



SUMMER SCHOOL

“ASPECTS OF RISK MANAGEMENT AND ENSURING ENVIRONMENTAL SAFETY IN INDUSTRIAL ENTERPRISES”



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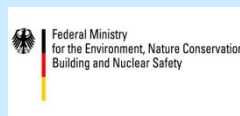
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Conference of the Parties to the Industrial Accidents Convention
3-5 December, 2014, Geneva



PROJECT IMPLEMENTATION

➤ **Project funded by:**



**Federal Ministry for the Environment, Nature
Conservation, Building and Nuclear Safety of
Germany**

➤ **Project coordination by:**



Federal Environmental Agency of Germany (UBA)

➤ **Project implementation by:**



“Eco Peace” scientific, ecological NGO (Armenia)



Perm National Research Polytechnic University (Russia)

➤ **Project supporter:**



United Nations Economic Commission for Europe

PROJECT LOCATION

The issues of the project implementation and the choice of venue for the summer school were based on the following factors:

- *The idea of organizing a summer school came still during the final seminar of the project on “Assistance to raising knowledge on industrial safety at universities in Armenia” (2012-2013), during which the representative of PNRPU was also participating;*
- *PNRPU is one of the leading technical universities in Russia, where at the Department of Environmental Protection;*
- *City of Perm is a typical industrial city and the issues of industrial and environmental safety here are urgent;*
- *In the Perm region, there are a number of industrial enterprises, which could be the subject of study for participants of the international summer school;*
- *Dissemination of the experience gained by Armenian students during the previous project could be useful for other countries, creating a solid foundation for further exchange and transfer of current knowledge in the field of industrial safety in the UNECE region.*





PROJECT GOAL

The overall objective of this project was to advance sustainable development through innovative approaches in risk management and to enhance environmental safety in industrial enterprises as well as to promote the UNECE Convention on the Transboundary Effects of Industrial Accidents.

IMPLEMENTATION OF THE MAIN ACTIVITIES OF THE PROJECT

➤ The preparatory stage

- ✓ Formation of final groups in the participating countries, consisting of students and lecturers.
- ✓ Preparation of all necessary teaching materials for the summer school.
- ✓ In coordination with the Federal Environment Agency of Germany (UBA) and the UNECE secretariat selection of international experts to conduct training within the framework of the event.
- ✓ Achievement the final agreements with industrial enterprises related to the visits by the school participants, as well as to the possibility to make photo and video recording.



IMPLEMENTATION OF THE MAIN ACTIVITIES OF THE PROJECT

➤ Formation of student group in Russian

The choice of Russian students was made by online registration. This allowed to select participants not only from PNRPU, but also from other universities of Perm.

- ✓ Perm National Research Polytechnic University (PNRPU) - 18 participants;
- ✓ Perm State National Research University (PSNRU) - 5 participants;
- ✓ Perm State Agricultural Academy (PSAA) - 2 participants.

Международная экологическая школа
«АСПЕКТЫ УПРАВЛЕНИЯ РИСКАМИ И
ОБЕСПЕЧЕНИЯ ЭКОЛОГИЧЕСКОЙ
БЕЗОПАСНОСТИ НА ПРОМЫШЛЕННЫХ
ПРЕДПРИЯТИЯХ»

29 сентября 2014 (понедельник), 9:00

Международная экологическая школа «АСПЕКТЫ УПРАВЛЕНИЯ РИСКАМИ И ОБЕСПЕЧЕНИЯ ЭКОЛОГИЧЕСКОЙ БЕЗОПАСНОСТИ НА ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЯХ»

Школа направлена на углубление знаний и формирование у студентов технических вузов России и Армении навыков управления рисками и соблюдения принципов промышленной безопасности на предприятиях на базе европейского опыта.

Регистрация на событие закрыта

С 29 сентября по 4 октября 2014 г. Пермский национальный исследовательский политехнический университет проводит Международную экологическую школу «Аспекты управления рисками и обеспечения экологической безопасности на промышленных предприятиях» (Армения/Россия/Германия).

Школа направлена на углубление знаний и формирование у студентов технических вузов России и Армении навыков управления рисками и соблюдения принципов промышленной безопасности на предприятиях на базе европейского опыта. Также целью школы является информирование специалистов промышленных предприятий в области оценки и использования методологии оценки рисков («Смешанная методика»).

