

# ANSWERS TO THE QUESTIONNAIRES

## 1. What national directives/regulations set requirements to provision of safety of land and offshore oil and gas pipeline systems?

### Belarus

Among the basic acts of the technical standard documentation regulating safety of pipeline systems of oil and gas in Belarus, it is possible to name:

1. Law of the Republic of Belarus «About the main pipeline transport» from 09.01.2002г., №87-3.
2. Law of the Republic of Belarus «About industrial safety of dangerous industrial objects» from 10.01.2000г., № 363-3.
3. About the statement of the Concept of national safety of Belarus from 17.07.2001 № 390. The decree of the President of Belarus
4. TKP 038-2006 (02230). Rules of safety at operation of the main gas pipelines.
5. TKP 037-2006 (02230). Rules of safety at operation of means and automation systems on objects of the main gas pipelines.
6. Rules of technical safety in the field of gas supply of Belarus. MEC RB 11.02.2003г., №7, 8/9386.
7. Rules of safety at operation of the main oil pipelines. Minnefterprom USSR, 14.12.1985г.
8. PPB 2.11-2001. Rules of fire prevention of Belarus for objects of storage, transportation and supply of petroleum from 16.01.2002г., №4.
9. PPB 2.20-2004. Rules of fire prevention of Belarus at operation of the main oil pipelines.
10. The general rules of explosion safety of chemical manufactures and objects. MEC RB 1996 г.

### Brazil

At present in sphere of pipeline systems of oil and gas there are no technical directives. Questions of maintenance of various kinds of safety (industrial, fire, explosion hazard, mechanical, electric) at functioning of pipeline systems of oil and gas are directly or indirectly reflected in the list of technical acts of the various hierarchical status of the designated field of activity and adjacent spheres. The above-stated list can be expanded at a statement of the maximum list of technical acts.

The directives/laws of safety concerning to onshore pipelines will be issued soon by ANP, which is the Brazilian Agency. This document has as title: “Regulamento Técnico de Dutos Terrestres” ( to be concluded).

On a second step is supposed to be issued the same document referred to offshore pipelines.

In other words, The Brazilian Agency is in process to issue the respective directives/laws.

## **Canada**

- Canadian Standards Association (CSA) Standard CAN/CSA Z662-07, Oil and Gas Pipeline Systems, which includes provisions for off-shore pipelines.
- Canadian Electrical Code, CE Code, CSA C22.1 for area classification
- Federal and Provincial Regulators have specific regulations governing pipeline design, construction and operation and incorporate, by reference, the above national standards.

Canada currently has only one offshore pipeline system whose safety and integrity is monitored jointly by the National Energy Board (NEB) and the Nova Scotia Offshore Board. The pipeline was designed and constructed to the DnV Submarine pipeline Rules and is subject to an annual review by a third party certifying agency (Lloyd's register). A second pipeline currently under construction will follow the same regulatory process.

## **Kazakhstan**

The main RoK laws and regulations to provision of safety of land and offshore oil and gas pipeline systems are as following:

1. Environmental Code of the RoK 212-III of 09.01.07
2. Law "On architectural, urban planning and construction activity in the RoK" # 1328
3. Law of the RoK on Oil No. 2350 of 28.06.1995 (Art. 31-1 36-3, Chapter 8),
4. Law of the RoK on Industrial Safety
5. Safety and environmental rules for construction, installation, and operation of underwater pipelines and cables; Approved by Decree 901 of 22.09.2006
6. Safety Rules in Oil and Gas Industry;
7. Safety regulations on Oil trunk pipelines maintenance OST RK 153-39-015-2005
8. Safety rules for operating trunk gas pipeline PR RK 51.3-003-2004
9. Rules for safeguarding trunklines No. 37-IV of 19.09.94

## **Turkey**

1. Expropriation Law numbered 2942
2. Development Law numbered 3194
3. Metropolitan Municipality Law No. 5216
4. The Regulation of Restricted Military and Security Areas Law numbered 2565

In addition, during the engineering design and construction all the process should be in compliance with rules and regulations of related and relevant state bodies (General Directorate of Public Highways, General Directorate of State Hydraulic Works, and General Directorate of State Airports Authority of Turkey ...etc.)

## **2. What laws, regulations and/or standards set requirements to pipeline safety?**

### **Belarus**

The basic act containing criteria of safety for pipelines is the Law of Belarus «About the main pipeline transport» from 09.01.2002r., №87-3 (changes and additions: the Law of Byelorussia from July, 8th, 2008 № 367-Z). Chapter 4 «Safety of the main pipelines» considers aspects of safety of the main pipelines at various stages of life cycle:

- Article 16. Safety at creation of the main pipelines;
- Article 17. Safety at operation of the main pipelines;
- Article 18. Requirements on safety at a operation stop, preservation and liquidation of the main pipelines;
- Article 19. Requirements to industrial monitoring at creation, operation, preservation and liquidation of the main pipeline.

