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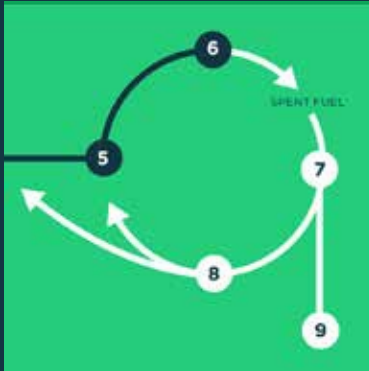
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David Ohayon

Chairman's Message

Your WNTI remains committed and dedicated to serving its members, adapting to challenge and receptive to change.



Welcome to WNTI Today 2021, which comes at a time of unprecedented challenge and change. As we go to press the Covid-19 pandemic persists and demands that we all work a little differently and think a little more creatively. I speak on behalf of all my fellow WNTI Board members in hoping that you and your families are seeing your way through this as best you can and it is my sincere wish that, when circumstances allow, we can all reassemble to reflect on these trying times.

Given the significant current challenges, it is appropriate for me to express my deep thanks to the WNTI Team who have worked hard to quickly adapt to a new ‘norm’, developing modern ways of working and preserving all the WNTI’s functionality that is available to us.

I guess we will all have some recall, for many years to come, of what was happening in our lives when the effects of the Covid-19 pandemic placed significant constraint on all our undertakings. For the WNTI team, this coincided, almost to the week, with a change to our Secretary General. It would be easy to lose sight of this, given all that is going on, but it would be significantly remiss not to extend the Board’s gratitude to John Mulkern who worked diligently throughout his tenure as our Secretary General (SG), for that I say thank you John. In April 2020, I had the pleasure of welcoming our new Secretary General, Martin Porter who is no stranger to any of us. He has been the WNTI representative of our newest Full Member, Sellafield Limited, for the past 10 years and our Back-End Transport Working Group Chair for the last 5 years. Given Martin’s 37 years’ service to our industry at Sellafield, he brings with him a wealth of nuclear transport operational experience which will stand him well for his period at WNTI.



Our SG has shared with the Board his vision for leading the WNTI over the coming years and we are supportive and enthused with the direction that he has laid out for providing our members with additional services, whilst growing the WNTI’s outreach to prospective members, our stakeholders and those that we collaborate with. Competence and peer evaluation will feature significantly in the aspiration for our future WNTI with all our undertakings delivered within an ethos that promotes and exudes equality, diversity, and inclusion. These are worthy goals, particularly considering the changing nature of our industry.

Small nuclear reactors, floating nuclear power plants, radiopharmaceuticals and nuclear decommissioning are all now embraced within the WNTI mission at a time when our early generation programmes are ending.

These and other developments call for an agile and adaptive WNTI and the Board will work closely with the delivery team to ensure that we provide for our members needs in this changing environment. Our efficient and effective reconfiguration from an onsite Semi-Annual Members Meeting to a virtual variant in mid-2020 is an early indicator of agility and bears well for our future embracing of new technologies and ways of working.



Whilst 2021 may not be delivered in the manner envisaged in previous years, your WNTI remains committed and dedicated to serving its members, adapting to challenge and receptive to change. We wish you all well and look forward to a time when we can safely meet to promote and progress our mission of safe, secure, efficient, and reliable transport of radioactive materials.

Bon Courage!

David Ohayon,  
Chairman



Martin  
Porter

Secretary  
General's Message

I want our WNTI to drive global competency, deliver peer evaluation for continuous improvement and embrace equality, diversity and inclusion.



Welcome to this, my first WNTI Today as your Secretary General. It goes without saying that these are new and trying times for everyone and I sincerely hope that you, your families, and your colleagues are as well as the last turbulent few months allow. Whilst the pandemic has presented many challenges to our daily lives, there remains the clear need to move radioactive materials safely, securely, efficiently, and reliably across the globe.

The freedom of movement of medical isotopes, fresh fuel, spent fuel and waste is key to maintaining health care and energy provision throughout the world.

I am humbled but extremely proud to lead an organisation which works selflessly to ensure that necessary supply lines remain open and unimpeded at this, and all other, times.

As I entered this new role, I spent many hours contemplating how to build on the firm foundation established by Lorne Green, strengthened by Henry-Jacques Neau and reinforced by John Mulkern and then we all became virtual. Whilst it would be easy to use this as an excuse, I take a very different view and have seized the opportunity to explore new, modern, and exciting ways of working. Our first occasion of delivering a virtual Semi-Annual Members Meeting was an overwhelming success and I tip my hat to the WNTI team of Amy, Chris, Emily, Hirotaka, Ose, Scott and Simon who turned adversity into success in only four weeks. In saying this, I also must thank our colleagues in Switzerland who worked hard to host the cancelled meeting in Zurich. I look forward to a time, soon, when we can take up the kind invitation to visit Switzerland.



Now, if the past informs the future, then I have been gifted with an opportunity to share with you my vision for advancing and improving your WNTI.

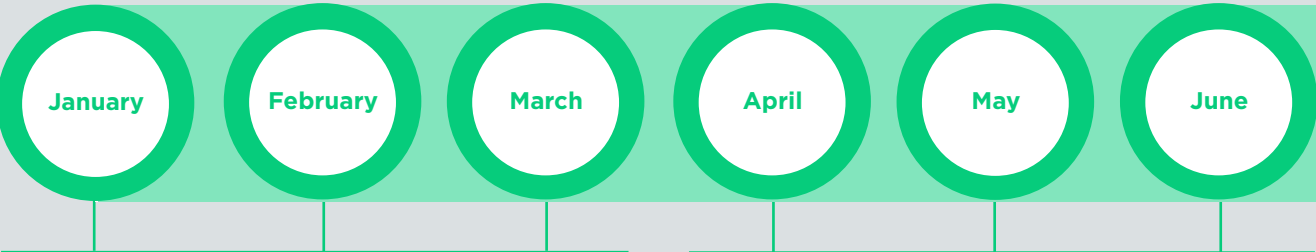
The primary aim in my leadership is to influence our future by shaping and sharing our WNTI as a modern, inclusive, and progressive body.

To this end, I have already identified some strategic themes that will be delivered during my tenure. I want our WNTI to drive global competency, deliver peer evaluation for continuous improvement and embrace equality, diversity, and inclusion. Additionally, I want us to utilise the opportunities videoconferencing gives us, to continue to engage with colleagues and stakeholders. It is our gift to use our learning to deliver a successful PATRAM 2022 when I hope we can all share memories of our recent experiences and hopes for a resurgent world where old and new nuclear provides for a sustainable future.

I wish you all good health and good luck in all your endeavours.

Martin Porter  
Secretary General

# Highlights from 2020



**IAEA Consultancy Meeting**  
To Plan for a Technical Meeting on Security of Nuclear and Other Radioactive Materials in Transport.

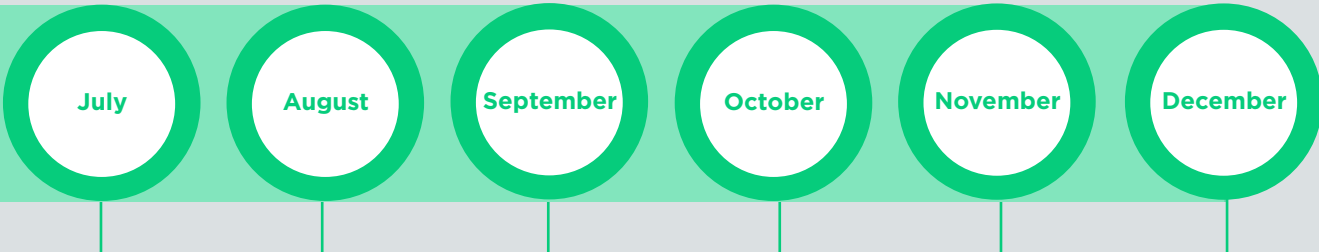
**IAEA - International Conference on Nuclear Security: Sustaining and Strengthening Efforts, 10th-14th February**  
Specialist Advisor, Captain Simon Chaplin attended and WNTI Transport Security Working Group Chairman, Ben Whittard, delivered a presentation describing the work that the WNTI does through its Transport Security Working Group.

**Ose Izore and Emily Midgley joined WNTI**  
At the beginning of March, Ose and Emily joined the Operational team taking on the roles Business Coordinator and Marketing and Communications Consultant.

**UK Civil Nuclear Showcase**  
Department for International Trade returned to London to host another successful UK Civil Nuclear Showcase. We attended the 2-day event on behalf of our members and had the opportunity to learn more about the latest developments in the UK's nuclear sector and across the international nuclear marketplace.

**The WNTI on Lockdown**  
On Wednesday 18th March, following government guidelines, our team began working from home.

**WNTI and the World Nuclear Association (WNA) Virtual COVID-19 Meeting**  
The first in a series of virtual meetings was held in collaboration with the WNA to keep members informed on Transport during the COVID-19 pandemic.



**Scott Edwards, WNTI Specialist Advisor celebrates his 1-year work anniversary.**

**Amy Northage, WNTI Membership and Events Executive celebrates 5 years with WNTI (alongside another big milestone - turning 30!).**

**IAEA Virtual 10th Meeting of the Emergency Preparedness and Response Standards Committee (EPReSC 10) - 15th July.**

**IAEA Virtual Technical Meeting on the Revision of IEAE Safety Standards Series No. GS-G-2.1 'Arrangements for Preparedness for a Nuclear or Radiological Emergency' - 20th - 24th July**  
Specialist Advisor, Hirotaka Nojima attended the meeting on behalf of WNTI to review and discuss the draft of the proposed new safety guide.

**Decommissioning Spotlights: Transport**  
The Nuclear Institute Young Generation Network (YGN) in collaboration with Nuclear Decommissioning Authority (NDA) Industry Partner Steering Committee hosted a series of webinar aiming to put the spotlight on each organisation that is part of the NDA Group. WNTI where invited to participate in the session focusing on Transport and provide commentary on how this part of our industry supports all aspects of decommissioning.

**IMO facilitation Committee Virtual Meeting FAL44 28th September - 2nd October.**

**Chris Chen celebrates his 6-year anniversary at WNTI.**

**IMO Council Virtual Meeting C124 - 12th - 14th October.**

**IAEA Virtual International Conference on the Management of Naturally Occurring Radioactive Materials (NORM) in Industry 19th - 30th October**  
Specialist Advisor, Scott Edwards, attended this virtual meeting which included some discussion of the transport of NORM throughout the world.

**WNTI celebrates 2 years at Aviation House.**

**IAEA Virtual 41st Meeting of the Transportation Safety Standards Committee (TRANSSC) - 2nd - 5th November**  
The TRANSSC reviews and updates the IAEA Transport Regulations, Advisory Materials and Guidance Documents. Specialist Advisor, Scott Edwards, and 4 other WNTI Members attended on behalf of WNTI and made several presentations during its associated TRANSSC Technical Expert Group (TTEG) meetings.

