

# At Work

2015 edition



# Foreword

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## Agneta Rising

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Director General



In 2014, I have focused the Secretariat's efforts on strengthening the foundations of the World Nuclear Association in the key areas of industry cooperation, nuclear information and strategic communication, centred on a clear vision for the Association agreed with the Board.

There are many signs of optimism for the future of our nuclear industry. New nuclear build is at a global high not seen for two decades. Nevertheless, business conditions remain complex and increasingly competitive. Deregulated markets around the world are not delivering the long-term low-carbon investments that society needs, and that nuclear can help deliver. Meanwhile, our industry continues to be blighted by over-regulation that raises costs without delivering tangible benefits.

The World Nuclear Association is committed to: ensuring that the nuclear industry is best represented in all forums where its interests are at stake; enabling co-operation between its members; and communicating the benefits of nuclear energy in order to improve the market environment and secure greater support from key stakeholders.

To help achieve these aims, the Association has strengthened its relationships with key energy policy bodies, such as the International Energy Agency and the World Energy Council, and is collaborating with fellow nuclear associations and societies.

I am committed to ensuring that the World Nuclear Association continues to provide value and excellence to its members, and look forward to a great year ahead.

## Jean-Jacques Gautrot

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Chairman



I am proud to have taken on the role of Chairman of the World Nuclear Association Board in 2014. The Secretariat, in its new offices in Covent Garden, has benefited from the changes introduced last year in the development of an association that is more accountable to its members and more focused on delivering value.

We have seen the benefits of the Association's actions in promoting the case for nuclear energy through contribution to major international publications, increased press interaction, and greater nuclear industry cooperation, including the recent successful World Nuclear Spotlight event in China.

This World Nuclear Association *At Work* report is a testimony of the work done by the Secretariat in these areas, and I would like to thank Agneta and her team for their dedication.

# Introducing World Nuclear Association

The World Nuclear Association is the international organisation that represents the global nuclear industry.

## Our Mission

The Association's mission is to promote a wider understanding of nuclear energy among key international influencers by producing authoritative information, developing common industry positions, and contributing to the energy debate.

## Who we are



The World Nuclear Association is a network of the world's leading nuclear companies in over 35 countries and represents all aspects of the global nuclear industry:

- Virtually all of the world's uranium mining, conversion, enrichment and fuel fabrication companies.
- All major reactor vendors.
- Nuclear utilities providing 70% of world nuclear generation.
- Major nuclear engineering, construction, and waste management companies; and research and development organisations.
- Companies providing international services in nuclear transport, law, insurance, brokerage, industry analysis and finance.

### A global network of member companies

#### 43 Americas

Argentina, Brazil, Canada, USA

#### 53 Europe

Belgium, Bulgaria, Czech Republic, Finland, France, Germany, Italy, Lithuania, Luxembourg, Netherlands, Poland, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom

#### 13 Russia and Central Asia

Kazakhstan, Russia, Uzbekistan

#### 8 Africa and Middle East

Israel, Jordan, Namibia, South Africa, United Arab Emirates

#### 54 Asia-Pacific

Australia, China mainland and Taiwan, India, Japan, Singapore, South Korea



## What we do

The World Nuclear Association is the only industry organisation with a global mandate to communicate about nuclear energy. It is in a unique position to share and advance best practice and common messages globally, working alongside partner organisations: the IAEA, the inter-governmental body for technical and scientific cooperation in nuclear energy; WANO, the industry's reactor safety organisation; and other regional and national nuclear associations around the world.

All of our activities revolve around three strategic areas:

### 1: Nuclear Industry Cooperation

We act as a global forum and commercial meeting place for leaders and specialists representing all aspects of the nuclear industry. The Association provides a vehicle for members to shape joint positions on economic, safety, and environmental issues. We represent the industry in key world forums that influence the nuclear industry's regulatory and policy environment.

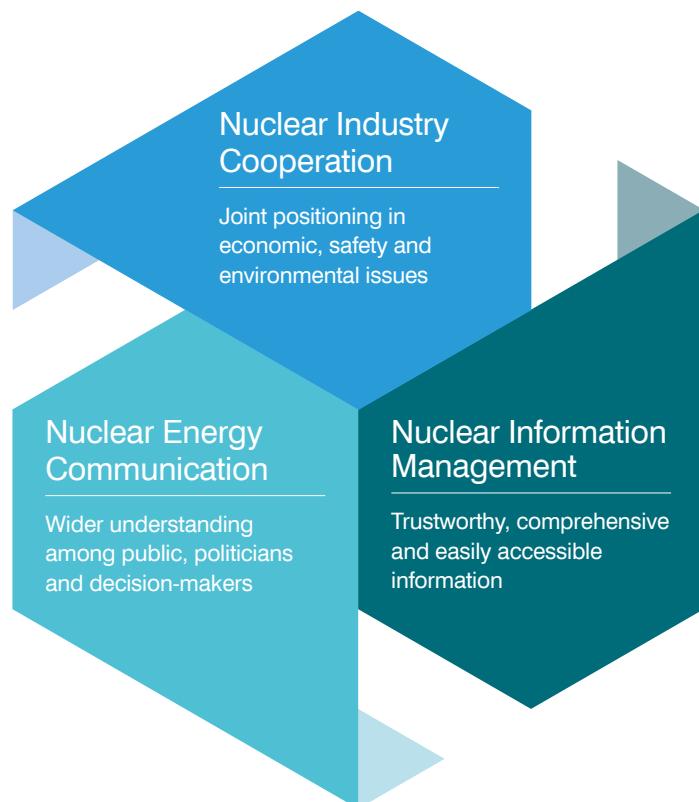
We also work in partnership with the IAEA, WANO, and the OECD-NEA to enhance nuclear education and build nuclear leadership, through the World Nuclear University.

### 2: Nuclear Information Management

We provide trustworthy, comprehensive and easily accessible information on nuclear power via the website, which serves as the world's baseload nuclear information source, and via World Nuclear News, the leading online news service on developments related to nuclear power.

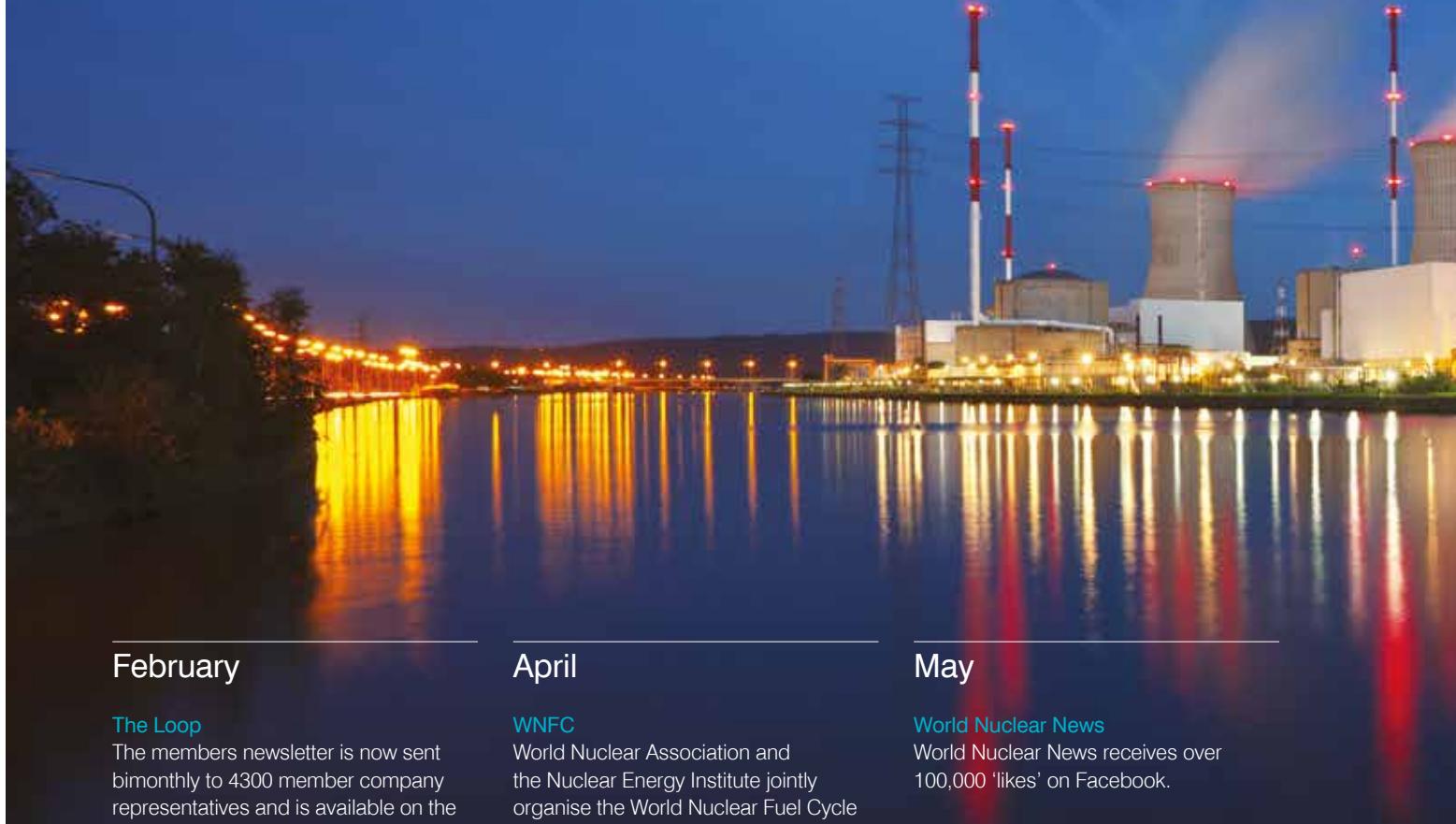
### 3: Nuclear Energy Communication

With a goal to increase global support for nuclear energy among key stakeholders, our role is to represent the nuclear industry's interests where the energy debate is taking place. By coordinating on key messages with our partners, we deliver targeted information to decision-makers and influencers, including the media and international organisations that have an interest in energy-related issues.



