

## Welcome to IAEA CONNECT



IAEA Headquarters in Vienna, Austria

CONNECT - Connecting the Network of Networks for Enhanced Communications and Training.  
An internet based collaboration platform enabling timely access to needed technical expertise and quality training resources.

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#### NEWS

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## Join a network and enjoy what CONNECT has to offer

The networks/communities of practice currently available on CONNECT are:



**bDN** – on beta-delayed neutron emission



**CGULS** – on uranium legacy sites



**DISPONET** – on low level radioactive waste disposal



**ENVIRONET** – on environmental remediation



**ICT** – on instrumentation and control systems



**IDN** – on decommissioning



**LABONET** – on radioactive waste characterization



**MSN** – on nuclear management systems



**NKM** – on nuclear knowledge management



**SFM** – on spent nuclear fuel management



**URF** – on geological disposal

## Welcome to IAEA CONNECT

Connecting the Network of Networks for Enhanced Communication and Training (CONNECT) is a web-based platform available to all IAEA professional networks or communities of practice. CONNECT's key objective is to facilitate collaboration, sharing of information and experience both within and among several networks. Aiming at capacity building, it supports on-line interactions such as discussion forums and cooperative document development, and enables the sharing of experience and expertise through 'lessons learned' and direct consultation between participants.

CONNECT is the gateway for interconnecting existing and planned IAEA networks. It enables an increased participation from individuals and organizations. It provides access to additional sources of information that complement existing training workshops and meetings. Some of the features participants of the IAEA Networks can find on CONNECT are:

- E-Learning: nuclear education and training, on demand video, archived presentations and seminars;
- Expert search function;
- Library of documents, presentations, videos, software tools, glossaries and other resources;
- Discussion forums;
- Resources, including calendar of meetings and events, training courses, webinars and meeting workspaces;
- Powerful search engine retrieving information throughout the whole platform.

The IAEA CONNECT platform is a project supported through the IAEA's Technical Cooperation Programme with additional funding from the European Commission. It can be accessed on: <http://nucleus.iaea.org/sites/CONNECT>.

## beta-Delayed Neutron Emission (bDN)



Delayed neutron data are essential for reactor kinetics and safety where excessively large uncertainties in the data used in reactor calculations can lead to costly conservatism in the design and operation of reactor control systems. They are also necessary for applications involving non-invasive monitoring of nuclear reactors and for nuclear sciences in general. Since the last compilation of beta-delayed neutron data was published in 2002, progress has been made in the production/identification of delayed neutron precursors, and a wealth of data has been published which however, is not yet included in any database.

The bDN is a coordinated effort to create a reference database for beta-delayed neutron emission which contains both a compilation of existing data and recommended evaluated data. The database is available to the user community to enhance Member States knowledge in the fields of nuclear energy, safeguards, spent fuel and waste management, and nuclear sciences. Other specific objectives of this project include the improvement of systematics and theoretical models, and benchmarking of the bDN data against integral observables such as average number of delayed neutrons and group constants in 6- and 8-format.

More information? Contact [bDN.Contact-Point@iaea.org](mailto:bDN.Contact-Point@iaea.org).