**IMO Maritime Safety Committee Virtual Meeting MSC 102, 4th - 11th November**  
The MSC is the IMO's senior technical body on safety related matters, such as the SOLAS convention.

**IMO Marine Environment Protection Committee Virtual Meeting MEPC 75, 16th - 20th November**  
The MEPC is the IMO's senior body on marine pollution related matters. The original focus was on oil pollution, but this has widened to include requirements addressing pollution from chemicals, other harmful substances, garbage, sewage, and air pollution and emissions from ships.

**IAEA Virtual 11th Meeting of the Emergency Preparedness and Response Standards Committee (EPReSC 11) 2nd - 5th November**  
The committee deals with the matters in emergency preparedness and response. Specialist Advisor, Hirotaka Nojima attended on behalf of WNTI, and delivered a short presentation describing the WNTI work related to EPR.

**Winter Semi Annual Members' Meeting**  
What should have been the resumption of an end of year face to face meeting for our members, sadly was unable to occur due to ongoing COVID-19 restrictions. Instead, Winter SAMM took place virtually between 30th November - 4th December, via WebEx videoconferencing, including 5 Working Group meetings and Plenary session.

**Hirotaka Nojima, WNTI Specialist Advisor, celebrates his 3 year work anniversary.**





# Who We Are

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Our  
position  
remains  
unchanged...

Dedicated to the safe, secure, efficient and reliable transport of Radioactive Materials.

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## Mission

To be recognised as the voice of the Nuclear Materials transport industry by utilising its members skills and knowledge to maintain and improve the safe, secure, efficient and reliable transport of Nuclear Materials.

## Vision

Our Vision is to create global awareness of the safety and security of transportation of all Nuclear Materials.

## Values

We value our members by providing a line of communication where they feel involved in every decision that is made. We pride ourselves on being diverse and inclusive, a close-knit of experienced, multidisciplinary and expert team who are dedicated to our core objectives – ultimately driving excellence.

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## Objectives

- To promote the continued development and worldwide use of Nuclear Power.
  - To support, consult and participate in the work of governmental and non-governmental bodies in regulating and promoting safe transport of Nuclear and Radioactive Materials.
  - To maintain a forum to communicate good practice, innovation, and views.
  - To support research development and testing for systems and components for transport.
-



# WNTI Membership

Our growing worldwide membership is open to all companies involved in nuclear transport including generators, suppliers, uranium producers, fuel cycle and other companies working in the nuclear supply chain.

## Australia

BHP

## Belgium

European Liability for the Nuclear Industry (ELINI)

SA TRANSRAD NV

## Canada

Cameco Corporation

Commonwealth Independent States Navigation Inc (CISNAV)

Nuclear Waste Management Organization (NWMO)

TAM International LP

## China

Nantong CIMC Tank Equipment Co, Ltd

## Denmark

Maersk Line

## France

ORANO

Assuratome

CEA

CMA CGM

Deugro

Descote s.a.s

Électricité de France (EDF)

GEODIS Wilson/STSI

## Germany

BGZ Gesellschaft für Zwischenlagerung mbH

DAHER Nuclear Technologies GmbH (Nuclear Cargo & Service GmbH)

GNS Gesellschaft für Nuklear-Service mbH

RSB LOGISTIC Projektspeidition GmbH

## Japan

The Federation of Electric Power Companies of Japan (FEPC)

Hitachi Zosen Corporation

Japan Nuclear Fuel Ltd (JNFL)

Marubeni Corporation

Nuclear Fuel Industries, Ltd (NFI)

Nuclear Fuel Transport Co. Ltd (NFT)

Sojitz Corporation

Sumitomo Corporation

## Kazakhstan

NAC KAZATOMPROM JSC

## Russia

J.S.C Atomic Industry Transport and Logistics (JSC Atomspectrans)

J.S.C Saint Petersburg “IZOTOP”

J.S.C Techsnabexport (TENEX)

## Spain

ENUSA Industrias Avanzadas S.A.

## Switzerland

Swiss Nuclear Fuel Commission (Axpo Power AG)

## UK

International Nuclear Services Ltd

Sellafield Ltd

Bureau Veritas UK Ltd

Direct Rail Services Ltd (DRSL)

Low Level Waste Repository (LLWR)

The General Purposes Committee (GPC) for Nuclear Insurance Pools

Pacific Nuclear Transport Ltd (PNTL)

Radioactive Waste Management (RWM)

Rolls Royce Submarines Ltd

Serco

URENCO Ltd

## USA

ALARA Logistics

ConverDyn/General Atomics/Honeywell

Westinghouse Electric Company



# International Regulations of Radioactive Materials

Internationally harmonised regulations ensure the safe and secure transport of millions of shipments of radioactive materials throughout the world each year.

Radioactive materials are transported by road, rail, sea, inland waterways, and air. Shipments range from smoke detectors to radiopharmaceuticals to nuclear fuel cycle materials used for power generation to waste. To sustain these important activities, organisations and people around the world depend on safe, secure, efficient, and reliable transport of the full range of Nuclear Materials. The safety record of these shipments is impressive.

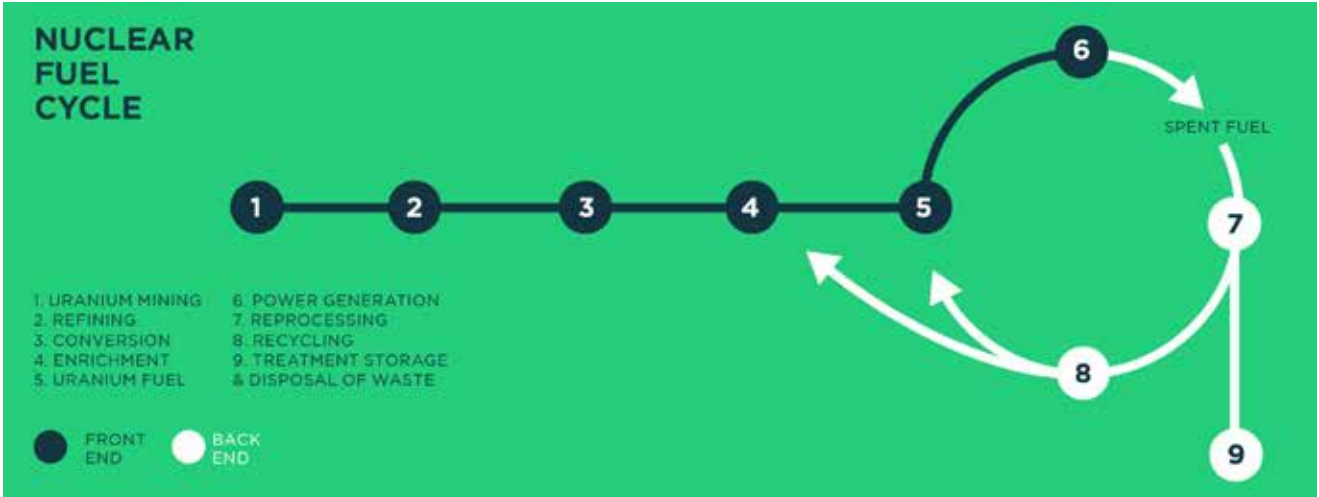
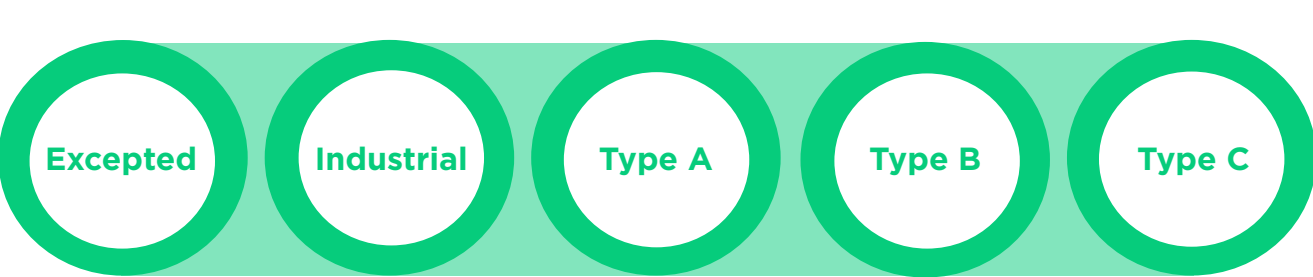
Over this period a stringent regulatory regime has been developed at both international and national levels. This regime includes standards, codes, and regulations, which have been continuously revised and updated over the past decades to keep abreast of the latest technologies, environmental concerns, and political views.

## Why Safe Transportation of Radioactive Materials is Important

Regulations are based on the fundamental principle that radioactive materials being transported should be packaged adequately, to provide protection against the various hazards of the material under both normal and potential accident conditions. Safety, therefore, relies on the packaging adapting to its radioactive contents, whatever the transport mode. Since safety depends primarily on the packaging, the regulations provide performance standards for each type of packaging used for the transport of radioactive materials.

The criteria for each package design type is based on both the activity and the physical form of the radioactive material they may contain. The IAEA Regulations set out corresponding test or analysis procedures to demonstrate compliance with the required performance standards.

Five different types of packages have been established; these are:



In over 50 years there has never been a transport incident involving nuclear materials that has caused significant radiological damage to people or the environment.

## The IAEA Regulations for the safe transport of Radioactive Materials

The provisions of the IAEA Regulations are adopted in the national requirements of Member States. The IAEA Regulations are also incorporated into the regulations relative to each mode of transport issued by international or regional bodies, such as the IMO IMDG code and ICAO Technical Instructions. WNTI has Observer Status at the IAEA and other international bodies, so WNTI can participate in the discussions where new or revised regulations are determined. WNTI's members collaborate to produce best practice documents, which provide methods and techniques to comply with IAEA regulations. These are freely accessible on our website.

## Regulations, Standards and Codes



# Services to Members

We represent our members and their interests to a number of intergovernmental organisations, UN specialized agencies and nongovernmental bodies during the development and revision of regulations, guides and standards.

**Name:** IAEA

**WNTI Industry Position:**

Observer Status

[www.iaea.org](http://www.iaea.org)



The International Atomic Energy Agency (IAEA) is the world's central intergovernmental forum for scientific and technical co-operation in the nuclear field. Its focuses are the safe, secure, and peaceful use of nuclear technologies, the United Nations' Sustainable Development Goals and contributing to international peace and security. WNTI members work together to maintain a sound, international transport framework through cooperation. We have held Observer Status at the IAEA for over 20 years, working closely with and supporting the IAEA in meetings and committees. These include the following:

## TRANSSC

The Transport Safety Standard Committee (TRANSSC) consists of national regulators and observer organisations that come together to focus on writing and revising SSR-6 and its accompanying guidance documents. TRANSSC meets twice a year with each session lasting a week. TRANSSC Technical Expert Groups (TTEGs) focus on specific issues in greater detail. WNTI actively participates on all TRANSSC and TTEG activities.

