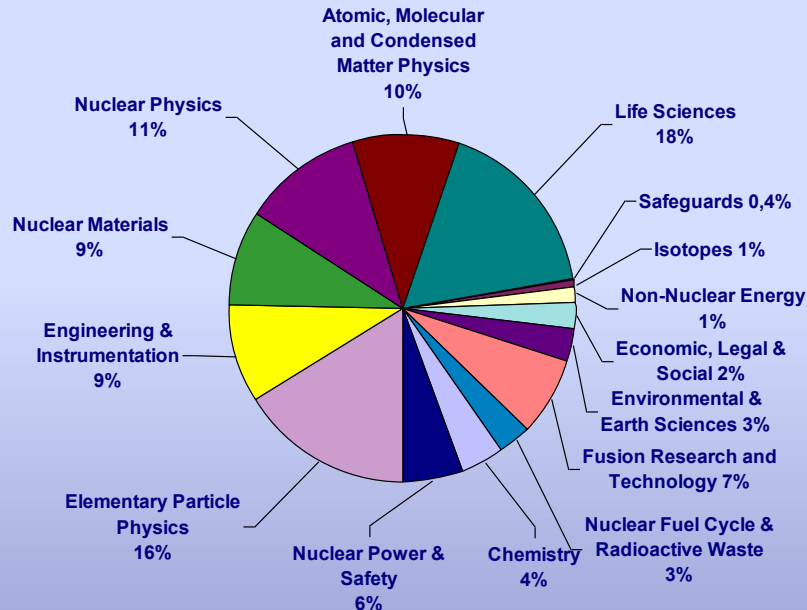


# Nuclear Knowledge Management System in the Republic of Belarus

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# What is nuclear knowledge management?



Subject area of nuclear knowledge

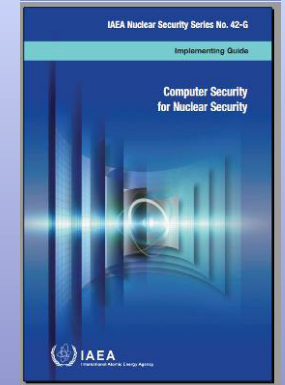
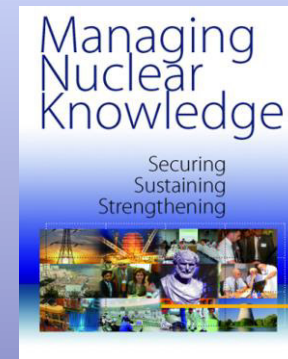
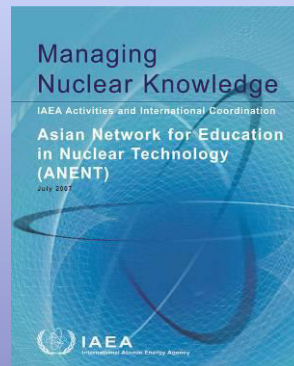
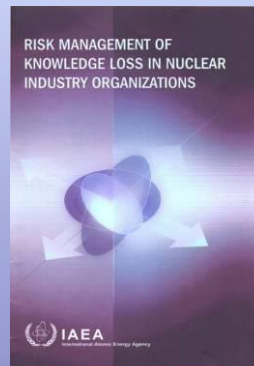
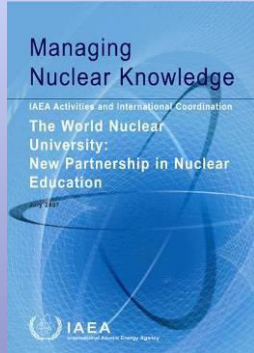
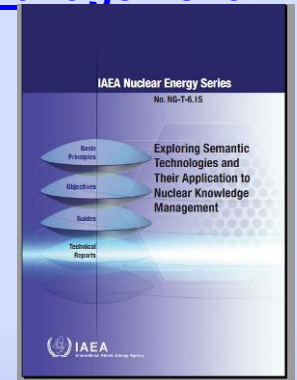
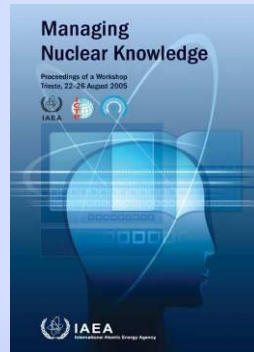
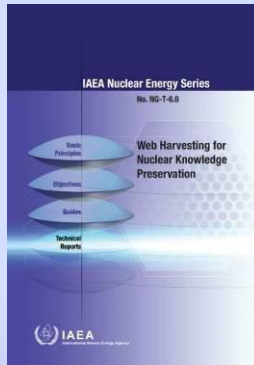
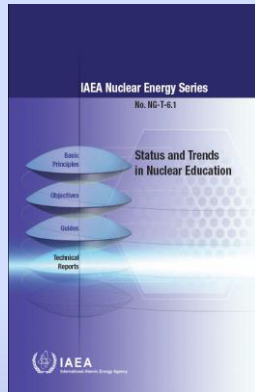
Nuclear knowledge (NK) base stems from both research and development and the industrial application of nuclear technologies, and includes both energy and nonenergy applications.

Knowledge management (KM) to be an integrated, systematic approach to identifying, acquiring, transforming, developing, disseminating, using, sharing, and preserving knowledge, relevant to achieving specified objectives.

Recognizing the importance of nuclear knowledge management (NKM), the IAEA develops methodologies and guidance documents for planning, designing and implementing NKM programs and facilitates nuclear education, providing support, networking opportunities and experience exchange.

