption of united regulations concerning subsoil protection at development of mineral deposits, oil and gas fields, ground water reservoirs available in the Republic of Kazakhstan". The requirements to complex use of subsoil at oil and gas condensate fields development; identifies project documentation for fields designing and operation, separate oil pools and their blocks; reduction of negative impact on an environment are formulated.

The RoK Government Decree dated September 6, 2001 № 1154 "On approval of regulations concerning permissions of environmental pollution". The document establishes and regulates the procedure of environmental pollution permissions and includes general requirements for use of nature.

The Law "On Sanitary Protection of Environment" (1994 with annexes) stipulates for rights and duties of individuals and public administration concerning sanitary-epidemiological safety of population; and establishes health control, principles of sanitary-epidemiological expertise and arrangements.

The World Bank Group Safeguard Policies and Guidelines that apply to the project are as follows:
OP 4.01 Environmental Assessment (October 1998);
IFC Policy Statement on Child/Forced labor (March 1998)
Policy on Disclosure of Information, 1998;
OP Note No. 11.03 Management of Cultural Property (September 1986);
O.P. 7.50 Projects on International Waterways, 1998;
OD 4.30 Involuntary Resettlement (June 1990);
General Health and Safety Guidelines (July 1998);
World Bank Guidelines for Oil and Gas Development (Onshore), July 1, 1998;
Waste Management Facilities, July 1, 1998; and,
Thermal Power Plant Guidelines, July 1, 1998.

2.3 Health, Safety and Environmental Management System

KIO has designed a Health, Safety and Environmental Management System (HSEMS) to ensure that all requirements of the ROK, the FPSA and the World Bank Group are met and to strive for continuous improvement. The underpinning philosophy of the HSEMS is to achieve an incident-free workplace in harmony with and without impact to the environment. This philosophy will be implemented by:

- equipping everyone with the appropriate skills and knowledge to do their work without harm to themselves, others or environment;
- selecting and managing contractors to perform incident-free work;
- communicating so that everyone is aware of KIO health, safety and environmental responsibilities and conduct themselves accordingly;
- documenting in order to provide a clear record of HS&E activity, actions and performance, to effectively drive HS&E improvement;
- identifying hazards and eliminating risk to personnel, property and the environment;
- optimizing the use of natural resources and eliminating harmful impacts to the environment from the activities;

- developing and maintaining annual plans for improving health, safety and environment performance;
- identifying and eliminating the hazards and risks associated with the change in business activity;
- working pro-actively to avoid accidents and, if they occur, be prepared with effective emergency response and business recovery plans;
- investigating and analyzing all accidents, cases of occupational illness, near misses and potential hazards in order to prevent re-occurrence;
- monitoring the effectiveness HS&E performance and implement corrective action as necessary;
- verifying all aspects of KIO HS&E policy, programs, processes and performance by independent audit.

The Health, Safety and Environmental Directorate is in charge of overall environmental safety, production hygiene and health enforcement within the KIO. The Directorate is led by the Director of Environmental Health and Safety who reports directly to the top person in KIO, the Venture General Director. There are a number of HSEMS programs on-going including:

- Risk Management activities which includes a formal safety assessment. Formal Safety Assessments (FSAs) were carried out by independent consultants for Bechtel/Snaprogetti during the design process. They covered all process units and pipeline systems. Hazops were also carried out covering all new process plant to be constructed in the project. An additional HAZOP of the existing unit 3 process plant was also completed and helped inform the project directed at upgrading of Unit 3. Major accident risks and controls study are also being carried out currently by the Process Safety Engineers.
- Personal Performance Agreements for the Venture directors containing specific HSE targets
- Risk Registers that detail HSE risks that are then used to drive risk reduction programmes. The risk registers are reviewed and updated routinely.
- KIO has its own internal auditing programmes that examine management system as well as compliance issues. Compliance auditing is aimed at regulatory and procedural compliance for its own operations and those of contractors. Parent company audits also compliment KIO's own programmes.
- Joint HSE Ownership Charter with Main Works Contractor that defined joint HSE goals at the centre of management processes.
- Comprehensive range of HSE procedures including simultaneous operation, permit to work etc.

2.4 Mitigation and Monitoring

The FPSA is the legal document that governs the Project and expires on November 17, 2037. One condition in the FPSA was for an Environmental Monitoring and Mitigation Plan for the 40 year life of the FPSA. The 40 Year Monitoring and Mitigation Plan was developed and each year KIO develops and receives approval for a plan of action for that year which is derived from the 40 year monitoring and mitigation plan. This plan is sometimes referred to as the Environmental Action Plan (EAP). Quarterly reports and an end of the year summary are then submitted to the RoK showing progress against that years' plan. All parameters are monitored and the data is analyzed to determine impacts.

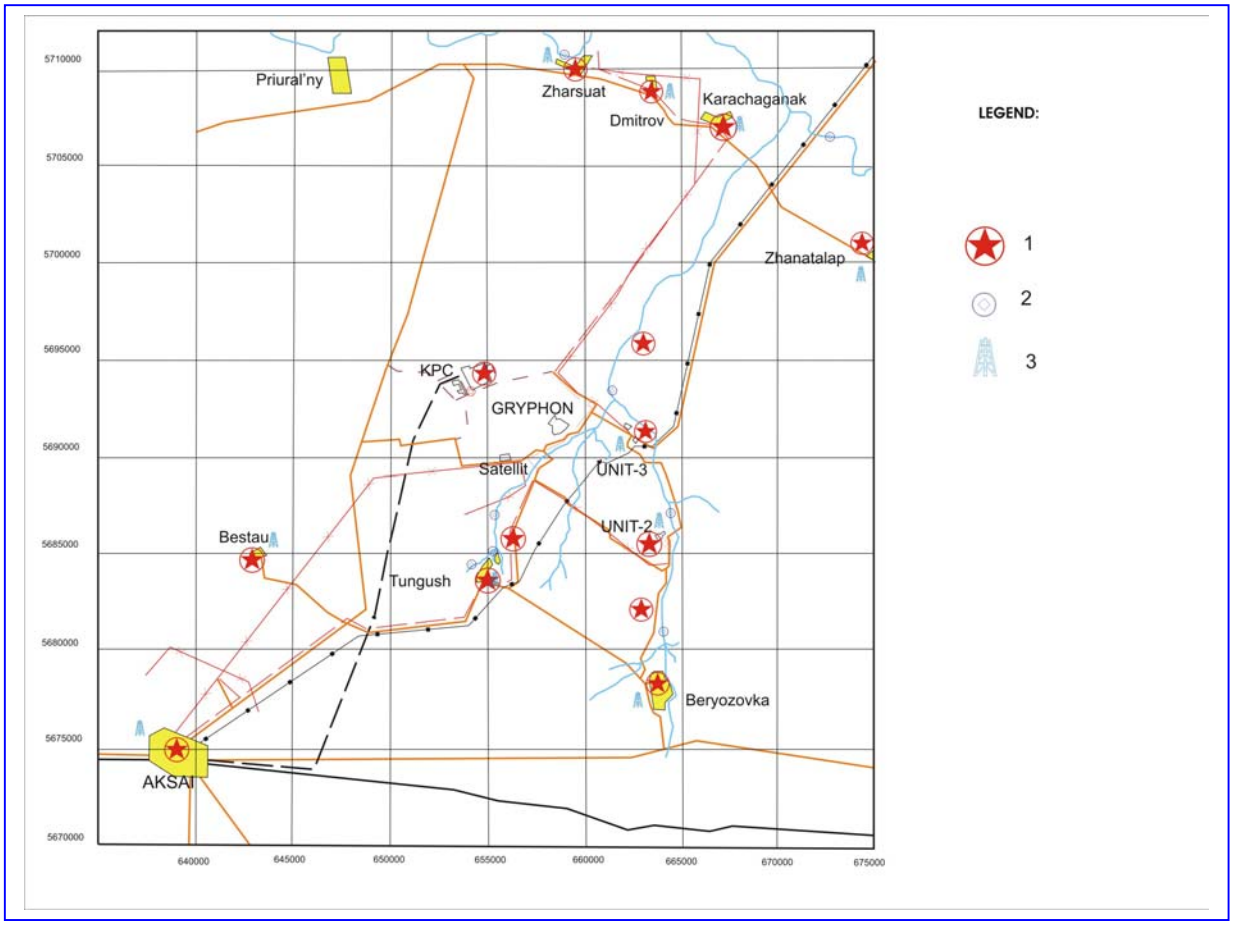


Fig 2.1 Production ecological monitoring system of the KOGCF
(1 – air; 2 – surface water sampling; 3 – ground water observation wells)

2.4.1 Air Emissions

The most significant emissions of pollutants occur from flaring gas and petroleum in the horizontal flares and from generators. The formation fluid of the field is approximately 3.5% H_2S and 5.5% CO_2 (molar calculation) which results in the most common emissions: sulfur dioxide, carbon monoxide, nitrogen dioxide, hydrocarbons, and soot. With each year the specific contents in emissions of sulfur dioxide is reduced (from 76 % in 1987 down to 39 % in 2000). The Environmental Emissions Limit (EEL) Project has identified air protection measures to be taken to reduce emissions. In addition, a specific flare reduction plan has been developed and approved for implementation in 2002.

KIO has continually improved its performance against the permitted level of emissions allowed by the government, as shown in Figure 2.2.

Figure 2.2 Air Emissions as Percent of Consent

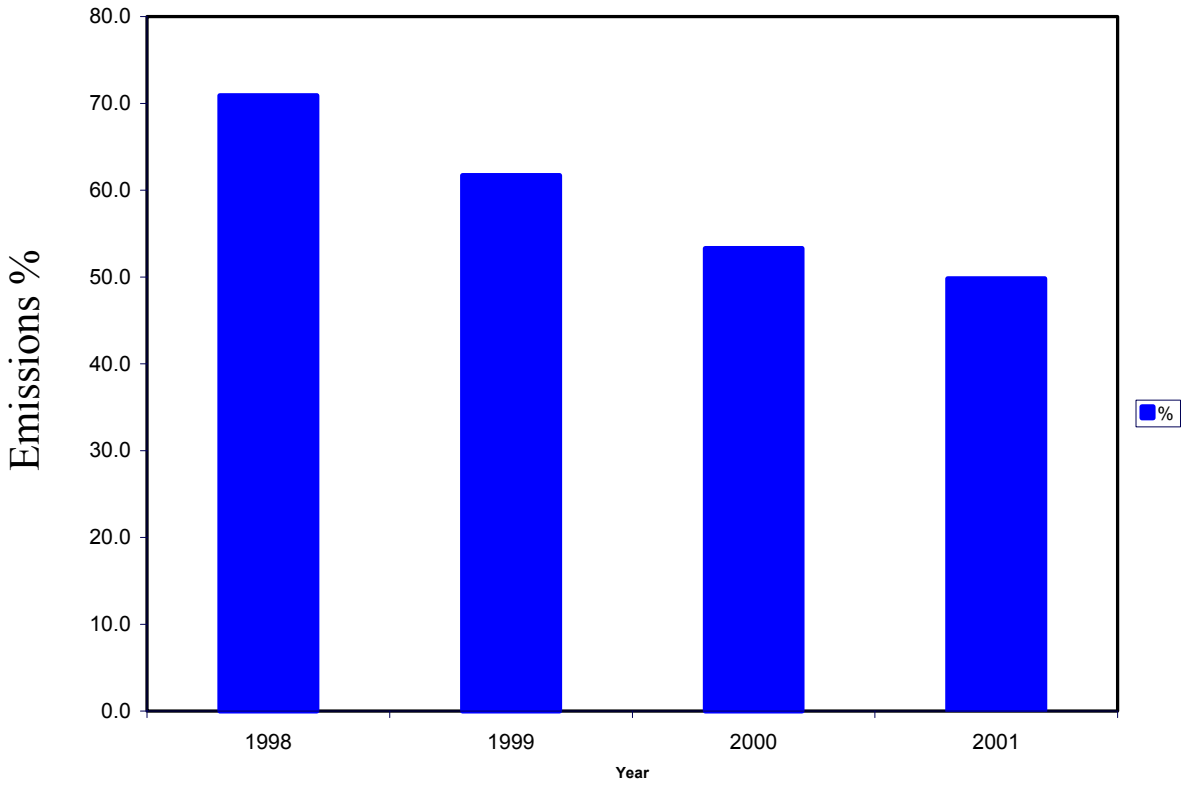


Fig 2.3 shows the total air emissions from the Field for the past 14 years. The maximum emissions after 1991 fell along with production until 1997 when KIO began to increase production and at the same time make technological improvements.