## NSGC

The Nuclear Security Guidance Committee (NSGC) is open to all Member States and selected NGOs. Its purpose is to make recommendations on the development and review of the IAEA Nuclear Security Series publications, for which WNTI provides an expert opinion on the transport aspects.

## EPRReSC

The Emergency Preparedness and Response Standards Committee (EPRReSC) is the newest IAEA Safety Standards Committee, and its creation reflected the importance given to the cross-cutting nature of emergency preparedness and response. WNTI has been invited to a series of IAEA meetings relating to transport EPR ever since it was established.



**Name:** IMO

**WNTI Industry Position:**

Consultative Status

[www.imo.org](http://www.imo.org)



The International Maritime Organization (IMO) is the United Nations' specialised agency responsible for the safety and security of shipping and the prevention of pollution by ships. The IMO's main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented. WNTI is the only NGO at the IMO that is an industry expert in Class 7 radioactive material transports and we have held Consultative Status at the IMO for over 20 years.

The function of the IMO is achieved through an assembly, a council and 5 main committees supported by several sub-committees. WNTI attends various meetings within these committees. These include the following:

## MSC Committee

The Maritime Safety Committee (MSC) is the highest technical body in the IMO and is concerned with all IMO matters concerning maritime safety. This includes the handling of dangerous goods, vessel design and construction, maritime safety procedures and requirements, salvage, and rescue.

## FAL Committee

The Facilitation Committee (FAL) considers all aspects of implementing the Convention on Facilitation of International Maritime Traffic 1965, such as eliminating unnecessary 'red tape' barriers to international shipping. The balance between ensuring maritime security and the facilitation of international maritime trade is also a focus.

## MEPC Committee

The Marine Environment Protection Committee (MEPC) considers all IMO matters concerning the prevention and control of pollution from ships. The adoption and amendment of regulations such as the International Convention for the Prevention of Pollution from Ships (MARPOL) is a focus for the committee. This regulation covers oil, chemical and harmful substance pollution as well as garbage, sewage, and air pollution from ships.

## CCC Sub-Committee

WNTI attends the Sub-Committee on the Carriage of Cargoes and Containers (CCC) which deals with, among other items, the carriage of packaged dangerous goods and keeps the International Maritime Dangerous Goods (IMDG) Code updated. The CCC also collaborates with other UN bodies dealing with similar issues.



WNTI also has long and beneficial association with other Intergovernmental and International Organisations

Name: ISO

WNTI Industry Position:  
Category A Liaison Organisation

[www.iso.org](http://www.iso.org)



The International Organization for Standardizations (ISO) is a nongovernmental body with a mission to promote the development of standardization and related activities worldwide. Technical Committee 85 (TC85) deals with nuclear energy, nuclear technologies and radiological protection; standards relating to the transport of radioactive materials are included in the activities of Sub-Committee 5 (SC5: nuclear installations, processes and technologies).

WNTI focuses on three standards: ISO 12807, 'Leakage testing on packages', ISO 7195, 'Packaging of Uranium Hexafluoride (UF6) for transport' and ISO 10276 'Trunnions for packages used to transport radioactive material'. These standards are dealt with by the ISO Working Group 4 (WG4: Transportation of radioactive material). WNTI makes an effective contribution to ISO as a Category A Liaison Organisation and delivers Industry's opinions via its participation in ISO/TC85/SC5/WG4 as an expert.

Name: ICAO

WNTI Industry Position:  
Observer Status

[www.icao.org](http://www.icao.org)



The International Civil Aviation Organization (ICAO), a United Nations Specialized Agency, established by States in 1944 to manage the administration and governance of the Convention on International Civil Aviation (Chicago Convention). ICAO works to achieve its vision of safe, secure, and sustainable

development of civil aviation through cooperation amongst its Member States. The WNTI has observer status to the ICAO and is invited regularly to participate in their Dangerous Goods Panel Working Group meetings (DGP WG).



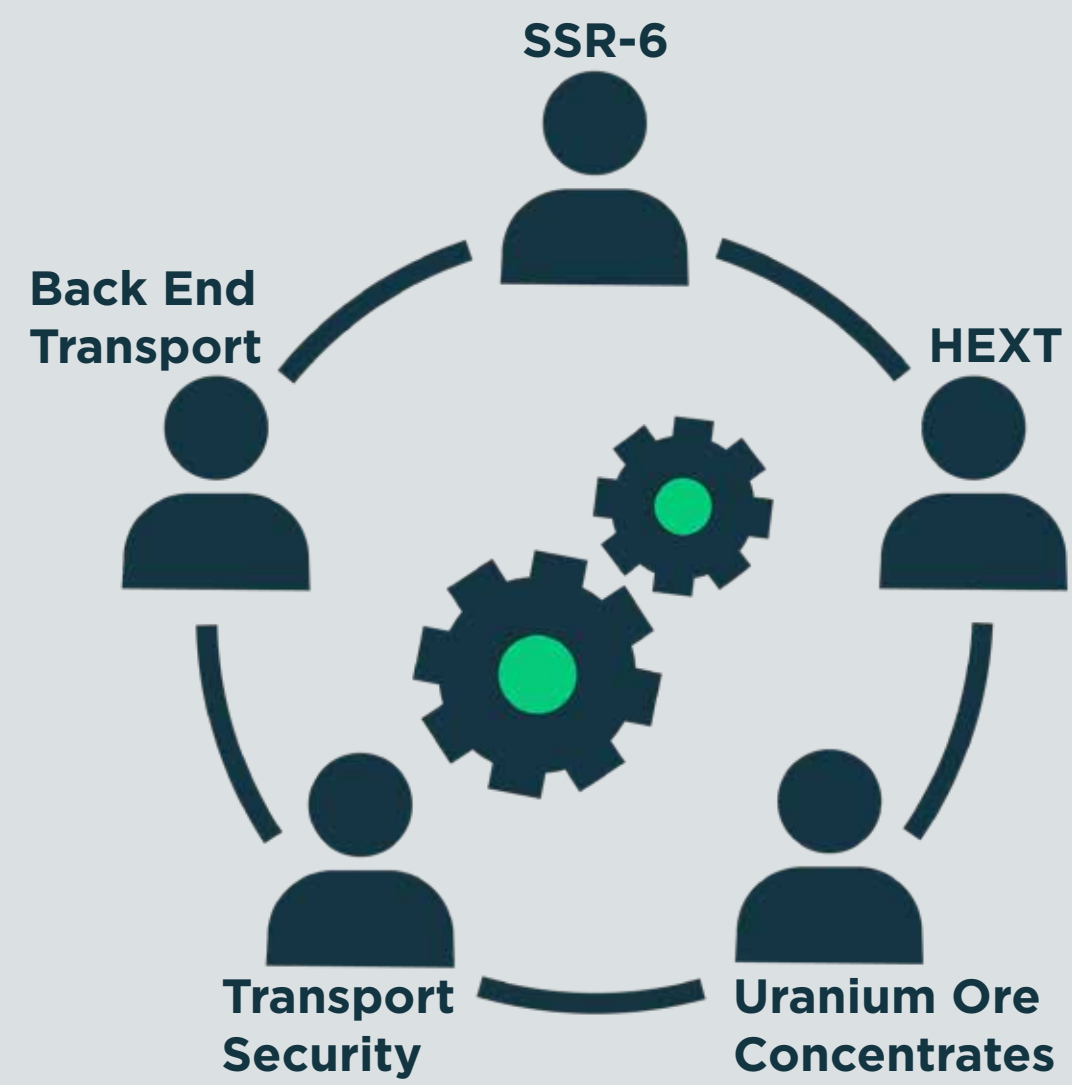
We attend up to 100 meetings with Intergovernmental and International Organisations every year.



Our specialist advisors bring over 70 years of industry experience to Intergovernmental and International Organisation meetings.

# Working Groups

WNTI Working Groups provide forums where industry members concentrate on long-term issues, emerging items and trends in more narrowly-focused topical areas. Presently, there are 5 Working Groups, but that can change as warranted by events.



Established in 2000, our group permanently establishes and defends the industry’s position at the IAEA Transport Safety Standards Committee (TRANSSC). Our members are package design, manufacturing and shipping companies.



### The Purpose of the Working Group

The SSR-6 Working Group (SSR-6 WG) provides a forum for the discussion of the radioactive materials transport regulatory issues. This is primarily accomplished through the IAEA Transport Safety Standards Committee (TRANSSC), where we participate.

The purpose of the our working group is to help the IAEA and other regulators (such as IMO, ICAO, IATA, UNECE) provide safe and practicable rules for the transport of radioactive material.

The SSR-6 Working Group is the place where industry can discuss and propose potential amendments to the transport regulations, focusing on SSR-6, its associated Safety Guides and implementation of SSR-6 in other modal transport regulations.

**Chair:** Bruno Desnoyers  
bruno.desnoyers@orano.group

**Secretary:** Scott Edwards  
sedwards@wnti.co.uk

### 2020 Successes

In 2020, even with the disruptions caused by Covid-19, we participated actively in discussions at IAEA level. Among the documents we supported and helped edit were:

- Guides related to Package Design Safety Reports (PDSR).
- Criticality Safety, Compliance Assurance.
- Radiation Protection Programs and Ageing Management.

Numerous improvements in the explanatory texts and recommendations contained in these documents were proposed by the us and have been incorporated into the final documents.

Our representatives in the TRANSSC Technical Expert Groups have also been able to initiate discussions on industry issues like different waste packaging, fissile exceptions, and freight container types and allowances.

### Future Work in 2021

We will continue to participate in the establishment or revision of the regulations and guides relating to the transport of radioactive materials under the jurisdiction of the IAEA TRANSSC.

We must also prepare to make proposals for improvements and developments of SSR-6 and SSG-26 as part of the review cycle expected to be initiated by the IAEA in 2021.

Particular attention will be paid to the following items to find a common WNTI position:

- Implementing the new requirements regarding ageing mechanisms.
- Limits for new fissile and radioactivity content exceptions.
- Freight container allowances.





HEXT

Uranium Hexafluoride (UF<sub>6</sub>) is the main component for the production of clean and low-carbon nuclear energy. It is transported internationally by road, rail and sea from the conversion facilities to the enrichment and fuel production facilities.



### The Purpose of the Working Group

The HEXT Working Group (HEXT WG) provides a forum for WNTI members to exchange information around UF<sub>6</sub> topics, regarding package approvals and validations, UF<sub>6</sub> cylinder standards, the publication of WNTI Guides and Fact Sheets, and technical and operational challenges. This consolidates to provide a comprehensive information base for its members about the regulatory environment and best practise for the safe handling and transportation of UF<sub>6</sub> around the world.

