

# RTFDB & Possible links with NI-2050

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*NI-2050 Advisory Panel Meeting*

*25-26 September, 2017  
NEA HQ Boulogne*

## Outline

1. RTFDB – the current version
2. Updating of RTFDB/main results
3. The Role of RTFDB in NS- NEA- activities, external international projects
4. Potential of RTFDB to become the valuable NEA-tool and its link to NI-2050
5. New image of RTFDB – Artist view

## What is RTFDB?

### Research and Test Facilities Data Base<sup>\*)</sup>

2001: NSC initiated a study on R&D needs in nuclear science



2009: NSC Expert Group Report “Research and Test Facilities Required in Nuclear Science and Technology



### **RTFDB - the outcome of activity on R&D needs in NS**

#### **Goals:**

- to review and clarify the status and needs in experimental facilities for current and future needs in nuclear science and technologies;
- make links with existing NEA programmes of work.



NEA No. 6293

<http://www.oecd-nea.org/rtfdb/index.html>

<sup>\*)</sup> Developed by NEA with support from MEXT (Japanese Voluntary Contribution)

## 1. RTFDB – the current version

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### Research and test facilities database (RTFDB)

This database, set up by the NEA Expert Group on Needs of R&D Facilities in Nuclear Science, was established as part of the expert group's worldwide review of the status of research and test facilities in the field of nuclear science and technology. Information in the database was initially collected from the internet and other published sources before being verified by independent reviewers.

Accessing the database:

- [Guest login](#)
- [Working area access \(reviewers only. forgotten you password?\)](#)

#### Related reports

[Research and Test Facilities Required in Nuclear Science and Technology \(2009\)](#)

[Besoins d'installations de recherche et d'expérimentation en sciences et technologies nucléaires \(2009\)](#)

#### Related links

[Expert Group on Needs of R&D Facilities in Nuclear Science](#)

Email contact: [Jim Gulliford](#)

Last reviewed: 24 August 2011

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## 1. RTFDB – the current version

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 OECD-OCDE

### NEA Research and Test Facilities DataBase (RTFDB)

Search with known keywords

Browse keywords

[User manual](#)

To display all records quickly, click on the "search" button above, click on "search" again once the next page is displayed and then the button "display".

This displays the "overview of affiliations" tabulation. Details of a specific record can be displayed by clicking on the facility name. A contact form is available on the details page for feedback purposes.

Alternatively, the initial search page can be used for searches with multiple keywords entered in "select word(s)" or by using the pull-down lists in "select condition(s)". For further information click on "help" on the search page.

To review the classification of facilities, please browse the various categories listed by clicking on "directory". Two important categories are "facility type", which described the physical entity, and "application", which describes the discipline for which the facility is used, as well as brief explanations of each type.

#### Related links

[Expert Group on Needs of R&D Facilities in Nuclear Science.](#)

E-mail contact: Jim Gulliford ([jim.gulliford@oecd.org](mailto:jim.gulliford@oecd.org))

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### NEA Research and Test Facilities DataBase (RTFDB)

#### Search

[Top] > [Search]

[Help]

[Search] / [Directory]

#### Search Conditions Selected

All Records

Search

Clear All

Select your Search Condition(s) below and/or input Word(s) for full text search, before performing Search.

#### Select Word(s)

#### Select Condition(s)

Legal Name of Facility :	Abbreviated Name :	Status :
N/A <input type="button" value="Select"/>	N/A <input type="button" value="Select"/>	N/A <input type="button" value="Select"/>
Reactor Design Reference :	Application :	Facility Type :
N/A <input type="button" value="Select"/>	N/A <input type="button" value="Select"/>	N/A <input type="button" value="Select"/>
Country :	Operating Organization :	NEA Programme Cross Reference :
N/A <input type="button" value="Select"/>	N/A <input type="button" value="Select"/>	N/A <input type="button" value="Select"/>
External Cross Reference :		
N/A <input type="button" value="Select"/>		

## 1. RTFDB – the current version

### NEA Research and Test Facilities DataBase (RTFDB)

Search

[Top] > [Search]

[Help]

[Search] / [Directory]

Search Conditions Selected

All Records

Search

Clear All

Select your Search Condition(s) below and/or input Word(s) for full text search, before performing Search.

Select Word(s)

Select Condition(s)

- N/A
- Australia
- Austria
- Belarus
- Belgium
- Brazil
- Bulgaria
- Canada
- China
- Czech Republic
- Finland
- France
- Germany
- Greece
- Hungary
- India
- Israel
- Italy
- Japan
- Korea, Republic of
- Latvia
- Lithuania
- Mexico
- Netherlands
- Norway
- Poland

<input type="button" value="Select"/>	Abbreviated Name : <input type="text" value="N/A"/> <input type="button" value="Select"/>	Status : <input type="text" value="N/A"/> <input type="button" value="Select"/>
<input type="button" value="Select"/>	Application : <input type="text" value="N/A"/> <input type="button" value="Select"/>	Facility Type : <input type="text" value="N/A"/> <input type="button" value="Select"/>
<input type="button" value="Select"/>	Operating Organization : <input type="text" value="N/A"/> <input type="button" value="Select"/>	NEA Programme Cross Reference : <input type="text" value="N/A"/> <input type="button" value="Select"/>
<input type="button" value="Select"/>		

## 1. RTFDB – the current version

### NEA Research and Test Facilities DataBase (RTFDB)

#### Search

[\[Top\]](#) > [\[Search\]](#)

[\[Help\]](#)

[\[Search\]](#) / [\[Directory\]](#)

#### Search Conditions Selected

Country = **Japan**

Search

Clear All

Select your Search Condition(s) below and/or input Word(s) for full text search, before performing Search.