# Development of NKM by IAEA

<https://www.iaea.org/topics/nuclear-knowledge-management>





## **Objective:**

Create an efficiently functioning nuclear knowledge management system in the Republic of Belarus, taking into account national specifics, and develop information technologies for intellectual support of the information and analytical activities of Gosatomnadzor, create and maintain a national electronic portal of practical nuclear knowledge of the Republic of Belarus, as well as specialized information archival online system for nuclear knowledge management.

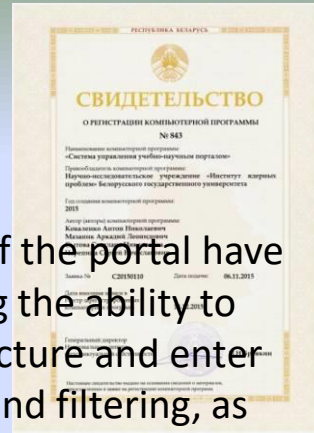
## **Reasons for implementation:**

Activity 13 "Performance of work to provide scientific and technical support to the Ministry for Emergency Situations of the Republic of Belarus in the field of ensuring nuclear and radiation safety", subprogram 3 "Scientific support for the efficient and safe operation of the Belarusian nuclear power plant and promising areas for the development of nuclear energy" of the State Program "Science-intensive technologies and equipment" for 2021-2025.

“Specialized information archival online system for nuclear knowledge management based on the educational and scientific electronic portal of nuclear knowledge of the Republic of Belarus BelNET” Activity 3.1 of the Consolidated list of scientific research and development on the development of the State system of scientific and technical information of the Republic of Belarus for 2021-2025.

# Portal BelNET

Belarusian Nuclear Education and Training  
<https://belnet.bsu.by>



Электронный портал ядерных знаний Республики Беларусь  
 Belarusian Nuclear Education and Training Portal - BelNET

ГЛАВНАЯ СТРАНИЦА    ИНФОРМАЦИОННЫЙ ЦЕНТР    СОТРУДНИЧЕСТВО

Науча

Вас приветствует Портал ядерных знаний

Последние новости на Портале ядерных знаний

**Открытие XXIX Международного семинара «Нелинейные явления в сложных системах»**  
 Предлагаем краткий обзор первого дня работы XXIX Международного семинара «Нелинейные явления в сложных системах» - XXIX International Seminar Nonlinear...

**Новости МАГАТЭ - Эксперты по радиоактивным источникам собрались для обсуждения безопасности и сохранности**  
 В Вене открылась International Conference on Safety and Security of Radioactive Sources - Accomplishments and Future Endeavours - Международная...

Как работать на портале  
 Для входа в систему необходимо ввести имя пользователя и пароль, а также символы, изображенные на рисунке.  
 Для выполнения лабораторных работ необходимо зарегистрироваться в системе.

All the necessary functions of the portal have been implemented, including the ability to remotely edit the portal structure and enter documents, various sorting and filtering, as well as two levels of access to documents depending on user rights, an original testing mechanism when performing laboratory work.

The analysis shows that it is necessary to develop a new taxonomy on the basis of semantic technologies, to improve the system performance via the optimization of the system internal structure, to increase the portal visibility in search internet systems and to improve the user interface.

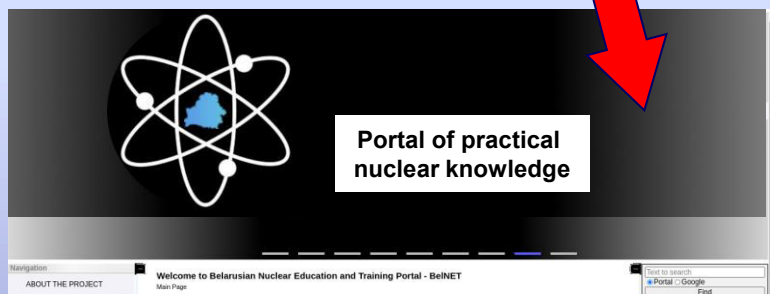
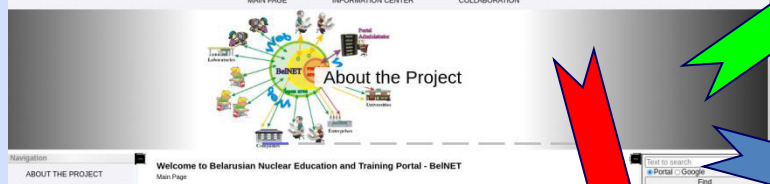


# Stages in the creation of NKM system

1. Development of regulatory, methodological and administrative documents regulating KM activities, formation of a policy in the field of NKM.
2. Creation of the necessary infrastructure (hardware, software for content management system).
3. International cooperation in the field of NKM (seminars, meetings, joint projects);
4. Training specialists for functioning of NKM system.
5. Inventory, systematization and description of critical NK.
6. Development of procedures and organization of knowledge exchange.
7. Creation of new knowledge; placement of all acquired knowledge in DB; NKM system activities monitoring.



# Transformation of BelNET



## Priority tasks:

1. Digitization, recognition and indexing of archives, providing full-text search through the
2. Indexing by a specially developed thesaurus for automatic generation of keywords and assignment of a resource to a particular section of the portal taxonomy.
3. Development of thematic ontologies (data structures with objects, links and rules). Data and ontologies together make up the knowledge base.
4. Development of a special English version of the portal.