**Chair:** Joel Kruehler  
Joel.kruehler@ureenco.com

**Secretary:** Scott Edwards  
sedwards@wnti.co.uk

### 2020 Successes

An Industry Consortium of some of the HEXT WG members collaborated contractually to renew the GB 48X/Y BTP/CTP/bare certificates which expired in July. These certificates and its US and Russian validations had been received without any transport delays.

Within the IAEA TRANSSC a question had been raised for background about the technical basis for fissile UF<sub>6</sub> packages in SSR-6. A sub-group of HEXT members have worked together and consolidated a response on that question which has been forwarded to the TTEG PPA.

The UF<sub>6</sub> Fact Sheet and the Guideline for the Transport of UF<sub>6</sub> samples, the revision of the Good Practice Guide for the Installation of Valves and Plugs have been finalised and are waiting publication.

### Future Work in 2021

The future challenges are, amongst others, to monitor the regulatory developments especially about the management of ageing packages. The long-term integrity of packages will become more of a focal point and it is desired that the HEXT WG members collaborate to address this topic for the available packages. Further it is still planned to set-up a "Good Practice Guide for the load securing of UF<sub>6</sub> packages" to support the continuous improvement of operational processes for the safe handling and transport of UF<sub>6</sub>.



Uranium Ore Concentrates

The UOC Working Group is concerned with the theme: The safe, secure, and efficient transportation of Uranium Ore Concentrates internationally by road, rail, and sea from the uranium producers to uranium converters.



### The Purpose of the Working Group

The primary function of the Uranium Ore Concentrates Industry Working Group (UOC WG) is to discuss and explore the following aspects for uranium concentrates:

- The packaging used.
- The shipping process, for example sea containers and package securing methods.
- The requirements and controls for transport, such as safety marks, shipping documents, safety data sheets and radiation protection.
- To develop and maintain publications such as Good Practice Guides, WNTI Standards and Fact Sheets related to the transport of Uranium

**Chair:** Marc-Andre Charette  
marc-andre\_charette@cameco.com

**Secretary:** Simon Chaplin  
simonc@wnti.co.uk

Ore Concentrates, within ISO Containers in Multimodal Transport.

- To act as a forum for sharing experiences, issues, and incidents so that the industry can learn from each other.

### 2020 Successes

In 2020 the Working Group drafted and reviewed the UOC terms of reference and finalized the publication entitled "Safe transport of uranium ore concentrates" to be published as a Fact Sheet in 2021.

Another success of the working group is when a WNTI member met with the Belgium competent authority, FANC, to review and address concerns raised with respect to the securing of UOC drums in sea containers. In addition, two new documents were drafted to address the issue raised by FANC, these are the CSC plate information and the interpretation of acceleration values in SSG-26. These documents are expected to be published in 2021.

### Future Work in 2021

The future challenges are, amongst others, to ensure the safe, secure, efficient, and resilient transport of uranium ore concentrate. Against this background, monitoring of regulatory developments at the IMO, IAEA and nationally as well as the availability of transport routes is a focus of the working group.

In order to assure the long-term viability of the uranium industry, the working group continues to evaluate new technologies for packaging, transport, safety, and security. Including reviewing, updating, and developing new WNTI publications when needed. Along with encouraging the use of the WNTI Standard for Packaging and Transport of Uranium Concentrates.



# Transport Security

By its very nature, the security of nuclear and other radioactive material during transport continues to attract international attention. The unique challenges posed during transport, particularly when compared with fixed facilities, often require a dedicated and risk managed approach.



## The Purpose of the Working Group

The WNTI Transport Security Working Group (TSWG) offers a unique opportunity for our members to meet and discuss key transport security matters. Since its creation, this community of transport security professionals continues to strengthen and plays a key role in helping develop and influence international good practice and recommendations concerning transport security. In doing so, the working group is represented at various international forums, including at the IAEA and IMO.

**Chair:** Ben Whittard  
Ben.whittard@innuserv.com

**Secretary:** Simon Chaplin  
simonc@wnti.co.uk

## 2020 Successes

2020 saw the successful completion of the TSWG's Work Programme 1.0. This programme focused on three key focus areas:

- Learning from experience – this involved, members providing briefings to the TSWG on key issues/challenges they face as a nuclear transport operator.
- Industry voice – an improved consultancy process was implemented, offering all members the opportunity to provide feedback to the development and/or amendment of international good practice.
- Competency and professionalism – a free one-day training course was provided to members by International Nuclear Services focussing on nuclear transport security. We also held presentations by representatives from various stakeholders including Pierre Legoux, World Institute for Nuclear Security (WINS).
- The TSWG also brought in experts to brief members on future challenges and opportunities to nuclear transport security. This included topics such as insider threat, cyber security, drones, UAVs and blockchain.

## Future Work in 2021

The TSWG Work Programme 2.0 was agreed in 2020. This seeks to build on the good progress made so far under 1.0 and now includes a new focus area – 'Products and Services'. This will see the TSWG adding more value to its members through the provision of new WNTI services including an open-source intelligence service, investment into agreed research and development topics and the development of a WNTI Transport Security Advisory Service (TSAS).



# Back End Transport

The Spent fuel and radioactive waste from nuclear power reactors, as well as the decommissioning of nuclear facilities and a wide range of industrial and medical facilities have to be processed and packaged, transported for storage and eventually for disposal.



## The Purpose of the Working Group

The purpose of the Back-End Transport Working Group (BET WG) is to develop discussions on back-end transport issues with the potential to affect radioactive materials transport in terms of safety requirements, costs, delays, and any other aspects. In addition, the BET WG also share and publish good practices on packaging and the transport of waste materials. It develops a WNTI industry perspective on these issues and communicates these views to the IAEA, when it is appropriate.

## 2020 Successes

The BET WG has continued to work closely with UK Industry and International Regulators to propose a new type of package for intermediate level waste (ILW). This is aimed at simplifying the processes

**Chair:** Ceinion Thomas  
ceinion.d.thomas@innuserv.com

**Secretary:** Hirotaka Nojima  
hirotakan@wnti.co.uk

of decommissioning and reducing the number of packages to be shipped by allowing the packaging of a broader range of material in storage and transport packages. Presentations were made on this subject by WNTI at TRANSSC 41.

Regarding WNTI Publication revisions, we are in the final stages and close to completion of WNTI Fact Sheet - 'Transport of Large Objects and Special Arrangements.' Whilst work continues on 'The INF Code and purpose-built vessels' and 'Nuclear Fuel Cycle Transport – Back end materials' - with the aim for final publication to be announced early next year.

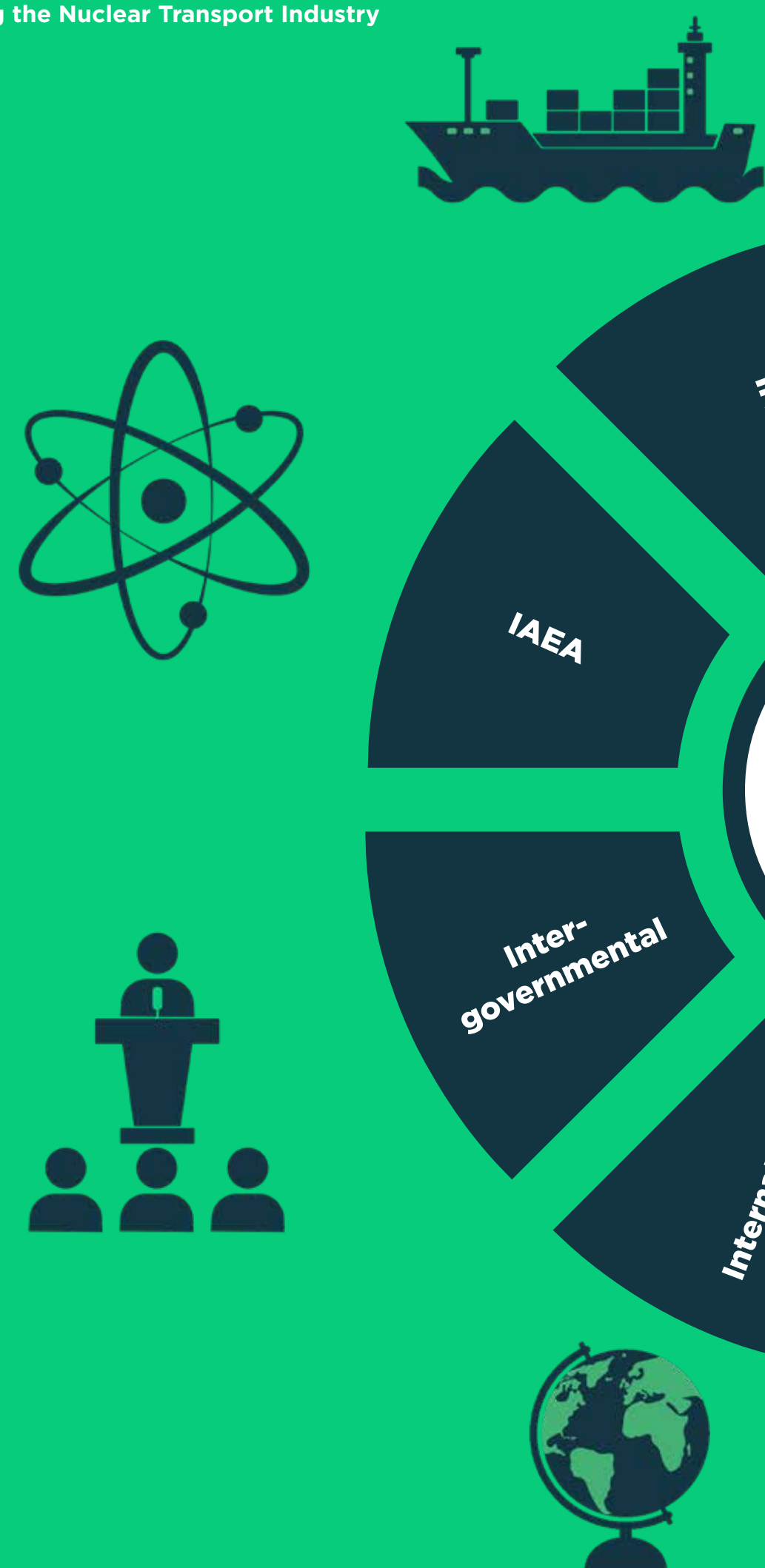
## Future Work in 2021

We reviewed and evaluated the workplan of the BET WG, and collected members' new interest in 2019. We will maintain the following workplan:

- New Type of Waste Package.
- Long-Term Storage of Spent Fuel and Wastes.
- Cask Decommissioning.
- Large Objects.
- Dual Use Casks.
- New IAEA TECDOC: Transport of High Burnup UOX and MOX spent fuel.