<sup>102</sup> Sn	<sup>103</sup> Sn	<sup>104</sup> Sn	<sup>105</sup> Sn	<sup>92</sup> Rb	n 55 z 37	<sup>110</sup> Sn	<sup>111</sup> Sn	<sup>112</sup> Sn
<sup>104</sup> In	<sup>105</sup> In	<sup>106</sup> In	<sup>107</sup> In	<b>Rubidium</b>		<sup>108</sup> In	<sup>109</sup> In	<sup>110</sup> In
<sup>108</sup> Cd	<sup>109</sup> Cd	<sup>110</sup> Cd	<sup>111</sup> Cd	$T_{1/2}$ or $\Gamma$	4.48 s 0.03	<sup>108</sup> Cd	<sup>109</sup> Cd	<sup>110</sup> Cd
<sup>109</sup> Ag	<sup>110</sup> Ag	<sup>111</sup> Ag	<sup>112</sup> Ag	$\Delta$ (keV)	-74772.524 6.128	<sup>107</sup> Ag	<sup>108</sup> Ag	<sup>109</sup> Ag
<sup>106</sup> Pd	<sup>107</sup> Pd	<sup>108</sup> Pd	<sup>109</sup> Pd	$\text{Bind}/A$ (keV)	8569.423 0.067	<sup>106</sup> Pd	<sup>107</sup> Pd	<sup>108</sup> Pd
<sup>98</sup> Rh	<sup>99</sup> Rh	<sup>100</sup> Rh	<sup>101</sup> Rh	Mass ( $\mu$ AMU)	91919728.389 6.579	<sup>105</sup> Rh	<sup>106</sup> Rh	<sup>107</sup> Rh
<sup>96</sup> Ru	<sup>97</sup> Ru	<sup>98</sup> Ru	<sup>99</sup> Ru	Q $\beta$ (keV)	-6481.48 6.90	<sup>104</sup> Ru	<sup>105</sup> Ru	<sup>106</sup> Ru
<sup>97</sup> Tc	<sup>98</sup> Tc	<sup>99</sup> Tc	<sup>100</sup> Tc	Q $\beta$ (keV)	8094.868 6.421	<sup>103</sup> Tc	<sup>104</sup> Tc	<sup>105</sup> Tc
<sup>94</sup> Mo	<sup>95</sup> Mo	<sup>96</sup> Mo	<sup>97</sup> Mo	Q $\beta$ (keV)	-6003.205 6.697	<sup>102</sup> Mo	<sup>103</sup> Mo	<sup>104</sup> Mo
<sup>93</sup> Nb	<sup>94</sup> Nb	<sup>95</sup> Nb	<sup>96</sup> Nb	Sp (keV)	11087.53 6.52	<sup>101</sup> Nb	<sup>102</sup> Nb	<sup>103</sup> Nb
<sup>92</sup> Zr	<sup>93</sup> Zr	<sup>94</sup> Zr	<sup>95</sup> Zr	Decay	$\beta$ - 100%	<sup>100</sup> Zr	<sup>101</sup> Zr	<sup>102</sup> Zr
<sup>91</sup> Y	<sup>92</sup> Y	<sup>93</sup> Y	<sup>94</sup> Y		$\beta$ - n 0.0107 5%	<sup>99</sup> Y	<sup>100</sup> Y	<sup>101</sup> Y
<sup>91</sup> Sr	<sup>92</sup> Sr	<sup>93</sup> Sr	<sup>94</sup> Sr	<b>Major radiations</b>		<sup>98</sup> Sr	<sup>99</sup> Sr	<sup>100</sup> Sr
<sup>90</sup> Rb	<sup>91</sup> Rb	<sup>92</sup> Rb	<sup>93</sup> Rb	Type keV %		<sup>97</sup> Rb	<sup>98</sup> Rb	<sup>99</sup> Rb
<sup>89</sup> Kr	<sup>90</sup> Kr	<sup>91</sup> Kr	<sup>92</sup> Kr	$\beta$ -	3719.4 95.2	<sup>96</sup> Kr	<sup>97</sup> Kr	<sup>98</sup> Kr
<sup>88</sup> Br	<sup>89</sup> Br	<sup>90</sup> Br	<sup>91</sup> Br		3320.7 1.0	<sup>95</sup> Br	<sup>96</sup> Br	<sup>97</sup> Br
<sup>87</sup> Se	<sup>88</sup> Se	<sup>89</sup> Se	<sup>90</sup> Se	$\gamma$	814.98 3.2	<sup>94</sup> Se	<sup>95</sup> Se	
<sup>86</sup> As	<sup>87</sup> As	<sup>88</sup> As	<sup>89</sup> As		2820.6 0.60	<sup>93</sup> As	<sup>94</sup> As	
<sup>85</sup> Ge	<sup>86</sup> Ge	<sup>87</sup> Ge	<sup>88</sup> Ge			<sup>92</sup> Ge	<sup>93</sup> Ge	
<sup>84</sup> Ga	<sup>85</sup> Ga	<sup>86</sup> Ga	<sup>87</sup> Ga			<sup>91</sup> Ga	<sup>92</sup> Ga	
<sup>83</sup> Zn	<sup>84</sup> Zn					<sup>90</sup> Zn	<sup>91</sup> Zn	
<sup>82</sup> Cu	<sup>83</sup> Cu					<sup>89</sup> Cu	<sup>90</sup> Cu	

