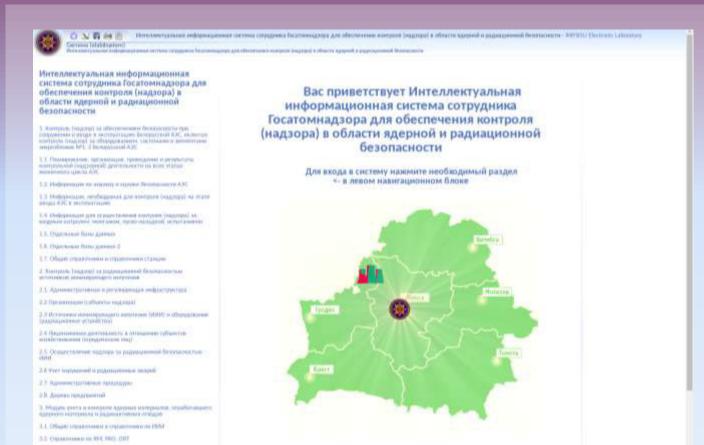


3.3. Организации, проведение и результить адининстративной и:

Information tool for support activities in supervision for nuclear and radiation safety





Svetlana Sytova

Institute for Nuclear Problems, Belarusian State University sytova@inp.bsu.by

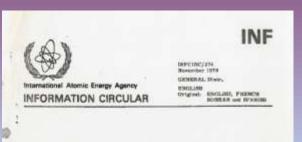
Intellectual information system of the Gosatomnadzor employee to ensure control (supervision) in the field of nuclear and radiation safety





Information tool for support activities in supervision for nuclear and radiation safety





TEXT OF THE CONVENTION ON THE PHYSICAL.

PROTECTION OF MICLEAR HATCHIAL

The First Act of the Meeting of Governmental Representatives to Cor

The text of the Communities is attached for the information of all New

Braiting of a Convention on the Physical Protestion of Nacional Material wa 29 Concern 1979. According to paragraph Li of the Final Act. "The Mentit

that the rest of the Coversion by transmitted for inform Conference of the international Absolut Energy Agency.



INF

TACH - INFCIRCIANI 3 July 1994

GENERAL Dist.
Original ARABIC, CHINESE,
ENGLISH, PRENCH, RUSSIAN
SPANISH

CONVENTION ON NUCLEAR SAFETY

International Atomic Energy Agency INFORMATION CIRCULAR

MATERIALITY

TAFR-INFCIRC/900 28 March 1996 GENERAL Date

GENERAL Distr. Original: ENGLISH, FRENCH, EUSSIAN and SPANISH

INF

VIENNA CONVENTION ON CIVIL LIABILITY FOR NUCLEAR DAMAGE

 The Virgue Convenient on Civil Liability for Nation Derman was adopted on II May 1900 and was opened for signature on the usine day. It retends not force on Vivenieus 1971, i.e. there meets after the date of deposit with the Dissour General of the DM intermeter of millionism, in accommodate with Article XXIII.

 In view of the demand for unjoin of the Convention, in test is being usual as an INSCOIC descenses in all authoritis languages, i.e. English, Presch. Restins and Specials. ras adopted on 17 June 1994 by a Diplomatic tensit. Energy Agency at its Handquarters will be opered for signature on 20 September of the Agency's General Conference and will to flate of deposit with the Depository (the econd instrument of ratification, ecceptance or name States, having each at least one naction.

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26 December 1997

GENERAL Don: Organi: AKARC CHRISE ENGLISH, HEINGE BUTHAN and

JOINT CONVENTION ON THE SAFETY OF SPENT FUEL MANAGEMENT AND ON THE SAFETY OF RABIOACTIVE WASTE MANAGEMENT

Sabust Status

1. The last Committee in the Sality of Speci Field Management and on the Sality of Special Field Management in a subject on S. Specimber 1971 by a Displayable Confidence interved by the International Associa Fields, Agency, at its Institution Size I to I September 1970. The John Germenton was reposted for signature at Version in 27 September 1970 displayable forms that security of the Committee was reposted for signature at Version in 27 September 1970 displayable forms that security of the Committee Committ

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The tool of the Commission, or adopted, is attached beams for the information of Months.

The IAEA occurs close monitoring for the safety of nuclear material, sources of ionizing radiation, radioactive waste and spent nuclear material.