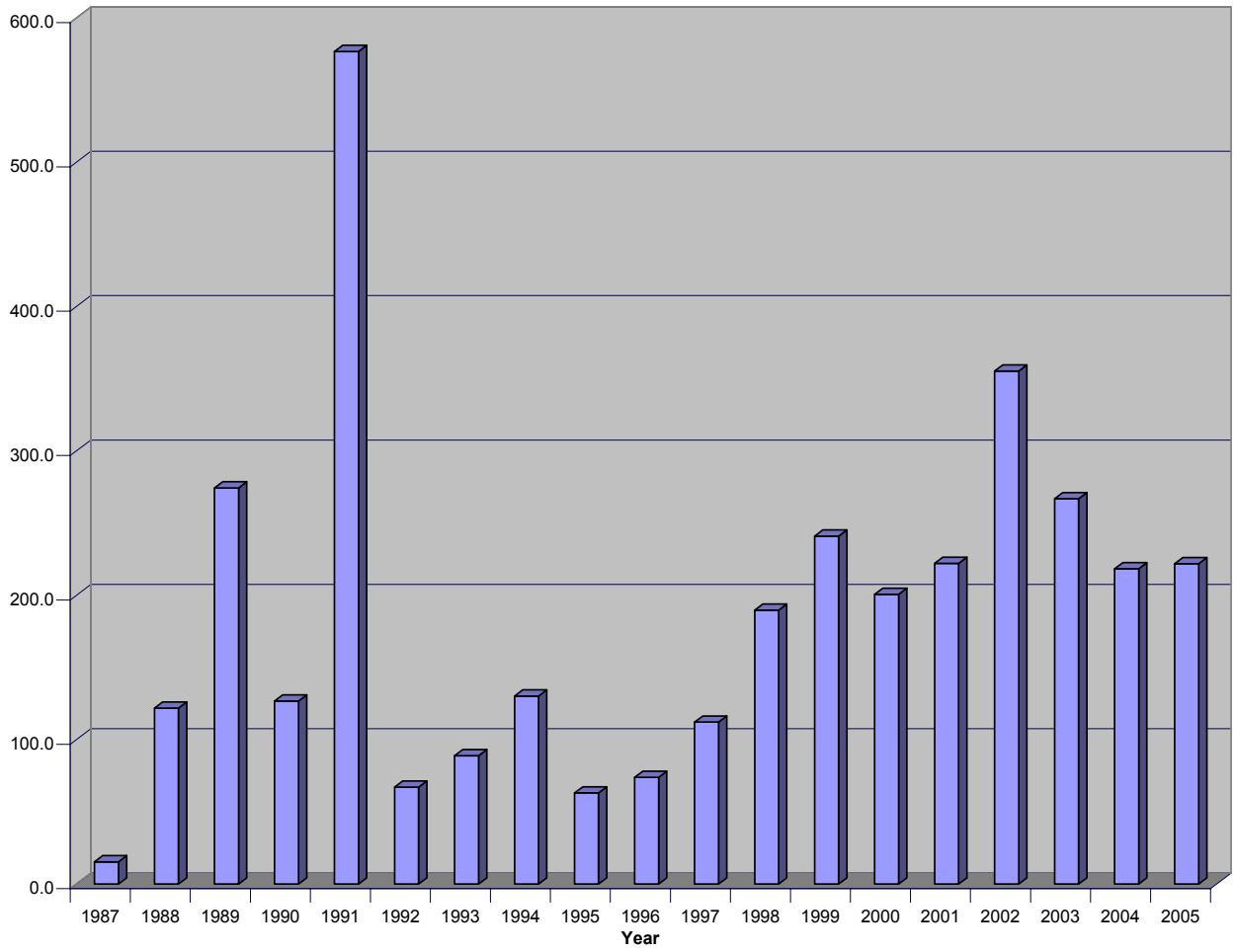


Figure 2.3 Tonnes of Emissions per Million Barrels of Oil Equivalent

Flaring

When the Soviets originally developed the field many wells were tied to the same flowline which meant that you could not individually test (flare) a well. As part of the Measurement Production Logging Testing Campaign (MPLT), KIO is placing individual wells on individual flow lines so that each well can be tested which in turn reduces flaring amounts. Because of this program, 23 of 43 MPLTs were accomplished without the need for flaring. This resulted in a 65% reduction in MPLT related flaring in 2001 compared to 2000.

Green burner program

KIO began using the Green Burner in 1998 to reduce emissions from flaring conducted at the wells. The Green Burner uses injected air to ensure complete combustion of the flared hydrocarbons. This complete combustion significantly reduces CO and soot emissions. The

Green Burner will be modified to allow it to be used for flaring events where water is part of the liquid being flared. This modification will provide for the increased use of the Green Burner, which will further reduce emissions of CO and soot.

Green House Gases

The projected Green House Gas emissions for the new equipment that will be installed through 2005 shows an initial increase that will be largely mitigated by the implementation of improved operating procedures. With additional experience in operating this new equipment, efficiencies of operation will be realized that will reduce emissions. Regular evaluation of performance will indicate whether additional control measures will be required.

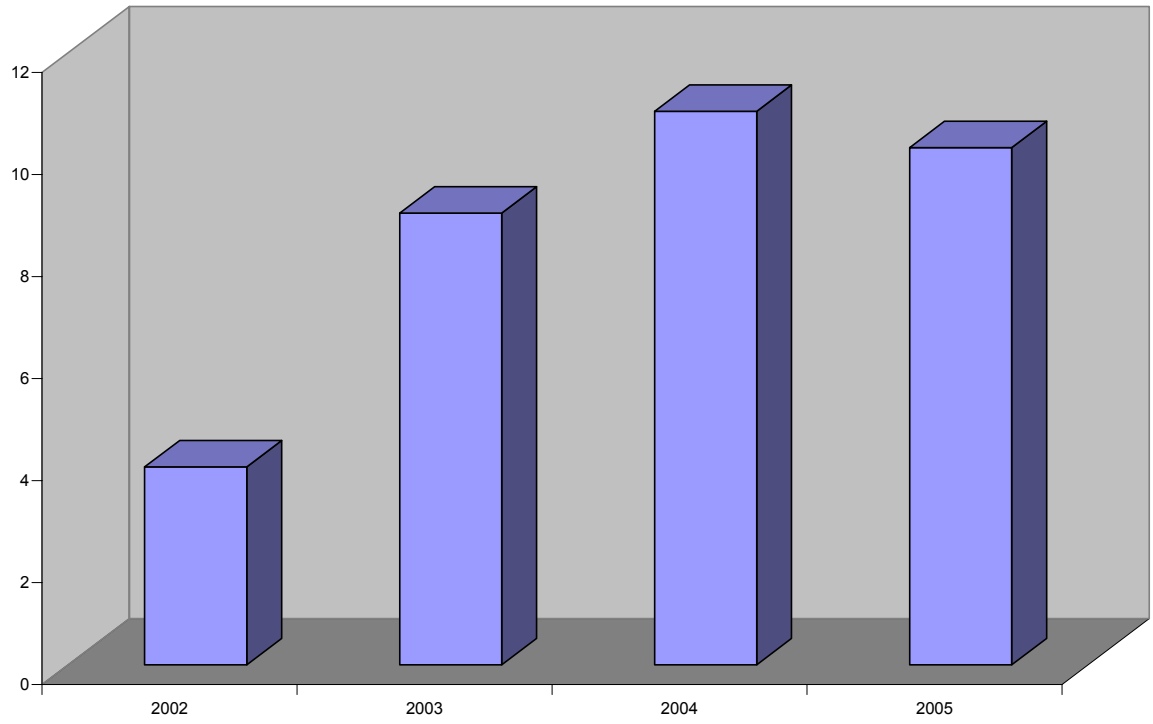


Figure 2.4
Green House Emissions per Thousand Barrels

Figure 2.5 compares the emissions that would have been generated if KIO had not made improvements. It also shows that as production will be increased, emissions will continue to fall as various emission reduction projects are implemented. This is a result of initiated control-at-source technology installed between 1999-2001; and will be a result of year 2002 events including installation and operation of Unit 2 gas reinjection, Unit 3 fourth electrical flash gas compressor, Unit 3 water/methanol regeneration unit and increased efficiency of 3 reciprocating flash gas compressors. Decreases in 2003 will be a result of installing a fourth flash gas compressor, a pre-liquid knock out drum, and new compressor at Unit 3.

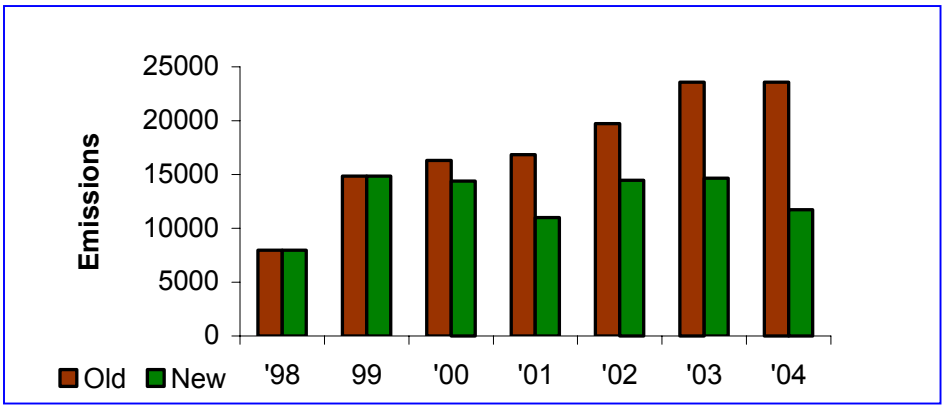


Fig. 2.5. Emissions caused by Unit-2, Unit-3 and KPC activities (old and new technologies) «Old technologies» are those used in the Soviet time, «New technologies» - those, which are used, planned and adapted by the KIO.

KIO has established a system to monitor air emissions both in the field and at the nearest sensitive receptors according to GOST 17.2.3.01-86" Wildlife Management, Atmosphere, Regulations of Air Control in Settlement Areas", as well as to GOST 12.1.005-88 and РД 52.04.186-89 "Air Pollution Control Instruction ".

Three categories of atmosphere monitoring stations in the Field have been established:

1. Stationary stations (full time program) – Tungush, Beryozovka, Aksai town, Bestau, Karachaganak, Karakemir, Zharsuat, Zhanatalap, Dimitrovo, Uspenovka settlements;
2. Itinerary stations - UNIT-3, solid waste and drilling mud storage site, sanitary protection zone, UNIT-2 (in the process of putting into operation); and,
3. Mobile stations (subflare) - distances of 50 m, 100 m, 500m, 1km, 3km according to wind directions.

Air monitoring of the export pipeline was conducted prior to initiating construction to record ambient values and in accordance with the Environmental Action Plan (EAP) will be conducted at each of the three pumping stations twice a day and at 2 valve locations once per month.