## Coordination Group for Uranium Legacy Sites (CGULS)



The IAEA Member States of Central Asia, and the international community have a strong interest in the environmentally sound, socially responsible, and systematic management of risks associated with uranium production legacy sites. The remediation activities should be consistent with international standards, recommendations and good practice, and comply with national regulatory requirements. Following the growing demand from Member States and a number of international organizations for technical coordination and assistance in the planning and preparation for remediation of uranium legacy sites, a network has been established to increase efficiency in sharing international experience in the area. CGULS brings together those national and international organizations involved in uranium legacy sites to exchange technical information, brief on current and future project plans. The aim is to provide an integrated coordinated approach to optimize resources and maximize the impact of risk reduction at such legacy sites.

These activities also include: expert services and advice to Member States and international organizations in support of efforts to develop comprehensive environmental impact assessments and feasibility studies for legacy uranium production sites; technical oversight and support in the field; reinforcing regulatory framework by supporting national and international initiatives consistent with IAEA Safety Standards.

The platform offers general and site specific material on the site characterization, remediation planning, regulatory documents and other information gained from the regional experience and international best practices.

More information? Contact [CGULS.Contact-Point@iaea.org](mailto:CGULS.Contact-Point@iaea.org).

## International Low Level Waste Disposal Network (DISPONET)



Following the growing demand from Member States for assistance in disposal of low and intermediate level radioactive waste, a network has been established to increase efficiency in sharing international experience in the area. DISPONET is intended to bring together planners, developers and operators of disposal facilities who wish to steadily improve international practices and approaches in managing low and intermediate level waste.

DISPONET objectives are:

- To coordinate support to organizations or Member States with less advanced programmes for disposal of low level waste, by making available the relevant skills, knowledge, managerial approaches and expertise from Member States with operating disposal facilities;
- To facilitate information and experience sharing amongst organizations with advanced designs and disposal facilities in operation;
- To organize training and demonstration activities with a regional or thematic focus providing hands-on, user-oriented experience and advising on proven technologies;
- To create a forum to receive expert advice and technical guidance for the Agency programme on low level waste disposal; and
- To encourage knowledge transfer regarding good practices in low level waste disposal.

More information? Contact [DISPONET.Contact-Point@iaea.org](mailto:DISPONET.Contact-Point@iaea.org).

## Network of Environmental Management and Remediation (ENVIRONET)



Radiologically contaminated sites continue to exist all over the world. They were originated by past activities that were never subjected to regulatory control or that were regulated, but not in accordance with current international standards. Contaminated sites may have also resulted from nuclear and/or radiological accidents. These sites can cause undue exposure of members of the public to ionizing radiation.

A number of remediation methods have been developed worldwide. They apply to different contamination situations and environmental media varying in terms of sophistication and costs. The selection process must be made on a case-by-case basis. In a remediation programme all steps need to be articulated in a reasonable way and backed up by a sound decision making process that will avoid unnecessary expenditure of resources and waste of time.

Quite often, the implementation of environmental remediation programmes may be hindered by constrained human and financial resources and scarce expertise. However, experience has shown that with appropriate planning and dedicated assistance remedial actions are more likely to be successfully implemented. The interaction of inexperienced with experienced countries facilitated by the IAEA may lead to better conditions for real implementation of projects and lessons learned. Countries may be inspired to reproduce (after necessary adaptation to local conditions and constraints) the experience gained by others.

As such, the ENVIRONET is aimed at promoting the adoption of good practices in environmental management and remediation by providing a platform for exchanging experience, constructing partnerships, developing training materials and implementing dedicated projects in a sustainable way.