# Highlights of 2014

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## February

### The Loop

The members newsletter is now sent bimonthly to 4300 member company representatives and is available on the new members website.

## March

### At Work

The first annual review of the World Nuclear Association's activities is published.

### Radiation Technology School

60 fellows from 30 countries attend the World Nuclear University's Radiation Technology School in Qatar on 7-20 March.

### Nuclear Industry Summit

The World Nuclear Association calls for performance-based regulation at the Nuclear Industry Summit in Amsterdam, 23-24 March.

## April

### WNFC

World Nuclear Association and the Nuclear Energy Institute jointly organise the World Nuclear Fuel Cycle conference on 8-10 April.

### New Chairman

At the Board meeting, Jean-Jacques Gautrot of AREVA takes over as Chairman from Tim Gitzel of Cameco, who becomes Vice-Chair.

### Vision, Mission, Values

The Board adopts the Vision, Mission, and Values for the Association.

### Radiological Protection

Agneta Rising talks about "putting radiological protection into context" at the Japan Atomic industrial Forum conference in Tokyo on 15-16 April, and calls for transparency and public awareness through clear, consistent messages.

## May

### World Nuclear News

World Nuclear News receives over 100,000 'likes' on Facebook.

### WNU Short Courses

One-week World Nuclear University courses are held in Malaysia and Korea.

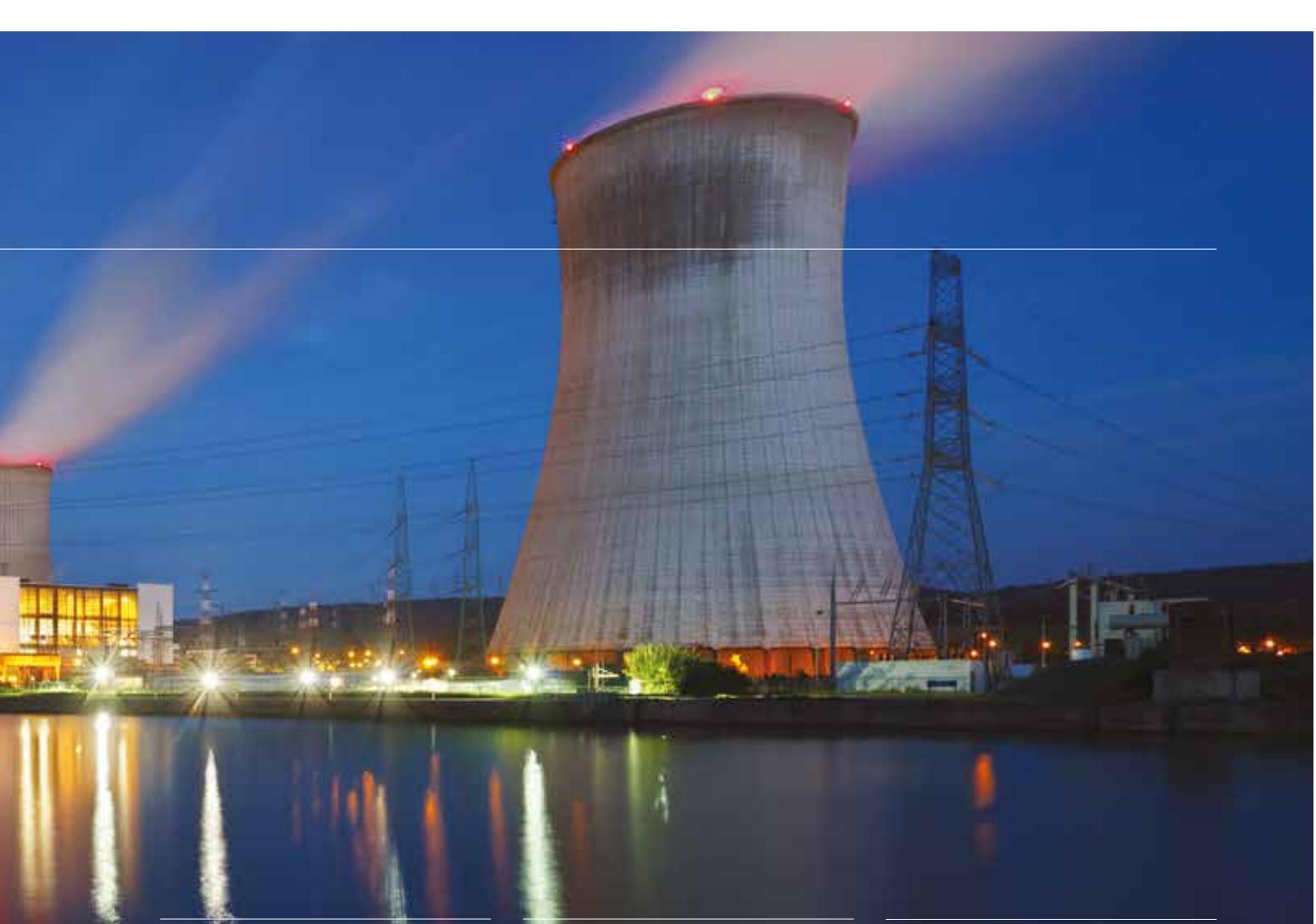
## July

### Summer Institute

The 10th edition of the WNU Summer Institute takes place in Oxford, gathering 70 fellows from 29 countries.

### WNN Viewpoint

WNN launches a *Viewpoint* section where industry experts provide an insight on nuclear news and topical issues.



## September

### New Members Website

A new members website with improved functionalities is launched just ahead of the Working Group meetings in September.

### Symposium 2014

Over 600 executives from around the world attend the Symposium in London, which also celebrates the 60th anniversary of the first supplies of nuclear generated electricity to the general public.

### Communication Group

A new members group is created with communication experts from member companies.

### New Offices

The Secretariat moves to new offices in London's Covent Garden.

## October

### World Energy Council

Agnete Rising attends the World Energy Council Executive Assembly and other meetings in Columbia on 20-23 October.

## November

### World Energy Outlook

The 2014 edition of the International Energy Agency's *World Energy Outlook* is released, featuring three chapters on the outlook for of nuclear power, which we contributed to through a stakeholder process initiated by the IEA.

### Members Satisfaction Survey

226 member company representatives respond to the members satisfaction survey.

### Nuclear Quality Standard Association

World Nuclear Association joins the Nuclear Quality Standard Association as an observer and participates in its technical working group developing the NSQ-100 standard and associated guidance for suppliers.

## December

### Supply Chain Report

The second edition of *The World Nuclear Supply Chain: Outlook 2030* is published.

### WNU Short Course

WNU holds a one-week course in China attended by 174 participants.

### Position on Radiation

World Nuclear Association issues a new position paper, *The Need for Robust Justification for Radiological Protection Recommendations*.

## January 2015

### World Nuclear Spotlight

The World Nuclear Spotlight conference, organised in collaboration with Chinese companies CNS, CNNC, SNPTC and CGN, takes place in Beijing on 15 January 2015.

### Nuclear Energy Technology Roadmap

The *Nuclear Energy Technology Roadmap* is published on 29 January 2015 by the IEA and OECD NEA, stating that "nuclear global capacity must more than double by 2050". We participated in 2014 to the stakeholder engagement for input to the Roadmap.

### International Chamber of Commerce

World Nuclear Association aims to serve its membership better by joining the global business network.



## Membership

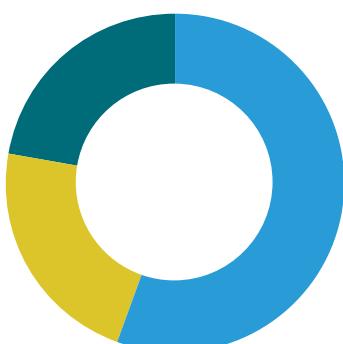
Membership is open to all companies involved in nuclear energy: generators, suppliers, uranium producers, fuel cycle and other nuclear supply chain companies. The Association also welcomes members such as banks and financial institutions, law firms and government and research agencies.