Objects of pipeline systems of oil and gas are subsumed to dangerous industrial objects. Criteria of allocation of categories of pipeline systems on danger degree are defined in Methodical recommendations about identification of dangerous industrial objects from 19.12.2003, № 141.

### **Brazil**

The Standards to be followed concern to safety in pipelines in Brazil are:

- NBR – 12712 (Natural Gas) – Design, including transmission and distribution pipelines.
- NBR – 15280-1 (LIQUIDS) – Design
- NBR – 15280-2 – Construction of pipelines (Gas and Liquids)
- ASME B 31.4 – Liquids - Design, Construction, Maintenance, Operation, Decommissioning
- ASME B 31. 8 – Natural Gas -Design, Construction, Maintenance, Operation, Decommissioning

### **Canada**

- CAN/CSA Z662-07 (as noted above incorporated by reference into national and provincial Regulations for pipeline safety)
- Transportation Safety Board of Canada (Bureau de la securite des transports du Canada) under the Canadian Transportation Accident Investigation and Safety Board Act (1990) investigates pipeline incidents for cause but does not attribute blame, and makes safety recommendations.

- The National Energy Board is the national regulatory body for inter-provincial and international pipeline systems, it has several regulations related to pipeline safety eg. Onshore Pipeline Regulations (OPR 98, Damage Prevention regulations, and Process Plant regulations).
- Intra provincial energy pipelines are regulated by individual provinces which each have pertinent regulations.

## **Kazakhstan**

In the RoK legal and regulatory framework there are many regulations that stipulate safety requirements to pipelines at different stages of pipeline life cycle (i.e. design, construction, testing, commissioning, operation, maintenance).

The main RoK laws and regulations are as follows:

1. Operational safety regulations for trunk oil pipeline OST 153-39-014-2005
2. Safety and environmental rules for construction, installation, and operation of underwater pipelines and cables; Approved by Decree 901 of 22.09.2006
3. ST RK 1269-2004(ISO 14313-1999) Petroleum and Natural Gas Industries – Pipeline Transportation System – Pipeline valves.
4. Safety regulations on Oil trunk pipelines maintenance OST RK 153-39-015-2005
5. Safety rules for operating trunk gas pipeline PR RK 51.3-003-2004

## **Turkey:**

Restricted Military and Security Areas Law numbered 2565.  
The directive of Fire Prevention and Extinguishing at the Petroleum Facilities.

### **3. What safety criteria (ecological, technical, social, etc.) for pipeline systems are considered substantial for your national legislation in concern with location of specific pipeline system (mountain, polar regions, shelf region, etc.)?**

## **Belarus**

Considering scales of display of various kinds of the dangers inherent to main pipeline, the special value it is given to industrial safety. Specific feature of the given kind of danger consists in that its adverse development can result further in various kinds of dangers.

Questions of maintenance of industrial safety are specified in the Law of Belarus «About industrial safety of dangerous industrial objects» from 10.01.2000r., № 363-3. The given Law defines legal, economic and social bases of maintenance of safe operation of dangerous industrial objects and is directed to the prevention of failures on dangerous industrial objects.

Maintenance of the ecological safety connected with pollution of water objects by floods by oil and mineral oil is rather actual at transportation of liquid energy carriers. First of all it is connected with that Belarus is the country located in pools of the Baltic and Black seas. In territory of Belarus the numerous water objects hydrological connected with the large transboundary rivers (Zapadnaya Dvina, Dnepr) are located.

To 50 % belarusian oil pipelines lie in corridors which are located in parallel channels of Zapadnaya Dvina and Pripyat in inflows of Dnepr.

Aspects of maintenance of ecological safety of water objects are allocated in such documents as:

- 1) The water codex of Belarus. The codex of Belarus from July, 15th, 1998 № 191-Z.
- 2) Law of the Republic of Belarus «About preservation of the environment» from 26.11.1992 N 1982-XII.
  - a. 3) Law of the Republic of Belarus «About protection of the population and territories against emergency situations of natural and technogenic character», 5.05.1998 г. N 141-3
- 3) GOST 17.1.3.10-83 Protection of nature. Hydrosphere. The general requirements to protection of superficial and underground waters from pollution by oil and mineral oil at transportation on the pipeline.
- 4) SanPiN 4630-88. Sanitary norms, rules and norms of protection of a surface water from pollution - M.: Minzdrav USSR, 1988.
- 5) The instruction on environment protection at accidents on oil pipelines. «Belneftekhim» from 03.10.2002, №480.

## **Brazil**

There is no criterion, just the above mentioned Standards.