More information? Contact [ENVIRONET.Contact-Point@iaea.org](mailto:ENVIRONET.Contact-Point@iaea.org).

## I&C Technologies (ICT)



The instrumentation and control (I&C) system architecture, together with plant operations personnel, serves as the "central nervous system" of a nuclear power plant (NPP). Through its various constituent elements (e.g. equipment, modules, sensors, transmitters, redundancies, actuators, etc.), the plant I&C system senses basic physical parameters, monitors performance, integrates information, and makes automatic adjustments to plant operations as necessary. It also responds to failures and off-normal events, thus ensuring goals of efficient power production and safety.

To improve communication and cooperation among international experts in the NPP I&C technology and related disciplines throughout the world, the IAEA initiated the Network of Excellence for supporting the use of Instrumentation and Control Technologies (NE-ICT). The high-level objectives of the NE-ICT are achieved through:

- Providing a means by which members of the network are able to exchange their expertise and lessons learned, and to share best practices on the design, licensing, installation, operation and maintenance of I&C systems in NPPs;
- Highlighting the outstanding open I&C issues related to NPPs;
- Providing a repository of relevant materials and publications;
- Serving as a pool of expertise for the IAEA or personnel from the network's member organizations;
- Providing a means by which members are able to review, comment and resolve issues related to the production of materials, such as technical documents, publications and training course material;
- Informing network members of state-of-the-art developments in I&C.

More information? Contact [ICT.Contact-Point@iaea.org](mailto:ICT.Contact-Point@iaea.org).



## International Decommissioning Network (IDN)



The IDN was launched in 2007 as a forum to facilitate the sharing of practical decommissioning experience, in response to needs expressed at the Athens Conference in December 2006 on 'Lessons Learned from the Decommissioning of Nuclear Facilities and the Safe Termination of Nuclear Activities'.

The network aims to bring together existing decommissioning initiatives both inside and outside the IAEA to enhance cooperation and coordination. It facilitates direct exchange of information between practitioners and promotes the application of good practice in decommissioning technology, planning, project management, and the management of radioactive wastes.

Participants include implementers, regulators, research organizations and waste management organizations. They meet annually at the 'IDN Forum', which usually takes place in Vienna towards the end of the year and provides opportunities for sharing of information and experience between the participants. IDN participants also work together on a number of collaborative projects. These currently include the International Project on Decommissioning Risk Management (DRiMa) and Data Analysis and Collection for Costing of Research Reactor Decommissioning (DACCORD).

More information? Contact [IDN.Contact-Point@iaea.org](mailto:IDN.Contact-Point@iaea.org).

## International Network of Laboratories for Nuclear Waste Characterization (LABONET)



The safe management and disposal of radioactive waste, in part, relies upon its accurate and quality assured characterization by non-destructive and destructive methods, and determination of its radionuclide inventory, chemical and physical properties. Relevant procedures, standards and laboratory practices have been developed and are in use in expert laboratories in some Member States. However, a number of Member States with less developed programmes may not have adequate facilities and laboratories. LABONET has been established to increase efficiency in sharing international experience in the application of proven, quality assured practices for the characterization of low and intermediate level radioactive waste and waste packages.

In particular, LABONET is aimed at:

- Supporting organizations or Member States with less advanced nuclear programmes for characterization of radioactive waste, by facilitating access to and sharing of relevant skills, knowledge, management practices and approaches and expertise from Member States with mature operating nuclear facilities and characterization laboratories;
- Developing an expanded range of training and demonstration activities with a regional, inter-regional or thematic focus, providing hands-on, user-oriented experience and disseminating proven procedures and technology;
- Facilitating cooperation and exchange of knowledge and experience among organizations with characterization facilities, in operation or planned, for long term knowledge management;
- Creating a forum in which experts' advice and technical guidance may be provided on the Agency's waste characterization activities.

More information? Contact [LABONET.Contact-Point@iaea.org](mailto:LABONET.Contact-Point@iaea.org).

## Management System Network of Excellence (MSN)



The IAEA developed the MSN to facilitate and encourage enhanced co-operation and the exchange of knowledge and experience on management systems and safety culture in the nuclear industry and related disciplines throughout the world.