We will continue working closely with the IAEA and remain focused on our WNTI publication review and refresh updates, whilst considering the development of new topics where a need has been identified.





# Semi Annual Members Meeting (SAMM)

Exchange ideas, debate disciplines, share knowledge and experience, develop consolidated positions on current issues and the opportunity to collaborate together to shape the nuclear transport industry for the future.



The core focus of the SAMM is around industry working group seminars, active open forum discussions and the opportunity to hear presentations from top profile industry professionals within nuclear transport.

Our meetings are split across two-days and attended by Transport, Security, Logistics, Mining, Compliance, Sales and Packaging experts from within our industry and from across the world.

SAMM is the highlight event for WNTI and our Members, taking place every Summer in a Member destination and in London for Winter.

We have five bespoke working groups which are led by representative Chairmen from within the membership body.

Due to the Covid-19 worldwide pandemic and ever-changing restrictions, WNTI set up an online virtual meeting platform for 2020.

The aim of the virtual experience is to provide our members with a secure space to continue their engagement with each other and remain in close collaboration for ongoing working group topics.





# WNTI Publications

We collaborate with industry experts to produce up to date publications. Our suite of publications includes Information Papers, Good Practice Guides, Fact Sheets and Standards.



- A WNTI Glossary
- New Fissile Exception Provisions in the IAEA Transport Regulations (SSR-6)
- Nuclear Fuel Cycle Transport - The IAEA Regulations and their Relevance to Severe Accidents
- Radioactive Materials Transport: The International Safety Regime - An Overview of Safety Regulations and the Organisations Responsible for their Development
- ▲ Interpretation of the Recommendations Contained in the Appendix IV of SSG-26 (Rev.1) -2018 Edition
- ▲ How to Interpret the information displayed on the CSC plate of an ISO general purpose container
- Calculating Activity for Natural Uranium
- Radiation Dose Assessment for the Transport of Nuclear Fuel Cycle



- Transport Principles
- Radiation Protection Programmes for Road Carriers, Sea Carriers and Port Handlers
- The Preparation of Natural Uranium Samples for Shipment in an Excepted Package
- Generic UOC Safety Data Sheet
- Nuclear Transport Security - Revision 1 - A WNTI/ WINS International Good Practice guide
- Communicating Radioactive Materials Transport
- Transport of UN3507 by Air
- The Installation of Socket Head Plugs in UF6 Cylinders

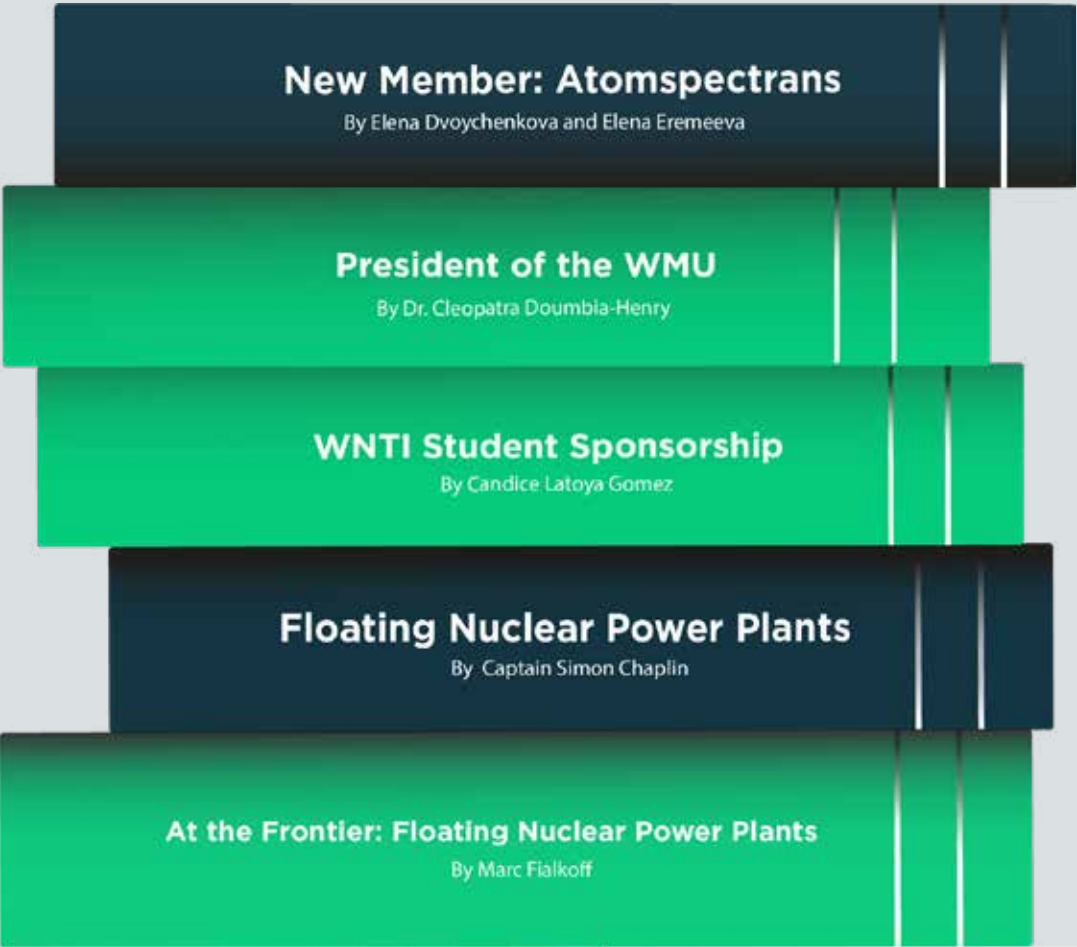
All our publications are available for free at [www.wnti.co.uk](http://www.wnti.co.uk)



- Safety Regulations Governing Radioactive Materials Transport
- The Package Types used for Transporting Radioactive Materials
- The Nuclear Fuel Cycle Transport - Back-End Material
- The INF Code and Purpose-built Vessels
- Quick Facts on the Transport of Nuclear Fuel Cycle Transport
- ▲ Transport of Unpackaged Surface Contaminated Large Objects
- Uranium Hexafluoride (UF6)
- Nuclear Liability for Transport
- Industry Interpretation of TI and CSI Limits for the transport of UF6 packages by Sea
- Nuclear Fuel Cycle Transport - Front End Materials
- The Safe Transport of Uranium Ore Concentrate
- ▲ WNTI Standard for the Packaging and Transport of Uranium Concentrates Version 3
- WNTI Standard for UF6 Cylinder Identification



# Members, Industry and Stakeholders' Voices





Elena Dvoychenkova



Elena Ereemeeva

## New Member: Atomspectrans

Women who work in our company, play an important role and participate in strategic decision-making, serving as inspirers and mentors for the younger generation to develop new professional opportunities.



**Elena Dvoychenkova, Atomspectrans  
Head of Logistics Department**

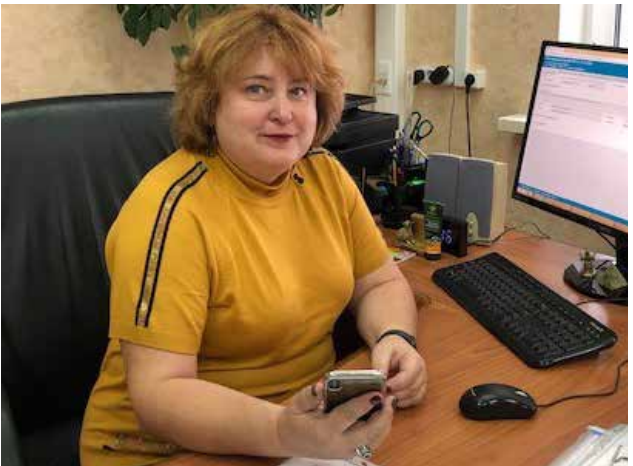
Over the past decade our company has gradually transformed into a large multi-profile organisation with an extensive network of branches, which has concentrated almost all the logistic services of the Russian nuclear industry under its leadership. A global circulatory system which was created, works without failures and allows transportation of radioactive materials under a unified industry control centre and a unique safety and security system. The Atomspectrans, JSC is now the sole Russian industry transport operator for the organisation, a technical support and control of transportation for various categories of Class 7 cargo by different modes of transport worldwide and providing a full cycle logistics service for customers.

It is important to add that the progress would be impossible without the skills and knowledge of our professional team. Continuing the best traditions of the Atomspectrans, JSC founders, as well as considering all actual market requirements. The company's employees take on new challenges at a high level and bring to perfection the implementation of tasks.

On the 1st of September, Atomspectrans, JSC resumed its membership with WNTI, with the highest worldwide industry rating. This step will facilitate the exchange of professional experience in developing joint innovative solutions at an expert level for the Worldwide nuclear industry.

In conclusion, I would like to add that initiatives on gender balance in the worldwide nuclear industry are currently becoming a trend. Women who work in our company, play an important role and participate in strategic decision-making, serving as inspirers for the younger generation to develop new professional opportunities and create a friendly atmosphere in the workplace, while maintaining a good work life balance.

It is important to remember that women working in the nuclear industry should make their dreams happen.



**Elena Ereemeeva, Atomspectrans  
Deputy Director for Economic and Finance**



Dr.  
Cleopatra  
Doumbia  
-Henry

## President of the WMU

The World Maritime University (WMU) was established in 1983 by the International Maritime Organization (IMO) with its headquarters in Malmö, Sweden.



**Dr. Cleopatra Doumbia-Henry**  
President of the World Maritime University

WMU is the lead international postgraduate education and research institution and a centre of excellence for the promotion and advancement of shipping and related fields. This also includes the improvement of maritime safety and security, the protection of the marine environment, the efficiency of international shipping and other marine and related ocean issues. In furtherance of the purposes and objectives of the United Nations system and, in particular, of the Organization as a specialized agency of the United Nations.

WMU has played a significant role over the past 37 years in maritime and oceans education, research, capacity-building and economic development of many countries around the world including

developing countries. One of its most important contributions to date has been the promotion of women in maritime and ocean sectors. WMU will have educated at the post-graduate level at the end of this academic year 5, 407, including more than 1,184 women, from 170 countries and territories. They hold leading positions in their governments, industry, academia, media, and civil society. Among the prominent graduates of WMU is no other than the IMO Secretary-General, Kitack Lim, who is also WMU Chancellor.

WNTI has been an important contributor to WMU for the last 18 years, awarding nine fellowships over the years to students from Antigua and Barbuda, China, Jamaica, Panama, Peru, Saint Vincent and the Grenadines, Tonga, Trinidad and Tobago. Eight of them have graduated and the ninth graduated in November 2020. They have all returned to their home countries and have been making important contributions in the maritime and ocean sectors.