### Members who joined in 2014

National Nuclear Laboratory	United Kingdom
New World Consulting	United States
Price Forbes & Partners	United Kingdom
Ingerop et Conseil Ingenierie	France
Fluor B&W Portsmouth	United States
Shearman & Sterling LLP	United States
KGHM Polska Miedz S.A.	Poland
Thomas Thor Associates	Netherlands
Global Nuclear Associates	United States
MZ Consulting Inc.	Canada
Jordan Atomic Energy Commission	Jordan
Amec Foster Wheeler Nuclear UK Ltd	United Kingdom
Pandit Deendayal Petroleum University	India

All members must agree to the Charter of Ethics upon joining the Association. This Charter is an affirmation of values and principles, summarising the responsibilities of the nuclear industry and the surrounding legal and institutional framework.

### Member demographic



- 55% General  
(legal, transport, insurance, etc.)
- 23% Generators  
(operators)
- 22% Suppliers  
(vendors, engineering, construction, mining, enrichment, conversion, fuel fabrication, etc.)

## What we offer our members

The World Nuclear Association influences the energy debate and opens up business opportunities.

### We support the nuclear industry

We promote nuclear energy by engaging with key global stakeholders on topics of strategic importance to nuclear development.

We represent the global nuclear industry in key international forums.

We provide the latest and most reliable nuclear information, including the public information library of our website and World Nuclear News, the daily news service.

We develop industry positions and reports on the issues that matter through our Working Groups.

### We open up opportunities for your company

We offer you unique opportunities to interact and network with experts, industry leaders, customers and suppliers.

We support your capacity building and nuclear skills development through the World Nuclear University.

We collaborate with you and national associations to make smart and effective contributions to national dialogue.

We give you privileged on-line access to industry reports, presentations and contact directories, and free printed copies of the biennial Global Nuclear Fuel Market report and World Nuclear Supply Chain report.

We offer you heavily discounted rates to our conferences and opportunities to exhibit or sponsor to increase your company's visibility.

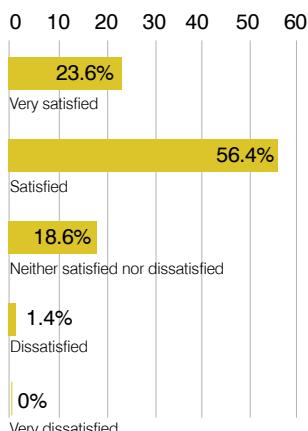
## Member satisfaction

We are keen to hear the views of our members and carry out an annual opinion survey using an anonymised online questionnaire. There were 226 respondents to the 2014 survey, representing a big increase in response rate from the previous year.

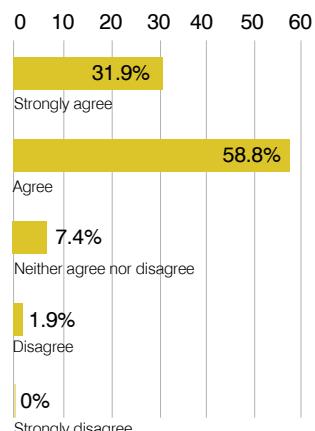
There were many helpful comments that will guide the Secretariat to improve the service offered to members further, including:

- Building on the success of the World Nuclear Spotlight conference in Beijing, a stronger focus on increasing participation from Asia at our events, which would also benefit from having a wider range of speakers, including from outside the industry.
- More effective promotion of members tools, such as the members website, which was only used by 65% of respondents, and *The Loop* newsletter.
- Improved overall quality of Working Group outputs, including better coordination between groups.

### Satisfaction with World Nuclear Association membership (%)



### World Nuclear Association brings value to the industry (%)



## The three top purposes of World Nuclear Association membership

1 Opportunities for international networking (66.5%)

2 Support World Nuclear Association's role in promoting nuclear energy internationally (58.40%)

3 Support for World Nuclear Association's role in public information (46.60%)

# Governance and Organisation

The Director General is responsible for governing the Association and is ultimately accountable to the Board of Management. The Board holds final approval on proposals made by the Director General, including strategic and budgetary decisions.

In 2014, Jean-Jacques Gautrot of AREVA replaced Tim Gitzel of Cameco as Chairman of the Board.

## The Board of Management

The Board is composed of senior executives from member companies who meet twice a year and serve for two years. The Chairman of the Board is also appointed for a two-year term, after serving as Vice-Chairman in the preceding year.

The Board fulfils all statutory duties pertaining to the organisation's governance, sets policies and strategic objectives acting on proposals from the Director General.

To ensure balance among the elected members of the Board, each of the three categories of institutional membership – suppliers, generators and general – must be represented by at least two members.

Board members act as mentors for the various Working Groups. This enables the Board to monitor the activities of the Groups and to shape their overall agenda.

In 2014 the Board met on 8 April and

10 September, in San Francisco and London.

There are also two Board sub-committees, whose members serve two-year terms and report directly to the Chairman of the Board:

- The Governance and Nominations sub-committee oversees appointments to the Board and handles Director General and senior staff succession planning.
- The Audit and Finance sub-committee carries out a regular review of the financial health of the Association, assesses fee levels and guidelines, and holds in-depth dialogue with the auditor during the preparation of the annual accounts.

These two sub-committees did not sit in 2014. A temporary sub-committee was set up to oversee and provide support for the move of the Secretariat to its new offices.

### Audit

In 2014, the Board decided to carry out an independent review. The external auditor Moore Stephens LLP was re-appointed.

The 2013 accounts were signed by the Board of Management on 8 April 2014, having been prepared in accordance with applicable accounting standards and given a clean opinion by the external auditor. The financial statements were then presented at the Annual General Meeting, held on 10 September 2014.

## Membership meetings

There are two annual meetings where the whole membership is called and can vote, as well as ask questions to the Chairman and the Director General about operations of the Association. At the Annual General Meeting the accounts are presented for approval, and any alterations to the

fee structure or fee changes are put to the vote. Immediately after the AGM, the Members Council takes place, during which significant developments in the Association are presented to the member company executives in attendance.



## Board members

As of 1 March 2015

### Chairman



**Jean-Jacques Gautrot**  
Senior Advisor, AREVA

### Vice-Chairman



**Tim Gitzel**  
President and CEO,  
Cameco



**Paul Bowden**  
Partner, Freshfields  
Bruckhaus Deringer



**Seok Cho**  
President and CEO,  
KHNP



**Dominique Dapei**  
Nuclear Fuel International  
Director, EDF



**Helmut Engelbrecht**  
CEO, Urenco



**Mingang Huang**  
Chief Economic Officer,  
CNNC



**Kirill Komarov**  
Deputy Director  
General, ROSATOM



**Klaus Lohrey**  
Managing Director,  
Nukem



**Yoichi Maeda**  
Senior Advisor,  
Mitsubishi Corporation



**Per-Olof Nestenborg**  
Managing Director,  
Vattenfall Nuclear Fuel



**Michael Pacilio**  
Executive Vice  
President and COO,  
Exelon Generation



**Michaël Plaschy**  
Head of Nuclear Power  
Generation, Alpiq Suisse



**Caroline Reda**  
President and CEO, GE  
Hitachi Nuclear Energy



**Hideki Toyomatsu**  
Chief Nuclear Officer,  
Kansai Electric Power Co



**Qiyan Wei**  
Deputy General  
Manager, CGNPC  
Uranium Resources  
Co. Ltd



**Liudmila Zalimskaya**  
Director General,  
Techsnabexport

### Ex-officio



**Ken Ellis**  
Managing Director,  
World Association of  
Nuclear Operators

### Honorary



**Hans Blix**  
Director General-  
Emeritus, International  
Atomic Energy Agency



**Gerald Grandey**  
Former CEO, Cameco  
and WNA Chairman-  
Emeritus

The World Nuclear Association is made up of an international Secretariat of 30 people, covering a broad range of expertise and experience, who are responsible for coordinating the work that the Association does on behalf of its members. Most of the Secretariat work from the offices in London, with representatives also based in India, China and Australia.

The Secretariat is led by Agneta Rising and composed of five departments each headed up by a manager: Industry Cooperation, Information Management, Strategic Communication, Administration and Finance, and World Nuclear University.

In 2014, the Secretariat moved to new offices in London's Covent Garden. The new office contract secures long-term economical, modern and fit-for-purpose premises for the next ten years. The Board agreed to the move at the beginning of April 2014, the contract was signed by the end of May, and the move took place over a week-end at the end of September.