Among the key features MSN provides to members on management systems and safety culture are:

- Overview of important meetings;
- Discussion forums on both common and special topics;
- Expert search function to find the person who can help with specific issues;
- Library of documents, presentations, videos, software tools, glossaries, and other resources;
- E-Learning: nuclear education and training, on demand video, and archived presentations and seminars;
- Resources, including calendar of meetings and events, training courses, webinars and online meeting workspaces.

More information? Contact [MSN.Contact-Point@iaea.org](mailto:MSN.Contact-Point@iaea.org).

## Nuclear Knowledge Management Network (NKM)



To ensure safety, we have a responsibility not only to establish adequate technical knowledge and experience in our nuclear organizations but also to maintain it. Nuclear knowledge management is a key factor in assuring that nuclear organizations maintain the necessary competence and organizational ability over the long-term to operate safely, efficiently and sustainably. The ultimate goal of the NKM Network is to serve as an international forum to increase the understanding and application of nuclear knowledge management practices.

In line with its overall aim, the detailed objectives of the NKM Network are to:

- Build professional relationships and a community of practice (CoP) among knowledge management specialists and subject matter experts in nuclear organizations;
- Facilitate, share and transfer NKM expertise, good practices, and experience in a collegial way through various means such as online forums, shared resources, common initiatives and face-to-face meetings;
- Engage Member States in NKM programmes and promote the establishment of knowledge management networks and/or CoPs;
- Facilitate and encourage collaboration in the area of knowledge management, such as addressing life-cycle knowledge management in operating facilities;
- Promote awareness, understanding and use of state of the art knowledge management technologies.

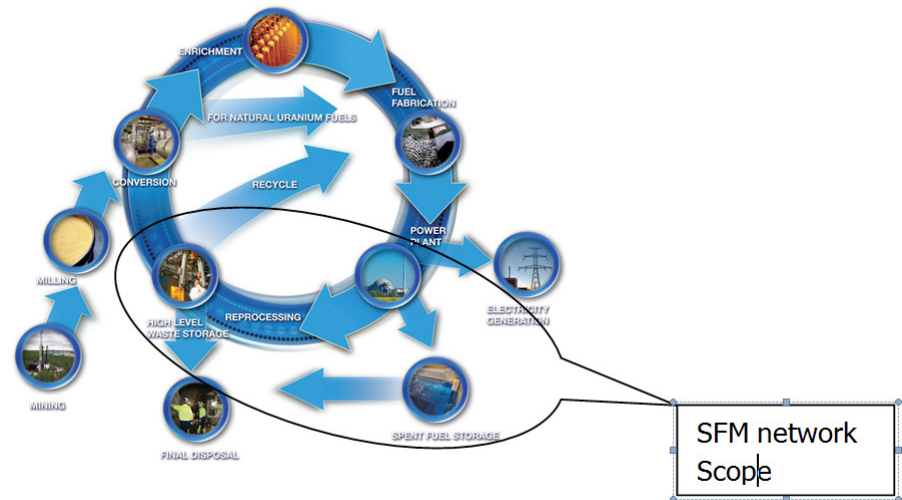
More information? Contact [NKM.Contact-Point@iaea.org](mailto:NKM.Contact-Point@iaea.org).

## Network on Spent Fuel Management (SFM)



The spent fuel management (SFM) network is a forum for sharing practical experience and international developments on all steps of power reactor spent fuel lifecycle from its permanent removal from a reactor core to the implementation of one of the end points, i.e. reprocessing or direct disposal.

Its main objectives are to facilitate the efficient exchange of information, communication and cooperation amongst those working in the spent fuel lifecycle, to develop training modules and workshops to assist those working in this area, and to share experience in spent nuclear fuel management options, wet storage, dry storage, strategic integration with the fuel cycle, transportation, handling and retrieval, preparation for reprocessing or disposal, fuel cycle economics, damaged fuel management and stakeholder involvement/communication.