**WMU will have educated at the post-graduate level, more than 1,184 women from 170 countries and territories.**

My personal journey is a very unusual one. I was born and grew up in the Commonwealth of Dominica where I went to the Convent High School. I come from a very big family and my mother died very young and just two weeks before I took my A-level exams. I was devastated as we were nine children, and I was the second eldest child, and my older sister was at university in Jamaica.

I was the older one at home to support my Dad under very difficult circumstances, with my Dad insistent that I take my UK A-level exams, which is a blank to me to date. I successfully passed my A levels and to my enormous surprise I was awarded a Canadian government scholarship to go to the University of the West Indies (UWI) to which I had applied. My Dad was my champion and mentor and inspired me. I could never use the word "I cannot" in his presence. "Yes, you can", he always said. I went on to do a Bachelor of Law and a Master of Law at UWI, Law school at the Inner Temple in the UK, a second master's degree and a PhD at the Graduate Institute of International Studies and the University of Geneva in Switzerland. I was fortunate to have had scholarships for my entire academic journey. I worked as a Lecturer of Law at the University of the West Indies in Barbados, as the Legal Assistant to the President of the US-Iran Claims Tribunal in The Hague, the Netherlands, and for over 29 years as a lawyer and then Director of two major Departments of the International Labour Organization in Geneva, Switzerland.

At the ILO, my biggest challenge and achievement was spearheading the design, development, adoption, and implementation of the MLC, 2006 which took five years of discussions and negotiations. The MLC, 2006 consolidated 68 out of 72 maritime labor instruments into one single Convention - the most ambitious drafting project in ILO's history. One of the most personally gratifying and memorable achievement was the adoption of the MLC, 2006 by the International Labour Conference with a record of 314 votes in favor of Governments, Shipowners and Seafarers Organizations without a single vote against.

**I joined WMU in 2015 as its President. I am the first female President and the first from a developing country.**

I consider myself fortunate after a long career in the ILO to have the opportunity to give back for so much that I have received. My role is to build on the achievement of my predecessors and to take WMU forward, adapting to the changing circumstances and ensuring that the University delivers academic excellence. Taking into account new developments to adapt and adjust its academic programmes, undertaking cutting edge research on maritime and ocean issues. Building capacity and supporting sustainable development of countries, particularly developing countries in line with the United Nations Sustainable Development Goals.

With the huge impact COVID-19 has on seafarers, despite the MLC, 2006, many countries have still not taken appropriate measures to enable the transfer and transit of seafarers who have now been on board for almost six months following the expiry of their contracts of employment and thus in breach of the MLC, 2006. This has gravely put seafarers at risk with respect to their mental health, welfare, and well-being. I have identified one issue that I consider would need consideration by the ILO's MLC Special Tripartite Committee. This would be to consider amending Appendix A5-1 of the MLC, 2006 by adding a single word "repatriation" as an inspectable item under the Convention.

**I recall the words of the then ILO Secretary General, Juan Somavia, who described the MLC, 2006 as "historic" and a model for a way forward to achieving "fair globalization".**

The MLC is the Bill of Rights for the world's maritime workers and the third global pillar—the social pillar, complementing the other two pillars, maritime environmental and safety standards. To date, the MLC, 2006 has been ratified by 93 countries representing 91% of global trade. The review of countries' compliance with the Convention is reviewed on a regular basis by the ILO's landmark Committee of Experts for the application of Conventions of the ILO, with the review made to date by the Committee of compliance by about 70 countries to date.





Candice  
Latoya  
Gomez

## WNTI Student Sponsorship

Studying at the World Maritime University has truly been an enlightening experience. Embarking on this journey allowed me the opportunity to explore the complexities of the maritime industry in a multicultural setting.

Candice Latoya Gomez  
World Maritime University Student

Through the many seminars, lecture sessions and discussions I have gained invaluable knowledge that is not only theoretical in nature but also practically enabling. Teachings and experiences shared by industry experts, professors, and other students will be remembered profoundly.

There have been many thought-provoking moments; one of them came when my specialization colleagues and I visited Greece. A CEO of a renowned shipping company shared a real-life business experience with us. The CEO was talking about the dynamism of shipping when he responded to a question on decision-making.

He said shipping and the decisions he makes were in his blood. His response resounded in me because it demonstrated connectedness to the real thing; passion, courage, charisma, and legacy all of which I have come to know are needed in shipping.

Prior to enrolling at the WMU, there was a time when I felt insufficient in my career. I was required to meet the demands of two roles: one as the chairperson for ports on the executive council of the Shipping Association of Trinidad and Tobago and the other as head of marketing at the Port Authority of Trinidad and Tobago. Embracing the vitality and scope of the maritime sector seemed overwhelming and I felt as I was speeding ahead in my career, but in the dark. The urge and willingness to be impactful was there, but the scope of my knowledge was limited.

It is at this juncture I must express my heartfelt thankfulness to the World Nuclear Transport Institute for the opportunity to attend the WMU to pursue a Master of Science in Shipping and Logistics.

This insightful programme has equipped me with the tools and competencies which I can build upon to be successful in my career.

With the support of the WNTI, I was thus able to achieve one of my professional goals for 2019; to enrol in a postgraduate programme compatible with my career path and develop my leadership skills.

But life at the WMU was not without its challenges. My first class was maritime environmental science, where we were taught about the ocean's ecosystems. This field was new to me. I struggled with the terminologies and the assessment, a 3000-word essay on the subject. I naively contemplated how an ocean science course was relevant to a degree in maritime affairs. I was ready to give up until I remembered the sacrifices others had made to get me to this far and beautiful land for self-improvement. I determined the best currency to repay with was decided and diligent effort. I was going to give it my best shot which I did.

Then the coronavirus pandemic happened, and everything became uncertain. All field trips were postponed and eventually cancelled. We resorted to classes via zoom sessions at the same level of intensity which felt exhausting and somewhat isolated. I was disenthralled once again, but my three-year-old son saved the day. One lonesome afternoon after video chatting with him, he left me with these simple but reprimanding, sharp but uplifting words, "mummy don't forget to do your work well." These words became my compass whenever I seemed to lose courage. Family is everything and I am so grateful for mine. Without their love and support I could not have achieved this prestigious MSc award. This brings me to the high regard I have for the WNTI. They treat the people they work with like family. The WNTI and its members demonstrated caring concern for the next generation of maritime leaders when they decided to fully fund my expenses in pursuing an MSc program at the WMU. The numerous attempts to have me visit the WNTI and the emails from Simon which

always ended with "we remain hopeful" provided reassurance and comfort in the uncertain times. I previously knew little about the nuclear industry but with this nurturing relationship I now have with the WNTI; nuclear power has become a fascination. It holds wonderful prospects for humans and the planet earth as a renewable energy source with the inherent advantage of reducing carbon emissions.

The dynamic structural changes in areas such as technological advancement, increased regulatory pressure and volatile trading patterns present many uncertainties for the global maritime industry. It is my endeavour to contribute positively to a sustainable maritime sector in my country and, by extension, the Caribbean through sound strategies and smart performance indicators and policy initiatives. In the Caribbean, regional accurate performance indicators are needed throughout the maritime sector to identify hindrances to efficient trade facilitation. Incorporating these within robust frameworks driven by relevant policy initiatives would be my general intention.

Many thanks to the WNTI for its support!



I am extremely grateful for the support and encouragement provided by the team. My hope is that I can continue to learn about the WNTI and the initiatives it continues to drive within the nuclear industry. Maybe one day I can even be a voice for its members on my side of the world; advocating for support of the safe transport of nuclear material.



Captain  
Simon  
Chaplin

# Floating Nuclear Power Plants

The need to provide reliable, green energy to remote locations is one of many reasons that floating nuclear power plants (FNPP) are increasingly becoming an energy option for the future.

A FNPP can be constructed in a yard, using the advantages of modular construction. The FNPP can then be fuelled before being moved to the location where it is required.

The first floating nuclear power station was named the Sturgis and consisted of a pressurized water reactor fitted into a converted Liberty ship. The Sturgis was constructed in the United States and on completion was towed to the Panama Canal Zone where it provided electricity from 1968 until 1976.

The only FNPP currently operating today is the Rosatom owned vessel named Akademik Lomonosov, which became operational in 2019 in Pevek, Chukotka, a remote Arctic region in the Russian Federation. The Akademik Lomonosov provides electricity and district heating, replacing an aging coal fired power station.

The Akademik Lomonosov uses reactor systems like those successfully and safely used onboard icebreakers. Consisting of two KLT-40S

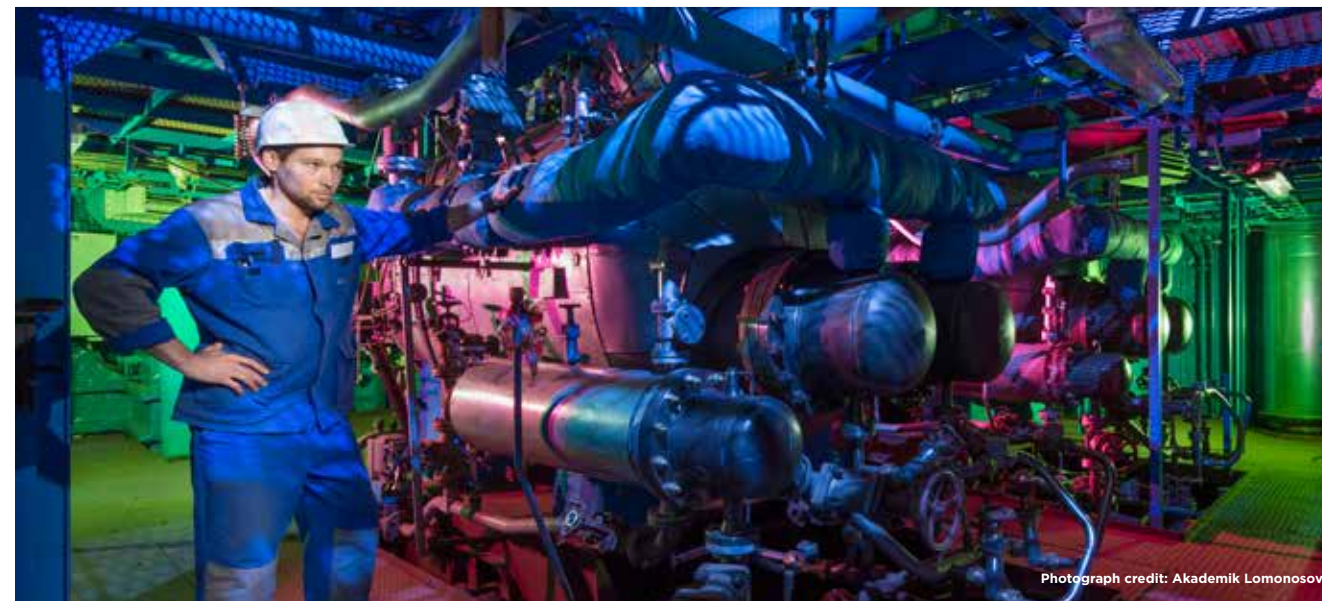
reactor systems each with a 35 MWe capacity, this technology has been developed to give a lifecycle of 40 years, with the possibility of being extended by up to 50 years. The reactors will be refuelled once every 3 years, with special compartments onboard the 144-metre-long purpose-built vessel for the storage of spent nuclear fuel. Rosatom are now exploring other opportunities to use this technology in other regions of the world.

