



Ist International scientific and practical workshop
FROM DESTROYED UNIT №4 OF THE CHERNOBYL
NUCLEAR POWER PLANT TO THE NEW SAFE CONFINEMENT
(problems, tasks, integration)

16 - 17 May 2017
Kiev-Chernobyl, UKRAINE

«Severe accidents do not distinguish borders, eye shape and skin color – they are a problem of the entire world community of the planet Earth. Unite!»

As a result of an accident at the Unit 4 of the Chernobyl nuclear power plant April 26, 1986, the meltdown of the reactor core occurred and resulted in a large uncontrolled radioactive release, which became the worst in the history of the whole population. To limit the negative impact of the accident on the environment and the people protective structure, the "Shelter Object" (SO) was built.



For today:

1. Shelter Object is a radiation and nuclear dangerous object which has expired its envisaged lifetime and in which, in future, it is necessary to carry out works on dismantling, treatment of highly active irradiated fuel, radioactive dust and water.
2. To mitigate the negative impact of the SO on the environment the additional protective structure - the New Safe Confinement (NSC) was built, which led to the appearance of a new facility - "SO-NSC".
3. The NSC aims to provide necessary conditions for safe management of irradiated fuel, radioactive aerosols and radioactive water inside the SO for at least 100 years.
4. Complex physical processes of air flow, heat, mass and moisture transfer will take place in the NSC (especially during the first stage - commissioning), which will affect the state of nuclear fuel remains and can potentially increase the radioactive aerosols emissions.
5. On behalf of the SSE Chernobyl NPP, NIISK and ISP NPP has developed a program of scientific and technical support to solve problems that arise with the introduction and operation of «OC-NSC»."
6. The work on modeling of heat and mass transfer processes and radioactive aerosols spread in the SO and NSC and their emissions to the environment is being conducted with the support of NATO Science for Peace and Security programme.

This workshop – is the first step towards the wide international discussion and solution of scientific, technical, environmental and organizational issues for such complex objects as the SO and NSC, problems of monitoring and optimization of its operation, dissemination of experience and knowledge to minimize the consequences of potential accidents for other nuclear facilities, such as Fukushima I.

LIST OF CONFERENCE TOPICS

1. Shelter Object: construction, current state of the nuclear and radiation safety problem.

2. NSC: construction, design and technological features.

3. NSC commissioning period:

- **progress and potential problems of the NSC commissioning;**
- **nuclear and radiation safety of the NSC and SO;**
- **monitoring of the SO and NSC parameters and state;**
- **thermal and humidity state of the SO and NSC (measurements and modeling);**
- **radioactive aerosols spread inside and outside of the SO and NSC (measurements and modeling);**
- **modeling the consequences of potential accidents that may affect the nuclear and radiation safety of the SO and NSC.**

4. Long term of the SO and NSC operation:

- **potential problems of the long-lasting operation;**
- **monitoring of the parameters and state of the SO and NSC;**
- **modeling of possible accidents which may affect the nuclear and radiation safety of the SO and NSC.**

5. Work on the transfer of nuclear and radioactive materials in a controlled state:

- **plan of radioactive materials extraction;**
- **technologies and potential problems;**
- **nuclear and radiation safety during radioactive materials extraction;**
- **special features of radiation and nuclear state monitoring during materials extraction.**

6. Impact of the SO and NSC on the environment and ecology:

- **working conditions and risk factors for the SO and NSC employees;**
- **ecological impact of the SO dismantling and solid waste removal;**
- **content of radioactive substances in air, water and soils;**
- **transportation and utilization of wastes.**

7. Visit of the Shelter Object and New Safe Confinement site.

WORKSHOP CHAIRMAN

NOSOVSKY ANATOLIY (director of ISP NPP NAS)

ORGANIZING COMMITTEE

PRETZSCH GUNTER (Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) mbH)

KIRILENKO ALEXANDER (Academician - Secretary of the National Academy of Sciences of Ukraine)

PETRUK VITALIY (Chairman of the State Agency for Management Exclusion Zone) (by agreement)

NOVIKOV ALEXANDR (deputy director technical of the Chernobyl nuclear power plant safety) (by agreement)

DERIUGA SERGEY (deputy. NSC project manager) (by agreement)

ONISHI YASUO (Yasuo Onishi Consulting, LLC)

NEMCHYN OV YURIY (State research institute of building constructions, Ukraine)

BAYBUZENKO TETIANA (PJSC Kyiv Scientific Research and Design Institute "Energoprojekt")

WORKING GROUP

KRASNOV VICTOR (the head of the Department of Nuclear and Radiation Safety of the Institute of Nuclear Power Plant NAS security issues)

PAVEL KRUKOVSKIY, Ph.D., department head of Institute of Engineering Thermophysics of NASU

SVERCHKOV SERGEI (Department head of the transformation of the "Shelter")

WORKSHOP LANGUAGES

Ukrainian, English, Russian.

Translation will be provided

KEY DATES

Until March 15, 2017 - registration form submission

Until April 1, 2017 - abstracts submission

Until April 15, 2017 - reports submission

16-17 May 2017 - workshop sessions

May 18, 2017 - workshop end

FEE

300 euro (or 350 \$)

includes organizing costs and materials, lunches, coffee breaks, simultaneous translation of presentations,

excursion to Chernobyl, dinner in Chernobyl and transfer.

Please note that the Workshop fee does not include accommodation cost and meals

WORKSHOP LOCATION

Conference hall, ISP NPP NAS of Ukraine,
Ukraine, Kyiv, str. Lysogirska, 12.

CONTACTS

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email: secretary.workshop.nsc@gmail.com

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**WE HOPE FOR A RESPONSE OF THE INTERNATIONAL SCIENTIFIC COMMUNITY ON THESE PROBLEMS.
WELCOME TO UKRAINE!**

The workshop is held with the support of NATO and GRS.