CODE OF CONDUCT ON THE SAFETY AND SECURITY OF RADIOACTIVE SOURCES

放射源安全和保安行为准则

CODE DE CONDUITE SUR LA SÛRETÉ ET LA SÉCURITÉ DES SOURCES RADIOACTIVES

КОДЕКС ПОВЕДЕНИЯ ПО ОБЕСПЕЧЕНИЮ БЕЗОПАСНОСТИ И СОХРАННОСТИ РАДИОАКТИВНЫХ ИСТОЧНИКОВ

CÓDIGO DE CONDUCTA SOBRE SEGURIDAD TECNOLÓGICA Y FÍSICA DE LAS FUENTES RADIACTIVAS

> مدونة قواعد السلوك بشأن أمان المصادر المشعة وأمنها

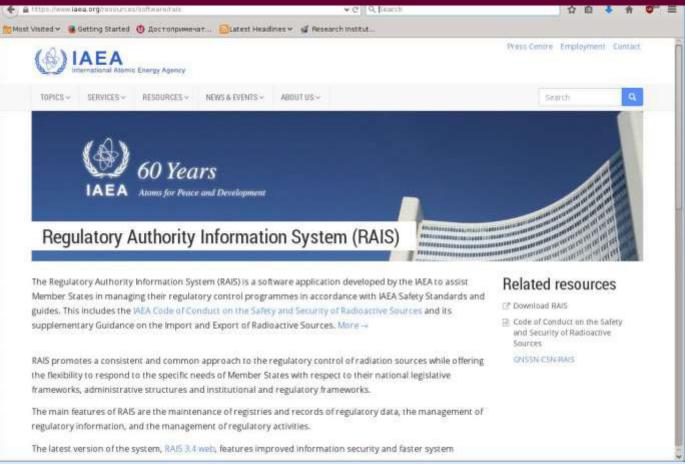






Information tool for support activities in supervision for nuclear and radiation safety





The main problems of RAIS are the following:

- 1. RAIS works only on Windows with certain versions of SQL Server.
- 2. Translation of interface in Russian is not finished.
- 3. RAIS does't satisfy to national legislation.





System eLab has a client-server architecture based on free software

- Debian GNU/Linux,
- > Web-server Apache,
- > the Firebird database server,
- > PHP application server.

The system runs under Windows and Linux operating systems.

The work is carried out through the Internet in multiplayer mode, with the

division of access rights by way of widespread browsers: Internet Explorer,

Mozilla Firefox, Google Chrome, Opera etc.

Sphere of application: implementation and harmonization of the electronic document management of accredited testing laboratories in accordance with

international ISO/IEC 17025, ISO 9001 and ISO 9004.







Features:

- software eLab is open to modifications by users,
- includes a standard set of log forms that can be changed,
- > is easily adjusted to the specifics of each individual laboratory,
- runs on a secure server; it is not required to install some software on the client computer, it is sufficient of a standard browser,
- > can operate both on a local intranet, or the global Internet,
- > allows in the frame of a single installed copy of the product at the same time maintain the workflow of many laboratories and organizations, with different profiles.









Technical advantages:

- > ability to extend the functionality of the system;
- > customizable user interface and the preservation of its current state;
- > fast convenient system of sorting, filtering and retrieval of data;
- > automatic update and display the current status of the sampling,
- > simple insertion mechanism, editing, deleting records, editing multiple records simultaneously.
- > validation of input data, the abolition of common mistakes;
- > exclusion of input data duplication;
- > automatic generation of output documents for reports in prescribed form;
- > possibility for user to make changes to the templates of the final documents;
- > exclusion of the human factor and related errors in records and output documents.





Collective



Modification of the system: eLab for electronic document management in the laboratory eLab-Fuel for quality monitoring and management of specimens, measurements and passports of fuels and lubricants **eLab-M** - for the meat and dairy industry eLab-Atom for control of ionizing radiation sources eLab-Control for control (supervision) in the field of nuclear and radiation safety eLab-Science is an original content management system allowing cloud Internet technologies with sufficient level of security with the possibility of organizing "cloud" Internet platforms for joint work on the project

The system is easily configured for the needs of the project





Achievements:

2010 – eLab is implemented in the educational process of Belarusian State University, Belarusian State Technological University,

Belarusian National Technical University, in the Chemical-toxicological

laboratory of the Minsk Drug Treatment Clinic.

2012 – Commissioning of eLab-Fuel in 202 Chemmotology Center of the Fuel for quality monitoring and management of specimens, measurements and passports of fuels and

lubricants of the Belarusian Armed Forces.

2013 – Commissioning of eLab-Fuel in Belarusian branch of company GazPromNeft.