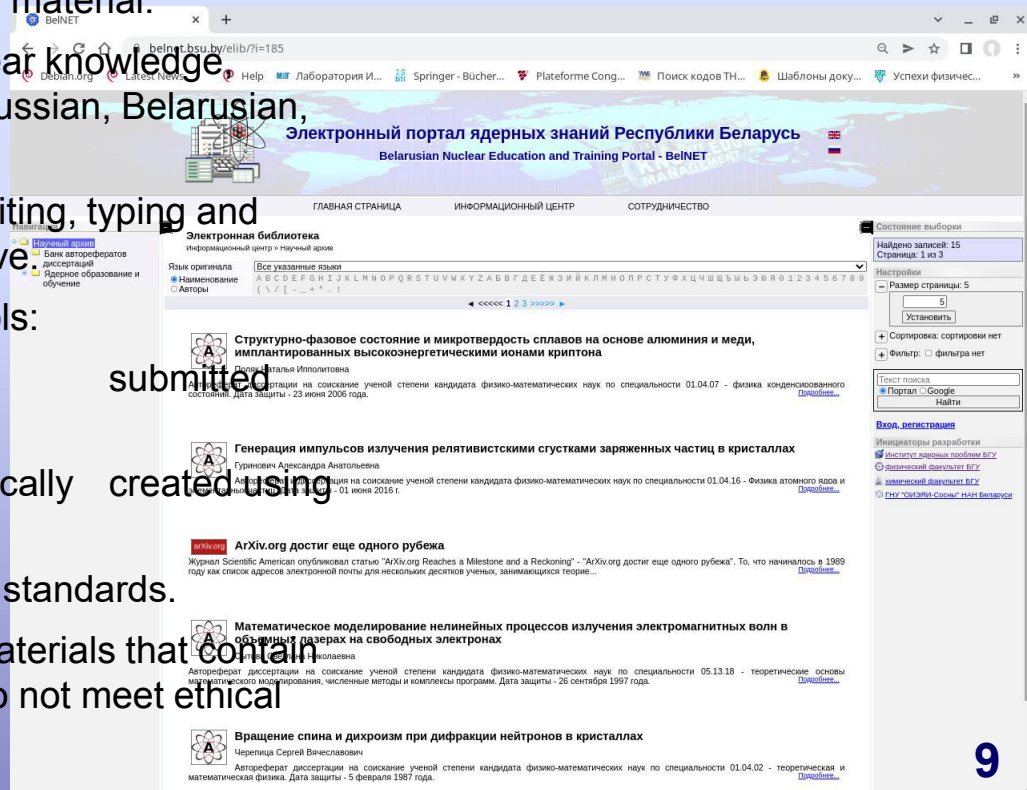
# Concept of Portal of Practical Nuclear Knowledge

1. It presents scientific achievements and the accumulated post-Chernobyl experience of Belarus,
2. It is an information platform both for newcomer countries and for old residents of the nuclear club.
3. It is based on the IAEA NKM principles.
4. It uses modern information technologies, including semantic technologies and free software.
5. It is based on further development of software products –
  - Intellectual Information System of a Gosatomnadzor employee to ensure control (supervision) in the field of nuclear and radiation safety,
  - Electronic portal of nuclear knowledge of educational institutions of the Republic of Belarus  
BeINET <https://belnet.bsu.by/> .
6. It is assumed the maximum possible placement of materials in the public domain.
7. It is planned to involve to cooperation people form belarusian organizations, research institutes and universities.
8. It develops the best world and Belarusian practices in the field of NKM.
9. It provides automation of processing of electronic appeals on administrative procedures.