## The Secretariat



Agneta Rising  
Director General



Shah Nawaz Ahmad  
Senior Advisor India



Francois Morin  
Director China



Henri Pelin  
Senior Advisor

## Strategic Communication



Virginie Ryan-Taix  
Head of Strategic  
Communication



Jonathan Cobb  
Senior Communication  
Manager



Julia Dean  
Events Manager



David Hess  
Communication  
Manager



Brigita Mametti  
Visual Communication  
Manager

## Information Management



**Jeremy Gordon**  
Head of Information Management



**Claire-Louise Isted**  
Editor WNN



**Ian Hore-Lacy**  
Senior Research Analyst, Australia



**Claire Maden**  
Writer & Analyst



**Patricia Wieland**  
Head of World Nuclear University



**Lylah Davies**  
Project Officer



**Richard Petrie**  
Graphic Information Designer



**Warwick Pipe**  
Web Content Manager



**Stephen Tarlton**  
Writer & Analyst

## Finance and Administration



**Paul Kidman**  
Head of Finance and Administration



**Lucia Endrodyova**  
Executive Assistant to the Director General



**Gabrielle Flannery**  
Member Relations and Office Manager



**Kathy Montana**  
Accounts Assistant



**Ana Rodriguez**  
Administration Assistant



**Brian Musaindapo**  
ICT Manager

## Industry Cooperation



**Serge Gorlin**  
Head of Industry Cooperation



**Marie Cletienne**  
Consultant



**Ian Emsley**  
Senior Project Manager



**Yulin Huang**  
Visiting Research Officer



**Greg Kaser**  
Senior Project Manager



**Barry Kaufer**  
Director CORDEL



**Isis Leslie**  
Project Manager



**Kenji Matsuo**  
Visiting Research Officer



**Jikou Ryu**  
Visiting Research Officer



**Binika Shah**  
Senior Project Manager



**Andrew Waslyk**  
Project Manager

# Members Groups

The World Nuclear Association is a membership organisation, providing opportunities for its members to interact and collaborate. Advisory Groups are designed to support the Secretariat in identifying opportunities and challenges for the Association, and Working Groups are forums for industry cooperation on topics of common interest.

Each Group is chaired by an expert from a member company and has a mentor assigned to it from the Board. Administrative and technical support is provided by the Secretariat.

## Advisory Groups

Advisory Panel

Communication Group

## Working Groups

Fuel Cycle Working Groups

Fuel Market Report

Transport

Sustainable Used Fuel Management

Security of the International Fuel Cycle

Cooperation in Reactor Design Evaluation & Licensing

Supply Chain

Capacity Optimization

Waste Management & Decommissioning

Plant Performance Working Groups

Cross-Cutting Working Groups

Economics

Law

Radiological Protection

## Working Groups

The importance of Working Groups as forums for global industry cooperation and as agents for change continued to grow in 2014.



At the beginning of the year, the Working Groups underwent a restructuring with groups now falling into one of three categories (see diagram). This has helped to manage Secretariat resources effectively without compromising the delivery of services to members. The attendance at the September Working Group events in London was 313, a 12.5% increase over the previous year.

Staffing of Working Group activities has been assisted by the arrival of four secondees from our members: Henri Pelin (EDF); Yulin Huang (CGN-URC); Kenji Matsuo (Kansai); and Jikon Ryu (KEPCO).

### [The main achievements of the Working Groups in 2014 include:](#)

- The Radiological Protection Working Group delivered the industry position on the contribution of radiation to cardiovascular and cerebrovascular disease, as well its effects on the lens of the eye, at the International Commission on Radiological Protection (ICRP) Special Liaison Organisation meeting in November.
- The Capacity Optimization Working Group hosted the three-day IAEA *Technical Meeting on Maintenance Optimization to Improve Nuclear Power Plant Performance*.
- The Vendor Oversight and Control of Suppliers Task Force organised the *World Nuclear Association Nuclear Supplier Forum* to open up a dialogue on procurement, quality and product realisation.
- The Economics Working Group contributed to the IEA/NEA publications *Technology Roadmap – Nuclear Energy to 2050* and *World Energy Outlook 2014*, as well as to the European Commission consultation on state aid and nuclear power.
- Several Working Group publications were issued, including the second edition of *The World Nuclear Supply Chain: Outlook 2030* and a report on *Certification of NDE Personnel*.



## Fuel Cycle Working Groups

### Fuel Market Report

Co-Chairs: Hendrik de Baenst (Synatom); Pierre Durante (AREVA)

Staff Director: Ian Emsley

Published since the 1970s, the biennial *Global Nuclear Fuel Market* report compiles data from companies, national sources and international agencies to produce an authoritative projection of global supply and demand. The Fuel Market Report Working Group is broken down into sub-groups, which focus on different areas of the fuel cycle. The participation of experts from all areas of our membership (buyers, producers, consultants) in its compilation gives the report its unique authority.

## Sustainable Used Fuel Management

Chair: Henri Zaccai (AREVA) Staff Director: Isis Leslie

The Sustainable Used Fuel Management Working Group aims to gather the views of the nuclear industry and stakeholders on current and best practice in sustainable used fuel management, to produce a report presenting the status of used fuel management worldwide, and to produce guidelines for the industry to use in its communication.

In 2015, the Group plans to:

- Complete a survey on national used fuel management practices.
- Identify the most important topic areas on sustainable used fuel management and begin developing key messages.
- Define and promote the main success factors in establishing a sustainable used fuel management programme.

- Prepare a report on the status of worldwide used fuel management.
- Further contribute to the IAEA work on sustainable used fuel management, including presenting at the *IAEA International Conference on Management of Spent Fuel from Nuclear Power Reactors* in June.

## Transport

Chair: Francisco Tarin (ENUSA) Staff Director: Serge Gorlin

The Transport Working Group acts as a forum for communicating industry developments, exchanging best practice, as well as for identifying and resolving issues relating to the shipment of nuclear material. The primary focus of the Group is to address commercial issues affecting the transport of front-end nuclear materials.

The Group is represented on the IAEA's Transport Safety Standards Committee (TRANSSC) and works closely with relevant transport organisations such as the World Nuclear Transport Institute.

The Group is also represented on the Transport Facilitation Working Group, a multi-stakeholder initiative to preserve and open up new routes for the transport of radioactive and nuclear

material, ensuring they can be delivered in a timely and efficient way.

In 2015, the Group plans to:

- Conduct a meeting in Beijing, China focused on local regulatory and facilitation issues.
- Spearhead a TFWG survey designed to determine trends in the transport area.

## Security of the International Fuel Cycle

Chair: TBD Staff Director: Isis Leslie

The original mission of the Security of the International Fuel Cycle Working Group, set up in 2005, was to produce a report on the policy debate surrounding sensitive fuel cycle technologies, with particular reference to the IAEA initiative on multilateral approaches to the nuclear fuel cycle. The Group's mission was extended in 2013 to include security standards and best practice.

The Group is represented on the IAEA's Nuclear Security Guidance Committee (NSGC) as an observer. NSGC's role is to review and approve draft IAEA guidelines relating to security.

In 2015 the Group plans to:

- Increase its feedback to NSGC on draft IAEA security guidance, drawing upon the expertise of other Working Groups.

- Produce a report based on a 2014 survey conducted across member companies on security policy and governance.
- Contribute to preparations for the fourth *Nuclear Industry Summit* to be held in 2016 in the US.
- Continue to promote the industry's views on the importance of a robust fuel supply market as a contributor to non-proliferation.