#### Select Word(s)

#### Select Condition(s)

Legal Name of Facility :

N/A

Abbreviated Name :

N/A

Status :

N/A

Reactor Design Reference :

N/A

Application :

- N/A
- ADS
- Accelerator Based Application
- Fuel Research
- Materials Research
- Neutron Application
- Nuclear Data Measurement
- Nuclear Heat Application
- Nuclear Safety
- Nuclear and Radiochemistry Research
- Reactor Development
- Thermal Hydraulic [NEW]

Facility Type :

N/A

Country :

1 item selected

NEA Programme Cross Reference :

N/A

External Cross Reference :

N/A



## 1. RTFDB – the current version

### NEA Research and Test Facilities DataBase (RTFDB) Search

[Search] / [Directory]

[Top] > [Search] [Help]

Search Conditions Selected

Application = <b>Materials Research</b> Country = <b>Japan</b>	<input type="button" value="Search"/>  <input type="button" value="Clear All"/>
---	---

Select your Search Condition(s) below and/or input Word(s) for full text search, before performing Search.

Select Word(s)

Select Condition(s)

<b>Legal Name of Facility :</b> <input type="text" value="N/A"/> <input type="button" value="Select"/>	<b>Abbreviated Name :</b> <input type="text" value="N/A"/> <input type="button" value="Select"/>	<b>Status :</b> <input type="text" value="N/A"/> <input type="button" value="Select"/>
<b>Reactor Design Reference :</b> <input type="text" value="N/A"/> <input type="button" value="Select"/>	<b>Application :</b> <input type="text" value="1 item selected"/> <input type="button" value="Select"/>	<b>Facility Type :</b> <input type="text" value="N/A"/> <input type="button" value="Select"/>
<b>Country :</b> <input type="text" value="1 item selected"/> <input type="button" value="Select"/>	<b>Operating Organization :</b> <input type="text" value="N/A"/> <input type="button" value="Select"/>	<b>NEA Programme Cross Reference :</b> <input type="text" value="N/A"/> <input type="button" value="Select"/>
<b>External Cross Reference :</b> <input type="text" value="N/A"/> <input type="button" value="Select"/>		

## Example Search Function Record Details

User level :

[Top] > [Search] > [Results] > [Overview of Affiliations] > [Details]

[Search] / [Directory]

**NEA I**

[Top] > [Search] > [Results] > [Overview of Affiliations] > [Details]

27 Record

Application Country

Detail:

- Details
- Details
- Details
- Details
- Details
- Details

### Record Details

Record No.	343
Legal name of facility	High Temperature Engineering Test Reactor
Abbreviated name	HTTR
Facility Type	Reactor, Critical Assembly or sub-Critical Assembly
Application	Reactor Development; Materials Research
Current purpose	To establish HTGR technology and nuclear heat utilization technology
Status	Operational
NEA Programme Cross Reference	LOFC
NEA Programme Cross Reference-URL	http://www.nea.fr/jointproj/lofc.htm
Other Cross Reference	
Other Cross Reference-URL	

[Search] / [Directory]

Overview of Affiliations :

Country	
	Japan
	Japan
	Japan
	Japan
	Japan
	Japan

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Joint projects

### OECD/NEA Loss of Forced Coolant (LOFC) Project

The Committee on the Safety of Nuclear Installations (CSNI) Task Group on Advanced Reactor Experimental Facilities (TAREF) was established in 2007 and issued a report on the experimental facilities for gas cooled reactor safety studies in June 2009. The programme concluded that actions should be taken to develop an international programme centred on the high-temperature engineering test reactor (HTTR) capabilities and focused on the safety issues identified in TAREF. The Japanese HTTR was identified as a unique resource: it is the only experimental high-temperature gas-cooled reactor (HTGR) facility available in the OECD countries context. It is a graphite moderated, helium cooled reactor that can reach temperature as high as 1600°C in some transient conditions. The LOFC experiments planned to study effects of reactor cavity cooling system (RCCS) performance reduction are highly relevant for safety assessments of advanced reactors such as high temperature reactor (HTR).

The present programme is formulated to investigate safety issues and specifically the anticipated transient without scram (ATWS) with occurrence of reactor re-criticality. The programme is devised to maximise the information deliverables for code validation for one of the most important safety aspects about reactor kinetics, core physics and thermal hydraulics. The test consists of three test cases, run one through three, whose results comparison will provide the incremental performance availability within the vessel cooling system (VCS) range. The experimental programme will provide an experimental database, which will be used to validate code predictive capability and accuracy of models. Phenomena coupled between reactor core physics and thermal hydraulics are to be investigated. The experimental programme and associated analytical activities will help to create a group among OECD/NEA member countries which share the need to maintain or improve the technical competence in reactor physics and thermal-hydraulics for safety evaluations of advanced gas cooled nuclear reactor.