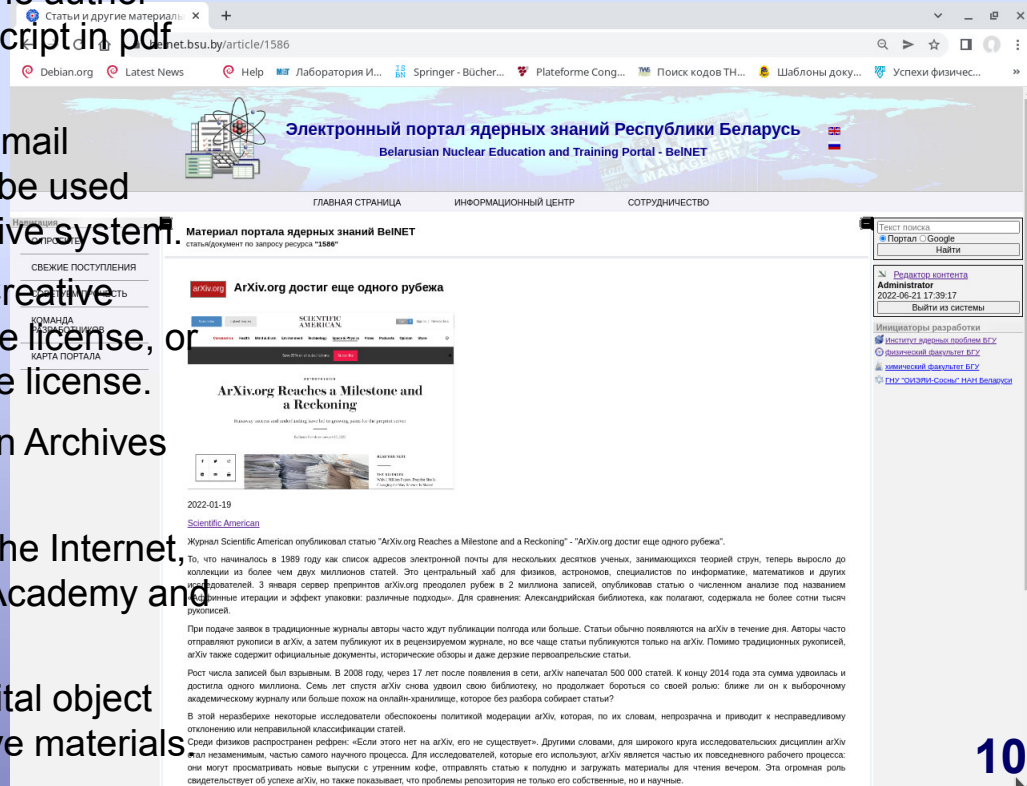
# Concept of online archival system

- To ensure the operation of the system 24/7 based on free software.
- To provide a user tool for uploading submitted manuscripts with the restriction of the user's access only to their own material.
- To accept posting materials in the field of nuclear knowledge, created in office applications in pdf format, in Russian, Belarusian, English.
- Submitted materials do not undergo review, editing, typing and layout of the text before publication in the archive.
- To provide using the developed information tools:
  - implementation of a basic automatic check of materials using the anti-plagiarism system;
  - automatic detection of artificial texts (automatically created using computer text generators);
  - automatic text checking for violation of ethical standards.
- To reserve the right to identify and remove any materials that contain plagiarism, are artificial (pseudo-scientific) or do not meet ethical research standards.



# Concept of online archival system

- To place in the public domain all materials that meet the specified requirements: metadata entered by the author within the "user account" and a full-text manuscript in pdf format.
- To provide a privacy policy that the names and email addresses entered on the archive website will be used solely for the purposes designated by the archive system.
- To retain copyright for the author based on the Creative Commons CC BY-SA 4.0 Attribution-ShareAlike license, or invite the author to indicate his version of a free license.
- To use the principles and protocols of the "Open Archives Initiative" to create an open access repository.
- To ensure full indexing of archive materials on the Internet, including indexing of records through Google Academy and the Ranking Web of World's Repositories.
- In the future, to ensure the assignment of a digital object identifier DOI (Digital object identifier) to archive materials



The screenshot shows the website of the Belarusian Nuclear Education and Training Portal (BeINET). The main header features the portal's name in Russian and Belarusian, along with a logo of a nuclear reactor. Below the header, there are navigation links for 'ГЛАВНАЯ СТРАНИЦА', 'ИНФОРМАЦИОННЫЙ ЦЕНТР', and 'СОТРУДИЧЕСТВО'. The main content area displays an article titled 'ArXiv.org достиг еще одного рубежа' (ArXiv.org reaches another milestone) with a sub-headline 'ArXiv.org Reaches a Milestone and a Reckoning'. The article text, dated 2022-01-19, discusses the growth of ArXiv.org as a preprint server, mentioning that it has surpassed 2 million papers and is now a significant part of the scientific community's workflow. It also notes that the server is now a major source of information for physicists and other researchers. The article concludes by stating that the success of ArXiv.org is a testament to the importance of open access and the need for a more transparent and accessible scientific publishing system.

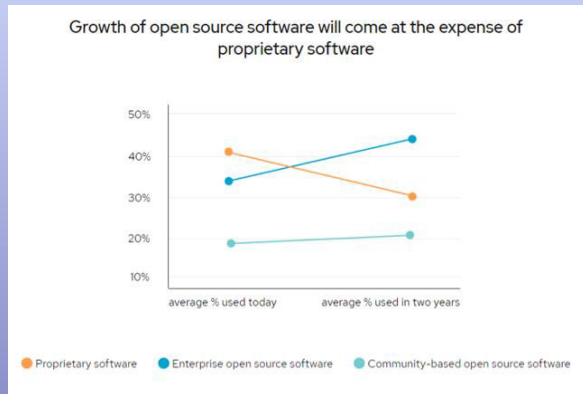
# Free software



*Free software* (open source software, also libre software) is a software, the users of which have the rights ("freedom") to install, run, freely use, study, distribute and change (improve), and distribute copies and results of the change. If software has exclusive rights, then freedoms are declared through free licenses.

Frequently, a distinction is made between *free* and *open* source software, although the availability of source code for open source software is mandatory, and many open source software are free at the same time.

*Proprietary software (non-free software)* is a software that is the proprietary property of its authors or copyright holders and does not meet the criteria for free software.



<https://www.redhat.com/cms/managed-files/rh-enterprise-open-source-report-detail-f21756-202002-en.pdf>

# Free software



## Advantages:

- Cheapness and anti-corruption.
- Free and open source software does not require license payments for each installed copy of the program.
- Safety. Many proprietary applications from well-known manufacturers contain undocumented features, which is a potential threat. Access to the source code of the program makes it possible to control this aspect.
- Adaptability. The large number of free applications available makes it easy to tailor them to the specific needs of users..

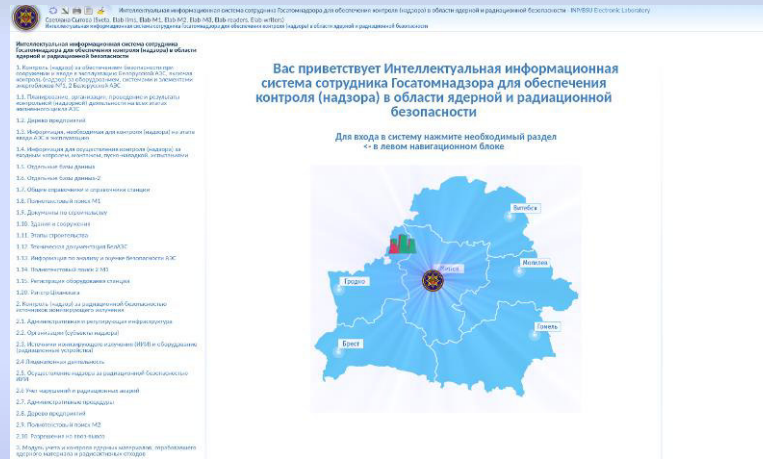
Our system has a client-server architecture, running under Windows and Linux operating systems, based on free software:

- Debian GNU / Linux,
- Apache web-server,
- Firebird database server,
- PHP application server.