## **Canada**

CAN/CSA Z662-07 contains requirements for class location which vary with population density.

Pipelines and equipment are hydrotested to meet a specified safety margin. Valve spacings are specified depending upon the hydrocarbon being transported such that volumes that could be released in the event of line failure are minimised. Crossing water bodies which may be a source of drinking water or which could be navigable are subject to environmental regulation from Provincial and/or Federal authorities.

## **Kazakhstan:**

As vast oil and gas reserves were discovered in the Northern Part of the Caspian sea (which is a reserve area), and no offshore oil and gas operation were performed in the RoK before, at the moment the most important criteria is securing environmental safety of the offshore pipelines. Current RoK C&S are not suitable for ultra high pressure pipeline and H<sub>2</sub>S content.

Eco-Code 212-III, Article #265

Ecological requirements during construction and operation of any pipelines are identical as for any other works and productions. Independent of the location of pipelines (mountain, sea, desert) project compulsorily must pass ecological agreement at all possible stages: Declarations - [TEO] - [Pre-OVOS] - [OVOS] - working project. Situation is complicated also if pipeline crosses the important especially guarded natural territories, as, for instance, - state forbidden zone in the northern part of Caspian Sea, or more precisely the zone of action of " Special ecological requirements" along the northern coast strip of Caspian Sea and near the ecologically sensitive delta of Urals river. Furthermore, there are trans-border and political questions, which are concerned status of Caspian Sea. In Kazakhstan there are bilateral agreements with Russia and Azerbaijan about the division of the bottom of sea from the coastlines, but Iran speaks against this approach. Basic documents from the point of view of ecology are ecological code and more than 40 affirmed law-subjected reports, which can be applicable to the design, construction, the start- adjustment, the testing, the operation, the maintenance and repairing the pipelines. Furthermore, beginning from the stage of construction and in the period of operation is compulsorily must it is carried out ecological control and monitoring object. Accordingly payment for the environmental pollution, normative and above-norm, payment for the amends and other fiscal tools. This situation on the whole is analogous with the presented question.

#### **Turkey:**

Environment Law numbered 2872,  
Regulation of Environmental Impact Assessment

#### **4. What additional laws, regulations contain provisions regulating processes of designing and construction of oil and gas trunk pipelines?**

##### **Belarus**

The main act regulating processes of designing and building of the main pipelines of petroleum and gas in Belarus is the Law of Belarus «About the main pipeline transport» from 09.01.2002г., №87-3 (changes and additions: the Law of Belarus from July, 8th, 2008 № 367-Z). The positions regulating processes of designing and building of the main pipelines of petroleum and gas are reflected in chapter 5 «Creation, operation, preservation and liquidation of the main pipelines» (articles 20-23).

##### **Brazil**

Nothing additional, just the above mentioned standards.

##### **Canada**

Drawings and calculations made related to the design and construction of pipelines are generally stamped for approval by a licensed professional engineer. As noted above there are a plethora of provincial and federal environmental regulations which must be satisfied e.g permits for road rail and river crossing. Permission to draw and release water for hydrotesting. Surface reclamation, use in some provinces of right of way transportation corridors.

## **Kazakhstan**

Due to classification of pipeline there are various codes and standards applicable to design and construction of field and trunk/export pipelines in RoK. Also there are some ISO standards adopted in RoK in equivalent and non-equivalent form.

The main RoK laws and regulations contain provisions regulating processes of designing and construction of oil and gas trunk pipelines are as following:

- VSN 004-88 Construction of Trunk Pipelines
- SNIIP 2.05.06-85\* Trunk pipelines
- SNIIP III-42-80 Trunk pipelines
- VSN 51-3-85 Design of steel. Field pipelines
- SP 42-102-2004 (MSP 4.03-102) Designing and construction of gas pipelines from metal pipes
- SP 34-116-97 Instructions For Design, Construction and Redesign of Field oil and Gas Pipelines

## **Turkey**

No reply

### **5. Are the requirements of national standards to designing, construction and operation of pipelines mandatory for compliance or alternative requirements may be applied (that of international standards, regional standards, etc.)?**

## **Belarus**

Application on territory of Belarus of the international standards at creation and operation of transboundary main pipelines is supposed, if their requirements do not contradict the legislation of Belarus and these standards are set on territory of Belarus in the capacity of standards of Belarus.

## **Brazil**

The Standards are not to be mandatory since any implementation/modification on the project is technically justified.

## **Canada**

The CAN/CSA Z662-07 standards are mandatory, but they can be superseded by more stringent regional standards. The CAN/CSA Z662-07 standard is a minimum and there is provision in most pipeline regulations for elements of CSA to be replaced or waived if an equivalency or an enhancement to safety can be demonstrated. NACE, ASTM and other ANSI standards are used. Use of ISO standards as such is minimal if at all.