The HTTR is a helium-cooled and graphite-moderated HTGR with the thermal power of 30 MW. The reactor outlet coolant temperature is

#### Photo Files

#### Last Upload of Files

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## Example of RTFDB/Directory option

### NEA Research and Test Facilities DataBase (RTFDB)

### Directory

[Top] > [Directory]

[Search] / [Directory]

[Country] [NEA Programme Cross Reference] [Application] [Facility Type] [Operating Organization] [Status]

#### Country

39 Categories hit

Index : [A] [B] [C] [F] [G] [H] [I] [J] [K] [L] [M] [N] [P] [R] [S] [T] [U]

#### Australia

Country	NEA Programme Cross Reference	Application	Facility Type
<a href="#">Austria</a>	<a href="#">NEA Programme Cross Reference</a>	<a href="#">Application</a>	<a href="#">Facility Type</a>
<a href="#">Belarus</a>	32 Categories hit Index : [C] [H] [I] [J] [L] [M] [N] [P] [R] [S] [T] [V] [W] [h]	11 Categories hit Index : [A] [F] [M] [N] [R] [T]	9 Categories hit Index : [A] [I] [L] [N] [R] [T]
<a href="#">Belgium</a>	<a href="#">CFD Benchmark</a> Nuclear safety, Computational Fluid Dynamics (CFD) Benchmark for invest	<a href="#">ADS</a> ex. Development of High Power Proton Accelerator, Spallat	<a href="#">Accelerator</a> ex. Spallation Neutron Source, Synchrotron Radiation Facility, Ion-beam
<a href="#">Brazil</a>	<a href="#">CPD</a>	<a href="#">Accelerator Based Application</a> ex. applications of lower energy proton, charged particles	<a href="#">Irradiation Facility</a> ex. Gamma Irradiator, Neutron Irradiator
<a href="#">Bulgaria</a>	<a href="#">CSNI</a>	<a href="#">Fuel Research</a> ex. Fuel Cycle Chemistry, Fuel Development and Testing, F	<a href="#">Laboratory Facility</a> ex. Analytical Laboratory, Chemistry Laboratory, Spectroscopy Laborator
<a href="#">Canada</a>	<a href="#">HLM Handbook</a>	<a href="#">Materials Research</a> ex. Materials Science, Materials Testing, Liquid Metal Test	<a href="#">Non-reactor Based Instrument</a> ex. Laser, Laser Driven Ion Beam, Mössbauer spectrometer
<a href="#">China</a>	<a href="#">HPPA</a>	<a href="#">Neutron Application</a> ex. Neutron beam, Neutron Radiography, Neutron Scatter	<a href="#">Nuclear and Radiochemistry Research</a> ex. Radiochemistry, Isotope Separation, Actinide Science
<a href="#">Czech Rep</a>	<a href="#">ICSBEP</a> Reactor physics, International Criticality Safety Benchmark Evaluation Proj	<a href="#">Nuclear Data Measurement</a> Nuclear Data Measurement	<a href="#">Radioactive Material Handling Facility</a> ex. Glove Box, Hot Cells, Shielded Cave Facility, Shielded Facility
<a href="#">Finland</a>	<a href="#">IFPE</a>	<a href="#">Nuclear Heat Application</a> ex. Nuclear production of hydrogen	<a href="#">Reactor Instrument</a> ex. Reactor Loop, Diffractometer, Isotope Separator on Line
<a href="#">France</a>	<a href="#">IRPhE</a>	<a href="#">Nuclear Safety</a> ex. Severe Accident Studies, Thermal Hydraulics, Reactor	<a href="#">Reactor, Critical Assembly or sub-Critical Assembly</a> ex. Reactor, Critical Assembly, Sub-critical Assembly,
<a href="#">Germany</a>	<a href="#">IRPhEP</a> Reactor physics, International Reactor Physics Benchmark Experiments Pro	<a href="#">Nuclear and Radiochemistry Research</a> ex. Radiochemistry, Isotope Separation, Actinide Science	<a href="#">Thermal Hydraulic Facility [NEW]</a>
<a href="#">Greece</a>	<a href="#">IRPhER</a>	<a href="#">Reactor Development</a> ex. Reactor Physics, Material testing by reactor, FR and H	Index : [A] [I] [L] [N] [R] [T]
	<a href="#">JEFF</a>	<a href="#">Thermal Hydraulic [NEW]</a>	<a href="#">Thermal Hydraulic [NEW]</a>
		Index : [A] [F] [M] [N] [R] [T]	Index : [A] [F] [M] [N] [R] [T]

## 2. Updating of RTFDB

### Major Steps

- **September-October 2013 - Internship of KAIST<sup>1)</sup>**
  - Updates on broken links, fixing errors, links with RRDB, e-mail for confirmation of information
- **2014 - New entries are available from Russia**
- **September-December 2015 - Internship of KAIST<sup>2)</sup>**
  - Updates on broken links, fixing errors
  - Linkage between the RTFDB and **IDAT** and **DICE**
- **January-July 2017 - Internship of NRNU MEPhI<sup>3)</sup>**

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<sup>1)</sup> Under supervision of Akifumi YAMAJI

<sup>2)</sup> Under supervision of Tatiana IVANOVA

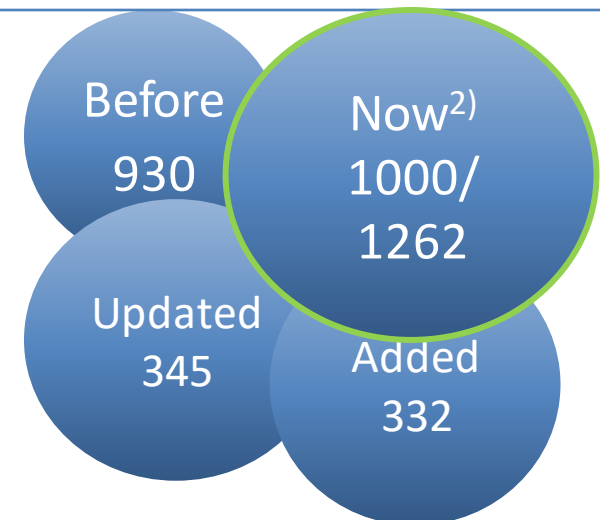
<sup>3)</sup> Anton SMIRNOV under supervision of Elena POPLAVSKAIA

