

TRANSLATION
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UNITED NATIONS
ECONOMIC COMMISSION FOR EUROPE

**REPORT OF THE PILOT REGIONAL TRAINING COURSE ON ENSURING
THE SAFETY OF HYDRAULIC STRUCTURES IN CENTRAL ASIA**

Tashkent, Uzbekistan, 11-14 May 2009

A. ORGANIZATION OF THE COURSE

1. The Pilot Regional Training Course on Ensuring the Safety of Hydraulic Structures in Central Asia took place in Tashkent, Uzbekistan from 11 to 14 May 2009. The Course was organized by the United Nations Economic Commission for Europe (UNECE) in close cooperation with the State Inspection on Control and Supervision of the Technical Condition and Safe Operation of Large and High-Security Waterworks of the Republic of Uzbekistan (Gosvodkhoznadzor).

2. The Training Course was held within the framework of Phase II of the Project «Dam Safety in Central Asia: Capacity Building and Regional Cooperation», which was being implemented by UNECE with financial support from the Government of Finland and additional financing by the Government of the Russian Federation. The project carried out under the aegis of the Project Working Group for Water and Energy Resources of the United Nations Special Programme for the Economies of Central Asia (SPECA) was aimed on the improvement of national potential in the sphere of dam safety and the strengthening of the regional cooperation in this sphere.

1. Goals of the Training Course

3. The objective of the Training Course was raising the level of skills and knowledge of the personnel dealing with ensuring the safety of hydraulic structures in the countries of Central Asia. Besides, the objective of this activity was an exchange of the experience among participants.

2. Participants

4. Totally, 22 specialists from Kazakhstan, Kyrgyzstan and Uzbekistan participated in the Training Course. The major part of reports was done by the officials of the Scientific and Technical Center «Safety of Hydraulic Structures», Moscow, the Russian Federation; Gosvodkhoznadzor of the Republic of Uzbekistan and the representatives of a number of research and educational institutes located in Tashkent. Altogether, 34 persons took part in the Training Course, the list of which is in Appendix 1 to this report.

3. Opening of the meeting

5. Mr. Timur Kamalov, Chairman of Gosvodkhoznadzor of the Republic of Uzbekistan, welcomed the participants of the Training Course. He underlined the priority of tasks on the raising of qualification level of specialists engaged in design, construction and operation of hydraulic structures, and exchange of experiences between the countries of Central Asia in the field of ensuring the safety of hydraulic structures.

6. In his greeting remarks, Mr. Bo Libert, Regional Adviser of the Environment, Housing and Land-Use Management Division of UNECE, noted that the Training Course was the first training action within the framework of the Project «Dam Safety in Central Asia: Capacity Building and Regional Cooperation» and wished every success in its holding.

7. The participants of the Training Course were greeted by Mr. Ravshan Mamutov, Leading Specialist of the Information and Analytical Department on the Issues of Agriculture and Water Economy of the Cabinet of Ministers of the Republic of Uzbekistan. He reminded that the law on the safety of hydraulic structures entered into force in Uzbekistan 10 years ago and since then the institutional and legal frameworks for government regulation in this field had been established in the country. He underlined that qualification of specialists was a deciding factor on ensuring the safety of hydraulic structures, and wished the participants a successful work.

4. Programme of the Training Course

8. The Programme of the Pilot Regional Training Course on ensuring the safety of hydraulic structures in Central Asia is presented in Appendix 2.

B. PRESENTATIONS AND DISCUSSION

9. The participants of the Training Course were presented with 28 reports, regarding the different aspects of ensuring the safety of hydraulic structures. The issues of normative legal basis of government regulation of the safety of hydraulic structures; forming of reliability of hydraulic structures at their design, construction and operation stages; the organization of surveillance over the technical condition and safety of operation of hydraulic structures, and several others were elucidated.

10. In discussion on the presented reports the participants exchanged their opinions about the availability of normative documents on safety issues of hydraulic structures in the countries of Central Asia; the practical applicability of the proposed approaches to the field observation of hydraulic structures, as well as to the accounting in the form of declarations on safety; the desirability of approximation of normative documents on basis of corresponding documents available in the Russian Federation.

11. The participants of the Course expressed and discussed suggestions on holding training actions on such topics as the ensuring of reliability and safety operation of pumping stations; the forming of reliability of hydraulic structures at their designing, construction and operation stages; and organization of surveillance over the technical condition and safety of operation of hydraulic structures. The participants also expressed an interest to familiarization with experience of the foreign countries in the field of ensuring the safety of hydraulic structures by inviting specialists from these countries to the subsequent training courses.