## **Kazakhstan**

There is a reform of technical regulations currently undergoing in the RoK. This reform aims to eliminate technical barriers to trade and set up regulatory framework which is compatible with those, established in the western countries.

The context is such that RoK Law on Technical Regulations No. 603-II of 09.11.04 sets up 2 layered system:

- Technical regulations mandatory for application. Such technical regulations define minimum safety requirements applicable to processes, products and services;
- Standards (including international, national, local) that are equal between each other and voluntary for application.

However, until new technical regulations are developed and adopted, old system prevails where standards are mandatory for application where it does not contradict main principles of the Law on Technical Regulations. Besides apart from standards there are various PB, PPBs, SanPins and Snips, adopted by various RoK regulatory bodies, which in many cases are also mandatory for application.

International, de-facto international and national standards can be applied in the RoK, provided they do not contradict with requirements established in the technical regulations, and their requirements are not lower then requirements of RoK state standards.

## **Turkey**

It is an obligation to comply with the requirements of national standards Alternative requirements may be applied if it is complying with the internationally accepted norms according to terms of bilateral and multilateral agreements.

## **6. What national laws, regulations, standards regulate designing, construction and operation of pipelines?**

### **Belarus**

In Belarus the basic acts regulating questions of designing, building and operation of pipelines are:

1. SNiP III-42-80.\* Rules of manufacture and acceptance of works. The main pipelines. (From amendment from 26.11.2001г., reg. № 596)
2. SNiP 2.05.06-85.\* Main pipelines.
3. SNB 3.02.01-98. Warehouses of oil and mineral oil.
4. RD 39-0147103-385-87. Rules of technical operation of tanks of the main oil pipelines. VNIISPTneft, 15.03.1987г.
5. Rules of technical operation of warehouses of mineral oil. The decision of Ministry of Emergency Measures RB from 30.09.2004г., №31.

6. Rules of technical operation of reservoirs and instructions on their repair. Confirmed by Goskomnefteproduktom of the USSR 26.12.86., 1988.
7. VSN 006-89. Building of the main and technological pipelines. Welding. - M: Minneftegazstroj USSR, VNIIST, 1990.
8. RD 38.13.004-86. Operation and repair of technological pipelines under pressure to 10 MPa (100kgs/sm<sup>2</sup>).
9. TKP 039-2006 (02230). Rules of technical operation of the main gas pipelines.
10. Rules of technical operation of the main oil pipelines. The minnefteprom USSR 14.12.1978r.
11. Rules of technical operation of compressor shops with an electric drive. The mingazprom USSR, 02.12.1989r.
12. Rules of technical operation of ferro-concrete tanks for oil. VNIISTneft, 16.03.1982r.
13. RD 39-0147103-385-87. Rules of technical operation of tanks of the main oil pipelines. VNIISTneft, 16.03.1987r.
14. Position on technical operation gas supply stations of the main gas pipelines. The mingazprom USSR, 12.04.1988r.
15. RD 153-39.4-041-99. Rules of technical operation of the main oil pipelines. Department of Fuel and Energy of the Russian Federation, 12.10.1999r., №338., Etc.

At a statement of the full list of the technical standards regulating questions of designing, building and operation of pipelines the number of documents taking into account standards of the companies will increase.

## **Brazil**

The Brazilian Standards are the following:

- NBR – 12712 (Natural Gas) –Design, including transmission and distribution pipelines.
- NBR – 15280-1 (LÍQUIDS) – Design
- NBR – 15280-2 – Construction of pipelines (Gas and Liquids)

## **Canada**

CAN/CSA Z662-07 which includes provisions for off-shore.  
Federally the Onshore Pipeline regulations (OPR 98).

## **Kazakhstan:**

1. Rules of technical operation of Gas Trunk pipelines PR RK 51.3-002-2004
2. Construction of Trunk Pipelines VSN 004-88
3. Rules of technical Operation of oil-trunk pipelines RD 39-033-02
4. Rules of technical operation of the main Water pipelines RD 39-020-02

5. Process Equipment and Process Pipelines SNiP RK 3.05-09-2002
6. Trunk pipelines SNiP 2.05.06-85\*
7. Trunk pipelines SNiP III-42-80
8. Design of steel. Field pipelines VSV 51-3-85/ 51-2.38-85
9. Designing and construction of gas pipelines from metal pipes SP 42-102-2004 (MSP 4.03-102)
10. Instructions For Design, Construction and Redesign of Field oil and Gas Pipelines SP 34-116-97

### **Turkey**

1. TS EN 1594, Gas supply systems- Pipelines for maximum operating pressure over 16 bar- Functional requirements
2. ASME B. 31.8 Gas Transmission and Distribution Piping System.
3. ANSI B.34 CODE 4
4. API RP 505 Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone 1 and Zone 2.