## 2. Updating of RTFDB – 2017/Main results (2)

NEA Activities	ADDED	UPDATED
Updating information on facilities, which were added to RTFDB from <b>IDAT</b> and <b>DICE</b> <sup>1)</sup>	62	-
<b>TIETHYS</b> (NSC) – Thermal-Hydraulic DB	132	31
<b>IFPE</b> (NSC) – Working Party on Scientific Issues of Reactor Systems (WPRS)	2	2
<b>LBE Handbook</b> (NSC) – Working Party on Scientific Issues of the Fuel Cycle (WPFC) NEA No. 7268	17	33
<b>SATIF</b> (NSC) – WPRS NEA No. 3052; NEA No. 6898	-	6
<b>TAREF</b> (CSNI) – Task Group on Advanced Reactor Experimental Facilities NEA No. 6864; NEA No. 6908	-	26
<b>SFEAR</b> (CSNI) – Senior Group of Experts on Nuclear Safety Research (SESAR) NEA No. 6158	-	45
Other	65	93

External Activities	ADDED	UPDATED
<b>ESNII+ - Euratom</b>	27	119
<ul style="list-style-type: none"> <li>• Deliverable D321: Qualification and testing infrastructure for irradiation programme</li> <li>• Deliverable D311: Experimental facilities dedicated to ESNII concepts</li> <li>• Working documentation (Excel sheets)</li> </ul>		
<b>IAEA RRDB</b> Web-site	27	18

### RTFDB Entries



<sup>1)</sup> T. Ivanova/Minjung Sung work 2015

<sup>2)</sup> 1000 – public level (code limit)/ 1262 – administration level

## 2. Updating of RTFDB – 2017/Main results

### NEA Reports

- NEA No. 6864 Experimental Facilities for Gas-cooled Reactor Safety Studies
- NEA No. 6908 Experimental Facilities for Sodium Fast Reactor Safety Studies
- NEA No. 7268 Handbook on Lead-bismuth Eutectic Alloy and Lead Properties, Materials Compatibility, Thermal-hydraulics and Technologies
- NEA No. 6898 Shielding Aspects of Accelerators, Targets and Irradiation Facilities – SATIF-10
- NEA No. 6158 Nuclear Safety Research in OECD Countries
- NEA IFPE Working documentation
- NEA THDB Working documentation
- NEA WPFC Working documentation

### External Reports

- ESNII Plus Deliverable D311 Experimental facilities dedicated to ESNII concepts
- ESNII Plus Deliverable D321 Qualification and testing infrastructure for irradiation programme
- ESNII Plus Working documentation
- IAEA RRDB Public documentation and website
- Information from operating organizations

## 2. Updating of RTFDB – 2017/Main results (3)

### Further improvement of RTFDB functionality

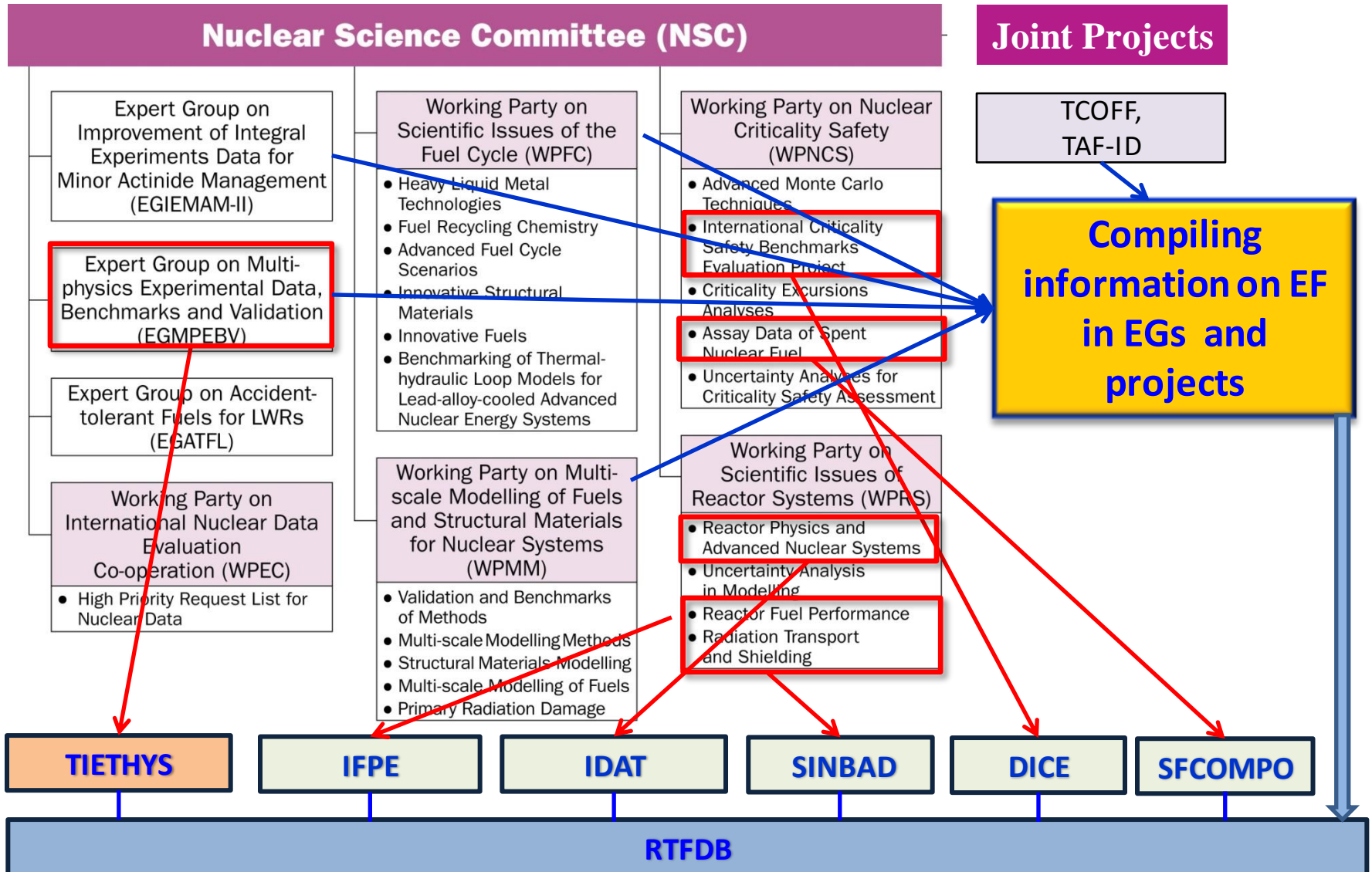
#### Restrictions:

- No possibility to change RTFDB programming language, no manual, the help from Japan is welcome
- Restrictions of number of fields, no possibility to add additional fields to extend information on experimental facilities in kind of tables, figures
- ! Restriction on adding new entries. “Search” option can not work with number of entries exceeding 1000
- ! Very fragile, no backup to recover it in case of an emergency

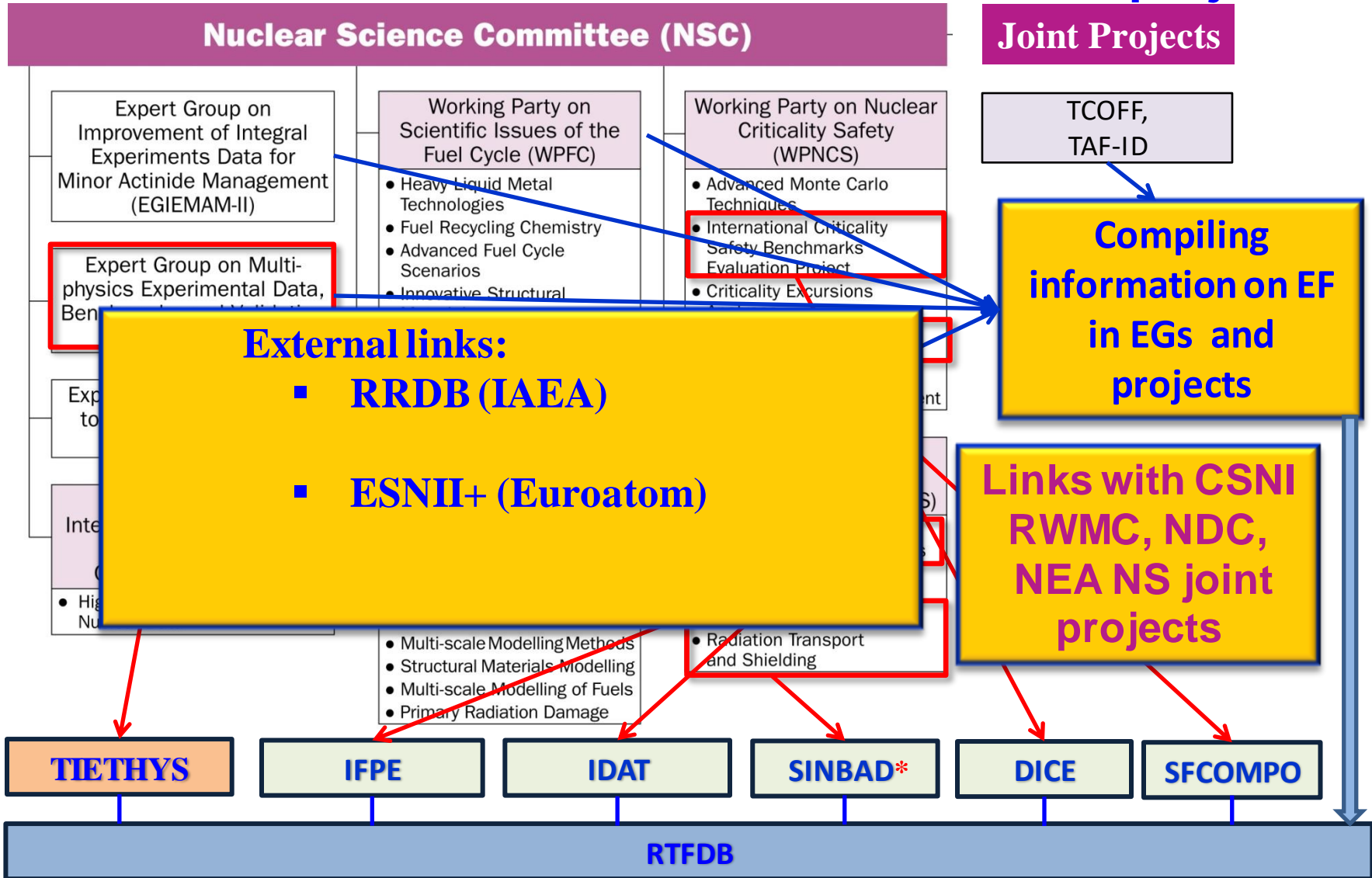
**! Modernisation of RTFDB architecture and new logical design are necessary**