These monitoring requirements are tracked in the EMP and will be expanded or altered when KPC and Unit 2 come on line. KPC and Unit 2 are state of the art facilities and with the exception of one air source, the KPC gas sweetening incinerator, have all been designed to meet World Bank Group policies and guidelines. The EMS will outline a series of steps to identify the appropriate emissions control technology and an implementation schedule to bring the KPC gas sweetening incinerator in compliance with the World Bank Group guidelines either before or shortly after KPC is operational in 2003.

Sanitary Protection Zone (SPZ)

The SPZ concept is left over from the Soviet era and is now gradually being replaced by source point monitoring. The premises of SPZ regulations is to protect communities from ill effects of oil, gas and condensate production particularly if they contain H_2S. The subsurface limits of the reservoir are projected to the surface and based upon stipulations in the regulations, a sanitary protection zone is drawn from the boundary of the field. Figure 2.6 shows the 5 km SPZ around the Field. Five kms is used for any field with H_2S concentrations greater than 2-3%.

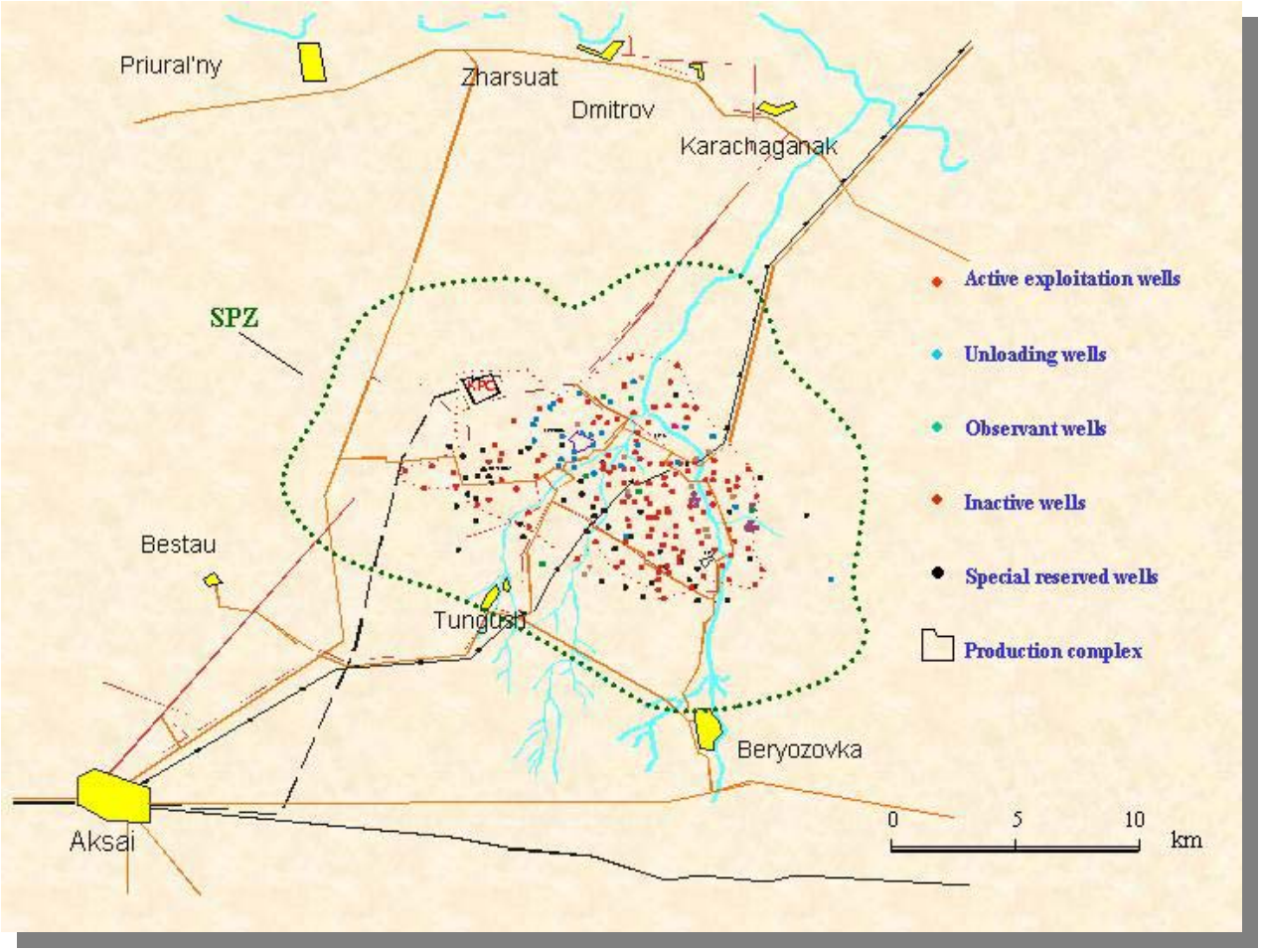


Fig 2.6 Sanitary Protection Zone (SPZ)

Within the SPZ limits are a part of Tungush settlement and northern surburb of Beryozovka settlement. Provided that new drilling does not occur in the territory near Beryozovka settlement, it will not be considered as located within the Field SPZ. The main factor determining the SPZ size is the possible pollution of atmospheric air connected with the field operations, processing and exploitation of the facilities.

The SPZ sizes specified in sanitary classification of productions are considered as tentative. For such enterprises SPZ sizes are established on the basis of calculations of the pollutants dispersion in an atmosphere.

According to Addition 2 of "Sanitary norms for designing of industrial objects" 1.01.001 - 94 in section "Sanitary - protective zones and sanitary classification of the enterprises, constructions and other objects" the sizes of sanitary-protection zones for the modern large industrial enterprises and industrial complexes for extraction and processing of oil and gas prove general designers in view of calculations of maximal accidents and emergencies on the objects and establish as agreed with the Chief state sanitary inspector of the RoK. Calculations are carried out according to "Instructions for calculation of dispersion in an atmosphere of harmful substances contained in emissions of enterprises".

Updating of a normative (minimal) SPZ is made by the results of calculation for pollutants dispersion at normal mode of KOGCF operation.

Extreme emissions at gas flaring on barns of wells are adjusted in view of meteorological conditions. The purpose of extreme emissions regulation - prevention of pollution level of an atmospheric air in settlements more than maximum permissible concentration (1 MPC).

Emergency maximal emissions on KPC objects are single and short. Concentration of H_2S can be from 1.5 MPC in the remote settlements to 4 MPC in the nearest Tungush settlement. In the case of well blowout the use of appropriate emergency measures will allow the timely evacuation of population to be carried out.

Research is being directed at providing substantiation for the reduction of the SPZ size.

Analysis of pollutants emissions levels have been carried out to substantiate an SPZ size of 1000m. The data on existing operations were assembled and are incorporated with emissions data taken from design documentation. These combined data were used to account for dispersion in an atmosphere according to "Technique for accounts of concentration air pollutants in emissions of industrial enterprises" GND 211.2.06.01-97. Additional data from the oil refinery plant, JV "Condensate", were obtained and then were integrated with emissions data for KOGCF sources so that a definition of combined impact on an environment could be made. Other sources were also considered, though the volume of their emissions in comparison with KOGCF objects and JV "Condensate" are at a level having no influence on average air quality parameters.

Emergency scenarios involving of a number of the most serious potential incidents have been considered in addition to normal emissions data. Modeling is carried out with the purpose of determining the impact on the environment.

Rresearch has been carried out on the health of the inhabitants living in the immediate proximity of the Field and compared with a 'control' settlement located elsewhere within Western Kazakhstan Oblast but distant from the field. The results of the research has shown a reduction

in the birth-rate and increase of death-rate for Tungush and Beryozovka settlements that is consistent with the same parameters for the control settlement of Alexandrovka. This picture is also comparable to the Burlinsky district, West-Kazakhstan oblast and Republic of Kazakhstan as whole.

On the basis of the detailed research conducted concerning the condition of the environment and health of the population it is possible to draw the conclusion, that there is no close dependency with field activities. There are no also obvious impacts by the field on flora and fauna. There is no marked pollution of the soils within the field area or beyond where any level exceeds that of the maximum permissible concentrations.

Quality of potable water in Tungush and Beryozovka settlements is not impacted by field activity.

The results of research have established that the Karachaganak Field does not have any deleterious affect on the nutritional properties or chemical state of local foodstuffs and agricultural products in the nearest settlements of Tungush and Beryozovka.

The work of specifying the Karachaganak Field's SPZ zone continues against the background of ongoing health & environmental monitoring.

2.4.2 Surface and Ground Waters

Surface and ground water monitoring is performed for the purposes of verifying water quality, documenting water stream movement and pollutants migration, and conformity to the sanitary-and-hygienic standards in force control. Sampling is conducted in spring, summer, autumn, and winter from 14 monitoring wells, 13 surface water points in the Field and from the neighboring settlements surface waters. Sampling was conducted along the export pipeline route at 20 locations prior to construction and will be sampled twice per year (fall /spring) at 26 loctions during operation. Water will also be sampled before and after hydrotesting.

To eliminate impacts on surface and ground waters the following programs have been put in place:

- Investigation of hydrodynamic and hydro-chemical conditions of upper water-bearing stratum and surface water reservoirs;
- Construction of water inlet facilities is to be implemented provided that all appropriate statute-established documents are available;
- Equipping of all water inlets with water gauging devices in compliance with SC&N 2-04-02-84;
- Establishing of maximum permissible discharges of pollutants in water-bearing horizons (MPD projects);
- Introduction of reverse water supply to production processes;
- Investigations related to operation of underground disposal of liquid waste;
- Gas contamination identification of productive water-bearing horizons and providing substantiation for its elimination;
- Control for hydrodynamic and hydro-chemical conditions of upper water-bearing horizons, as well as for surface water and underground condensate storage facility;
- Constant assessment of waste water.

2.4.3. Soils

Soil monitoring is carried out in conformity with GOST of 17.4.5.02-86 «Nature Protection. Soils, Sampling methodology for chemical, bacteriological and helminthologic analysis» in the Field and along the export pipeline route in order to preserve their resource potential and assure ecological and health safety for people. Soil monitoring is effected through surface, depth and core sampling conducted at the ecological stations of the monitoring network which covers the Field (11 different locations) and nearby settlement areas (10 different locations). Sampling was also conducted at 74 points along the export pipeline route prior to construction and will be routinely conducted at 69 of these same points during operation. To minimize and or eliminate any adverse impacts to the soils related to the project the following are applied:

- Removal of top soils prior to any construction, including along the entire export pipeline right of way;
- Placing of removed soils from the Field to an interim storage site for conservation and return purposes after construction;
- Disturbed land restoration and reclamation after construction completion, including soil conditioning;
- Biological reclamation including agrotechnical, phytomeliorative and biotechnological actions aimed at soil improvement for subsequent agricultural and forestry activities;
- Use of efficient technology of polluted area rehabilitation for improved oxidizing conditions;
- Post-construction area purposed seeding;
- Soil removal and treating in case of condensate pollution.

2.4.4. Flora

Plant life monitoring is conducted for identification purposes of plant life development and to track changing trends in the ecosystem. The following practices have been put in place:

- Based on recommendation of the Institute of Botany and Phytointroduction plant a wide range of trees and brushwood consistent with local climatic conditions;
- Plant gas resistant and phyton active plant species (juniper, conifers);
- Plant decorative trees, brush wood and ornamental grassy plants;
- Reclaim and plant greenery in disposal tip and historically polluted wells areas;
- Cleanup and reclaim wayside forest belt plantings;
- Landscape and design man-made and urbanized areas.

2.4.5. Fauna

Wildlife monitoring is conducted for identification purposes of wildlife development and to track changing trends in the ecosystem. In the course of the field operation, for wildlife habitats conservation purposes observance of operational standards and regulations is provided, as follow:

- Limit thoroughfare in the field area by providing a limited number of highways in virgin areas. The main roads are paved with asphalt, the minor ones are with gravel surfacing;
- Prohibited road construction along water reservoirs, burning-off reed, shrubbery, high grass along rivers which are nesting places of water fowl;
- Additional planting of the area with main wayside forest belts with the purpose of ozonization, dust proofing and wildlife spreading as nature-conservative measures;
- Control for epidemiological situation over the field area including annual bacteriological sampling of rodents – dangerous infections carriers (rat, mouse-like rodents, small

gopher). Engagement of specialists from Uralsk antiplague station and regional veterinary station into this activity is planned.