## **7. Are there mandatory conformity assessment procedures in place for designing, construction and operation of pipelines?**

### **Belarus**

The process equipment applied at creation, operation, preservation and liquidation of the main pipelines, and services in production transportation by the main pipelines are subject to obligatory acknowledgement of conformity to requirements of technical standards in the field of technical standardization in cases and an order, provided by the legislation of Belarus.

### **Brazil**

There is no mandatory conformity assessment regulated by the Agency, but in many cases the operator does by it self.

### **Canada**

Yes. CAN/CSA Z662-07 contains both normative and informative requirements. For example Annex O provides for the use of reliability based design methods, while Annex N details the requirements of an Integrity Management system.

### **Kazakhstan**

Yes, below are the list of applicable procedures:

- Law “On architectural, urban planning and construction activity in the Rok” # 1328
- TPD (Technical Project Documentation) shall be prepared according to SNiP 1.02.01-2007 (Construction Regulations and rules of the Republic of Kazakhstan “Manual on work out, coordination, approval and content of the project documentation). Furthermore, EIA shall be prepared according Eco-Code 212-III, Article #265. Both documentation requirements shall be approved by the following RoK state bodies in order to obtain Permit to Construct of the Pipeline:
  - Ministry of emergency situation (represented by the state emergency control and industrial safety and fire safety committees);
  - Ministry of environmental protection;
  - Ministry of Health (represented by the sanitary-epidemiological supervision)
  - Ministry of Labor and Social Protection of the Population (represented by the Chief State Labor Inspector)
  - GOSEXPERTIZA (RoK State Expertise).
  - At construction stage conformation of conformity is performed via:
    - Author supervision done by designer (RoK licensed Design Institute);
    - Technological supervision done by 3<sup>rd</sup> party licensed contractor;
    - Technical supervision done by the client or licensed 3<sup>rd</sup> party contractor on Client’s behalf;
    - Periodic inspections done by RoK state regulatory bodies;
    - Use of mandatory or voluntary certified/declared or permitted for use equipment and measuring devices;
    - Acceptance facilities into operation by working and state acceptance commission (represented by client, designer, state authorities).

During operation periodic inspections are carried out by the RoK state regulatory authorities. Besides, operators of the pipeline are required to develop, approve and register with the MES declaration of safety. This document identifies main hazards and mitigation measures.

## **Turkey**

Yes there are.

## **8. What voluntary conformity assessment systems for designing, construction and operation of pipelines are recognized by national state bodies empowered in sphere of pipelines safety?**

## **Belarus**

Certification of systems of a quality management according to ISO 9000.

Certification of control systems of environment according to ISO 14000.

Certification of control system of a labour safety and safety according to OHSAS 18000

## **Brazil**

There is no conformity assessment systems recognized by national state bodies empowered in the sphere of pipelines safety yet.

## **Canada**

Compliance with CAN/CSA Z662-07 is not voluntary. Internal audits of Integrity Management Systems on federally (i.e NEB regulated pipeline) are recognized as having some value but are not a substitute for a regulatory audit.

Note: the term 'national state body' is not clear.

## **Kazakhstan**

In RoK there is no any voluntary conformity assessment system for designing, construction and operation of pipelines are recognized by national state bodies.

## **Turkey**

BOTAŞ has got certificate of ISO 9001:2000, OHSAS 18001 ISO 14001 and we also have interior controls and rehabilitation procedures.

## **9. What role of national and international standards in mandatory and voluntary procedures of conformity assessment? Whether national laws and regulations refers to standards?**

### **Belarus**

There aren't the references in laws, the references can be found in the under-law acts.

### **Brazil**

Not applicable in accordance with the above answer.

### **Canada**

As noted above Standards developed by NACE etc; have been incorporated by reference in to CAN/CSA Z662-07.

National and international design standards do not apply; Canada has its own design standards which may reference material from other standards.

### **Kazakhstan**

In RoK all mandatory conformity assessment are carried out based on requirements of local legislation, regulations, C&S (codes and standards).

Company may wish additionally to use other forms of voluntary confirmation assessment, such as IVB (independent verification body), that will be carried out based in most cases on requirements of international, foreign standards. In most cases such conformity assessment are not recognized by the RoK state authorities, but results of such process can be an additional way to demonstrate, for example, safety of the pipeline system.

### **Turkey**

No reply

## **10. Are the results of foreign conformity assessment accepted in your country and for what stages (designing, construction, operation)?**

### **Belarus**

They are admitted in the frameworks of bilateral agreements at all stages.

### **Brazil**

Yes, our country (Brazil) accepts the results of foreign conformity assessment in any stage.