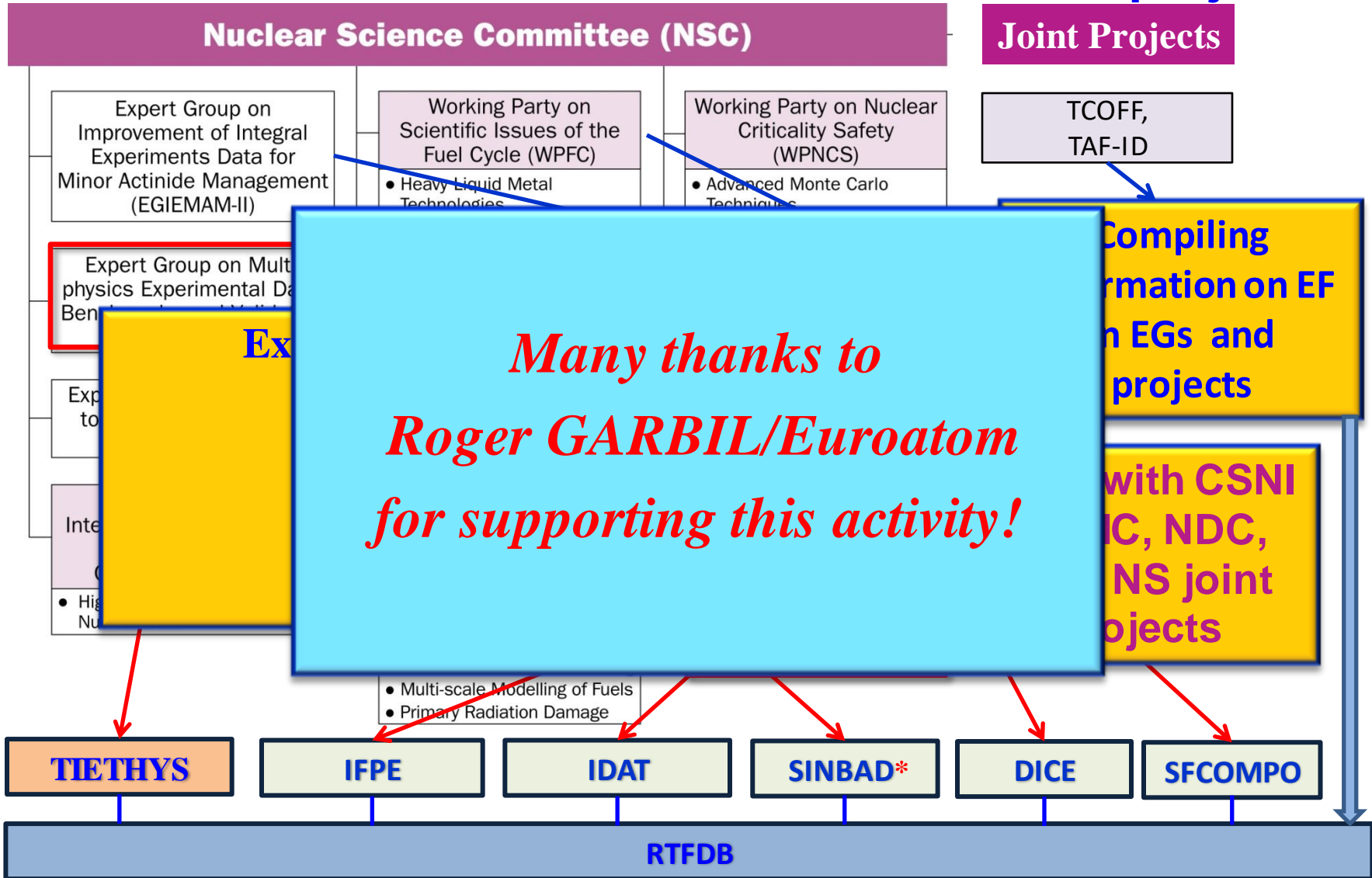
## 3. Role of RTFDB in NS activities



## 3. Role of RTFDB in NEA activities & external Int projects



## 3. Role of RTFDB in NEA activities & external Int projects



## 4. Potential to become the valuable NEA-tool

### RTFDB 2008

#### Goals:

- ❑ to review and clarify the status and availability of experimental facilities.
- ❑ to make links with existing NEA programmes of work.



### RTFDB 2017

#### Goals:

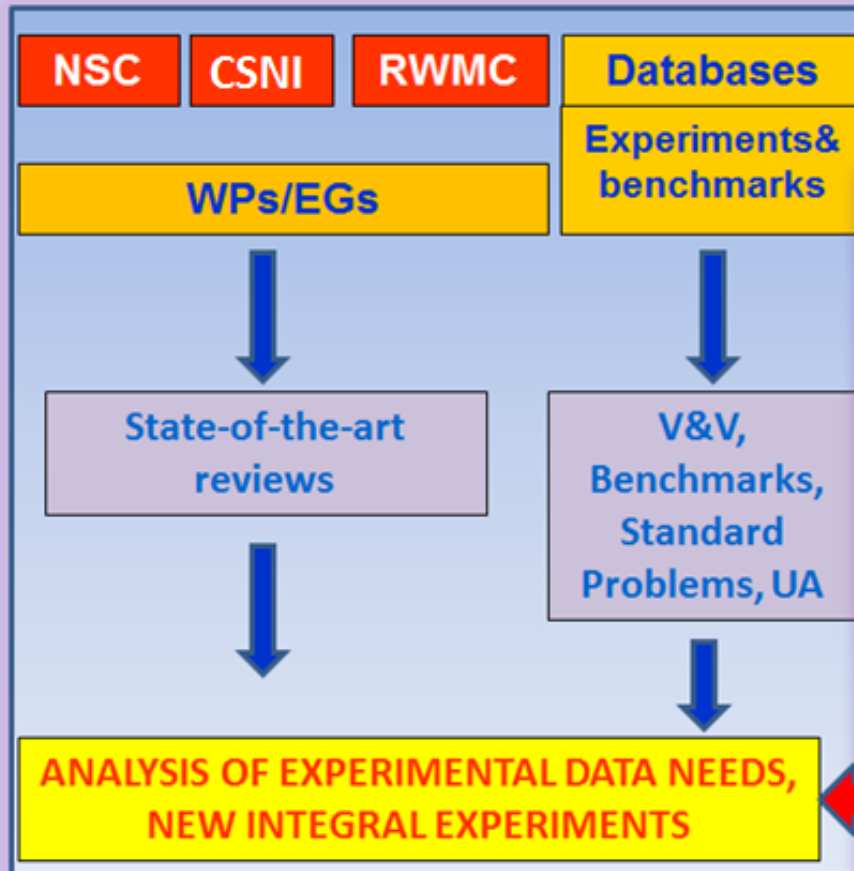
- ❑ to have an efficient tool for searching information on experimental facilities available worldwide, experiments have been done and their evaluations stored in NEA databases and reports