Floating nuclear power plant designs are also being developed in other countries. In South Korea, Kepco E&C have recently signed an MoU with Daewoo Shipbuilding & Marine Engineering to cooperate on the development of floating nuclear power plants.

In China there is also progress being made towards FNPP technology. In 2016 both China National Nuclear Corporation (CNNC) and China General Nuclear (CGN) announced plans to construct demonstration small modular offshore multi-purpose reactors.



Photograph credit: Akademik Lomonosov



Photograph credit: Akademik Lomonosov

CGN have signed an agreement with China Shipbuilding Industry Corporation (CSIC) to cooperate on a nuclear power offshore platform, a concept design displacing 30,000 tonnes. This would supply power and desalination. Similarly, the CNNC floating plant is aimed at supplying electrical power to offshore oil and gas drilling platforms.

The transportability of these FNPP makes them ideal for providing electricity to islands and remote communities that do not have access to a national grid. They can also provide desalination to areas that do not have a reliable source of fresh water.

There are, however, many challenges with the operation of FNPP. Because this is new technology many of the international regulations that govern other aspects of the nuclear industry, as well as maritime transport, do not meet the needs of FNPP. Transport security and maritime regulations need to be carefully examined to ensure that the interests of both the operators and coastal states are respected, together with protecting the environment. WNTI will be fully engaged in any discussions that take place within the international organisation to which we have observer and consultative status.



Photograph credit: Akademik Lomonosov



Photograph credit: Akademik Lomonosov





# At the Frontier: Floating Nuclear Power Plants



**Marc Richard Fialkoff, J.D., Ph.D.**  
**Nuclear Security Research Associate**  
**Oak Ridge National Laboratory, USA.**

At the frontier of nuclear and maritime security is anchored the Floating Nuclear Power Plant (FNPP), a subclass of Transportable Nuclear Power Plants (TNPPs) which is being considered as an alternative to land-based reactors for coastal communities. Because they are shipborne, FNPPs can be towed into position offshore or docked at a seaport.

In the 63rd General Assembly Plenary Session, the Norwegian government acknowledged the need for greater awareness of the safety and security of TNPPs and greater coordination between the International Atomic Energy Agency (IAEA) and the International Maritime Organization (IMO). The lack of clarity and uniformity on integrated nuclear and maritime security, especially physical security, requires a reevaluation of existing international instruments.

The FNPP faces unique challenges to its security compared with land-based reactors, encompassing the requirements for both nuclear and maritime security.

The international instruments for nuclear security and maritime security require further harmonization to address the unique nature of FNPPs. While the Convention on the Physical Protection of Nuclear Materials (CPPNM) and its Amendment (ACPPNM) recognize the need for security in the international transport of nuclear materials, the International Ship and Port Facility Security (ISPS) Code does not speak to the physical protection, with no guidance on securing FNPPs at seaports.

At the operational level, physical protection of FNPPs requires a review of the Design Basis Threat (DBT) to incorporate the unique threats faced by FNPPs. Additional considerations include response to a nuclear security event at an FNPP anchored offshore and protection against cyber and insider threats and traditional maritime threats, such as piracy or a small craft attack.

Analyzing the FNPP provides an opportunity to build on the efforts of the IAEA and the IMO in nuclear security and maritime security with the FNPP acting as a bridge to further solidify and harmonize these efforts.



Photograph credit: Akademik Lomonosov



# Stakeholder Engagement During Covid-19

The Covid-19 pandemic has had great impact on the global economy and as countries around the world introduced travel restrictions, it became clear that this would also pose significant impact on our transport operations. We therefore held joint teleconferences in collaboration with the World Nuclear Association (WNA) to address issues in the industry that may be preventing companies from moving Class 7 materials. This enabled participants to gather first-hand information that could allow them to adjust their operations to maximise their efficiency, also providing an

opportunity to give their national and regional status. The first meeting took place on the 30th March 2020 with further meetings and updates in the following months.

The meeting thus proved to be a good portal for directing participants to information that is available from other intergovernmental and international organisations. Companies were also able to request help from the WNTI, WNA or member organisations that were appropriate.

### Positive outcomes:

- 1

Regulatory flexibility/streamlining with notification and approval methods adapted.
- 2

Digitalisation of working offering more flexible and agile working arrangements for staff.
- 3

The disruption to air mode has brought the security of supply of Class 7 to the attention of governments.
- 4

More carriers are looking favourably at the business case that supports the carriage of Class 7.

### Challenges:

- 1

Driver/crew infections and safe-guarding staff.
- 2

Cancelled voyages.
- 3

Risk to survival of some transport companies.
- 4

Heavily reduced air mode capacity.
- 5

Insurance industry raising premiums and re-examining policies.
- 6

Increased rates from carriers.
- 7

Difficulties in witnessing some loading/unloading operations.
- 8

Difficulties getting transit permits when some regulators were working from home.

# New Ways of Working



Photograph credit: IAEA

# Our Year Ahead WNTI 2021



8

Industry collaboration opportunities with International Organisations

1

Media Partnership

# PATRAM 2022

Patram brings together representative experts from industry, government, and research organisations to exchange scientific, technical and management information relating to all aspects of the packaging and transport of radioactive materials.

NICE ACROPOLIS  
FRENCH  
RIVIERA

AUGUST 28 - SEPTEMBER 01

www.patram.org

8 TECHNICAL  
SESSIONS

38 POSTER  
PRESENTATIONS

30 EXHIBITORS

FIFTEEN  
PANEL  
DISCUSSIONS

OVER 600  
ATTENDEES

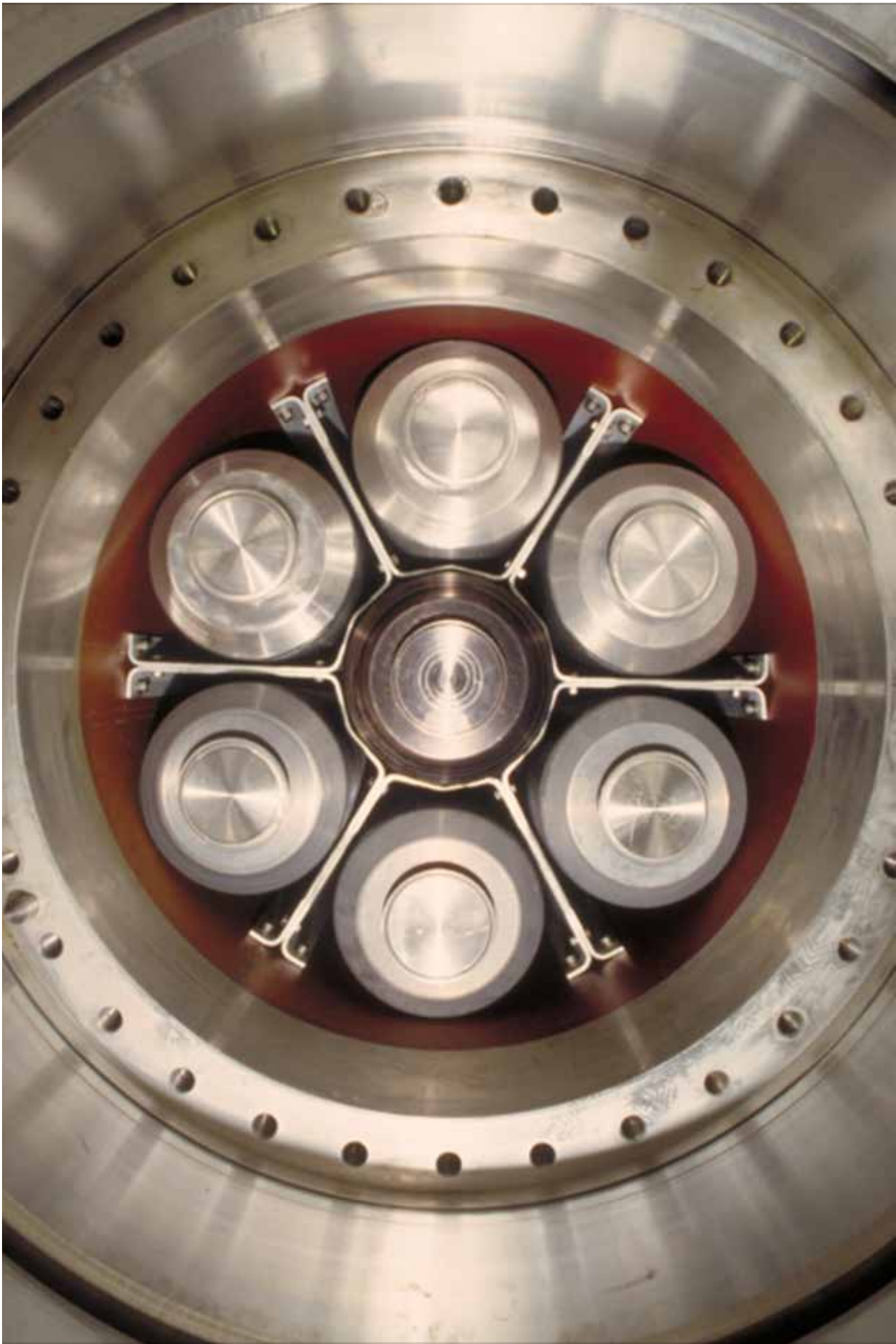
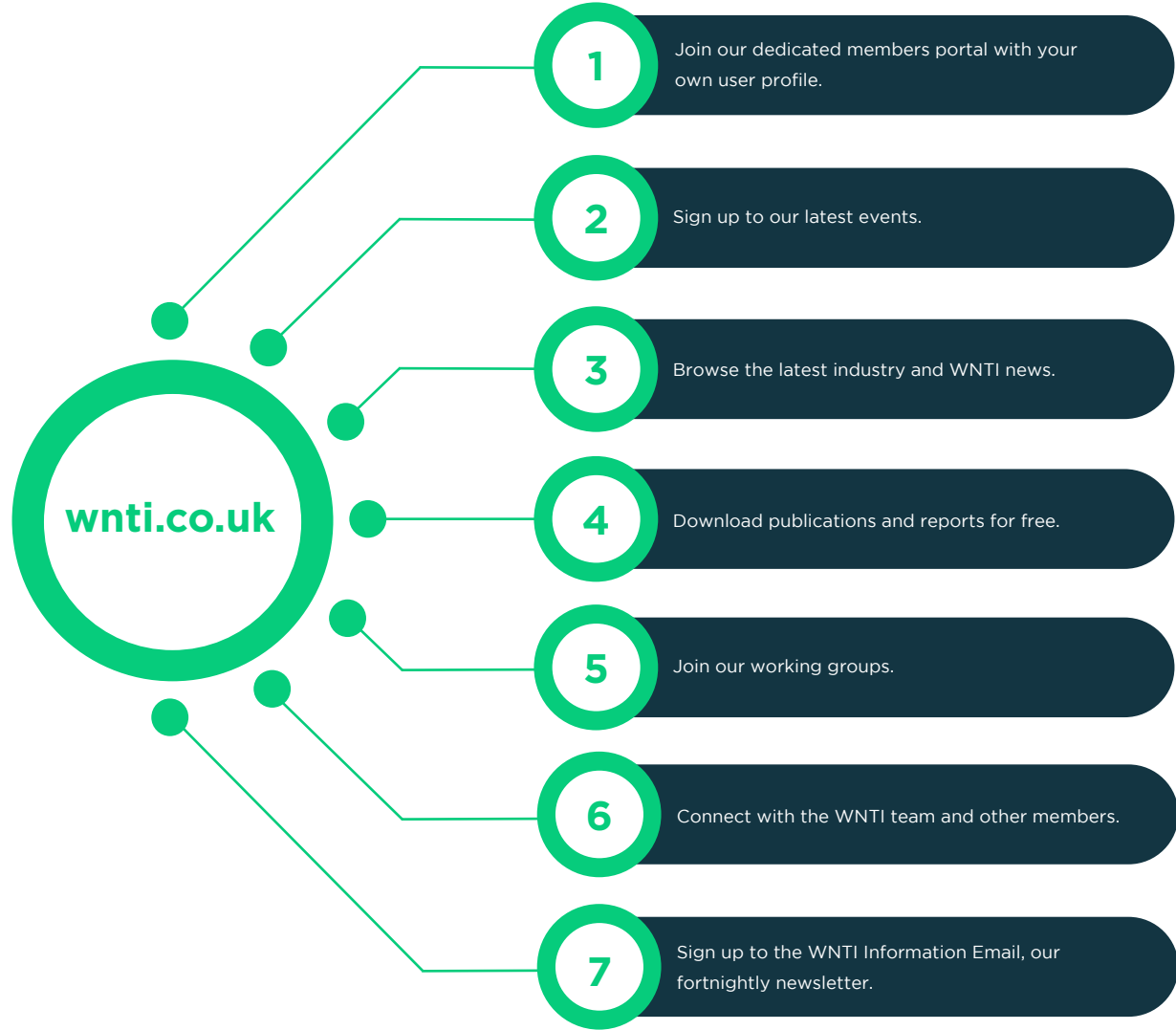
05  
DAY EVENT