It works through the Web interface in multi-user mode with shared access rights through any browsers.



# Implementation of the concept – Information system

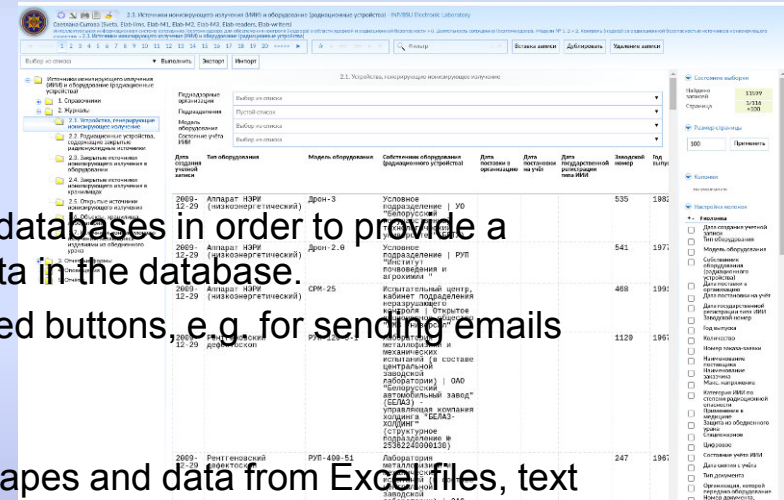



It is designed to automate the work of Gosatomnadzor employees in terms of control (supervision) of ensuring safety during the construction and commissioning of the Belarusian NPP, including control (supervision) of equipment, systems and elements of power units No. 1, 2 of the Belarusian NPP and control (supervision) of radiation safety sources of ionizing radiation, licensing of activities in the field of the use of atomic energy and IRS, licensing activities, accounting of IRS and nuclear materials for all MBAs of the country with reporting to the IAEA.

# Implementation of the concept – Information system

## The following algorithms have been developed :

- An in-depth specification of the kernel code and system databases in order to provide a general systematic approach to retrieving and editing data in the database.
- Own system of user interface controls, including dedicated buttons, e.g. for sending emails and checking data in the State Internet registries.
- Several levels of sorting and filtering records.
- A declarative markup language for importing complex shapes and data from Excel files, text files with special labels and coordinates for dynamic and static data.
- Module for processing incoming mail and attached files.
- The system for the formation of final documents according to the established samples with the ability for the user to make changes to templates.
- "Statistical" reports, notification system, change log.
- Enterprise tree tool.
- Full-text search in documents.





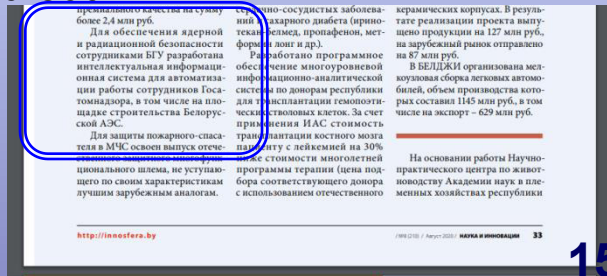
# Implementation of the concept – Information system

Data from the old databases of Gosatomnadzor on accounting for radiation sources and nuclear materials were loaded into the system with the help of special scripts.

The system is connected to the Unified Register of Licenses <https://license.gov.by/> and the database of the Ministry of Taxes and Duties of the Republic of Belarus <http://nalog.gov.by/>.

At present, in the Republic of Belarus at the level of the regulatory body, **all accounting of sources of ionizing radiation, all accounting of nuclear material** with reporting to the IAEA, and supervision of the construction of the Belarusian NPP are carried out with the help of the system.

A. Шумилин. Наука и инновации, август 2020, №8 (210), с. 32-38  
<http://innosfera.by/>



# NM Accounting and Control Module - Handbooks

3.8. Справочники по ЯМ, РАО, ОЯТ - INP/BSU Electronic Laboratory

Светлана Ситова (Sveta, Elab-M1, Elab-M2, Elab-M3, Elab-readers, Elab-writers)  
Интеллектуальная информационная система сотрудника Госатомнадзора для обеспечения контроля (надзора) в области ядерной и радиационной безопасности + 0. Деятельность сотрудника Госатомнадзора. Модуль №1, 2 + 3. Модуль учета и контроля ядерных материалов, обогащенного ядерного материала и радиоактивных отходов + 3.8. Справочники по ЯМ, РАО, ОЯТ

1.1. Код элемента

Ключевое слово	Код элемента	CODE10
Обедненный уран	D	620
Природный уран	N	
Обогащенный уран	E	
Унифицированный уран	U	
Плутоний	P	
Торий	T	

Состояние выборки  
Найдено записей: 6  
Страница: 1/1 <100

3.8. Справочники по ЯМ, РАО, ОЯТ - INP/BSU Electronic Laboratory

Светлана Ситова (Sveta, Elab-M1, Elab-M2, Elab-M3, Elab-readers, Elab-writers)  
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1.5.2. Код описания материала - химическая форма