2.4.6 Radiation

According to Clause 25 of the Law of the RK "On Environmental Protection" a program of environmental production monitoring in the Field area has been developed. It stipulates organization of observations, data finding, data analysis, environmental impact via production assessment. This is done with the purpose of adoption of duly measures aimed at prevention, reduction and elimination of polluting of natural objects.

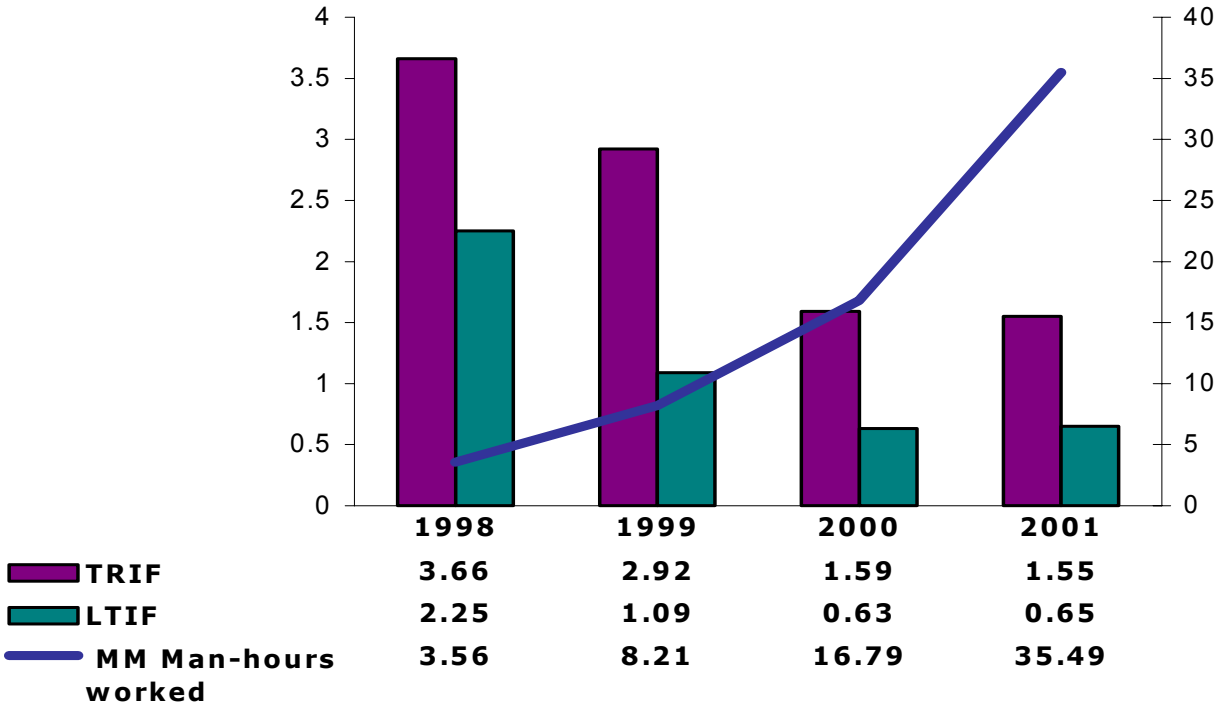
2.4.7 Cultural Properties

There are no known cultural properties in the Karachaganak field but sites have been identified along the new export pipeline. Archaeologists performed a walk over survey of the pipeline corridor prior to initiating construction. They reviewed, approved and stamped all of the construction drawings and were with the construction equipment during topsoil stripping. Several archaeological sites were discovered which were avoided and protected by pipeline re-routes. An Accidental Discovery Plan has been put in place which details the procedures to follow in the event an artifact is discovered while working.

2.4.8 Health and Safety

The HSE management system has various procedures covering aspects of risk assessment. Contractor method statements routinely include risk assessment. This has the potential to be further expanded and consideration is being given currently to the use of the Maximo, work ordering database to hold generic risk assessments. Specific risk assessments for Simultaneous Operations are common. Expert teams are formed for major project activities where risk levels are considered significant. The teams carry out formal hazard identification and risk evaluation. For less significant activities task based risk assessments are made that are then reflected in the control measures and safeguards adopted within the permit to work issued for the particular task.

Occupational Health and Safety
Because of the remoteness of the Field, large distances traveled, the complicated nature of the project, and sometimes, harsh conditions, constant vigilance for personal safety is required. KIO has realized improvements in their total recordable incidents (TRI) and lost time incidents (LTI) each year since 1998. The past rolling 12 months (2001) have a TRI of 1.55 and a LTIF of 0.65.



2.7 Lost time & Total recordable incident trends

The safety system is based upon the philosophy that all incidents are preventable and near misses are tracked. KIO has a number of programs designed to provide employees with the proper training and equipment to perform each task and then a system to reinforce behaviors. Examples of some of these programs are as follows:

- Safe Driving - Road traffic incident frequency has declined 50% per year since 1999. For the year 2001, had 17 incidents representing an Road Traffic Incident Rate (RTIF) of 0.48. In 2002 there has been 1 incident to date. These improvements were realized through extensive training of employees and contractors, heavy equipment inspections, dangerous/hazardous route training, improved vehicle maintenance, enhanced snow removal programs and increased random driver alcohol testing and vehicle searches.

- H_2S training - The field is 4 - 4.3% H_2S (40,000 ppm). Each worker is given H2S training based upon their work location and duties and in the operating areas all personal are trained. Every worker in Unit 3 wears an H_2S alarm that sounds above 10 ppm (600 ppm is lethal) and carries an escape air pack. KIO has not had a fatality or injury associated with H_2S.

- Joint Safety Charter - With large amounts of construction taking place and 4,000-6,000 construction workers currently on site, KIO has formed a Joint Safety Charter with CCC Saipem (the main works contractors) for the construction of KPC. KIO has built on the positive experience gained with the Joint Safety Charter and extended the approach to working with Baker Hughes and Saipar (the drilling contractors). Under the Joint Safety Charter, there is a Corrective Action Notice mechanism with each partner observing the other. There is also a requirement that every worker has to pass a Safety Knowledge Assessment.

- Incident Investigation – KIO has a comprehensive Incident Investigation process that is directed at establishing underlying route causes. Corrective actions are generated during the investigation process and are then monitored/managed to closure. The Incident Investigation procedure also includes a senior management review process for major incidents and those with the potential for significant harm. The combination of the investigation of root causes, corrective actions and Incident review form the basis for continuous improvement within KIO.

- Medical facilities – Doctors are permanently available to deal with medical conditions ranging form chronic health care through to acute medical emergencies. This capability is complimented by that of local civic services and when appropriate emergency evacuation to western facilities.

Emergency Response Programs

Emergency Response capabilities within KIO have been significantly strengthened since it took over operation of the field from Gazprom with investment in new equipment and training facilities amounting to some $18 million of which $17 million was directed at upgrading the fire suppression system at Unit 3. The Emergency Services department is led by an Emergency Response Coordinator and is supported by a multi skilled team:

- Fire Safety Engineer
- Field Emergency Response Coordinator
- Community Emergency Response Coordinator
- ORT Sondirushi Fire Brigade
- Gas Rescuers
- AK Beren (Blow Out Response Brigade)

The focus of these resources within KIO is on prevention, preplanning and response readiness. The Emergency response systems and procedures fit within an integrated emergency response plan (ERP). The main components of the ERP are the village alarm system (VAS), emergency response team (ERT), and crisis management plan (CMP).

- VAS – prior to the FPSA the villages were reliant on a gas-line telephone system that was unreliable. The present system has 11 villages with paging devices, with 8 villages also having mobile telephones. KIO's Community Emergency Response Coordinator checks the equipment weekly. Additional equipment is also being installed that involves the installation of alarm modules in each village that are connected back to KIO and the 24 hour environmental air monitoring system. Audible alarms are being provided in the villages along with remote and local activation of the system. This has entailed the refurbishment of some village properties to house the equipment. Estimated commissioning date for the new system is June 2002.
- ERT - KIO has a contract with the state authorities to provide fire-fighting personnel. The ORT Sondirushi fire brigade comprises 148 personnel currently. The deployment of the these resources is as follows:
    - Unit 2 (+32 personnel/ 3 fire vehicles) – resources currently being acquired
    - Unit 3 (102 personnel/ 8 fire vehicles)
    - KCC (32 personnel/ 3 fire vehicles)

- KPC (+32 personnel/ 3 fire vehicles) - resources currently being acquired

The fire brigade performs inspection of facilities, mutual aid to incidents external to KIO as well as providing a response capability to incidents including oil spill response. Additional equipment has been purchased including rope mop skimmers to complement existing inventories of oil spill absorbent and containment booms. KIO has also contracted AK Beren as the only licensed well intervention company in Kazakhstan to provide blow out response services. Training is an ongoing feature of the work of the teams including routine emergency exercises to test response capabilities and to act as means of driving continuous improvement. The emergency exercise also provide an important input into updating the ERP on the basis of lessons learnt.

- CMP – The KIO crisis management plan covers events ranging from kidnap through to full scale evacuation of the work force and managing the impacts of natural disasters. Part of the incident response and a feature of the CMP is use of a duty manager system. KIO maintains a duty manager with responsibility for coordinating and channeling communication in the event of an incident where they become involved. Cover is maintained on a 24 hour ongoing basis with a person always available.

KIO has signed a letter of intent with Western Kazakhstan University and the Emergency Services Training Institute (ESTI) of Texas A&M University to develop a world class emergency response training centre in Kazakhstan as a part of KIO's more general initiative to assist with technical capacity building.

SECTION 3 SOCIO-ECONOMIC OVERVIEW

3.1. Basic socio-economic Overview of the West-Kazakhstan oblast and Burlin district

Shortly after the break-up of the USSR Kazakhstan was proclaimed a democratic state. In 1993 a new constitution was adopted and Kazakhstan became a democratic republic with a presidential system. The executive president is also head of state and is elected for a five-year term. He/she cannot be president for more than two terms. Parliament is unicameral with elections for the Supreme Council held every five years.

Kazakhstan is divided into 14 oblasts (regions) and the territory of Almaty, each of which is headed by a provincial governor (akim) appointed by the President. There are also city and village governments.

The president is elected by secret ballot for five-year terms. The executive heads, the Prime Minister, Ministers, and Heads of State Committees are appointed and may be dismissed individually or collectively by the President. The legislative branch is represented by a two-chamber parliamentary system. A 77-seat lower house of the parliament is known as the Majilis with all members being directly elected, and a 47-seat upper house of the parliament is the Senate. The President appoints three of the seven members of the Constitutional Council, seven of the 47 members of the Upper House of Parliament (Senate), executives heads of local government units in the Oblasts and major cities, all diplomatic representatives of the State, the highest commanding officers of the armed forces and the Chairperson of the State Budget Committee.The President is authorized to prioritize draft laws for consideration by Parliament and, once adopted, to either sign them into effect or to exercise power to veto them

The devolution of governmental authority from central to sub-central units occurs at several tiers from National to Oblast levels, and then to District level, with the city of Almaty occupying the status of Oblast, and other major cities the status of District. Local governmental power is divided between representative bodies called Maslikhats and local executives called Akims. Each Oblast (including the City of Almaty) has an Akim (appointed by the President) and a Maslikhat. Each major city has an Akim appointed by an Oblast Akim. The deputies of Maslikhats are elected to four-year terms on the basis of universal and equal suffrage by secret ballot. The Maslikhat implement national policies on the local level and coordinate these policies with the individual needs of their particular region. The president is empowered to cancel or suspend the acts of the councils-a system that makes local governments directly subordinate to the president

The West-Kazakhstan oblast (WKO) borders with Atyrau and Aktyubinsk (Aktobe) oblasts within Kazakhstan and also with four regions of the Russian Federation. WKO occupies an area of 151.3 thousand km^2 with a population is 604,400 people. (January 1, 2001).