2014 – Software eLab-Atom for control of ionizing radiation sources

2015 - Developed CMS eLab-Science

2015 – Portal of nuclear knowledge BeINET https://belnet.bsu.by

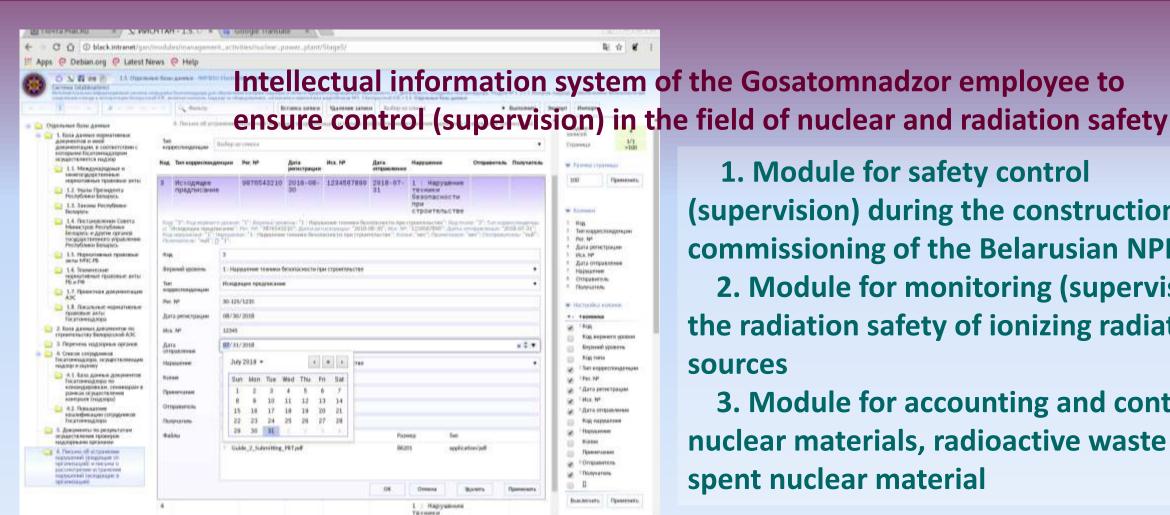
2017 – Portal of the project of Programme Horizon2020 Coexan https://coexan.bsu.by

2018 – Software eLab-Control for Intellectual information system of the Gosatomnadzor employee to ensure control (supervision) in the field of nuclear and radiation safety



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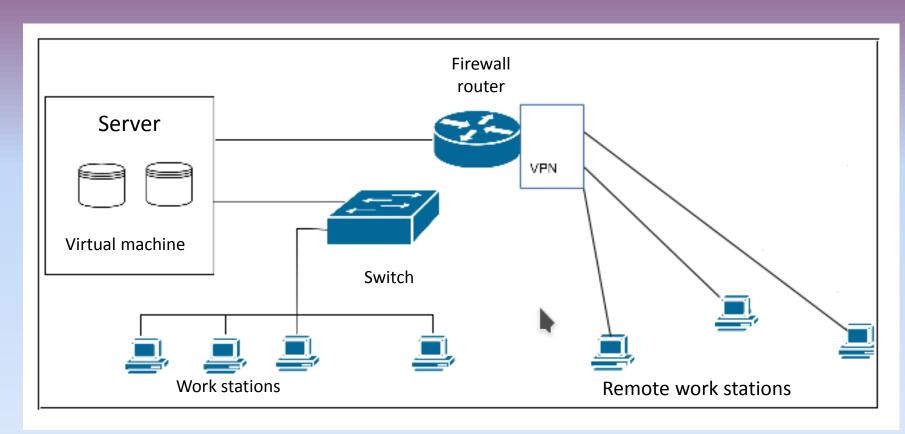


- 1. Module for safety control (supervision) during the construction and commissioning of the Belarusian NPP
- 2. Module for monitoring (supervising) the radiation safety of ionizing radiation sources
- 3. Module for accounting and control of nuclear materials, radioactive waste and spent nuclear material



Information tool for support activities in supervision for nuclear and radiation safety





Distinctive features of the system:

- 1. Full-text search through documents.
- 2. The ability of the user to make changes to the templates of the final documents.
- 3. Increased requirements for information security of the system.

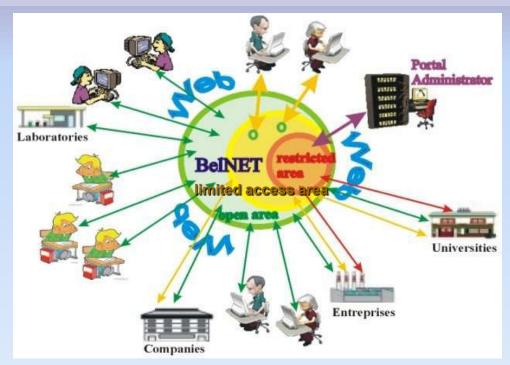
Network configuration



Electronic scientific resources (clouds) on the basis of CMS eLab-Science



Cloud computing* is an information technology (IT) paradigm that enables ubiquitous access to shared pools of configurable system resources and higher-level services that can be rapidly provisioned with minimal management effort, often over the Internet. Cloud computing relies on sharing of resources to achieve coherence and economies of scale, similar to a public utility.



https://belnet.bsu.by



*https://en.wikipedia.org/wiki/Cloud computing



Belarusian electronic scientific archive on the basis of CMS eLab-Science



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√	Archive of publications of the natural and humanitarian pr	Open process to 1.577-876 arginsts in Physics, Mathematics, Computer Statemic Quantitative Bridge, Quantitative Process, Electron Computer Statemic Process, Electron Computer	of Engineering and Eyelems Estance, and Eyen
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- ✓ The possibility of publishing not only articles, but also presentations, video materials, etc.
- ✓ Ability to create full-fledged Internet pages on scientific topics with formulas, graphics, drawings, video.
- ✓ The purpose of the archive is to promote the dissemination and dissemination of scientific knowledge.



Thank you for attention





sytova@inp.bsu.by