Код описания материала	Ключевое слово	Пояснения
D	Элементный	Металл (исключая сплавы)
E	Фторид	Любой фторид, за исключением гексафторидов
G	Гексафторид	Гексафторид
J	Нитрат	Нитрат
K	Диуранат аммония	Диуранат аммония
Q	Диоксид	Двуокись
T	Триоксид	Трехокись
U	Окись (3/8)	Окись, имеющая формулу M3O8
R	Другие окиси	Другие окиси, включая смеси различных окисей одного и того же элемента
V	Оксиды, отравленные	Окиси или смеси окисей, содержащие нейтронный поглотитель
W	Карбид	Карбид
X	Оксид/графит	Смеси окисей с графитом (например, топливо для высокотемпературных реакторов)
Y	Карбид/графит	Смеси карбида с графитом (например, топливо для высокотемпературных реакторов)
Z	Нитрид	Нитрид
1	Органические соединения	Органические соединения
2	Другие соединения	Другие соединения, соли и их смеси
3	Сплавы алюминия	Алюминиевые сплавы и сплавы алюминия с кремния
4	Сплавы кремния	Сплавы кремния (кроме сплавов алюминия с кремнием) и силициды
5	Сплавы циркония	Циркониевые сплавы

Состояние выборки  
Найдено записей: 23  
Страница: 1/1 <100

Размер страницы: 100 Применить

Колонки: по умолчанию

Настройка колонок: + - # колонка

- Код описания материала
- Ключевое слово
- Пояснения

Выключить Применить

Сортировка: выключена

Настройка сортировки: + - # колонка

- Код описания материала
- Ключевое слово
- Пояснения

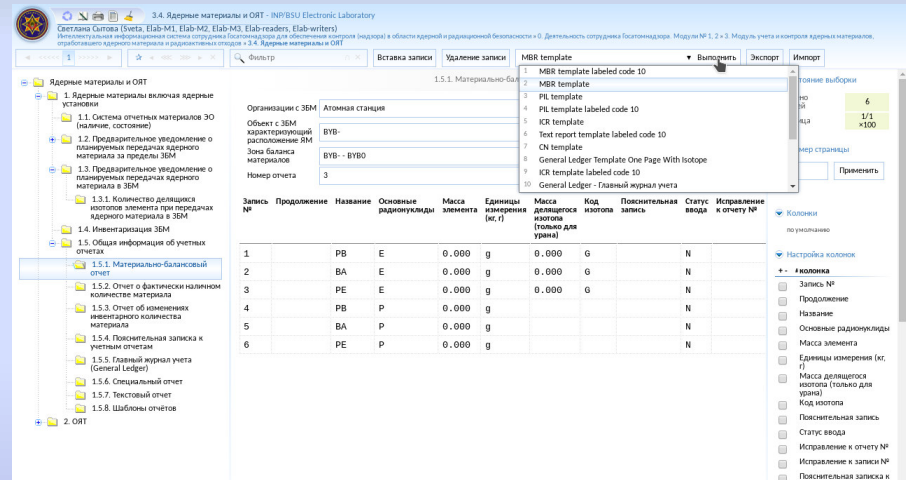
Выключить Применить

Фильтр: выключен

# NM Accounting and Control Module - Templates

## Templates:

- 1) MBR template labeled code 10;
- 2) MBR template fixed code 10;
- 3) PIL template fixed code 10;
- 4) PIL template labeled code 10;
- 5) ICR template fixed code 10;
- 6) ICR template labeled code 10;
- 7) Text report template labeled code 10;
- 8) CN template fixed code 10;
- 8) CN template labeled code 10;
- 9) General Ledger Template One Page With Isotope;
- 10) General Ledger.



The screenshot shows the 'Ядерные материалы и ОРТ' (Nuclear Materials and ORT) module. A list of templates is displayed on the right, including 'MBR template labeled code 10', 'PIL template', 'ICR template', 'Text report template labeled code 10', 'CN template', 'General Ledger Template One Page With Isotope', and 'General Ledger - Главный журнал учета'. Below the list is a table with columns: 'Запись №', 'Продолжение', 'Название', 'Основные радионуклиды', 'Масса элемента', 'Единицы измерения (кг, г)', 'Масса делящегося изотопа (только для учета)', 'Код изотопа', 'Послепильная запись в ведомости', 'Статус', and 'Исправление к отчету №'. The table contains 6 rows of data.

Запись №	Продолжение	Название	Основные радионуклиды	Масса элемента	Единицы измерения (кг, г)	Масса делящегося изотопа (только для учета)	Код изотопа	Послепильная запись в ведомости	Статус	Исправление к отчету №
1	PB	E		0.000 g		0.000 G			N	
2	BA	E		0.000 g		0.000 G			N	
3	PE	E		0.000 g		0.000 G			N	
4	PB	P		0.000 g					N	
5	BA	P		0.000 g					N	
6	PE	P		0.000 g					N	