Table 3.1

Administrative structure and land area of West-Kazakhstan oblast
(January 1, 2001)

Districts	Land area ($km^{2)}$	Major Cities	Rural districts (aul)	Villages
Akzhaiksky	25.2		18	58
Bokeiordinsky	19.2		7	25
Burlinsky	5.6	1	15	34
Dzhangalinsky	20.8		9	31
Zhanibeksky	8.2		9	26
Zelenovsky	7.4		24	78
Kaztalovsky	18.6		16	59
Karatobinsky	10.0		9	25
Syrymsky	11.9		12	43
Taskalinsky	8.1		9	35
Terektinsky	8.4		18	60
Chingirlaysky	7.2		9	33
Uralsk city (oblast/regional centre)	0.7	1		5
WKO Totals	**151,3**	**2**	**155**	**512**

The Burlinsky district area including the Karachaganak Field occupies an area of 5,600 km^2. The population of Burlinsky district is 48,000 persons, including 27,959 are inhabitants of Aksai (01.04.99). Population density within the oblast is 4 people/km^2 on average with the northern areas of the Ural Valley being most populated. The majority of the population lives in the countryside (59%). Within the oblast as a whole there are some 150 rural districts (aul). The population makeup for the oblast is 66% Kazakh, 27% Russian, 3.5% Ukranians, 1.7% Tatars. (Table 3.2)

Table 3.2
National structure of WKO
(census 1999)
Thousands persons

Ethnical Composition of WKO
(1999 census data)

Kazkhs	Russian	Ukranian	Tatars	German
399,000/66.0%	174,000/28.7%	19,600/3.2%	10,100/1.7%	2,400/0.4

The Karachaganak Oil & Gas Condensate field is the major influence on the economy of WKO as a result of the investment level associated with KIO's development of the field and as result the production of hydrocarbons.

The data given below describe the spheres of social and economic development of the WKO as a whole. Data is also given for the Burlinsky district in which the field and associated facilities are located.

The region as a whole has the potential for export development, including oil & gas, grain, meat and other agriculture products. WKO's basic industrial and agricultural base lies in close proximity with the economically advanced regions of Russia and represents a major advantage in export-import prospects of the region.

The region is served by rail and road infrastructure with some 420 km of rail network in common use. The "Saratov - Uralsk – Sol'Iletsk" railway crosses northern part of WKO and at the western border of the region there is the "Saratov – Astrakhan" railroad. The total length of roadways exceeds 5.3 thousand km with 4.6 thousand km (87 %) with a hard surface.

The Ural River within the oblast is navigable. In the past there was regular steamship traffic between Atyrau and Uralsk cities.

In past decades the major economic activity within WKO was agricultural with the production of grain, meat, milk, eggs etc. The main focus of this agricultural production being grain. Current levels of production for wheat and barley are around 800 thousand ha. In 1990 production levels were higher for these products at 1556 thousand ha. In addition the gross areas for all agricultural production has reduced from 2 to 1 million ha. WKO is located in an agricultural zone that is regarded as risky as the territory is often subject to droughts. Cattle continue to be reared and grazed on open pasture.

At and around the regional centre of Uralsk there is light industrial production. This includes: mechanical engineering/metal working, food and manufacture of construction materials. The latter is based on the existence of deposits of mountain slate, potassium-magnesia salts, cement raw materials and haydite clay that exist in the region.

The region has some 539 daily comprehensive schools for 130 thousand pupils, 7 of specialist secondary schools (more than 5 thousand pupils) and 4 higher educational institutions (7 thousand students). Most children complete their education up to high school level with the exception being homeless children. The level of educational development reached by the majority equips them with basic skills of reading, writing and numeracy at a level consistent with that of their peer group in the west. Employment opportunities remain limited as a whole in Kazakhstan although the situation is improving at the national level and more specifically within WKO new opportunities have arisen directly as a result of KIO's investment. The impact of KIO's investment on employment and associated average salary levels within Burlinsky District can be seen in table 3.3.

Table 3.3

Key Social and Economic Indicators for the Burlinsky District

	1993	1994	1995	1996	1997	1998	1999	2000
Population (end of year), x 1,000	**51.0**	**49.1**	**48.9**	**49.0**	**48.5**	**48.9**	**49.5**	**51.9**
Population Growth per 1,000 people	**9.1**	**7.8**	**5.5**	**5.0**	**5.1**	**3.2**	**2.2**	**2.0**
Annual Average Employment, x 1,000	**16.5**	**15.9**	**13.9**	**14.4**	**13.9**	**12.2**	**10.6**	**15.4**
Registered Unemployed	**133**	**208**	**357**	**718**	**558**	**575**	**251**	**232**
Monthly Average Nominal Wage per Person in KZT	**120**	**1,173**	**4,786**	**7,700**	**11,926**	**12,970**	**22,529**	**32,448**
Capital Investment, 10^6 KZT	**0.9**	**203.2**	**772.7**	**1,174.6**	**2,425.5**	**5,307.9**	**50,852.7**	**98,533.2**
Dwelling Area Commissioned, x 1,000 m^2	**4.0**	**3.8**	**1.9**	**1.6**	**4.6**	**4.2**	**4.5**	**9.1**
Retail Turnover, 10^6 KZT	**10**	**78**	**182**	**285**	**207**	**229**	**525**	**1,509**
Number of Pre-schools, end of year	**32**	**26**	**27**		**7**	**6**	**5**	**5**
Number of children attending pre-schools	**2,598**	**2,073**	**1,860**		**1215**	**1,273**	**1,003**	**1,020**
Number of general-education day schools	**38**	**38**	**37**	**37**	**36**	**35**	**34**	**34**
Number of schoolchildren enrolled	**8,741**	**8,849**	**8,958**	**9,364**	**9,632**	**10,085**	**10,695**	**11,059**
Total number of physicians (all specialities)	**110**	**104**	**107**	**115**	**110**	**108**	**90**	**93**
Number of nurses	**310**	**294**	**307**	**301**	**307**	**264**	**208**	**211**
Number of beds in hospitals	**350**	**270**	**265**	**245**	**245**	**205**	**180**	**180**

The quality of teaching levels declined as a result of teachers leaving the profession to pursue better paid job opportunities in Kazakhstan driven by economic development and the improved freedom to travel overseas to work. More generally unemployment levels have started to decline from a peak of 17.5 /thousand persons in 1996 to 9.4/ thousand persons in 2000.

There are 45 hospitals in which work more than 2 thousand doctors of all specializations and 5,8 thousand of paramedical personnel.

Other statistical data describing the demographic and socio-economic features of the territory, are given in tables 3.4 – 3.12.

Table 3.4
Basic socio-economic parameters of the WKO

Key Social and Economic Indicators for the Oblast

	1993	1994	1995	1996	1997	1998	1999	2000
Population (end of year), x 1,000	**665.4**	**659.4**	**657.6**	**654.2**	**647.6**	**618.4**	**610.8**	**604.4**
Population Growth per 1,000 people	**9.3**	**8.6**	**5.6**	**4.1**	**4.0**	**2.4**	**0.9**	**1.9**
Annual Average Employment, x 1,000	**288.9**	**266.1**	**264.4**	**252.9**	**268.0**	**270.1**	**269.6**	**273.4**
Registered Unemployed, x 1,000	**2.4**	**4.4**	**7.6**	**17.5**	**12.3**	**12.1**	**10.2**	**9.4**
Monthly Average Nominal Wage per Person in KZT (tenge)	**111**	**1318**	**3616**	**5463**	**7316**	**8334**	**10551**	**14001**
Regional GDP, x 10^9 KZT	**0.9**	**12.4**	**25.0**	**30.8**	**53.0**	**53.1**	**71.2**	**109.4**
Per capita, 1,000 KZT	**1.4**	**19.0**	**38.5**	**47.8**	**83.5**	**85.2**	**115.9**	**180.0**
Industry Output (including household production), 10^9 KZT	**0.4**	**5.2**	**10.8**	**11.4**	**19.9**	**19.2**	**31.6**	**80.9**
Agricultural Produce, 10^9 KZT	**6.8**	**4.7**	**5.7**	**7.2**	**17.8**	**12.9**	**11.4**	**15.0**
Capital Investments, 10^9 KZT	**0.2**	**2.0**	**3.7**	**3.9**	**5.1**	**7.6**	**53.7**	**100.8**
Dwelling Area Commissioned, x 1,000 m^2	**151.9**	**96.3**	**70.4**	**75.0**	**74.5**	**50.8**	**37.2**	**37.8**
Freight ton-kilometers for all transport types	**5.8**	**3.9**	**2.8**	**5.0**	**11.4**	**12.0**	**12.5**	**12.0**
Retail Turnover, 10^9 KZT	**0.2**	**1.9**	**5.0**	**6.3**	**8.6**	**11.1**	**11.6**	**17.9**
Foreign Trade Turnover, million USD				**166.9**	**205.8**	**238.6**	**312.5**	**874.3**
Of which								
Export				**108.2**	**108.9**	**123.3**	**159.9**	**509.4**
Import				**58.7**	**96.9**	**115.3**	**152.6**	**364.9**
Consumer Price Index (December to December of previous year, %)	**22.0**	**15.2**	**152.7**	**123.0**	**104.8**	**103.6**	**116.0**	**108.4**

Table 3.5

Comparison of Key Social and Economic Indicators for the Oblast and Burlinsky District

	1993	1994	1995	1996	1997	1998	1999	2000
Population (end of year), x 1,000	665.4 / 100%	659.4 / 100%	657.6 / 100%	654.2 / 100%	647.6 /100%	618.4 / 100%	610.8 / 100%	604.4 / 100%
	51.0 / 8%	49.1 / 7%	48.9 / 7%	49.0 / 7%	48.5 / 7%	48.9 / 8%	49.5 / 8%	51.9 / 8%
Population Growth per 1,000 people	9.3 / 100%	8.6 / 100%	5.6 / 100%	4.1 / 100%	4.0 / 100%	2.4 / 100%	0.9 / 100%	1.9 / 100%
	9.1 / 98%	7.8 / 91%	5.5 / 98%	5.0 / 122%	5.1 / 128%	3.2 / 133%	2.2 / 244%	2.0 / 105%
Number of Registered Unemployed, x 1,000	2.4 / 100%	4.4 / 100%	7.6 / 100%	17.5 / 100%	12.3 / 100%	12.1 / 100%	10.2 / 100%	9.4 / 100%
	133 / 6%	208 / 5%	357 / 5%	718 / 4%	558 / 5%	575 / 5%	251 / 2%	232 / 2%
Monthly Average Nominal Wages per person, KZT	111 / 100%	1,318 / 100%	3,616 / 100%	5,463 / 100%	7,316 / 100%	8334 / 100%	10551 / 100%	14001 / 100%
	120 / 108%	1,173 / 89%	4,786 / 132%	7,700 / 141%	11,926 / 163%	12970 / 156%	22529 / 214%	32448 / 232%
Dwelling Area Commissioned, thousand m2	151.9 / 100%	96.3 / 100%	70.4 / 100%	75.0 / 100%	74.5 / 100%	50.8 / 100%	37.2 100%	37.8 / 100%
	4.0 / 3%	3.8 / 4%	1.9 / 3%	1.6 / 2%	4.6 / 6%	4.2 / 8%	4.5 / 12%	9.1 / 24%
Retail Turnover, 109 KZT	0.2 / 100%	1.9 / 100%	5.0 / 100%	6.3 / 100%	8.6 / 100%	11.1 / 100%	11.6 / 100%	17.9 / 100%
	10 / 5%	78 / 4%	182 / 4%	285 / 5%	207 / 2%	229 / 2%	525 /	1,509 / 5%