Регистрация заявок на участие в школе заканчивается 15 сентября 2014г.

Извините, регистрация закрыта. Возможно, на событие уже зарегистрировалось слишком много человек, либо истек срок регистрации. Подробности Вы можете узнать у организатора события.

Есть вопросы? Связаться с организатором события.

Место проведения
Пермь, Пермский край, п. Усть-Камка,
Санкт-Петербург "Усть-Камка"

Партнеры

Umwelt Bundesamt

Министерство экологии и окружающей среды Пермского края

ПННПУ

Пермский национальный исследовательский политехнический университет

Application form for participation

<http://ecoschool.timepad.ru/events/>

IMPLEMENTATION OF THE MAIN ACTIVITIES OF THE PROJECT

➤ Formation of student group in Armenia

In Armenia to participate in the event the students and lecturers, who participated in the last project, were chosen to transfer their experience and knowledge gained during the mentioned project to the Russian participants of the project.

The Armenian group consisted of 12 participants, who represented the following universities and organizations:

- ✓ National University of Architecture and Construction of Armenia - 3 students, 1 lecturer;
- ✓ State Engineering University of Armenia - 2 students, 2 lecturers;
- ✓ Crisis Management State Academy of MES RA - 3 students;
- ✓ Aarhus Centre - coordinator of Aarhus Center.



Students-participants from Armenia

DEPARTMENTS OF THE UNIVERSITIES-PARTICIPANTS

Republic of Armenia

- Geo-ecology and biosafety;
- Biotechnology and environmental protection;
- Mineral resources and environmental protection;
- Crisis management in emergencies.

Russian Federation

- Techno-sphere safety;
- Disposal and recycling of man-made waste;
- Sustainable development of urban areas;
- Chemistry and biotechnology;
- Mine surveying, geodesy and GIS.



Universities-participants in the summer school



HOLDING OF THE INTERNATIONAL SUMMER SCHOOL



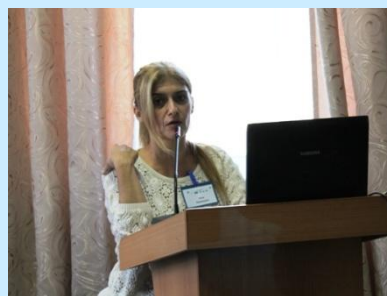
The International Summer School
was held from September 29 to
October 3, 2014.



HOLDING OF THE INTERNATIONAL SUMMER SCHOOL

➤ The review of the education system in Russia and Armenia

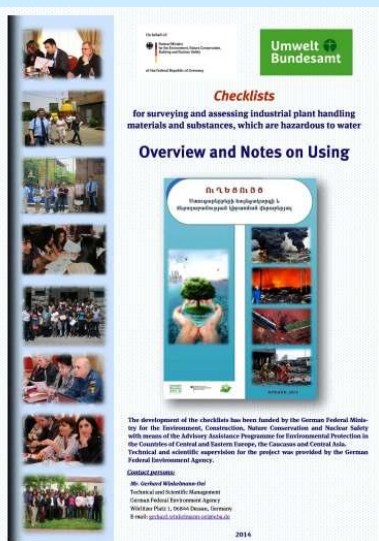
- The Russian side presented the main activities of the PNRPU, the priorities for the development of the University, the achieved target indicators, as well as the development of innovation and entrepreneurship.
- The Armenian side made a presentation on the results of educational reforms, implementation of the Bologna process in the educational system of the country (including issues of industrial safety), the industrial sector of the Republic and the main problems of the sector were presented.



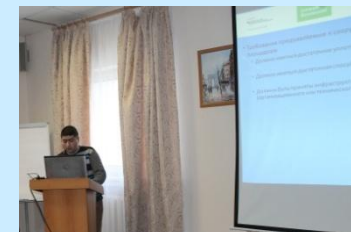
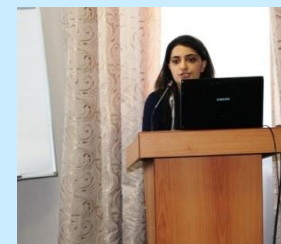
HOLDING OF THE INTERNATIONAL SUMMER SCHOOL

➤ The review of the checklist methodology

Checklists methodology had been developed in the course of consulting projects in the field of industrial safety in recent years. This methodology provides for the use of basic standards in the field of industrial safety, and allows verifying and assessing water protection measures at certain industrial enterprises.