# NM Accounting and Control Module - Templates

MBR-template-ShortDate.xlsx - LibreOffice Calc

File Edit View Insert Format Sheet Data Tools Window Help

Arnal 10 B U

K3

MATERIAL BALANCE REPORT (MBR) FORM R.03 (QCVS)										
COUNTRY		BY	REPORTING PERIOD: FROM 180201 TO 190201							
FACILITY		BYB-	REPORT NO. 3							
MATERIAL BALANCE AREA		BYB0	PAGE NO. .... OF ..... PAGES		SIGNATURE:					
ACCOUNTANCY DATA										
ENTRY NO.	CONTINUATION	ENTRY NAME		ELEMENT	WEIGHT OF ELEMENT	UNIT kg/g	WEIGHT OF FISSILE ISOTOPES (URANIUM ONLY) (G)	ISOTOPE CODE	CONCISE NOTE	CORRECTION NO.
1				P	0,00	g		0G		7
2		BA		P	0,00	g		0G		7
3		PE		P	0,00	g		0G		7
4		PB		P	0,00	g		0G		7
5		BA		P	0,00	g		0G		7
6		PE		P	0,00	g		0G		7

```
mbr-template.text10
001:0I/By;3#002:1/6#003:20190209#006:BELKOVSKAYA, BB#010:M#015:20180201/20190201#099:E/1#207:BYB-#307:BYB0#309:IN#411:PB#630:0.000#670:0.000#6
001:0I/By;3#002:2/6#003:20190209#006:BELKOVSKAYA, BB#010:M#015:20180201/20190201#099:E/2#207:BYB-#307:BYB0#309:IN#411:BA#630:0.000#670:0.000#6
001:0I/By;3#002:3/6#003:20190209#006:BELKOVSKAYA, BB#010:M#015:20180201/20190201#099:E/3#207:BYB-#307:BYB0#309:IN#411:PE#630:0.000#670:0.000#6
001:0I/By;3#002:4/6#003:20190209#006:BELKOVSKAYA, BB#010:M#015:20180201/20190201#099:E/4#207:BYB-#307:BYB0#309:IN#411:PB#700:0.000#6
001:0I/By;3#002:5/6#003:20190209#006:BELKOVSKAYA, BB#010:M#015:20180201/20190201#099:E/5#207:BYB-#307:BYB0#309:IN#411:BA#700:0.000#6
001:0I/By;3#002:6/6#003:20190209#006:BELKOVSKAYA, BB#010:M#015:20180201/20190201#099:E/6#207:BYB-#307:BYB0#309:IN#411:PE#700:0.000#6
```

```
mbr-template (1).text10
001:0I/By;$(RPT_NUM)#002:$(RECORD_NUM)/$(REC_COUNT)#003:$(DT_SUBMIT)#006:$(
(AUTHOR)#010:M#015:$(RPT_FROM)/$(RPT_END)#$(EXPLAN_CODE)10/207:$(LNAME)#307:
$(INFRASTRUCTURE_NAME)#309:$(IMP_STATUS_TEXT)#$(EXPLANATION_REC_CODE)10/411:
$(Название)#$(ELEM_C10)#$(ISOT_C10)
```

**Labeled code 10**

MATERIAL BALANCE REPORT (MBR) FORM R.03 (QCVS)										
COUNTRY		BY	REPORTING PERIOD: FROM \$(RPT_FROM) TO \$(RPT_END)							
FACILITY		\$(LNAME)	REPORT NO. \$(RPT_NUM)							
MATERIAL BALANCE AREA		\$(INFRASTRUCTURE)	PAGE NO. .... OF ..... PAGES		SIGNATURE:					
ACCOUNTANCY DATA										
ENTRY NO.	CONTINUATION	ENTRY NAME		ELEMENT	WEIGHT OF ELEMENT	UNIT kg/g	WEIGHT OF FISSILE ISOTOPES (URANIUM ONLY) (G)	ISOTOPE CODE	CONCISE NOTE	CORRECTION NO.
1				P	\$(3a)\$(1#)\$(Наз	g	\$(3a)\$(Масса элемент	\$(E)\$(Масса деляющ	\$(1#)\$(Испр	\$(И

**Fixed code 10**

# NM Accounting and Control Module – General Ledger

3.1. Учет ЯМ - INP/BSU Electronic Laboratory

Светлана Ситова (Svetla, EAB-M1, EAB-M2, EAB-M3, EAB-readers, EAB-writers)  
Информационная система поддержки сотрудников Госатомнадзора для обеспечения контроля (надзора) в области ядерной и радиационной безопасности + 0. Дельность: сотрудник Госатомнадзора. Модуль № 1.2 + 3. Модуль учета и контроля ядерных материалов, отработавшего ядерного материала и радиоактивных отходов + 3.1. Учет ЯМ

Вставка записи | Удаление записи | General Ledger - Главный журнал учета | Выполнить | Экспорт | Импорт

6.4. Главный журнал учета (General Ledger) - Результаты расчета

Номер отчета: -1000  
Код элемента: D - Обедненный уран

Номер отчета	Номер строки	Дата	Ссылка на документ	Вид изменения инвентарного количества ЯМ	Единицы измерения (кг, г)	Элемент	Коло-во УЕ	Прибавления	Уменьшения	Текущее инвентарное количество (баланс)	Прибавления изотопа	Уменьшения изотопа
-1000	1	150101	PIL		kg	D	0			0.000		
-1000	2	150503	ICR 93	RF	kg	D	1	63.500		63.500		
-1000	3	150503	ICR 93	SD	kg	D	1		63.500	0.000		
-1000	4	150503	ICR 93	RD	kg	D	1	63.500		63.500		
-1000	5	150503	ICR 93	SF	kg	D	1	63.500		0.000		
-1000	6	150503	ICR 93	SD	kg	D	1		31.000	-31.000		
-1000	7	150503	ICR 93	RD	kg	D	1	31.000		0.000		
-1000	8	150504	ICR 123	SD	kg	D	3	1.205	-1.205			
-1000	9	150522	ICR 93	RF	kg	D	1	63.500		62.295		
-1000	10	150522	ICR 93	RM	kg	D	5	61.500		0.795		
-1000	11	150522	ICR 93	RP	kg	D	4	49.200		49.995		
-1000	12	150522	ICR 93	RP	kg	D	1	12.300		62.295		
-1000	13	150523	ICR 93	GA	kg	D	1	14.000		76.295		