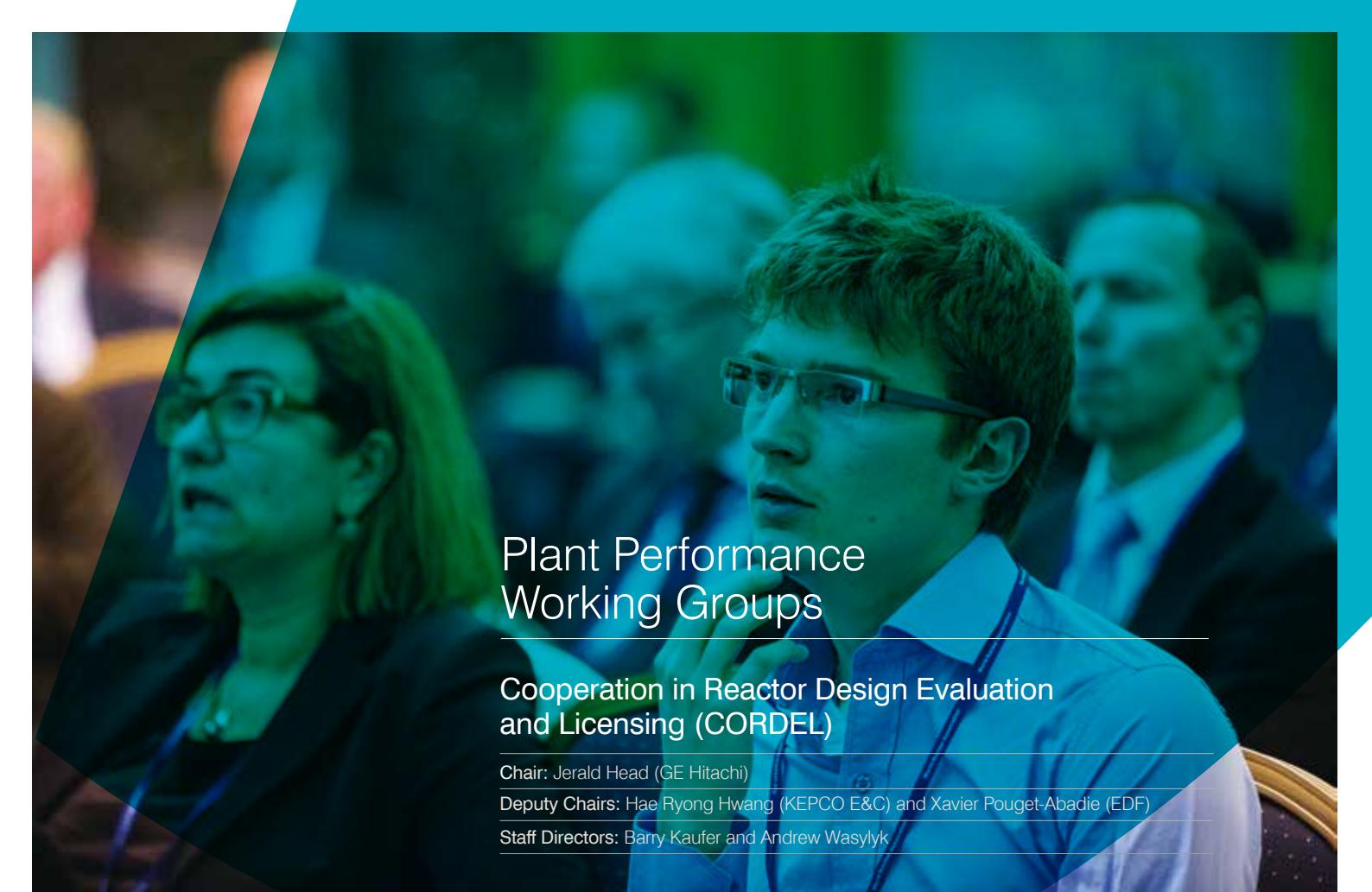
## Fuel Cycle Plenary

Chair: Emmanuelle Verger (EDF) Staff Director: Stephen Tarlton

The Plenary is the largest members' forum, typically attracting an audience of 80-90 people, and focuses on developments in nuclear fuel and trade. Sessions consist of formal presentations and panel discussions, as well as

reports from interest groups in the areas of primary uranium supply, conversion, enrichment, fuel fabrication, secondary supply and demand. To serve as a practical means for keeping members informed about all activities in the fuel

cycle area, the Plenary receives periodic reports from relevant Working Groups.



## Plant Performance Working Groups

### Cooperation in Reactor Design Evaluation and Licensing (CORDEL)

Chair: Jerald Head (GE Hitachi)

Deputy Chairs: Hae Ryong Hwang (KEPCO E&C) and Xavier Pouget-Abadie (EDF)

Staff Directors: Barry Kaufer and Andrew Wasylk

CORDEL's mission is to promote the standardisation of nuclear reactor designs. This can be achieved by the development of a worldwide nuclear regulatory environment where internationally accepted standardised reactor designs, certified and approved by a recognised competent authority in the country of origin, can be widely deployed without major design changes at the national level.

In practice, this would mean that generic design certification and safety evaluations approved by a recognised competent authority in the country of origin would be acceptable in other countries without the need to duplicate or repeat the entire design certification process.

In 2014, CORDEL started implementing its Strategic Plan. This effort saw an increase in member participation both in the Working Group and in its numerous Task Forces. Key successes included issuance of reports on the *Certification of NDE Personnel* by the Codes and Standards Task Force, and *2014-16 Outlook* by the Digital I&C Task Force.

#### Sub-groups

The Codes and Standards Task Force focuses on publishing detailed international design code comparisons with the aim of promoting the international convergence of code requirements. The Task Force is currently finalising the comparison of "non-linear analysis methodology" requirements between nuclear design codes, as well as initiating work to define industry best practice and convergence proposals between these codes. It is also initiating a comparison of fatigue analysis methodologies as well as on welding and welders' qualification and quality assurance.

The Design Change Management Task Force completed revising its report on *Design Knowledge and Design Change Management in the Operation of Nuclear Fleets*. The Task Force also plans to complete a design authority report.

The Joint Law - CORDEL Licensing and Permitting Task Force will hold an *International New Build Licensing Conference* in April 2015. The main theme of the conference will be on how to best manage regulatory risk in the licensing of a nuclear new build project.

The IAEA Nuclear Safety Standards and Probabilistic Safety Goals Task Force will continue its oversight of the work being performed by the IAEA Nuclear Safety Standards Committee (NUSSC) to ensure that proper input related to industry concerns is provided. The Task Force will perform benchmarking of the IAEA Safety Goals framework to provide a means of comparing national/company approaches, with a view to identifying opportunities for harmonisation.

The Digital Instrumentation & Control Task Force, created in 2013, is continuing to develop its report on safety classification. It will also continue to expand membership within CORDEL and develop relations with codes and standards organisations.

The Small Modular Reactors Ad-hoc Group plans to publish its report on *International Licensing of Small Modular Reactors*. This will be part of a larger corpus of position papers on SMR licensing to be worked on jointly with the Law Working Group. It will also establish a consensus definition for 'small modular reactor'.

## Supply Chain

Chair: Juan Molina (Westinghouse) Staff Director: Greg Kaser

The Supply Chain Working Group supports members in monitoring and identifying market trends, promoting timely, consistent and efficient plant construction and in communicating with stakeholders on industrial developments. At the end of 2014, the Group published the second edition of its authoritative report, *The World Nuclear Supply Chain: Outlook 2030*.

In 2013, the Group established a Task Force on Vendor Oversight and Control of Suppliers (VOCS) to develop a concept for an industry-wide approach to strengthening capability along the supply chain that enhances safety and

offers a common approach to quality control. In September 2014, it held the *World Nuclear Association Nuclear Supplier Forum* in London, the objectives of which were to foster an industry-wide dialogue on achieving product realisation and demonstrating that regulatory and licensee requirements are met.

In 2015, the Group plans to:

- Publish a report on good practice in compliance and licensing of nuclear exports.
- Provide a 'rough guide' to export controls on the website.

- Support a seminar on industry-government cooperation in enhanced export controls with Pacific Northwest National Laboratory around the Nuclear Suppliers Group meeting in Vienna in March.
- Deepen the dialogue with nuclear component suppliers to develop ideas for addressing issues in procurement, surveillance and product realisation.
- Research employment along the nuclear supply chain.
- Continue to represent the Association at the Nuclear Quality Standard Association.

## Capacity Optimization

Chair: Mike Baron (Global Nuclear Associates) Staff Director: Henri Pelin

The Capacity Optimization Working Group identifies means by which nuclear power plant operators worldwide can improve the performance of their plants. The Group focuses on areas relevant to plant economics such as availability, reliability, flexibility and capacity. In 2014, the Group hosted a three-day IAEA Technical Meeting on Maintenance Optimization to Improve Nuclear Power Plant Performance, which attracted 40 participants from utilities worldwide.

In 2015 the group plans to:

- Create a Long-Term Operation Task Force as a forum for: documenting and comparing the licensing processes for different countries; sharing experience of long-term operation in terms of asset management, engineering and technical challenges (e.g. safety modifications, heavy component replacement, obsolescence management and ageing monitoring); and exchanging and defining best practice.

- Publication of the third edition of the Group's *Optimized Capacity* report.
- Contribute to the finalisation of IAEA TECDOC 1383, *Guidance for Optimizing Nuclear Power Plant Maintenance Programmes*.
- Initiate a Long Term Operation Task Force with the mandate of helping to improve the economic and technical case for extending nuclear plant lifetimes in all countries where reactors currently operate.

## Waste Management & Decommissioning

Chair: Mike Pieraccini (EDF) Staff Director: Binika Shah

The Waste Management & Decommissioning Working Group monitors developments and shapes industry positions with a view to improving the system of waste management and decommissioning. It promotes the appropriate re-use and recycling of material – and safe disposal of wastes – from nuclear sites. It also represents industry interests on the IAEA Waste Safety Standards Committee (WASSC).

At its meetings in 2015, the Group will develop its longer-term strategy. It will also continue to facilitate exchange between those companies with experience of decommissioning and those new to the field or planning for the future. In addition, it will share practical lessons learned on the optimal radiological protection of workers during nuclear power station decommissioning, and during the transition period following cessation of generation.