12. The issue of establishing a regional training center for the countries of Central Asia aimed on raising the level of qualification and exchange of experience in the field of the safety of hydraulic structures was discussed. It was noted that although the desirability of establishing such a center was beyond question, however, this issue was linked with preparation of the regional agreement on cooperation in the field of the safety of hydraulic structures, which provides for establishing of regional committee or center on the safety of hydraulic structures. The draft agreement stipulated that the proposed mechanism of cooperation (a commission or a center) would also deal with the issues of raising the level of personnel qualification on the different aspects of the safety of hydraulic structures.

13. List of materials, presented on the sessions of the Course and distributed among its participants, is presented in Appendix 3. All participants of the Course also got a compact disk with the records of all presentations and additional materials.

C. CONCLUSIONS AND RECOMMENDATIONS

14. The participants of the Course

(a) gave a high appraisal of the presented training materials and found the Course useful;

(b) recommended to publish materials of the Course for distribution among specialists engaged on ensuring the safety of hydraulic structures in the countries of Central Asia;

(c) recommended to continue holding actions on exchange of experience and raising the level of personnel in the field of safety of hydraulic structures;

(d) recommended to hold next training actions on more narrow topics and for more specialized contingents of trainees.

15. Mr. Shavkat Khamraev, Deputy Minister of Agriculture and Water Resources of the Republic of Uzbekistan, participated in the closing ceremony of the Training Course. He expressed his gratitude to the organizers of the Course and its participants for holding the timely and useful event.. He also expressed the willingness of his

Ministry to co-operate with Gosvodkhoznadzor on holding on the territory of Uzbekistan one of the following activities within the framework of the Regional Project on Cooperation in the Field of the Safety of Hydraulic Structures.

16. The participants of the Course expressed deep gratitude to the staff of Gosvodkhoznadzor for the holding of the course efficiently and for the organization of a trip to hydraulic structures in Samarkand region.

LIST OF PARTICIPANTS
The Pilot Training Course on Ensuring the Safety of Hydraulic Structures in Central Asia
Tashkent , Uzbekistan, 11-14 May 2009

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**The Pilot Regional Training Course on Ensuring the Safety of
Hydraulic Structures in Central Asia
Tashkent, Uzbekistan , 11-14 May 2009**

PROGRAMME

Monday, 11 May 2009

09:00 – 17:30

Theme	Speaker
Registration	
Opening the Ceremony	<i>Mr. Bo Libert (UNECE)</i> <i>Mr. Timur Kamalov</i> <i>Mr. Ravshan Mamutov</i>
<i>I. General issues of the safety of hydraulic structures</i>	
Contribution of the project “Dam Safety in Central Asia: Capacity Building and Regional Cooperation” to the strengthening of cooperation among the countries of the region	<i>Mr. Bo Libert (UNECE)</i>
Legal regulation of the safety of hydraulic structures in the countries of Central Asia	<i>Mr. Yuri Steklov</i> (UNECE expert)
General classification of hydraulic structures. Types and forms of hydraulic structures	<i>Mr. Sergey Jigarev</i> (Uzbekistan)
Operation reliability of pumping stations	<i>Mr. Oleg Glovatsky</i> (Uzbekistan)
Reliability of hydraulic structures at their design, construction and operation stages	<i>Mr. Dmitry Radkevich</i> (UNECE expert)
<i>II. Organization of the surveillance of technical condition and safety of hydraulic structures</i>	
Rules for preparing a declaration of the safety of hydraulic structures during their operation and reconstruction. Conducting examination of safety declarations of hydraulic structures	<i>Mr. Dmitry Radkevich</i> (UNECE expert)
Methodology of the assessment of the area of possible flooding and scales of probable damage in case of accident of hydraulic structures	<i>Mr. Sergey Shkolnikov</i> (The Russian Federation)
BING-3: a system for diagnostic control of the safety of operation of hydro power stations. Main functions. Servicing the system. Experience in using BING-3.	<i>Mr. Leonid Polyak</i> (The Russian Federation)
Group discussion / Outcome of the day	