Table 3.6
Population of WKO
(01.01.2001)
Thousands persons

WKO Population
(as of 01/01/2001)

Population as of 01/01/2000	Migrated in	Migrated out	Number of Births	Number of deaths	Population as of 01/01/2001
610,800	11,000	18,500	7,500	6,400	604,400

Table 3.7
Dynamics of population for WKO and Burlinsky district
Thousands persons

Population Dynamics for the Oblast and Burlinsky District

Population (thousand people)	WKO			Burlinsky District		
	1999	1989	1999 as % to 1989	1999	1989	1999 as % to 1989
Total Population	617.7	629.5	98.1	48.8	40.5	120.5
Urban	252.4	267.4	94.4	31.8	20.6	154.4
Rural	365.3	362.1	100.9	17.0	19.9	85.4

Table 3.8
Dynamics of unemployment for Burlinsky district

Unemployment by Year for the Burlinsky District

	Years		
Population Category	1998	1999	2000
Employed	25,946	28,302	28,876
Unemployed	918	700	450

Table 3.9
Criminality of Burlinsky district (including teenage criminality)

Crime Rate in the Burlinsky District (including juvenile crime)

Category	Years					
	1995	1996	1997	1998	1999	2000
Total Crimes	695	757	555	473	374	364
Juvenile Crimes	40	26	50	44	27	18
Clear-up rate (%)	73.9	70.5	82.5	87.1	88.5	89.9

Table 3.10
Analysis of infectious diseases change for population of Burlinsky district
(recalculation on 100,000 habitants)

Infectious Diseases in the Burlinsky District
(Recalculated rates per 100,000 people)

Infectious Diseases	Years			
	1995	1996	1997	1998
Acute Intestine Infections	147.7	131.9	107.3	164.3
Dysentery	11.9	21.9	15.9	29.1
Salmonella poisoning	17.9	3.9	3.9	10.4
Viral hepatitis A	343.4	335.4	182.8	172.6
Viral hepatitis B			1.9	10.4
Measles	35.9	1.9	1.9	58.2
Acute respiratory/viral infections	3,946.0	5,190.1	7,149.5	5,130.7
Influenza	980.5	528.2	733.4	1,604.1
Mumps	49.9	9.9	111.3	25.8
Brucellosis	5.9	13.9	7.9	12.6
Tuberculosis	71.8	125.8	96.0	139.4
Syphilis	89.8	319.5	508.8	459.8
Gonorrhoea	181.7	319.5	196.7	199.7
Diphtheria				2.0
Carriers of diphtheritic bacillus				16.6
Malaria				2.0
Chicken pox			184.8	322
Rubella measles			11.9	185.1
Scarlet fever			9.9	8.3

Table 3.11
Manufacture of basic livestock products and number of cattle

Output of Livestock Products and Livestock Count

Output/ Count	All Farm Types					
	West Kazakhstan Oblast			Burlinsky District		
	2000 **2000**	1999	2000 as % of 1999	2000	1999	2000 as % of 1999
Meat (tons, at slaughter-house entry)	30,162	37,813	79.8	1,933	2,344	82
Milk (tons)	113,303	110,003	103	12,362	13,092	94
Eggs (x 1,000)	15,665	15,358	102	1,809	1,840	98
Lamb Wool (tons)	1,655	1,604	103.2	43	44	98
Cattle (number of heads)	381,962	380,799	100.3	3,901	3,811	102
Milk Cows (number of heads)	142,204	142,078	100.1	9,849	10,476	94
Pigs (number of heads)	37,097	40,084	92.5	6,749	7,270	93
Sheep, goats (heads)	771,691	770,015	100.2	15,638	17,186	91
Horses (heads)	66,832	71,484	93.5	2,260	2,855	79
Camels (heads)	3,224	3,252	99.1	0	0	-
Poultry (heads)	390,112	367,648	106.1	57,181	52,036	110

Table 3.12
Dynamics of cattle livestock for Burlinsky district
Thousands of heads

Livestock Population in the Burlinsky District

Year	1991	1994	1995	1996	1997	1998	1999	2000	2001
Livestock Counts	57,500	45,900	41,000	28,900	25,400	20,600	20,700	20,800	18,600

3.2. Health of the Local Population and Workers

3.2.1 Basic principles of KIO in the sphere of health protection and education of population

The main principle of the strategy and policy in KIO is the priority given to issues relating to the health and safety of the staff and population living in the region of possible negative effects frm industrial facilities any potential adverse impacts on the environment. KIO proposes strict fulfillment with international sanitary and nature protection legislation adopted in the world and full compliance with ROK laws specifically the law "On Health Protection of the Citizens in the Republic of Kazakhstan".

For the purposes of public health protection, occupational diseases and poisonings, accident prevention, and labor protection, all workers must pass preliminary and periodic health checks and special medical examinations.

KPO workers are not permitted to work if they have not passed preliminary or periodic medical examinations or have been recognized as unable to work because of a health condition.

Regulatory officials and workers are obliged to ensure adequate maintenance of the industrial and sanitary facilities, work places and production equipment is pursuant to the sanitary regulations and hygiene standards.

Ambient air in domestic dwellings, industrial buildings, and other locations should meet the established standards. Company officials/workers and regulatory officials are obliged to provide for the safe collection, processing, treatment and burial of industrial and domestic wastes as well as to maintaining such locations pursuant to sanitary regulations and standards.

All KIO workers staff and contractors alike are supplied with the requisite Personnel Protective Equipment including overalls, special footwear and other means of individual protection. Workplaces are equipped with appropriate sanitary facilities prior to commencing main civil and construction works. Workers at construction sites and in established work places should be supplied with potable water that corresponds to the sanitary standards.

KIO and its contractor's management teams have the duty to provide timely notification to workers at facilities under their control about impending sharp changes of weather conditions (snowstorm, gale-force wind, thunderstorm, snowfall, etc.).

KIO is also required to carry out mandatory certification of industrial facilities to ensure safe working conditions through injury prevention and laboratory analysis to confirm a healthy working environment. Certification is required for each distinct facility.

3.2.2 Local Health Conditions

KIO considers that the local health conditions in and around the field to be important and ongoing issue warranting study. This led to KIO commissioning work with the Centre of Preventative Medicine "Kenesary", Kazakh State Medical University (March 2001) to investigate the baseline health conditions in and around the field. This work included a comparison with the 'control' settlement of Alexandrovka that is within WKO but distant from the sphere of influence of the field.

The results of the research show that the KGOCF environmental status is currently wholly satisfactory when considering the impact that the field has on the health conditions. In overwhelming majority of cases the concentration of harmful chemical substances in the soil, drinking water and foodstuff in the surveyed settlements do not exceed the established hygienic standards. There is an exception for Cobalt, which is in abundance in the soil of the region and exceeds the maximum permissible concentrations (MPC). This is irrespective of the distances of the sample points locations from from the field and time of sampling. It's possible to consider the Cobalt levels as part of a natural background feature typical for the area.

Another finding was that of vanadium accumulation in the environment, adjacent to the field, proportionate to the duration of the field's operations and geographical extent.. Lead, cadmium, and fluorine translocation rates and patterns have also been established. Vanadium is recognized as an indicator of the presence of oil products and products of their processing. The level of contamination is still insignificant and remains within the normal range. However, the identified presence of this material necessitates regular monitoring (at least once a year) to establish what levels are present not only in soil, but also in drinking water and vegetable foodstuffs..

More generally the results of this research showed that declining birth rates and increasing mortality rates in Tungush and Beryozovka are similar to both those of the control village (Alexandrovka 50km distance from the field) as well as figures for the Burlinsky disctrict, WKO and the ROK as a whole.

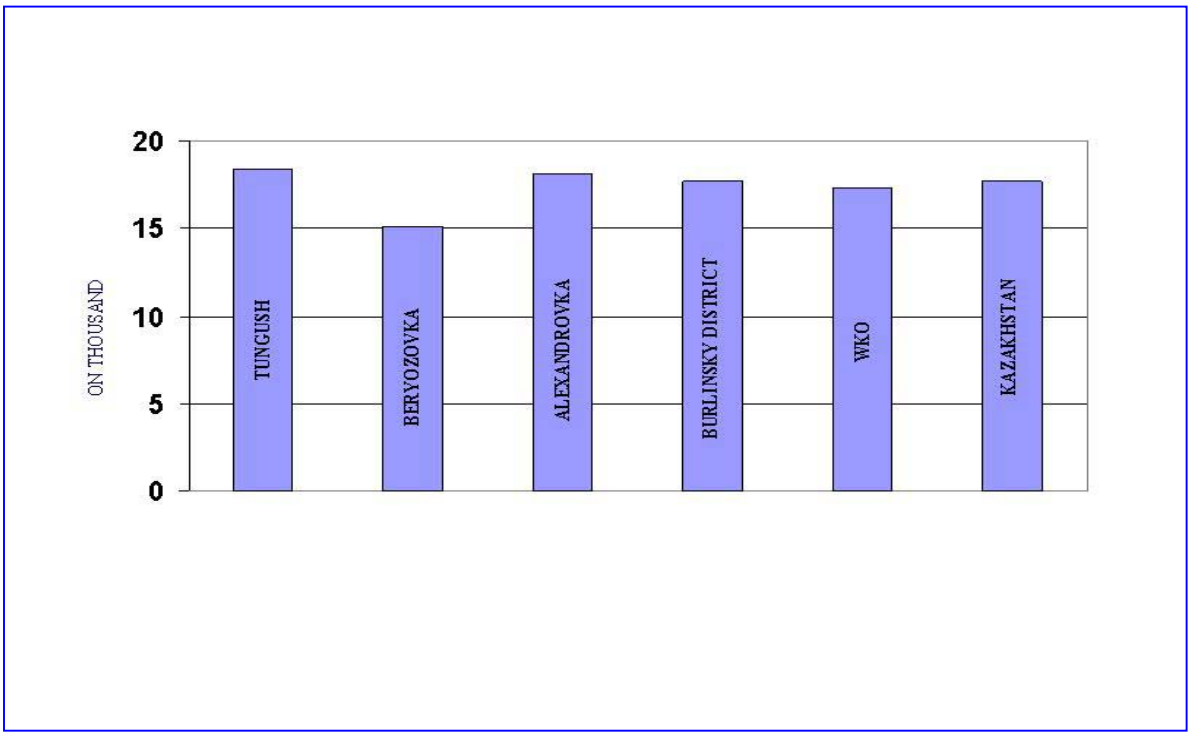


Fig. 3.1. Average birth-rate (1990-1999).