Solving practical tasks by student groups



Presentations of Armenian students



HOLDING OF THE INTERNATIONAL SUMMER SCHOOL

➤The practical training in industrial enterprises

1. OJSC “Mineral fertilizers” (branch of "URALCHEM", s. Perm)
2. CJSC “Sibur-Khimprom“ (s. Perm)
3. Pulpmill group PTsBK (s. Perm)
4. OJSC “RusHydro” - “Kama HPP” (s. Perm)
5. “Perm Chemical Company” LLC
6. OJSC “Sorbent” (s. Perm)
7. OJSC “Metafrax” (s. Gubakha, Perm region)



HOLDING OF THE INTERNATIONAL SUMMER SCHOOL

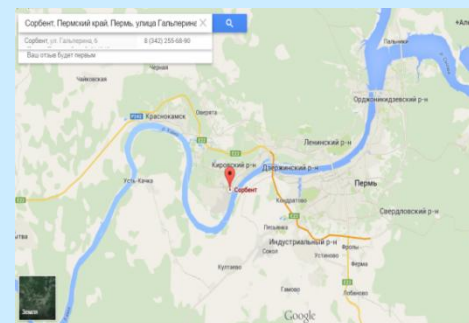
➤ Visit to the OJSC «SORBENT» (01.10.2014)

The main product of “Sorbent“ OJSC is activated carbons of different purpose and composition.

Based on the data on the volume of storage substances in the laboratory the risk index for water was had a "low potential risk" for water bodies.

Proposed activities for “Sorbent“ OJSC

Name of checklist	Identified shortcomings	Short-term activities	Medium-term activities	Long-term activities
Fire protection plan	Lack of awareness of staff	training and instruction of personnel	-	regular control of fire safety knowledge
Production planning for the prevention of emergency hazards	Lack of plans for emergency response	provision of publicly available plans for staff	-	-



HOLDING OF THE INTERNATIONAL SUMMER SCHOOL

➤ Visit to the OJSC «METAFRAX» (01.10.2014)



HOLDING OF THE INTERNATIONAL SUMMER SCHOOL

➤ Visit to the OJSC «METAFRAX»

Calculation of the real risk for the tanks for storage of methnol

Risk assessment			Number of used checklists		ARP
Total ARC	13,2	:	7	=	1,8
WRC-3	$\sum EQ3 = 700$				
WRI = 2,8	WRI=log 700=2,8				
RRP = 3,1	$\log (1,8 \times 700) = \log 45628 = 3,1$				
RRP - WRI = 0,3	3,1 - 2,8 = 0,3 (low hazard level)				

Proposed activities for "Metafrax" OJSC

Name of checklist	Short-term activities	Medium-term activities	Long-term activities
Overfill safety systems	-	-	Installation of an automatic device for fixing the overfilling of liquid (with audio alarm)
Pipeline safety	Determine the rate of corrosive wear with ultrasonic wall thickness measurement at certain times in various characteristic points of the pipeline. Calculation of the possibility of occurrence of inadmissible statistic weakening due to corrosive wear	Periodic inspection of corrosion on some representative points of the piping. Marking of pipelines to the extent required by the regulations based on the physicochemical properties and the direction of flow with color coding (complete or partial coloring, colored rings);	-

The used checklists:

Substances; Overfill Safety Systems; In-plant Pipeline Safety; Sealing systems; Fire protection strategy; Plant monitoring; Internal alarm and hazard control planning; Equipment of tanks.



The shortcomings:

- The overfill safety system does not automatically interrupt the filling process and does not provide audio or light signal.
- The overfill safety system does not automatically interrupt the filling process and does not provide audio or light signal.

HOLDING OF THE INTERNATIONAL SUMMER SCHOOL

➤ International seminar on “Risk Management”

With the purpose to organize training on “Risk management”, international experts were selected in coordination with the Federal Environment Agency of Germany and the UNECE secretariat.