Tuesday, 12 May 2009

09:00-17:30

Theme	Speaker
Preparedness to emergency situations in case of accident on hydraulic structures	<i>Mr. Ernazar Mahmudov</i> (Uzbekistan)
Methods of the inspection of technical condition of hydraulic structures	<i>Mr. Yuri Pozdnyakov</i> (Uzbekistan)
Methods for criterion determination of the safety of hydraulic structures	<i>Mr. Dmitry Radkevich</i> (UNECE expert)
Design stages; composition of a hydraulic project; rules for operation and monitoring. Requirements for engineering surveys. Construction faults and deficiencies	<i>Mr. Sergey Jigarev</i> (Uzbekistan)
Determination of the probability of failures of structural elements as a function of the term of operation of hydraulic structures	<i>Mr. Masharif Bakiev</i> (Uzbekistan) <i>Mrs. Evgenya Kirillova</i> (Uzbekistan)
Determination of maximum water discharges for assessment of the reliability of intake water control structures (at the Uchkurgan water control structure)	<i>Mr. Murof Muhamedov</i> (Uzbekistan)
III. Issues of design and construction, which are to be known to operational personnel	
Assignment for design. Tasks of personnel in periods of design, construction and commissioning of hydraulic structures	<i>Mr. Tadjibay Tursunov</i> (Uzbekistan)
IV. Issues of safe operation of hydraulic structures. Surveillance of their condition.	
Formation and use of emergency material and technical reserves for ensuring the safety of hydraulic structures	<i>Mr. Shuhrat Talipov</i> (Uzbekistan)
Recommendation on assessment and ensuring the safety of hydraulic structures	<i>Mr. Gennady Kuleshov</i> <i>Mr. Usman Buranov</i> (Agency IFAS)
Operational surveillance. Check-up and inspection of structures: visual and instrumental. Methods of assessment of durability of concrete parts of structures. Analysis of surveillance results. Criterion for operation reliability and safety .	<i>Mr. Yuri Pozdnyakov</i> (Uzbekistan) <i>Mr. Djon Krokoshenko</i> (Uzbekistan)
Operation of pumping stations. Control of their condition, vulnerable components and elements	<i>Mr. Viktor Kopylov</i> (Uzbekistan)
Operation of main pumping equipment	<i>Mr. Oleg Glovatsky</i> (Uzbekistan)
Improvement of methods for assessing available capacity of water reservoirs by using a geographic information system (GIS) (at the Akdarya water reservoir)	<i>Mr. Shavkat</i> <i>Rakhmatullayev</i> (Uzbekistan)
The methods of reliability examination of technical condition and safety of hydraulic structures with the systems of diagnostic control of the safety of hydraulic structures	<i>Mr. Leonid Polyak</i> (The Russian Federation)
Procedures for conducting the State register (or cadastre) of hydraulic structures	<i>Mr. Dmitry Radkevich</i> (UNECE expert)
Organization of the service for operation of hydraulic structures, its main tasks. Technical documentation on operation of hydraulic structures.	
Financial provision for compensation of damage and insurance of	

the risk of civil liability as a result of the accident of a hydraulic structure	
Legal documents for operation. Permission for operation of hydraulic structures, license for operation	
Group discussion/ Outcome of the day	

Wednesday , 13 May 2009

Visit to hydraulic structures

Thursday , 14 May 2009

09:00 – 13:00

Theme	Speaker
Interaction between the service for operation of hydraulic structures with state regulatory organs	<i>Mr. Shuhrat Talipov</i> (Uzbekistan)
Safety of the foundation of low dams	<i>Mr. Ernazar Mahmudov</i> <i>Mr. Danyar Paluanov</i> (Uzbekistan)
Review of the course: assessment of the course and recommendations	
Closing ceremony	<i>Mr. Timur Kamalov</i> <i>Mr. Shavkat Rahimov</i> <i>Mr. Dmitry Radkevich</i>

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Hydraulic Structures in Central Asia
Tashkent, Uzbekistan, 11-14 May 2009**

LIST OF DISTRIBUTED MATERIALS

The materials prepared by Gosvodkhoznadzor

1. Textbook “Safety of Hydraulic Structures”
2. Brochure “Basic Conceptions and Terminologies relating to the Safety Issues of Hydraulic Structures and Water Resources”
3. Brochure “Normative Legal and Normative Technical Acts of the Republic of Uzbekistan on the Safety of Hydraulic Structures and the Basic Conceptions Used ”
4. Booklet “State Inspection “Gosvodkhoznadozr””

The materials prepared by D.B. Radkevich, consultant of the project

5. Initial draft of technical regulation “On Safety of Hydraulic Structures”
6. Draft of the terms of reference for preparing the technical regulation “On Safety of Hydraulic Structures”
7. Normative legal and normative technical documents regulating the issues of the safety of hydraulic structures in the Russian Federation

8. G.N.Kuleshov “Recommendation on the Assessment and Ensuring of the Safety of Hydraulic Structures”, publication Agency IFAS, Tashkent, 2009.

9. The compact disk with presentations and additional materials