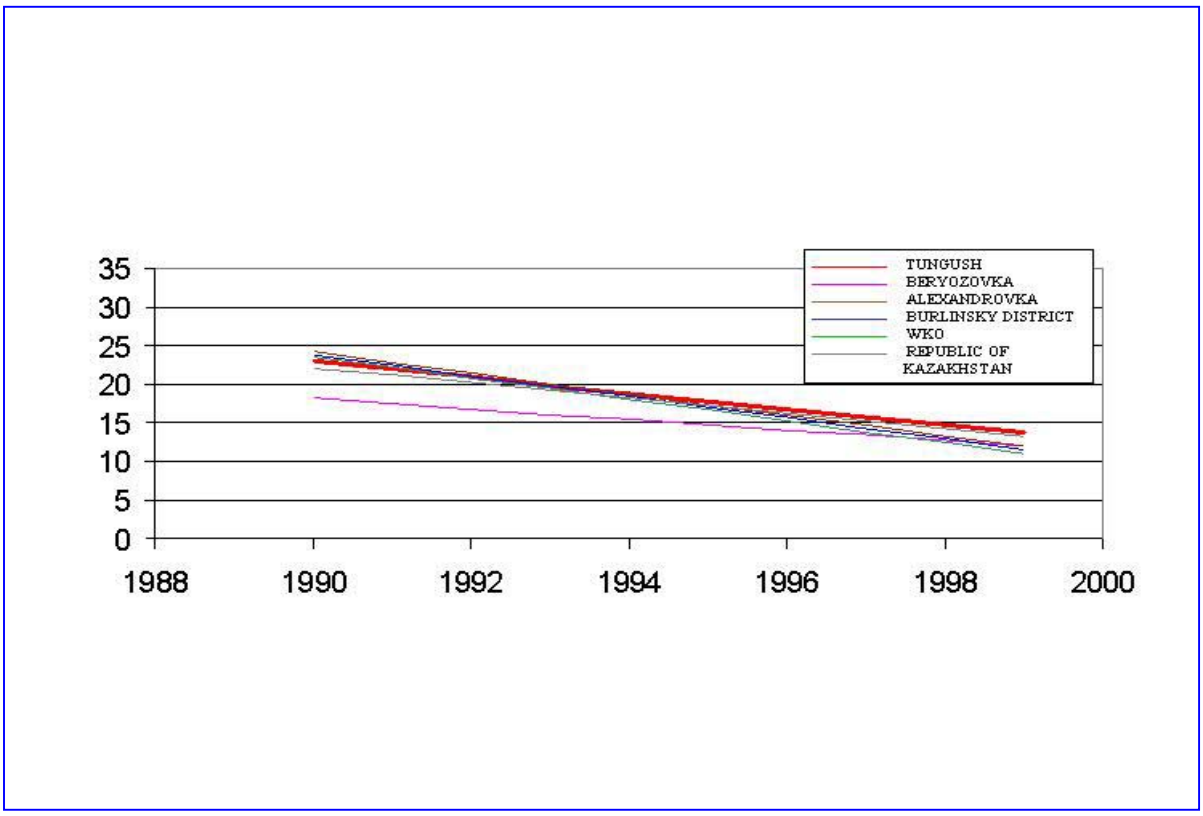


Fig. 3.2. Changing of birth-rate.

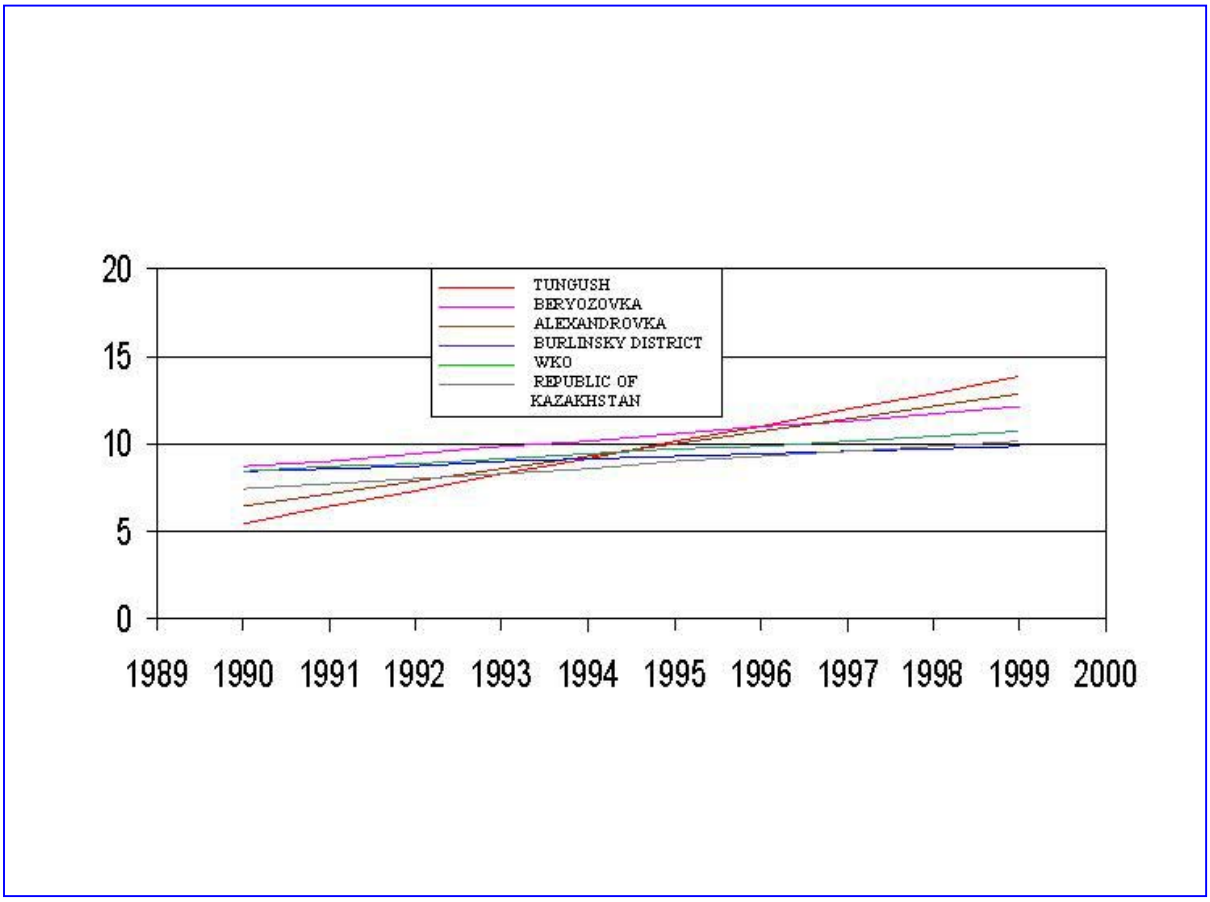


Fig. 3.3. Changing of death-rate.

The decline in these basic parameters appear to be the result of a general level of decline since the Soviet period ended and are considered to be linked with the economic disruption and associated poverty levels experienced within Kazakhstan. The results of the studies will be used as an input to planning the social and community measures KIO took to undertake as well as helping inform others including regulatory and government officials as input to their own planning activities.

Demographic parameters and population health for last 10 years in researched settlements (Tungush, Beryozovak and Alexandrovka) have slightly worsened. The main reasons of health worsening among children are the diseases of digestive apparatus, respiratory apparatus, blood and hemopoietic organs, among adult – diseases of digestive apparatus and circulation organs. However, first of all it is connected with deterioration of common socio-economic conditions in the country. As stated above Kazakhstan has experienced a decline in health care conditions since the Soviet period. This situation recognized by KIO and the local authorities within WKO and is reflected in the support given to building and equipping hospitals through the social and sponsorship programmes funded by KIO.

3.2.3 Protecting Human Health

KIO is further developing its systems of control over harmful substances to prevent contact with personnel (staff and local population). KIO addresses the following as part of its control and prevention approach:

- Maintaining records of harmful substances used. Establishing potential exposures for those personnel having contact with harmful (e.g. drivers, workers at the warehouse, loaders).
- Management control system for harmful substances used by KIO in production operations.
- Provision of effective communication to personnel about health hazards and protective measures.
- Provision of first aid equipment at work sites
- Monitoring of published information including changes in permissible exposure levels.
- Risk assessment and subsequent action measures.

KIO ensures that the State Sanitary-Epidemiological Service's inspectors have free access to work sites, facilities to assess compliance with the sanitary-epidemiological norms and rules.

3.3. Programmes Contributing to Socioeconomic Development

KIO has a number of socio-economic programmes These are described in more detail in the Public Consultation and Disclosure Plan that compliments this document. The largest of these is the social programme that forms part of the FPSA and involves KIO in investing $10 million annually throughout the life of the FPSA. As well as providing the funding for the social projects, KIO's actual investment goes beyond the $10 million funding because it provides all its project management and supervisory skills as an additional contribution. Projects that are carried out by KIO under the social programme are predominantly determined by local government. The social projects use Kazakh companies to carry out the work with KIO ensuring that the project delivers to its original plan.

The range of KIO's socio-economic projects are summarized below:

- Community Development Efforts (including $10 million) social projects, Sponsorship projects, KIO employee projects, any additional infrastructure projects seen to benefit the communities
- KIO sponsorship programme: KIO selects projects based on ideas submitted to the company by community groups and local government officials.
- KIO employees support provided to village communities: Employees are involved in providing support to local communities through charitable acts and donations. Help was recently provided to an orphanage in Zhaursat village by re-equippping their dormitories with furniture, bedding, TV and stereo system.
- Nationalization Program: Targeted training and development of Kazakh nationals to replace ex-patriot staff giving rise to long-term jobs. The plan and associated targets agreed with Republic of Kazakhstan call for Kazakh nationals to occupy 40% of management, 60% Professional and supervisory, 70% Skilled and technical, 100% Support and clerical positions by 2008. KIO is on course with its plan
- Import Substitution & Vendor Qualification: KIO gives preference to procuring goods and services form Kazakh suppliers. There are other supporting initatives to assist with vendor qualification and the development of joint ventures between Kazakh & western companies. To date there are five such joint ventures in place with others under negotiation /supply chain/ability to attract other investments
- Training/capacity building: The nationalization programme is underpinned by ensuring that Kazakah nationals are adequately equipped to perform their roles. The training function within KIO has established a comprehensive range of training courses that address the identified skill gaps and competencies. Traning activity in the
- Employment: KIO is providing employment for the local communities within ongoing operational activities and many jobs associated with the development of the field and construction of new facilities. At the peak of construction the project is likely to provide over 17,000 jobs of which 80% will be Kazakh nationals
- Tax Revenues: Apart form its share of production the Republic of Kazakhstan gets revenues associated with employment. Another source\ of revenuse is that connected with the approved impacts made on the environment through emissions to atmosphere, liquid and solid discharges.
- Infrastructure improvement : Water supplies, roads, hospitals and schools have all been projects that have benefitted from KIO investments. These infrastructure improvements are key areas of interest to the public.

A list of the social projects is given below for projects carried out form 1998 –2001. The main focus of the social projects has been within the West Kazakhstan Oblast. More recently

projects have been earmarked for Atyrau Oblast which lies along the pipeline route and where the tie in occurs to the Caspian Pipeline (CPC)

3.4 Defining Development Programs For Local Communities

The Karachaganak Project is a project with national impact and many of the socioeconomic development impacts been at the Oblast level. KIO intends to continue to refine and develop its development program areas so as to address priority community development needs. It is expected that over time emphasis will expand beyond infrastructure and service delivery projects to include local capacity building and support for local livelihood activities. It will also be through this process that KIO begins to look more systematically at the long-run social returns to their socioeconomic development programs.

Over the coming months, KIO will initiate a socioeconomic assessment in the rural villages near the Karachaganak field. Survey information will provide a better documentation of the local socioeconomic reality. This process will also allow the communities themselves to better identify their own development priorities. The information collected will also serve to better inform future consultation and dialogue between KIO, local government, and communities concerning priority local development needs, roles and responsibilities of the various entities involved. Some areas of need that may be identified during the field survey will be areas where KIO can play a major role while other areas may be outside the scope of KIO assistance and require that proposals for assistance be developed for other agencies.

As KIO expands its sponsorship program and considers the possibility of establishing a development foundation, survey information will help develop clear program areas for these initiatives as well as establish baseline information which can be used to monitor the effectiveness of these programs by establishing appropriate performance indicators.

Information may be gathered in a participatory fashion and could subsequently be shared with the communities in order to validate conclusions. Communities could also identify information gaps that will need to be supplement by future survey work. Based on current knowledge of local communities, information will be gathered on current status of local employment, agricultural production, access to land, health, education, and communication services, training needs, as well as more information on the history of the communities. This socioeconomic survey will also draw on previous survey work commissioned by KIO (the Kennesary study).