The training was covered the following aspects:

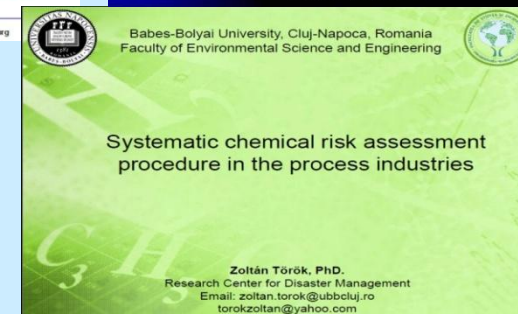
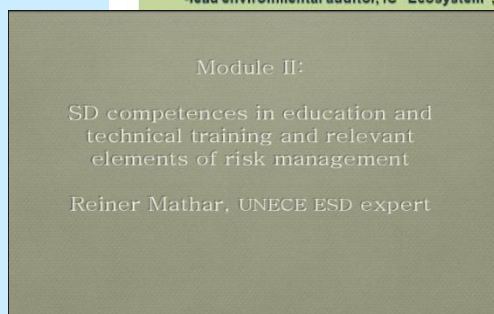
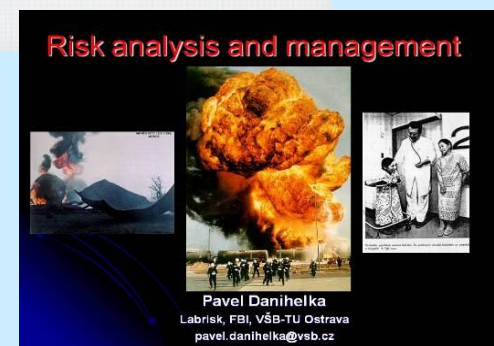
- ✓ International experience and policy in the field of the risk management and environmental safety in industrial plants;
- ✓ Innovation and best practice in the field of risk management and environmental safety in industrial plants;
- ✓ The role of risk management or environmental safety as a component of sustainable development during the preparation of relevant professionals in the given sector.





IMPLEMENTATION OF THE MAIN ACTIVITIES OF THE PROJECT

➤ International seminar on “Risk Management”



IMPLEMENTATION OF THE MAIN ACTIVITIES OF THE PROJECT

➤ National cultural evening

Organization of national cultural evening in a nice friendly atmosphere, the purpose of which was the exchange of national cultures, sharing a pleasant pastime in informal surroundings.



➤ The movie shooting

With supporting of UNECE the UNTV prepared a film on the UNECE Industrial Accidents Convention, including scenes from the summer school



➤ Closing of summer school

The event ended with the closing ceremony of the summer school with the award of certificates, commemorative statues with the emblem of the summer school and a joint photo.



RECOMMENDATIONS

Students

- ❖ to extend the checklists methodology for risk assessment of atmosphere air and waste (including mining waste);
- ❖ to devote more time (several days) to the future practical trainings on using the checklist methodology for better data collection at the enterprise;
- ❖ develop a separate checklist for monitoring of industrial safety of chemical laboratories, which are located in the industrial enterprise.

International experts and lecturers

- ❖ the possibility of such training in the future with the development of modules on various aspects (provisions) of the Convention with a broad scope of application;
- ❖ focusing of the Russian party on organization and carrying out of similar schools in other cities in Russia (for example, Kaliningrad, Voronezh, in the cities of the East-Siberian region- Novosibirsk, Irkutsk and others.);
- ❖ organization of regular international summer schools in the future on risk management and environmental security and expanding the scope and geography (with other technical universities in the EU and EECCA);
- ❖ holding of such events with the participation of students from Armenia, Russia, as well as from other EECCA countries in the territory of Germany, as the founder of the checklist methodology.

RESULTS AND SUSTAINABILITY

- ❖ The results of the summer school became the impetus for the creation of a generalized educational module based on the checklist methodology.
- ❖ Availability of training module based on the checklist methodology can be integrated into the already available on-line modules, making a significant contribution to the implementation of the relevant provisions of the UNECE Convention.



Yerevan 101.



THANK YOU FOR ATTENTION!