With the help of the IAEA CONNECT platform, spent fuel management is one step closer in fostering safe, sustainable and efficient spent fuel management practices across all Member States.

More information? Contact [SFM.Contact-Point@iaea.org](mailto:SFM.Contact-Point@iaea.org).

## Geological Disposal (URF)



The Underground Research Facility (URF) network provides its members with a platform to assess and share best practices in developing, evaluating and implementing geologic disposal solutions for intermediate level waste, high level waste and spent nuclear fuel. The network establishes a community of practice and learning for geologic disposal.

Best practices address understanding of the requirements (safety, security, safeguards, equity and sustainability) and the resulting governance needs to achieve successful disposal. This includes consideration of viable approaches in establishing national policies, strategies, and gaining and maintaining project acceptance by relevant stakeholders. Network activities focus on methods and technologies to site, design and develop the safety assessment for a disposal facility. Relevant information on construction and operation becomes increasingly important as some network members progress toward commissioning a disposal facility.

Network activities benefit from significant and sustained support from its members. Indeed, under the auspices of the IAEA, some of the network members offer the use of nationally developed URFs, associated laboratories and specific expertise relevant to geologic disposal of radioactive waste. This is offered for training purposes as a basis to support national programme developments as well as to share and preserve state-of-art experience with best practices in the development and implementation of geologic disposal.

More information? Contact [URF.Contact-Point@iaea.org](mailto:URF.Contact-Point@iaea.org).

## Learning

The CONNECT Learning section contains finished integrated learning modules that can either be used separately or as part of a whole curriculum. These modules are based on IAEA approved documents for guidance and learning.

Currently, CONNECT offers learning materials on the following topical areas:

- Policies, principles and strategy
- Safety case development
- Environmental remediation fundamentals
- Disposal
  - Geological disposal
  - Near surface disposal
  - Borehole disposal of disused sealed radioactive sources (DSRS)

More topical areas will be covered as we expand the Decommissioning, Environmental Remediation and Radioactive Waste Management curriculum and add new curriculums to the platform.



### Safety Case Development

#### Framework for the Licensing Process

Responsibilities and Functions of the Regulatory Body and the Operator: Authorization Process

Sponsored by:



Version 2.0

Click NEXT to continue



## Other features and tools on CONNECT

Many other features available to CONNECT users include:

- Expert search function;
- Wikis;
- Library of different media: documents, presentations, videos, software tools, glossaries, databases, images and pictures;
- Resources, including surveys, calendar of meetings and events, training courses, webinars and on-line meeting workspaces;
- Sub-sites dedicated to specific projects;
- Rooms assigned to working groups;
- Discussion forums; and
- Powerful search engine retrieving information throughout the whole platform.

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### Connections

User Profiles

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### Events

Calendar

Calendar (List View)

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### Learning

Multimedia

Webinars

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### Discussions

Forum

Issues Survey

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### Thematic Areas

Document Workspace

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### Country Reports

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### Library

IAEA Publications

INIS Database

Resources

Glossaries

Software Tools

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### Working Groups

IN-SITU

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### Projects

CIDER Project

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## How to register to CONNECT?

1. You need a NUCLEUS account to access the CONNECT site. **If you do not have one**, go to <http://nucleus.iaea.org/Home/index.html> and click "Register" to create one (see top right of page--above the search). **If you already have one**, please go to step 3.
2. Once your account is activated (please follow the NUCLEUS instructions), go to <http://nucleus.iaea.org/sites/connect/Pages/default.aspx> and **sign in** at the top right corner of page.
3. On the CONNECT landing page (url link above), click "**Learn More / Join (followed by the network acronym)**" under each network icon and a form will appear.
4. Fill out the form.
5. Upon submission, the designated Network Coordinator will consider your request for membership to access the community.

**Please note** that registering on NUCLEUS (step 1) does not mean that you are self-registered to a network on the CONNECT platform. For this you will need to explicitly "join" a community as mentioned above (step 3). Likewise, the coordinator of the network/community you have selected will have to grant you access before you will be able to access the platform. Once access is granted to a community/network you will be notified by email.

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