SECTION 4. PUBLIC CONSULTATION, INFORMATION DISCLOSURE, AND PUBLIC COMMUNICATION PROGRAMS

4.1. Summary of Consultation and Disclosure Process

There is a formal legal requirement to consult the public. It arises when the environmental authorities get involved with providing an expert, peer review of projects that affect the public. A public hearing must be held as part of the state's peer review process pursuant to the Environmental Expert Examination act (18 March 1997 No 85-1, Articles 8 and 15)

The public hearing component of the state expertise is a 'grass roots' meeting designed to give the public a chance to voice any concerns they may have in connection with any proposed development that may affect them.

KIO has conducted a number of formal public hearings in connection with the development of the field and associated pipelines. The route of the pipeline will run through the lands of three Districts of West Kazakhstan Region – Terektinskyi, Burlinskyi and Zelenovskyi, and then terminates at Atyrau. Hearings were held in Uralsk, Atyrau and Fedorovka and Aksai. Advance notification of the meetings was made using local media. Local officials also invited parties that they thought would have an interest. KIO made general presentations on the company and the project development including a special presentation to graphically show how the pipeline was to be laid under the River Ural.

In general the reaction to public reaction to the meetings has followed a similar pattern with concern being expressed about:

- Social benefits, employment
- Impact on environment
- Compensation to residents in case of accidents
- Impact on water supplies
- Gasification of the villages.

The feedback from these activities has been used to help inform and shape the content of KIO initiatives in the areas of Nationalisation, Import Substitution & Vendor Qualification, Emergency response plans, sponsorship programme and PR/Communications.

Date of Hearing	**Location**
23 June 1998	Aksai
10 October 2000	Uralsk
13 October 2000	Atyrau
14 November 2000	Fyodorovka

The regulatory guidance covering preparation of Environmental Impact Assessments and associated tracking requires that once documents have been disclosed they are required to be stored by the regulatory bodies who are charged with ensuring that public consultation takes place. In the case of the Karachaganak field development the regulatory body that has copies of the material is WKO Oblast Ecology. Copies of the documents are also held by the Republican Ecological Information Fund.

KIO continues to revise and update its consultations drawing upon good practice guidance taken from others including IFC Guidelines with the emphasis moving towards increasingly proactive measures being taken with local in communities and the broader range of stakeholders.

4.2 KIO's Public Relations And Communication Program

4.2.1 Brief history of the PR program and its objectives

Prior to 2001 KIO managed its interactions with the public through both operational and service departments within the venture as a whole. As the venture has grown in size, so has the scale of the communications challenge. In 2001 KIO created a dedicated department to manage its public relations and communications programme. The PR & Communications department was created to provide a better focus for the range of public activities that KIO carries out. The responsibility for managing the community relations programme now lies with the PR & Communications department that report directly to the General Director. The department is responsible for developing and implementing KIO's policy and plans in the area of media, community relations and public affairs. Currently the media and communications plan is being revised taking into account earlier experience and changing circumstances

The department is led by a manager reporting to the General Director of KIO and comprises specialists dealing with community affairs, public and media relations. All of the positions are currently filled.

The department has developed an understanding of some of KIO's stakeholders needs and this is described in more detail in the Public Consultation and Disclosure Plan.Stakeholder groups identified by KIO include the following

- Republic of Kazakhstan – Government
- West Kazakhstan Oblast -(WKO) Administration, Aksai Administration
- Regulators - West Kazakhstan Regional Ecology Department
- Local Communities
- Community Interest Groups
- NGO
- KIO Employees

Although there are numerous ways KIO staff and programs have interacted with these stakeholder groups in the past, these will become increasingly formalized in the future to better document and formalize the transfer of relevant information to interested parties.

The PR & Communications Department (established in 2001) is taking ownership/control of community outreach and sponsorship programs for community development. To this end, the Community Relations Officer is developing a series of community relations activities. One activity being considered is that of developing a "road show" to introduce the PR & Communications program to the local communities. More broadly the Community Relations Officer has the duty to satisfy the requirements set down in the FPSA:

"The contractor shall establish and implement a community relations program to provide residents of the Republic with current, relevant and objective information about development of the Contract area and the impact of petroleum operations on the environment, natural resources and occupational and public health. Access to such information shall be provided to the public by mass media and other means as are appropriate".

The main duties of the job are as follows:

- Prepare, update and deliver annual KIO community relations plan.

- Develop a detailed understanding of the communities upon which the Karachaganak project impacts – by conducting a stakeholder analysis.
- Understanding the issues and concerns of these communities as part of a two way communicational process.
- Administering the KIO sponsorship, contribution and donation scheme and budget.
- Contribute to the development of Public Planning and Consultation documents. Document the results of such consultations.
- Provide "familiarity of face" and consistency of message.
- Alert PR and Communications Manager to concerns and issues raised at "grass root" level.
- Liaise with Uralsk Office Manager to maximize PR from $10m annual investment in social projects.

The new Community Relations Officer will be developing plans over the next 3 months including further stakeholder analysis linked with the ongoing visits to the local communities. These activities are summarised on the 2002 PR & Communications plan. (see below)
The action plan includes the disclosure of this document and others as part of the disclosure process required by IFC. KIO will be making the disclosure for IFC in three locations in Kazakhstan – Uralsk, Aksai, Atyrau.

4.2.2 Public Relations and Communications plan

The PR & Communications department has been very active since their formation in 2001.The range of activities they carried out in 2001 is summarised below:

PRESS RELEASE
- 57 press releases issued in 2001

PRESS VISITS TO THE FIELD
PR organised 2 press visits.
- On November 3, 2001 press people from Uralsk representing various editions such as Khabar TV, Interfax, Kazakhstan Today, Talap, Priuralie, Puls, Uralsk Weekly, and OKO visited the field and participated in the celebration of 5 million hours without lost time incident in KPC
- On November 16, 2001 press people representing national editions including a reporter from the Economist/New York Times and a reporter from BBC visited the field.

(Comment: Both visits resulted in wide coverage in both regional and national editions)

CORPORATE VIDEOS
PR produced 4 corporate videos
- Karachaganak Update –2000
- Karachaganak Update – 2001
- Import Substitution-Sustainable Future
- President's Video

(Comment: Most of these videos were distributed among Kazakhstan ministries, government organisations, and among Kazakh print and broadcast media. In addition, Import Substitution/Sustainable Future video was played twice on Channel 31 during KIOGE exhibition in October 2001. It was also played in October 2001 and in March 2002 by WKO TV.

CORPORATE PUBLICATIONS

- Karachaganak Update 2000-2001 (both in English and Russian)
- 10th Anniversary leaflet-A Lasting Partnership
- Kazakh Content & Import Substitution
- Advertisement dedicated to the 10th Anniversary of Kazakhstan Independence for the President's book

KIO NEWS

- KIO News-2001 (English/Russian)
- KIO News-2002 (English/Russian)

EXHIBITIONS

KIO participated in 3 exhibitions

- Kazakhstan International Oil & Gas Exhibition – Astana (KIOGE)-2001 (October)
- Uralsk International Fair-Exhibition "Shanyrak" dedicated to the 10th anniversary of Kazakhstan independence (September 7-9)
- Aksai exhibition in March. KIO provided exhibition stand and PopUps

CONFERENCES

PR participated in 3 conferences

- KIOGE (October, 2001)
- OSCE (August, 2001)
- KPA (January, 2002)

PRESIDENT NAZARBAYEV'S VISIT TO THE FIELD

- Memorial brass plaque installed on the power station
- Billboard installed on the power station (10 years of Kazakhstan independence)
- Umbrellas for VIP
- Silver Yurta for the President
- Crystal pyramids for VIP

SPECIAL EVENTS

"My Kazakhstan" special train.

(Comment: KIO sponsored the event to bring Kazakhstan's top singers, musicians, and other artists to Aksai.

Within KIO, the Communications and Public relations function is defined as "the systematic and effective management of the company's information to internal and external audiences, in a manner which safeguards its image, promotes its achievements and promotes its business interests."

The different elements of the 2002 plan are as follows:

- Environmental communications

- Communicating Kazakh content achievements
- Communicating the Nationalisation program

In brief, the main objectives are:

- To increase the external understanding of the project and its achievements by delivering core messages to KIO's target audience.
- To create a unified culture that is equipped to project this.
- To satisfy the wishes of shareholders as to the wisdom of their investment.
- To build a proactive and effective PR department, using national staff wherever possible.

KIO's communications strategy is to introduce a system that fills existing perception gaps, to develop the areas where there has been observable success, and to project positive messages to key audiences in a co-ordinated and consistent fashion.

Its twin aims are to reduce the incidence of ill-informed comments by the regular provision of clear facts, and to pay specific attention to publicising the achievements of the project.

The overall plan for 2002 is given below

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2002 PR Plan

#	Shift	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	**Internal Communications**												
	KIO News		✓			✓			✓			✓	
	Contractors Forum		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PR Committee				✓			✓			✓		
2	**Press Relations**												
	Corporate releases		→	→	→	→	→	→	→	→	→	→	→
	Local releases		→	→	→	→	→	→	→	→	→	→	→
	Placed articles		→	→	→	→	→	→	→	→	→	→	→
	Press visit – Aksai				✓		✓		✓		✓		✓
	Press visit – London							✓					
	Develop detailed plan				✓								
	Implement Aksai media plan		→	→	→	→	→	→	→	→	→	→	→
	Fact book					Issue 1					Issue 2		
	Issues / Q&As		Issue 1		Issue 2		Issue 3		Issue 4		Issue 5		Issue 6
	Office procedures in place					✓							
3	**Public Relations**												
	Public holiday commitments	1 New Year		8 Women's Day 22 Nauryz		1 Unity Day 9 Victory Day			30 Constitution		25 Republic Day		16 Ind Day 25 Xmas
	Uralsk inauguration (President)									✓			
	Data base			✓									
	Astana presentation						✓						
	Astana cocktail party						✓						
	Almaty reception										✓		
	Uralsk reception				✓								

4	**Corporate Identity** Research Approval Development Launch Implementation				**ConCom**								
5	**Production** Corporate brochure Karachaganak Update KIO Internet Site Video				Project	Launch		Corporate		Update	Project		
6	**Exhibitions / Display** KIOGE Portable system Aksai Museum												
7	**Community Relations** Consultation Activities Stakeholder analysis Formalise strategy and plan Educational campaign Spon com meeting IFC disclosure			1						2			
8	**Environment Program**												
9	**Imp Sub program**												
10	**Corporate** Crisis Management Plan Public Affairs Plan Key messages												

4.3. Complaint Process and Informational Inquiry

KIO has an established procedure for handling internal complaints that routes any grievances or complaints through line management involving Human Resources.

Historically external complaints have been handled in a less formal whereby any issues that are brought to the Venture Director's attention are passed to PR & Communication to be addressed or are dealt with at the point of entry into KIO. This practice has been reviewed following feedback from IFC. KIO recognises that the current practice for handling any external enquiry can be improved including formally publicising the mechanism the public should use to contact KIO.

As a result of noting the above, KIO management accepts that the process can be improved. It therefore proposes to introduce and implement a new scheme to be administered under the auspices of the Community Relations Office.

The principal elements of KIO's complaint handling process are:

Complaint received. Details logged and reference given
Acknowledgement. Within one week.
Appraisal. ..against acceptance criteria. Rejection or acceptance within two weeks.
Assessment. Preliminary investigation.
Decision to proceed. Notify complainant within four weeks.
Dialogue. Pacification? Mediation? Settlement?
Complaint concluded.
Report. To KIO management and to the public.
Complaint closed

KIO will refine, formalise and publicise the above procedure, making the process better known in the community. KIO will publicise a hot line number to facilitate rapid access by the public.

KIO will encourage its management to adopt the same procedure for any grievances raised at a departmental level. Indeed, managers will be encouraged to extend the principle to include issues and anxieties that may be raised by external audiences.