# Cross-Cutting Working Groups

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## Radiological Protection

**Co-Chairs:** Willie Harris (Exelon); Marcel Lips (Kernkraftwerk Goesgen-Daeniken AG) **Staff Director:** Binika Shah

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The Radiological Protection Working Group (RPWG) aims to promote improvements in the international system of radiological protection by developing and advocating scientifically sound, understandable and implementable positions of policy and practice. The Group has Special Liaison Organisation status with the International Commission on Radiological Protection (ICRP), and has observer status on the Radiation Safety Standards Committee (RASSC) of the IAEA.

In 2014 the RPWG completed a review of the latest available scientific evidence surrounding the contribution of radiation

to cardiovascular and cerebrovascular disease, as well as to lens of the eye effects. The review provided the foundation for an informed and credible industry position on how to incorporate such effects into the international system of protection. The industry view on this topic was delivered at the ICRP Special Liaison Organisation meeting, which the World Nuclear Association hosted in London in November 2014.

In 2015, the RPWG will continue developing its longer-term strategy. The impact of the accident at Fukushima and the ongoing lessons to be drawn, particularly around preparing for

emergencies and the transition from the emergency phase, will feature prominently in the Group's work. There will be further consideration of RP in the fields of environmental protection, radon and naturally occurring radioactive material (NORM) management. The RPWG will also monitor and coordinate industry participation in the work of international organisations on radiological protection such as the IAEA, ICRP and OSPAR, with particular emphasis on participation in the ICRP Symposium in South Korea in 2015 and the International Radiation Protection Association meeting in Cape Town in 2016 (IRPA14).

## Law

**Chair:** Christian Lawerentz (NUKEM) **Deputy Chair:** Helen Cook (Shearman and Sterling) **Staff Director:** Marie Cletienne

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The Law Working Group was established with a mandate to raise awareness among membership on the legal issues facing the nuclear industry. It also liaises with other Working Groups to assist when necessary on ways to respond to specific legal challenges.

**In 2015, the Group plans to:**

- Provide a forum to discuss and learn about key legal developments affecting the nuclear industry,

including the entry into force of the Convention on Supplementary Compensation, and update on the status of the 2004 Protocols to Amend the Paris and Brussels Conventions as well as the 1997 Vienna Convention.

- Prepare and circulate legal issue briefing notes providing international, national, legal and regulatory and case law updates

- Organise jointly with the CORDEL WG an *International New Build Licensing Conference* in Prague in April 2015.
- Complete and publish the *Swaps in the International Nuclear Fuel Market* report.
- Produce a series of reports on legal issues surrounding the development of SMRs, including on licensing and liability.

## Economics

**Chair:** Milton Caplan (MZ Consulting) **Staff Directors:** Greg Kaser and Ian Emsley

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The Economics Working Group focuses on developing a better understanding of the capital costs of new nuclear plants and comparing projections showing the potential role of nuclear power in the 21st Century.

**In 2015, the Group plans to:**

- Support the Strategic Communication team's efforts to engage with development banks on the financing of nuclear projects.

- Compile evidence for a report on the economic challenges to nuclear energy.



## Advisory Groups

There are two groups of member experts who provide advice and recommendations to the Director General and the Board. They are focusing on strategic and communication issues.

### Communication Group

**Chair:** James Scongack (Bruce Power) **Deputy Chair:** Jayne Hallet (Urenco) **Staff Director:** Virginie Ryan-Taix

The Communication Group was created in September 2014 and is open to communication experts from member companies. Its role is to give strategic communication support to the Association. This includes: identifying communications opportunities and challenges facing the nuclear industry, and ways to address these

challenges; providing member support and involvement for specific projects identified by the Group; and helping disseminate key messages to the wider industry and beyond.

In 2015, the Group started work in three areas: issues management, nuclear advocacy and crisis communication.

### Advisory Panel

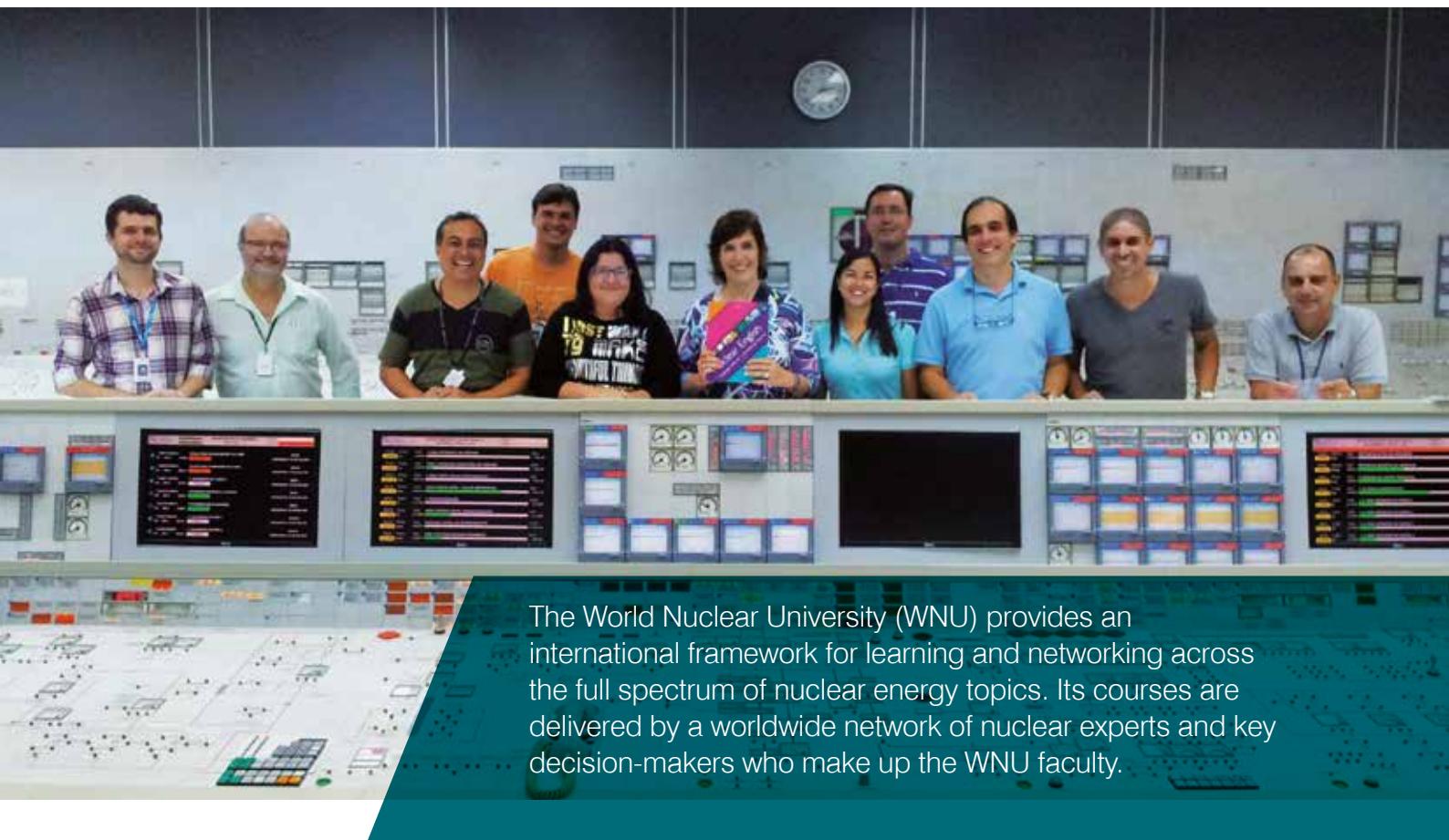
**Chair:** Bob Van Namen (Centrus Energy) **Staff Director:** Virginie Ryan-Taix

The Advisory Panel has a brainstorming and consultative function. It replaced the Strategic Advisory Group early 2015. This Panel seeks to identify challenges

facing the global nuclear industry, opportunities to advance its position in international, regional and national policy arenas, and ways to improve the

public acceptance of nuclear energy. It provides recommendations on how the Association should position itself in addressing these challenges.

# World Nuclear University



The World Nuclear University (WNU) provides an international framework for learning and networking across the full spectrum of nuclear energy topics. Its courses are delivered by a worldwide network of nuclear experts and key decision-makers who make up the WNU faculty.

The unique training programmes of the WNU help develop the essential skills and knowledge needed by the industry's future leaders. Since its inception, WNU courses have been attracting increasing numbers: by the end of 2014, over 4000 participants from 80 countries had attended WNU programmes.

In view of the international cooperation which is at the heart of the WNU, the coordinating centre is now looking to reach out to new institutions and education centres interested in joining this partnership. This would, in turn, contribute towards creating a harmonised standard of training, recognised throughout the industry.

In 2014, an Advisory Panel consisting of representatives of the founding supporters IAEA, WANO, OECD/NEA, World Nuclear Association and programme committees, were established. The coordinating team in London welcomed a new Project Officer to help the Head of WNU in its mission to continuously review and improve the quality of its programmes.