### **Canada**

Foreign conformity assessments are not acceptable in Canada. Some materials may be substituted if they meet CSA requirements

### **Kazakhstan**

RoK authorities do not accept foreign conformity assessment at any stage such as designing, construction, operation. The verification body shall have a proper license from the relevant RoK Authorities.

RoK certification of equipment and materials is based on RoK Laws and Regulations on the certification process for the different type of equipment and materials and according ST RK 1.9-2007

“Procedure for Using International, Regional and National Standards and Regulatory Documents on Standardisation, Certification and Accreditation”.

## **Turkey**

The results of foreign conformity assessments are accepted in our country. Generally, for all the stages of pipelines the conformity with international standards (ASME, ANSI) and also CE norms are required.

## **11. What state body is authorized to issue permission for pipelines construction start and put into operation?**

### **Belarus**

The state supervision and the control in the field of the main pipeline transport are carried out by department on supervision of safe conducting works in the industry of the Ministry of Emergency Measures of Belarus.

The state supervision and the control in the field of the main pipeline transport include carrying out state expertise of the design documentation on creation, reconstruction and liquidation of the main pipelines and their objects according to the legislation of Belarus, and also the state ecological monitoring, the state ecological control and the state control of industrial and fire safety of system of the main pipelines or the main pipelines at creation, operation, preservation and liquidation of the main pipelines and their objects.

### **Brazil**

ANP – The Brazilian Petroleum Agency

### **Canada**

National Energy Board (Canada) inter provincial and international pipelines.  
Provincial bodies for intra province pipelines.

### **Kazakhstan**

- Permission for pipeline construction is issued by the RoK Construction Committee of the Ministry of Industry and Trade according to the Law “On architectural, urban planning and construction activity in the RoK” # 1328 and positive conclusion received from GOSEXPERTIZA and relevant RoK Authorities (e.g. GGTN, Fire Authorities, Sanitary Authorities, etc.) on FEED design and Ministry of Environment on EIA.
- State Acceptance Commission (which is formed by the representatives of RoK Authorities, Client and Construction Contractor) Pipeline is authorized to check pipeline readiness for operation. The acceptance of pipelines by the State Acceptance Commission is formalized by the act, prepared in line with requirements of Law “On architectural, urban planning and construction activity in the RoK” # 1328.

## **Turkey**

The state body for the distribution lines is Energy Market Regulatory Authority and for the transmission lines are BOTAS's own procedures including required permissions from the relevant state bodies.

## **12. What is the procedure of recognition and application of the international, regional and foreign standards used in designing, construction and operation of pipelines?**

### **Belarus**

The recognition of the international, regional standards and standards of other countries can be carried out by acknowledgement, and also reprinting where the reprint, translation, drawing up of new edition can enter.

### **Brazil**

Considering that the ANP's Regulations are still to be issued, each operator is responsible to define the Standards to be adopted.

### **Canada**

The Standards Council of Canada (SCC) sets requirements/criteria for a standard to be recognized as a Canadian National Standard, and sets provisions on the development process for that standard. The regulatory authority then decides if that Standard should be recognized in the Regulations/Act.

Standards development in Canada is under the auspices of CSA a member of the Standards Council of Canada. Changes/improvements to the Standard e.g. whether to include regional or foreign standards are at the discretion of the technical committees of a particular standard. Adoption involves a public review and comment process as well as a favorable consensus vote in committee.

### **Kazakhstan**

As per the Law of RoK on Technical Regulation No. 603-II of 09.11.04, international, regional and foreign standards can be applied in the RoK. These standards can go through the process of inventory registration for individual user or can be adopted as state standards of the RoK.

The main RoK procedures of recognition and application of international, regional and foreign standards are as following:

- Procedure for Using International, Regional and National Standards and Regulatory Documents on Standardisation, Certification and Accreditation should be carried out according to state standard of Republic of Kazakhstan ST RK 1.9-2007
- Order of the Chairman of the Committee on Technical and Metrology of the Ministry of Trade of

the RoK No. 135 of 13.05.05 establishes ways and procedure for registration and use of international, regional and foreign standards can be applied in the RoK.

### **Turkey**

Acknowledgement, translation, adoption to national standards, follow up new versions.

## **13. Are there additional or specific laws, regulations and standards regulating pipelines put into operation ( along with laws, regulations and standards regulating procedures of designing and construction)?**

### **Belarus**

- SNiP III-42-80.\* Rules of manufacture and acceptance of works. The main pipelines. (From amendment from 26.11.2001г., per. № 596)
- SNB 1.03.04-2000. Acceptance in operation of the objects finished by building. General positions. (From amendment from 18.12.2002г., per. № 404, 28.02.2003г., per. № 39, 24.01.2007г., per. № 15, 13.03.2007г., per. № 60)
- SNiP III-4-80. Safety precautions in building. Rules of manufacture and acceptance of works. The decision of Gosstroy of the USSR from 09.06.1980г., per. № 82 (from amendment from 07.07.1994г.)
- SNiP 3.04.03-85 Protection of building designs and constructions from corrosion. Rules of manufacture and acceptance of works.