Hosted by WNTI and INMM With the support of Orano TN and Bureau Veritas. In collaboration with SFEN.



# Connect with us

The highly anticipated WNTI website and brand new members portal will be launching early 2021. our new user friendly and responsive site will provide you with industry news, events and information.





# Join WNTI

WNTI is the voice for Nuclear Transport community. We are the only Nuclear Transport Non-Government Organisation (NGO) granted Observer status at the International Atomic Energy Agency (IAEA) and Consultative status at the International Maritime Organization (IMO). We are proud to be in a unique position to officially represent our members' interests, where updated regulations are developed.

# Connect Influence Share Resolve

Our members are a group of like-minded individuals who have varying degrees of involvement with the transportation of Nuclear Materials and overall fuel cycle. We value our members by providing a line of communication so they are involved in decision making.

## Benefits of WNTI Membership:

- Support the promotion of safe, secure, efficient, and reliable transportation of nuclear and radioactive materials.
- Connect with technical experts from across the nuclear fuel cycle.
- Influence decisions and outcomes for industry progression.
- Access to technical and regulatory platforms to share and further develop common industry positions and good practices on strategic issues.
- Information Exchange - Lead others in good practice via Publications.
- Privileged access to reports, presentations, and regulations updates through our members portal.
- A global forum for Nuclear Transport.
- Free attendance to WNTI member events, meetings, and workshops.
- Enhance your company's international profile and visibility.

## Membership Categories:

Membership is open to companies involved in or which attach importance to the transport of radioactive materials for peaceful purposes.

### Full Member

Make a substantial commitment and are actively involved in WNTI's strategy and development.

Along with having their voice heard within the regulatory governing bodies, they receive a seat on the WNTI board and advisory committee and can affect the direction of the WNTI itself.

### Associate Member

Actively participate in the development of Good Practices and Position Papers through the Industry Working Groups.

They have access to all information produced by the WNTI and all meetings held; and when applicable, have a chance to help shape the safety, reliability, and regulatory future for the transportation of nuclear goods.

### Support Member

Smaller companies with lesser direct involvement in nuclear transport activities but play an important role in the overall supply chain.

They will have access to information produced by the WNTI and are welcomed to participate in the WNTI Plenary Members Meetings and Seminars.

**For further information on WNTI membership please contact:** Amy Northage: [amyn@wnti.co.uk](mailto:amyn@wnti.co.uk)

# Corporate Governance

## Board of Directors



**Mr. David Ohayon**  
Chairman, Orano



**Mr. Chris Watson**  
International Nuclear Services



**Mr. Peter Buchan**  
International Nuclear Services



**Mr. Eric Delaunay**  
Orano



**Mr. Yoichi Ogawa**  
Overseas Reprocessing Committee



**Mr. Yoshihisa Tokunaga**  
Nuclear Fuel Transport Co, Ltd.



**Mr. Michael White**  
Sellafield

## Advisory Committee



**Mr. Martin Porter**  
Secretary General



**Ms. Anne Presta**  
Orano



**Ms. Yukari Tanaka**  
Nuclear Fuel Transport Co. Ltd



**Mr. Adam Thompson**  
International Nuclear Services



**Mr. Toshiro Umeda**  
Overseas Reprocessing Committee



**Mrs. Angela Sims**  
Sellafield Ltd



**Mr. Thibault Louvet**  
Orano

# Meet the Team

## Headquarters



**Mr. Martin Porter**  
Secretary General



**Mr. Chris Chen**  
Company Secretary;  
Finance and Operations Manager



**Mr. Hirotaka Nojima**  
Specialist Advisor



**Mr. Scott Edwards**  
Specialist Advisor



**Mr. Simon Chaplin**  
Specialist Advisor



**Ms. Amy Northage**  
Membership and Events Executive



**Ms. Ose Izore**  
Business Coordinator



**Miss. Emily Midgley**  
Marketing and Communications Consultant

## Regional Representatives



**Ms. Eileen Supko**  
Washington Office



**Ms. Katinka Theron**  
South African Representative



**Mr. Frank Boulton**  
Australasian Representative

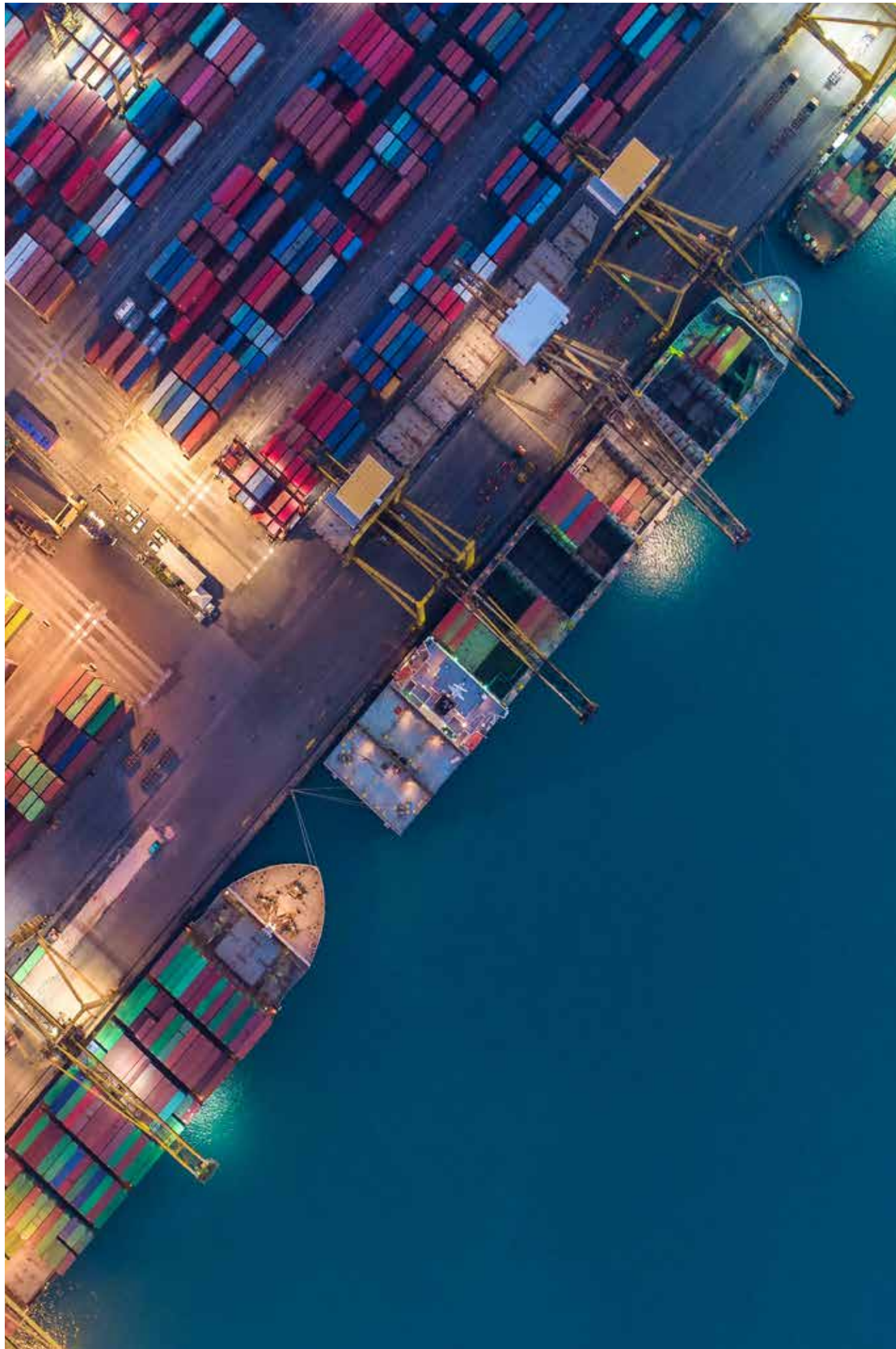


**Mr. Steven Shi**  
China Representative



**Mr. Toshiro Umeda**  
Tokyo Office





#### Head office

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