## Nuclear English course

The Nuclear English course is designed for English learners and covers topics related to nuclear science and technology, using the book by Serge Gorlin, *Nuclear English: Language Skills for a Globalizing Industry*. In 2014, the course was held in Brazil from 5 to 16 May for two groups of Angra nuclear plant personnel (shown above).

## One-week courses



The *Overview and Key Topics in the World Nuclear Industry Today* short course covers the application of nuclear science and technology around the world, and looks at where it is likely to go in the future. The curriculum of the course is matched to the needs and the phase of nuclear development of the host country. It was shortlisted for best training course under two weeks' duration in Nuclear Engineering International magazine's 2014 Nuclear Training Awards.

In 2014, courses were held in Putrajaya, Malaysia (22-25 April); Seoul, South Korea (21-23 May); and Beijing, China (8-11 December).

## School on Radiation Technologies



The 3rd WNU School on Radiation Technologies (RT School) was organised in Doha, Qatar from 7 to 20 March 2014 in collaboration with Hamad Medical Corporation (HMC) and the Qatar University Department of Physics. The school, which explored the medical and industrial uses of nuclear technology, was attended by 60 fellows representing 30 nationalities.

## Summer Institute

# 96%

Reported an improved understanding of nuclear topics that could be incorporated into their daily lives.

# 89%

Identified a positive consequence due to their participation in the Summer Institute.

# 76%

Were more motivated as a result of attending the course.

# 65%

Were promoted following the course.

70 participants from 29 countries attended the Summer Institute (SI) in Oxford, UK from 5 July to 16 August 2014. The SI provides an intensive six-week educational experience for promising young professionals. The fellows of this programme benefit from an array of leading-edge presentations on a range of topics relevant to the future of nuclear technology, providing them with an international perspective, first-hand experience and an insight into current nuclear applications.

The Summer Institute 2015 will be held in Sweden, after a six-year stay in Oxford and previously in Canada, Korea, Sweden and the USA.

### Summer institute: The First Ten Years

The report, *World Nuclear University Summer Institute: The First Ten Years*, gives the results of a survey conducted in 2014 to assess the long-term impact that the course has had on the fellows' lives and careers. You can read highlights of the results in the margin.

### Summer Institute Alumni

The Summer Institute Alumni Assembly gathered 55 participants in Oak Ridge, Tennessee, from 31 March to 4 April 2014. This event is part of WNU efforts to foster the alumni network and communities.

**"You don't realize how much you've learned in six weeks until you return to your day-to-day life with a different perspective and increased energy."**

2013 Summer Institute fellow

## Information Services

The World Nuclear Association provides a valuable and unique range of information services that foster greater acceptance and support for nuclear power while presenting a credible and trustworthy face for the global industry. These are the baseload information suppliers of the global nuclear industry.



10.6

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Number of page views (millions) on our websites per year, an increase of 22%



20

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Average number of updates per week to the Information Library on the website.



The World Nuclear Association website serves as the premier nuclear information resource, while World Nuclear News (WNN) represents the leading news service on developments related to nuclear power. They are indispensable tools for industry, government, media, and academia who value reliable and contextualised information on the real-world nuclear industry. Furthermore, the daily research work to constantly update these key services supports the Secretariat's awareness of global issues and helps it to further the Association's overall goals.

## World Nuclear Association website

As a whole, the website usage has grown significantly over the past five years, with 4.9 million visits to the site in 2014 (up from 4.0 million in 2013). The number of page views was 7.5 million in 2014, a 22% increase from 2013. The website now has an average of 19,000 visits per working day.

## Information Library

The library section of the website features 182 detailed pages covering every aspect of the nuclear industry including current projects, future prospects, technology, policy issues and country-by-country briefings. All of these are constantly maintained and updated an average of 20 updates per week. These pages were viewed a total of 7.1 million times in 2014.

## Publications

The World Nuclear Association also publishes reports on industry topics and Working Group related activities. 2014 publications include:

[The World Nuclear Supply Chain: Outlook 2030](#)

[CORDEL: Strategic Plan 2014- 2018](#)

[CORDEL: Certification of NDE Personnel](#)

[CORDEL: Digital Instrumentation & Control Task Force: 2014 - 2016 Outlook](#)

[COWG Presents](#)

[RPWG internal report on the relationship between non-cancer effects and low dose radiation](#)

## World Nuclear News

WNN publishes news researched from original source every working day and in 2014 its own separate website had 3.1 million page views. During 2014, WNN's daily and weekly emails were reformatted for mobile devices and the service was expanded to include a *Viewpoint* section with the personal views of industry players. This popular addition led to some of the highest viewing figures. WNN continued to reach new readers on social media, with its following on Facebook doubling during 2014 to more than 120,000. The number of WNN's Twitter followers now equals WNN's daily and weekly email distribution of around 20,000.



Number of followers on WNN Twitter account

# Strategic Outreach

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In 2014, World Nuclear Association continued to reach out to key stakeholders who have an impact on energy issues. For greater efficiency, we are collaborating with industry and partner organisations on relevant topics.

2014 saw a major expansion of the Secretariat's press activities, and participation in several international consultations to shape key publications on energy. To assist the Secretariat, a group of nuclear communicators from member companies was established in September 2014. This Communication Group has started its work on three workstreams: nuclear advocacy, issues management, and crisis communication.

## Reaching out to the nuclear industry

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- The first *World Nuclear Spotlight* event was held in China.
- A new members website was launched with improved functionalities.
- The members newsletter *The Loop* was sent bi-monthly to over 4000 company representatives.
- A new *Viewpoint* section in *World Nuclear News* was launched.

### Projects

- Produce a booklet for members with our current positions on topical nuclear issues.



## Reaching out to decision-makers

- We took part in the consultation exercise for the International Energy Agency's *World Energy Outlook*, the IEA-Nuclear Energy Agency's *Nuclear Energy Technology Roadmap*, and the World Bank's new *Environmental and Social Framework*.
- The Director General was invited to the World Energy Council Executive Assembly.

### Projects

- Work with the International Chamber of Commerce to enable effective participation as part of the business delegation at the COP 21 climate change meeting in Paris later this year.
- Reach out to financial institutions that have a vital role in the financing of new nuclear projects.

## Reaching out to nuclear organisations

- The annual gathering of nuclear representatives around the world was organised in September in London.
- The Secretariat worked with Foratom on the response to the Ecofys consultancy report on subsidies and costs of EU energy.
- The annual World Nuclear Fuel Cycle conference was organised with the Nuclear Energy Institute in San Francisco in April.

### Projects

- Pursue cooperation with nuclear societies and associations in the *Nuclear for Climate* initiative aimed at promoting nuclear as a solution to tackle climate change.

## Reaching out to media

- A media contact and monitoring system was acquired to enable more effective dissemination of our media messages and improve monitoring of nuclear issues in the media.
- Commentary from experts and representatives from the Association featured in a large number of media reports on nuclear energy, including Reuters, Bloomberg, BBC News, Nuclear Energy Insider, CCTV (China) and Bloomberg Africa.
- Articles were published in a number of independent energy magazines, including an article for the official publication of the G20 meeting.
- Targeted press announcements on key industry issues such as the launch of the IEA *World Energy*

*Outlook*, the *World Nuclear Supply Chain Report*, the *IPCC Synthesis Report*, and EU approval for Hinkley Point C investment contract.

- Growing social media presence with Twitter followers rising from 5,000 to 8,100 and the number of 'likes' on the Facebook page rising from 6,500 to 8,200 in 2014.

### Projects

- Launch a press and events section on the world-nuclear.org website to increase engagement with the press as well as encourage media presence at our events.
- Publish more opinion pieces in energy-related media outlets on nuclear energy.



# Events

The World Nuclear Association acts as a global forum and business meeting place for leaders and specialists in the nuclear industry. It runs its own events, but also co-hosts and partners other conferences, to reach out to various regions, organisations and people worldwide.

## World Nuclear Association Symposium

The Symposium in September in London is the place where senior executives from the global nuclear industry meet every year. A two-day conference is held alongside Working Group meetings and a large exhibition.

The highlight of the 2014 conference was the final panel where leaders from the industry and a representative of the Finnish government debated how to ensure the success of the global nuclear

industry for the next decades. Of key importance was delivering on time and to budget, as well as investing in the training and development of nuclear employees.

Delegates can also network at meetings and social events in London's famous venues, such as the 2014 welcome reception at Westminster Abbey Cloisters and the gala dinner at the Natural History Museum, during which

the 60th anniversary of the first nuclear power plant providing electricity to the general public was celebrated with first class entertainment from the Bolshoi Theatre, Moscow.

Delegates can also interact with over 30 exhibiting companies including vendors, suppliers, brokers, services, generators.