### **Brazil**

No

### **Canada**

In addition to CAN/CSA Z662-07, federal and provincial authorities address occupational health and safety requirements and pressure vessel design and safety.

### **Kazakhstan**

There is a specific regulation (Resolution of the Government of the RoK No. 1328 of 15.10.01 on rules for establishing responsibilities and content of acceptance and working commission for putting facilities into operation in the RoK) that specify requirements for putting facilities into operation. This regulation is of generic nature and can be applied to working and state acceptance of various facilities into operation in the RoK.

### **Turkey**

Energy Market Law, Oil Law with regulations of Oil Market Licensing Procedures, LPG Market Licensing Procedures, Electricity Market licensing Procedures, and also the Regulations, which organizes those abovementioned Procedures, The Natural Gas Market Regulations, Oil Market Regulations, and Electricity Market Regulations. In addition, the standards which has been generated from the context.

#### **14. What state body is implementing supervision of oil and gas pipelines operation?**

##### **Belarus**

In Belarus supervision of maintained pipelines of oil and gas carries out Department on supervision of safe conducting works in the industry of the Ministry of Emergency Measures of Belarus (Gospromnadzor).

Also abreast the aforementioned functions this body supervises designing, building, installation, adjustment and acceptance into operation, technical diagnosing and operation of the main pipelines and their objects, underground storehouses of gas in territory of Belarus, and also operation of objects gas supply systems and gas consumption of thermal power stations, installations of electrochemical protection against corrosion of gas pipelines and the main pipelines.

##### **Brazil**

Once the Regulations became issued, the ANP (Brazilian Agency) should be the Federal Organism to implement supervision of oil and gas pipelines in operation.

##### **Canada**

NEB for inter provincial and international pipelines only.  
Provincial bodies for intra province pipelines.

##### **Kazakhstan**

- State Emergency Control and Industrial Safety Committee of the RoK Ministry of Emergency Situations “GosGorTechNadzor(GGTN)” for the industrial safety
- Sanitary Authorities (SES) for sanitary issues and health of personnel
- Environmental Authorities for the safety of environment

##### **Turkey**

BOTAS (for high pressure trunk lines) and Distribution Companies.

## **15. What documents regulate inspection, maintenance and repair issues for pipelines and equipment applied?**

### **Belarus**

1. Rules of protection of the main pipelines. Ministerial council of Belarus from 11.04.98г. №584
2. Instructions on manufacture of works in security zones of the main pipelines. The Ministry of Emergency Measures from 01.04.2002г.
3. Rules of major repairs of the main oil pipelines in diameter of 100-720 mm without a stop. - Ufa: VNIISPTneft, 1991.
4. Rules of major repairs of underground pipelines. - Ufa: IPTER, 1992.
5. RD RB 0908.3.2113-97. The main oil pipelines. Rules of repair of underground pipelines. "Belneftekhim", 1997г.
6. RD RB 0902.03.13-98. Rules of protection of systems of gas supply in territory of Belarus. "Beltopgaz", 02.07.1998г.
7. RD RB 0908.3.2.113-97. The main oil pipelines. Rules of repair of underground pipelines. "Belneftekhim ", 1997г.
8. RD RB 0908.3.4.101-96. The instruction on repair of ferro-concrete preliminary intense cylindrical tanks for oil. " Belneftekhim ", 1996г.
9. RD RB 0908.3.3.102-96. The Operation manual, to maintenance service and repair of the equipment and the constructions of oil branch used on the main oil pipelines. " Belneftekhim ", 1996г.
10. RD RB 39-30-859-88. Rules of test of a linear part of operating main pipelines. VNIISTneft, 24.12.1982г.
11. RD RB 38-30-499-80. Position about maintenance service and repair of a linear part of the main oil pipelines.

The full list of documents on the given point is much wider.

### **Brazil**

There is some Standards issued by the Ministry of Employment that should be followed in some specifics equipment, but, in general, the operator has its own inspection and maintenance plan to be executed

### **Canada**

CAN/CSA Z662-07 which includes provisions for off-shore, and various federal and provincial Acts and Regulations.

### **Kazakhstan**

1. Safety Regulations on Oil Trunk pipelines Maintenance OST RK 153-39-015-2005
2. Repair Guidelines for Trunk Pipelines for petroleum Products SP 3.05-23-2001
3. Monitoring integrity and maintenance of vessels and process pipelines with high content of Hydrogen sulphide ST GU 153-39-105-2006
4. MSP 4.03-102 name is Designing and construction of gas pipelines from metal pipes

### **Turkey**

BOTAS's own procedures prepared according to the requirements of pipeline system and maintenance/repair guide of related equipment.