- **Improve the interface, work on new image and architecture of RTFDB**
- **Updating information on a regular basis**
- **Continue work on adding new entries and links**

## 4. How RTFDB could help the NI-2050, infrastructure issues?

### Identifying experimental needs...



### RTFDB –

could be efficient tool for searching experimental facilities meeting the future experimental needs

#### RTFDB

- Review of existing research and test facilities (RTF) in the world;
- Goals and applications of RTF;
- Description of experiments fulfilled;
- Availability of experiments/benchmarks;
- Future experimental programmes;
- Availability of RTF for carrying out new experiments.

## 4. How RTFDB could help the NI-2050, infrastructure issues?

### NI-2050

- Identifying the challenges in innovative nuclear fission technologies, the gaps and potential bottlenecks in their deployment
- Where are the experiments are necessary/which experiments are available
- Which experimental facilities are available for new experiments



### RTFDB

- Which experimental facilities are available for new experiments
- Contact information



- Requirements to future RTFDB design
- Providing information on experimental facilities to RTFDB

## 4. How RTFDB could help the NI-2050, infrastructure issues?

### Example -ATFL-project

Advanced Test Reactor (ATR)

Transient Reactor Test Facility (TREAT)

High Flux Isotope

BR-2 Materials

Halden Reactor

CABRI

Jules Horowitz

Nuclear Safety

Hi-flux Advanc

HFR Materials Test Reactor

LVR-15 Research reactor

**All these reactors are in the RTFDB**

**We need some key words related to ATFL - project to identify other experimental facilities in RTFDB available for tasks of the project**

## 4. How RTFDB could help the NI-2050, infrastructure issues?

### Example -Modelling-Simulation (multiscale/physics) and Experimental Validation

- NS Databases and handbook **ICSBEP** (WPNCs) and **IRPhEP** (WPRS)
- New **TIETHYS** (under development)
- Benchmarks and methodologies for evaluation of benchmarks, methodologies for validation procedures and quantifying uncertainties
- **EGMPEBV** - providing guidance on validation of complex multi-physics codes and identifying new necessary experiments



## 4. How RTFDB could help the NI-2050, infrastructure issues?

### Example -Modelling-Simulation (multiscale/physics) and Experimental Validation

- NS Data (WPRS)
  - New TIE
  - Benchmark methods, uncertainty
  - EGMPE physics
- RTFDB has links to all mentioned databases as well as links to NEA Nuclear Science and Nuclear Safety reports published where the experimental facilities are mentioned**
- Thus, RTFDB could serve as “bridge” between the users and the NEA databases and Science Services**
- EP  
rks,  
multi-

## 5. New image of RTFDB

The screenshot shows the old website interface for the Research and Test Facilities Database (RTFDB). It features a navigation menu with links like Home, About Us, News, Work Areas, Data Bank, Publications, and Delegates' Area. The main content area includes the NEA logo, a search bar, and a heading for the RTFDB. Below the heading, there is a brief description of the database, a section for 'Accessing the database' with links for 'Guest login' and 'Working area access', and 'Related reports' and 'Related links' sections. The footer contains copyright information for OECD.




The screenshot shows the new IAEA RRDB (Research Reactor Database) website interface. It features a blue header with the IAEA logo and 'RRDB Research Reactor Database'. The navigation menu includes Home, By Location, By Category, By Utilisation, Summary Reports, Sign In, and Register. The main content area has a 'Location Filter' dropdown with 'All Countries' selected, a 'Reactor Name' search box, and a 'Reactor Status' filter with options like PLANNED, UNDER CONSTRUCTION, OPERATIONAL, etc. There are 'Find' and 'Reset Filter' buttons. Below the filters, a world map shows 782 reactors found, with a 5000 km scale bar. At the bottom, a table summarizes the reactor counts by status and region.

Status	Developed Countries	Developing Countries	All Countries
PLANNED	3	7	10
UNDER CONSTRUCTION	5	4	9
OPERATIONAL	136	82	218
TEMPORARY SHUTDOWN	11	11	22

## 5. New image of RTFDB – Artist View

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**NEA**  
NUCLEAR ENERGY AGENCY