## Delegates' positions



- 50% CEO/MD/VP/GM/Director
- 29% Senior Manager, Manager & Executive
- 4% Engineer & Analyst
- 7% Press
- 10% Other



International speakers



Countries represented



Delegates



"The World Nuclear Association Symposium is an important opportunity for high-level networking and to get updates on the latest information. I am highly likely to attend next year."

Yoshinori Kondo, Director, Paris Office, Kansai Electric Power

"A fantastic networking opportunity and a great forum to catch up with the latest developments in the industry."

Michael Goldsworthy, CEO, Silex Systems

## World Nuclear Fuel Cycle

Every April, the World Nuclear Association runs the WNFC conference jointly with the Nuclear Energy Institute. The conference provides an international forum to discuss issues affecting the nuclear fuel cycle. Leading industry experts provide information and insights to help the industry navigate through the complex and changing fuel marketplace.

The conference rotates each year around the world enabling people from all continents to attend. WNFC 2014 was held in San Francisco, allowing more representatives from the US to come. WNFC also offers a technical tour alongside the conference. In 2014, participants visited the Nuclear Engineering Laboratories at the University of California, Berkeley.

## World Nuclear Spotlight

World Nuclear Spotlight builds upon the World Nuclear Association's membership base in countries developing nuclear to present the scope of their nuclear power programmes to global nuclear industry leaders and other key stakeholders. It is a unique opportunity for a large overview of global nuclear trends as well as for high level business networking.

World Nuclear Spotlight 2015 took place in Beijing on 15 January. Speakers included top-level executives from the supporting Chinese organisations CNS, CNNC, SNPTC and CGN, as well as from

international companies such as Cameco, Tenex and AREVA. The conference was a great success, attracting over 200 delegates from both Chinese and international companies. Agneta Rising was interviewed by China's national broadcaster CCTV discussing prospects for nuclear energy in China, and China's place in the global nuclear industry.

Two technical tours were held after the conference: China Experimental Fast Reactor and Tsinghua University's Institute of Nuclear and New Energy Technology.

## Meetings ahead

### Events

21-23 April	World Nuclear Fuel Cycle conference, Prague, Czech Republic
9-11 September	World Nuclear Association Symposium, London, UK
11-13 January 2016	Meeting of all Working Groups, London, UK

### Working Groups

May	CORDEL DICTF meeting, United States
17 May	CORDEL CSTF meeting, Chiba, Japan
20-23 April	Meetings of all Working Groups, Prague, Czech Republic
7-9 September	Meetings of all Working Groups, London, UK

### World Nuclear University

March-September	Nuclear Olympiad
2-6 March	Short courses, Pretoria/Port Elizabeth/Cape Town, South Africa
12-15 May	Short course, Kuala Lumpur, Malaysia
14-17 June	Short course, Amman, Jordan
4 July-14 August	Summer Institute, Uppsala, Sweden
7-10 July	Short course, Chengdu, China
13-15 July	Short course, Seoul, South Korea

# World Nuclear Association Members

As of 15 March 2015

Alpiq Suisse SA	EnLog Pacific Holdings Pty Ltd	KEPCO E&C
Amec Foster Wheeler Nuclear UK Ltd	EnLog USA	KEPCO Nuclear Fuel Co., Ltd.
AREVA	ENUSA Industrias Avanzadas S.A.	Kernkraftwerk Gösgen-Däniken AG
ARMZ Uranium Holding Co. (JSC Atomredmetzoloto)	Eskom Holdings Limited	KGHM Polska Miedz S.A.
Association for Regional and International Underground Storage (ARIUS)	Euratom Supply Agency	King's College London (Project Alpha)
Atomic Minerals Directorate for Exploration & Research	European Mutual Association for Nuclear Insurance	Korea Atomic Energy Research Institute
Australia Nuclear Science and Technology Organisation (ANSTO)	EXCEL Services Corporation	Korea Electric Power Corporation
Berkeley Resources Ltd	Exelon Generation Company LLC	Korea Hydro & Nuclear Power Co
BHP Billiton Olympic Dam	EY Global Services Limited	Korea Nuclear Energy Promotion Agency
Borealis Infrastructure Management Inc.	Fairbanks Morse Engine	Kyushu Electric Power Co. Inc.
Bruce Power	FirstEnergy Nuclear Operating Company (FENOC)	Laramide Resources Ltd
Burges Salmon LLP	Fluor-B&W Portsmouth LLC	Lloyd's Register
Cameco Corporation	Freshfields Bruckhaus Deringer LLP	MacGiver Works B.V.
Canadian Nuclear Laboratories Limited	Fuelco LLC	Marking Services Inc.
Candu Energy Inc.	GDF Suez	Marubeni Corporation
Central Research Institute of Electric Power Industry (CRIEPI)	GE Energy	Mitsubishi Corporation
Centrus Energy Corp.	GEODIS Wilson - STSI	Mitsubishi Heavy Industries Ltd
CEZ, a. s.	Global Atomic Fuels Corporation	Mitsubishi Nuclear Fuel Co Ltd
CGN Global Uranium Ltd	Global Nuclear Associates	Mitsui & Co Ltd
CGNPC Uranium Resources Co Ltd	Gowlings LLP	MZ Consulting Inc.
China National Nuclear Corporation	Greenland Minerals and Energy Ltd	N.V. EPZ
Chubu Electric Power Co Inc.	Grosmont Howe Ltd	NAC International
Chugoku Electric Power Co Inc	Hitachi-GE Nuclear Energy Ltd	Namibian Uranium Association
Cimtas Piping	Hokkaido Electric Power Co Inc.	National Nuclear Laboratory
CLP Power Hong Kong Limited	Hokuriku Electric Power Company	New World Consulting LLC
Commonwealth Independent States Navigation Inc.	Horizon Nuclear Power	North West University
CONUAR	Iberdrola Generacion S.A.	Nuclear Cargo and Service GmbH
ConverDyn	Idemitsu Kosan Co. Ltd	Nuclear Economics Consulting Group
Daya Bay Nuclear Power Operations and Management Co Ltd	Imperial College London	Nuclear Electric Insurance Limited
DMS s.r.o.	Industrias Nucleares do Brasil S.A. (INB)	Nuclear Fuel Complex
Doosan Heavy Industries & Construction	Ingerop Conseil et Ingenierie	Nuclear Power Corporation of India Limited
E.ON Nordic	Intelligent Systems	Nuclear Resources International Inc (NRI)
East Cliff Consulting	International Nuclear Services	Nuclear Risk Insurers Limited
Edlow International Company	International Uranium Enrichment Centre	NUKEM GmbH
Electric Power Development Co Ltd (J-POWER)	INTERNEXCO GmbH	NUKEM Technologies GmbH
EDF	Israel Atomic Energy Commission	Oakbay Resources and Energy
Electronics Corporation of India Limited	ITOCHU Corporation	Ontario Power Generation
Eletronuclear	Japan Atomic Power Company	Pandit Deendayal Petroleum University
Emirates Nuclear Energy Corporation	Japan Nuclear Fuel Limited	PGE EJ 1 Sp z o.o.
Energoatom	Japan Steel Works Ltd	Pillsbury Winthrop Shaw Pittman LLP
	Jordan Atomic Energy Commission (JAEC)	Pinnacle West
	JSC Atomenergomash	Pinsent Masons LLP
	JSC Atomstroyexport	Price Forbes & Partners Ltd
	Kansai Electric Power Co Inc.	PricewaterhouseCoopers LLP
	KAZATOMPROM	Regulation and Supervision Bureau
		Rio Tinto Uranium

Risk Engineering Ltd  
Rolls Royce plc  
ROSATOM State Atomic Energy Corporation  
Rosenergoatom Concern  
RSB LOGISTIC Projektspedition GmbH  
Rusatom Overseas  
Rusatom Service  
Shearman & Sterling LLP  
Shikoku Electric Power Co Inc.  
Shimizu Corporation  
Silex Systems Limited  
State Nuclear Power Technology Corporation (SNPTC)  
Sogin S.p.A  
Sojitz Corporation  
South African Nuclear Energy Corporation (Necsa)  
Southern Nuclear Operating Company  
State Company Navoi Mining and Metallurgical Combinat  
Sumitomo Corporation  
Swedish Nuclear Fuel and Waste Management Co (SKB)  
Taiwan Power Company  
TAM International Inc.  
Techsnabexport (TENEX)  
Teollisuuden Voima Oyj (TVO)  
Thomas Thor Associates  
Tohoku Electric Power Co Inc.  
Toshiba Corporation  
Total  
TradeTech Energy AG  
TradeTech, LLC  
TVEL Corporation  
UAB „VAE SPB”  
UCL Australia  
Uranium Corporation of India Ltd (UCIL)  
Uranium One Inc.  
Uranium Solutions LLC  
Urenco Limited  
Ux Consulting Company LLC  
Vattenfall  
W M Mining Company  
Westinghouse Electric Corporation  
World Institute for Nuclear Safety  
Worthington Industries



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