## **16.How the responsibility of pipelines safe operation is arranged between state and operator?**

### **Belarus**

Management of the main pipeline or system of the main pipelines includes a management of financial and economic, organizational activity, and also activity on maintenance of effective, reliable and safe operation of objects of the main pipelines and production transportations by the main pipelines and is carried out by the operator.

Subjects of relations in the field of the main pipeline transport at operation of the main pipelines should comply with the requirements of industrial, fire and ecological safety established by the legislation of Belarus.

With a view of maintenance of industrial, fire and ecological safety the operator is obliged:

- to carry out diagnostics of a technical condition of objects of the main pipeline, measuring devices and the equipment, and also technical re-examination of objects of the main pipeline at achievement of amortisation service life by them, at impossibility providing reliability and safety;
- to conduct industrial inspection in the field of environment, fire-preventive works on objects of the main pipeline;
- to carry out monitoring of fire, industrial and ecological safety of the main pipelines;
- to develop actions for the prevention, localisation and liquidation of possible incidents, failures, and also plans of action in emergency situations;
- to carry out preparation of the personnel of the main pipeline for actions in emergencies;
- to create systems of detection and the notification about occurrence of incidents, failures and emergency situations, to contain them in a ready state;
- in due time to develop and co-ordinate with the Ministry of natural resources and preservations of the environment of Belarus specifications of emissions (dumps) of polluting substances in environment, placing and volumes of the waste formed at functioning of objects of the main pipeline;
- to contain security zones of the main pipelines in a condition providing their industrial safety and protection of the population at a design mode of their operation and at emergencies;
- to create reserves of financial and material resources for the prevention of occurrence of emergency situations and liquidation of their consequences, and also special divisions on protection of objects of the main pipeline, salvage and rescue services on liquidation of emergency situations.

Proprietors of the main pipelines and operators co-operate with local executive and administrative authorities at creation, operation, preservation and liquidation of the main pipelines concerning their safety, and also at the decision of problems of social and economic development of territories on which take place the main pipelines.

The operator provides operation of the main pipelines at the expense of own means or means from other sources, and also delivery of production to the consumer according to treaty on rendering of services in production transportation by the main pipelines.

Actions for environment restoration at preservation and liquidation of the main pipeline are spent at the expense of means of the operator and co-ordinated with the Ministry of natural resources and preservations of the environment of Belarus.

Monitoring of industrial safety is spent by the operator or specially the assignee to whom duties on gathering, storage and processing of materials of monitoring are assigned.

For maintenance of safe operation of the main pipelines the operator is obliged by results of monitoring of their technical condition in due time to carry out capital and operating repair of objects of the main pipelines to eliminate incidents, failures and emergency situations on the main pipelines, and also their consequences.

The operator has the right to take out of service the main pipeline before the guaranteed term of its industrial safety or before term of major repairs without the consent of the proprietor of the main pipeline or system of the main pipelines in case of failure, and also as a result of monitoring of a technical condition of threat of failure or incident.

Protection of the main pipelines and objects of the main pipelines is carried out directly by the operator and the organizations according to the legislation of Belarus.

The operator in cases of incidents, failures and emergency situations on the main pipelines informs the local executive both administrative authorities and other state structures according to the legislation of Belarus, takes immediate measures on elimination of their consequences. With that end in view it the ground areas adjoining to the main pipeline in an order established by the legislation of Belarus can be used.

## **Brazil**

Penalties must be applicable by the State in case of operational non conformities. In these cases, in general, the State is represented by the Environmental Organisms.

## **Canada**

Canada has several forms of regulatory oversight in Pipeline safety matters which reflect the composition of the industry and its perceived technical competency / maturity.

The NEB has adopted a performance based, “goal oriented“ approach to Federally regulated pipelines, which generally tend to be larger and well staffed. While responsibility for safety is shared, more of the burden is placed on the operator who is believed to know his system and its safe operation better than the regulator.

Provincial regulators invariably adopt a prescriptive approach to safe operation with some performance based aspects. Compliance to the requirements is verified by the provincial regulator.

### **Kazakhstan**

Operator is responsible for the safe operation of pipelines. Operator shall be a dully licensed company and should have a personnel that passes mandatory training as specified by the RoK regulations.

State authorities have rights and responsibilities to conduct periodic and other inspections to verify where operations are conducted in a safe manner.

### **Turkey**

Pipelines Safe Operation is arranged by BOTAS which is a state owned company. Responsibility of pipeline secure operation is based on the protocol between BOTAS and Military Forces in the context of Law No 2565, "Restricted Military and Security Areas"