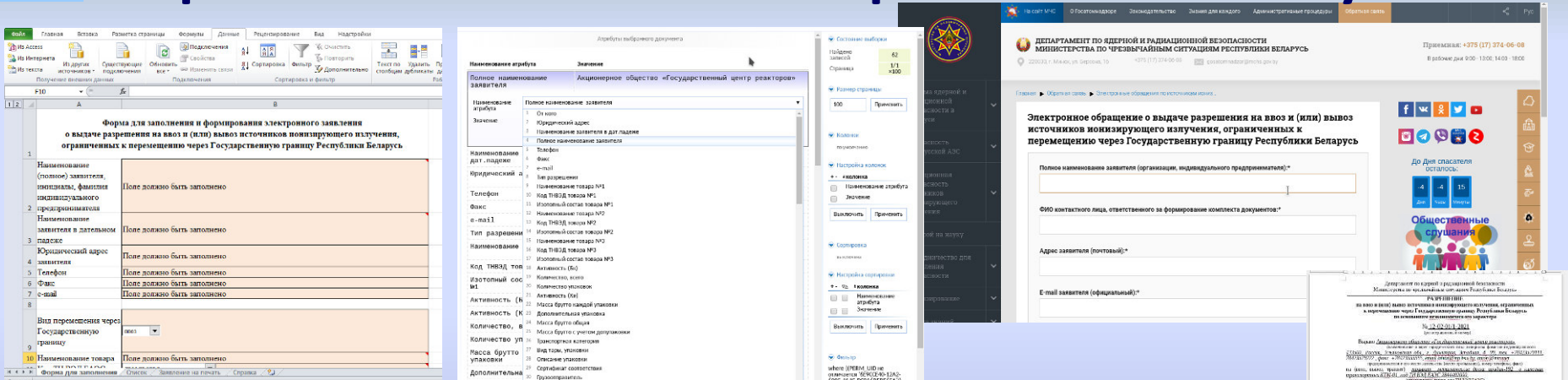
General Ledger Template With Isotope (2).xlsx - LibreOffice Calc

Файл | Правка | Вид | Вставка | Формат | Стили | Лист | Data | Сервис | Окно | Справка

Line	Date	References	IC Code	N of items	Increases	Decreases	Inventory	Isotope Inventory	N of items	
1										
2										
3										
4										
5										
6										
7	1	150101	PIL	0			0.000	0.000	0	
8	2	150503	ICR 93	RF	1	63.500	63.500	0.000	1	
9	3	150503	ICR 93	SD	1		63.500	0.000	0	
10	4	150503	ICR 93	RD	1	63.500	63.500	0.000	1	
11	5	150503	ICR 93	SF	1		63.500	0.000	0	
12	6	150503	ICR 93	SD	1		31.000	-31.000	0.000	-1
13	7	150503	ICR 93	RD	1	31.000		0.000	0	
14	8	150504	ICR 123	SD	3		1.205	-1.205	0.000	-3
15	9	150522	ICR 93	RF	1	63.500	62.295	0.000	-2	
16	10	150522	ICR 93	RM	5		61.500	0.795	0.000	-7
17	11	150522	ICR 93	RP	4	49.200	49.995	0.000	-3	
18	12	150522	ICR 93	RP	1	12.300	62.295	0.000	-2	
19	13	150523	ICR 93	GA	1	14.000	76.295	0.000	-1	
20	14	150526	ICR 93	SD	1		14.000	62.295	0.000	-2
21	15	150526	ICR 93	SF	1		63.500	-1.205	0.000	-3
22								-1.205	0.000	-2
23										



# Implementation of the concept – Information system



The screenshot displays three main components of the information system:

- Excel Form:** A Microsoft Excel spreadsheet titled "Форма для заполнения и формирования электронного заявления о выдаче разрешения на ввоз и (или) вывоз источников ионизирующего излучения, ограниченных к перемещению через Государственную границу Республики Беларусь". It contains fields for applicant details, permit type, and goods information, with orange error messages indicating required fields.
- Document List:** A window showing a list of documents with columns for name and value. The selected document is "Акционерное общество «Государственный центр реакторов» заявитель".
- Web Portal:** The official website of the State Border Service of the Republic of Belarus, featuring a form for "Электронное обращение о выдаче разрешения на ввоз и (или) вывоз источников ионизирующего излучения, ограниченных к перемещению через Государственную границу Республики Беларусь".

The mechanism for parsing emails and electronic documents, implemented in Submodule 2.10 "Import Export Permits" to automate the process of preparing permits for the import and (or) export of ionizing radiation sources restricted for movement across the State Border of the Republic of Belarus, allows to automatically parse the sent archive by categories of documents (application, copies of passports, permits, etc.), and the application form in Microsoft Excel format - by attributes (distinctive parameter of an Excel cell). The data from it fall into the corresponding journal of Submodule 2.10 . As a result, based on the applicant's data, the system automatically generates a draft permission or a draft reasoned refusal in docx format, which are sent for the Gosatomnadzor management to sign.



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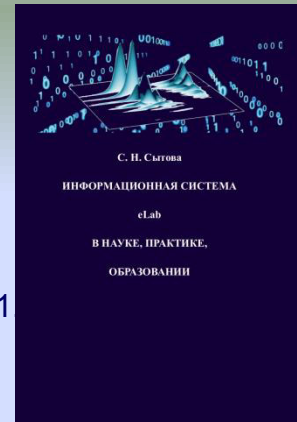
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It is better to be making the news than taking it.

*Sir Winston Leonard Spencer Churchill*