### RTFDB

#### Research and test facilities database (RTFDB)

Facilities versus Reactor types



**OECD**  
BETTER POLICIES FOR BETTER LIVES

Home

Country

Facility Type

Application

Area of research

Reactor design reference

NEA DBs and Projects

Industrial and Scientific Programmes

**Facility name**

Search

AVR

ASTRA

BETCY

BFS1

BFS2

BR2

BOR60

EOLE

FCA

HFR

KRITZ

LR0

LOFT

MAPLE

MINERVE

**Reactor type**

(BWR) - Boiling Water Reactor

(FUND) - Fundamental

(GCFR) - Gas Cooled (Fast) Reactor

(GCR) - Gas Cooled (Thermal) Reactor

(HWR) - Heavy Water Moderated Reactor

(LMFR) - Liquid Metal Fast Reactor

(LWR) - Light Water Moderated Reactor

(MSR) - Molten Salt Reactor

(PWR) - Pressurized Water Reactor

(RBMK) - RBMK Reactor

(SPACE) - SPACE Reactors

(VVER) - VVER Reactors

**Facility type**

Accelerator

Irradiation facility

Laboratory facility

Non-reactor based instrument

Nuclear and radiochemistry research

Radioactive material handling facility

Reactor instrument

Reactor, critical assembly, subcritical assembly

Thermohydraulic Facility

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### RTFDB

Research and test facilities database (RTFDB)



BETTER POLICIES FOR BETTER LIVES

**Facilities versus Reactor types**

**Facility name**

**Reactor type**

- (BWR) - Boiling Water Reactor
- (FUND) - Fundamental
- (GCFR) - Gas Cooled (Fast) Reactor
- (GCR) - Gas Cooled (Thermal) Reactor
- ) - Heavy Water Moderated Reactor
- ) - Liquid Metal Fast Reactor
- ) - Light Water Moderated Reactor
- ) - Molten Salt Reactor
- ) - Pressurized Water Reactor
- ◊ - RBMK Reactor
- ΣE) - SPACE Reactors
- ) - VVER Reactors

**Facility type**

- Accelerator
- Irradiation facility
- Laboratory facility
- Non-reactor based instrument
- Nuclear and radiochemistry research
- Radioactive material handling facility
- Reactor instrument
- Reactor, critical assembly, subcritical assembly
- Thermohydraulic Facility

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**Application**

- Neutron Application
- Nuclear data measurements
- Neutron therapy
- Fuel and Material Research
- Isotope production
- Teaching/Training
- Innovative reactor development

**Application**

12 Categories hit

Index : [A] [F] [M] [N] [R] [S] [T]

**ADS**  
ex. Development of High Power Proton Accelerator, Spallation Target, Sub-critical Core, Liquid Metal Coolant

**Accelerator Based Application**  
ex. applications of lower energy proton, charged particles and electron accelerators

**Fuel Research**  
ex. Fuel Cycle Chemistry, Fuel Development and Testing, PIE, Transmutation, Partitioning

**Materials Research**  
ex. Materials Science, Materials Testing, Liquid Metal Testing

**Neutron Application**  
ex. Neutron beam, Neutron Radiography, Neutron Scattering, Neutron Activation Analysis

**Nuclear Data Measurement**  
Nuclear Data Measurement

**Nuclear Heat Application**  
ex. Nuclear production of hydrogen

**Nuclear Safety**  
ex. Severe Accident Studies, Thermal Hydraulics, Reactor Control, Coolant Issues

**Nuclear and Radiochemistry Research**  
ex. Radiochemistry, Isotope Separation, Actinide Science

**Reactor Development**  
ex. Reactor Physics, Material testing by reactor, FR and HTR development

**Safety [NEW]**

Email contact: [Jim Gulliford](mailto:Jim.Gulliford@nea.gov.uk)

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Home Country Facility Type Application Area of research Reactor design reference NEA DBs and Projects Industrial and Scientific Programmes

Facility name  Search

Reactor type  
AVR  
ASTRA  
BETCY  
BFS1  
BFS2  
BR2  
BOR60  
EOLE  
FCA  
HER  
(BWR) - Boiling Water Reactor  
(FUND) - Fundamental  
(GCFR) - Gas Cooled (Fast) Reactor  
(GCR) - Gas Cooled (Thermal) Reactor  
(HWR) - Heavy Water Moderated Reactor  
(LMFR) - Liquid Metal Fast Reactor  
(LWR) - Light Water Moderated Reactor  
(MSP) - Molten Salt Reactor

Facility type  
Accelerator  
Irradiation facility  
Laboratory facility  
Non-reactor based instrument  
Nuclear and radiochemistry research  
Radioactive material handling facility  
Reactor instrument  
Reactor, critical assembly, subcritical  
hydraulic Facility

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Particle transport and neutronics  
Fundamental Physics/Nuclear data  
Thermal-Hydraulics  
Technologies of structural material and coolants  
Fuel behaviour  
Safety/accidental processes  
Fuel cycle technologies and RW management

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Country

Facility Type

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Area of research

Reactor design reference

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- (LWR) - Light Water Moderated Reactor
- (MSR) - Molten Salt Reactor
- (PWR) - Pressurized Water Reactor
- (RBMK) - RBMK Reactor
- (SPACE) - SPACE Reactors
- (VVER) - VVER Reactors

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Country

Facility Type

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Reactor design reference

NEA DBs and Projects

Intern.Scientific and Indust. Programmes

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**Facility name**

- AVR
- ASTRA
- BETCY
- BFS1
- BFS2
- BR2
- BOR60
- EOLE
- FCA
- HFR
- KRITZ
- LR0
- LOFT
- MAPLE
- MINERVE

**Reactor type**

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Continue work on

- searching information on experimental facilities and experiments carried out at the facilities (NEA reports, international and national reports)
- providing links in RTFDB to NEA projects and reports, databases.
- updating old entries in RTFDB and updating URL, (updated ~500 entries)
- Improving the RTFDB structure and adapting for NI-2050 needs
- Work on a draft database logical design and functional specification for RTFDB-2.

**Your comments, vision, contribution are very welcome!**



# Thank you very much for your attention!

