WNTI TODAY 2017

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WORLD NUCLEAR
TRANSPORT INSTITUTE

Contents

Chairman's Message

"Supporting our members to ensure that the excellent safety record of the nuclear transport industry is maintained has continued to be the highest priority activity for the WNTI."

As an existing Board member of WNTI, I am extremely honoured to be taking up the position of Chairman.

It is an extremely important role on behalf of the member companies, and I am already spending further time with the WNTI team in London to fully understand and support their daily work, and provide clear direction.

The World Nuclear Transport Institute (WNTI) still increases its areas of influence. New Companies continue to join the Institute and the scope of its activities and its global presence are developing in accordance with its Members' expectations.

Supporting our members to ensure that the excellent safety record of the nuclear transport industry is maintained has continued to be the highest priority activity for the WNTI. Our objective is to facilitate the development and adoption of the best technical and operational practices together with strict compliance to the regulatory requirements throughout the nuclear transport industry supply chain.

"There are new challenges in our Industry, and the transport area will change to meet these, and WNTI is already modifying the scope of the Working Groups to deal with these new challenges whilst maintaining our existing work."

The recent few months have been an interesting time for us with the departure of the last Secretary General and the introduction of the new Secretary General. The outgoing Chairman and Secretary General have left WNTI in good shape and I would like to personally thank both Mark and Henry-Jacques for their tremendous efforts to achieve this strong position.

I look forward to working with the WNTI team and the WNTI members to continue with the development of WNTI. There are new challenges in our Industry, and the transport area will change to meet these. WNTI is already modifying the scope of the Working Groups to deal with these new challenges, whilst maintaining our existing work.

The SAMM Members meetings give us a chance to exchange views, and I very much look forward to this. Please feel free to pass on your views as valued WNTI members to any of the WNTI team.

"I look forward to working with the WNTI team and the WNTI members to continue with the development of WNTI."

David Ohayon

Secretary General

“Firstly, I am honoured to have taken up the position of WNTI Secretary General earlier this year. I intend to continue the tremendous work undertaken by my predecessor Henry-Jacques Neau, and I am very pleased to be working with the WNTI team, WNTI member companies and other stakeholders.”

The WNTI has to embrace its role as the authoritative voice of the nuclear transport industry. Effective links between the WNTI and National and Regulatory Authorities, Government officials and appropriate International Organisations and Associations continue to be developed to ensure that the know-how and the 50 years’ operational experience from the transport industry support regulatory developments. This has been strengthened by WNTI presenting the industrial perspective to International Organisations, providing keynote speakers for major Conferences and producing Information Papers, Fact Sheets and Good Practice Guides which are available to the broader transport community through the WNTI website.

“The WNTI has strengthened its long-established role as the interface between regulator and industry.”

The WNTI has strengthened its long-established role as the interface between regulator and industry. Reacting to technical, operational or regulatory issues its Members may face, the WNTI, through its ad-hoc members’ meetings, provide the required forum for consultation, information exchanges and risk management in order to form the industry position and response.

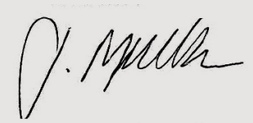
The Communication between Members still plays a pivotal role in the WNTI strategy. Communication experiences have been discussed and lessons learned enhanced at a seminar involving the various nuclear transport stakeholders. A Good Practice Guide on communication issues relevant to the transport of radioactive materials is now available for operators. Consideration has been given to the use of social media as a tool for communication.

The topical seminars in recent years have brought together specialists, operators and other stakeholders to discuss the latest developments and current and potential issues in the nuclear transport area. These have often led to the publication of WNTI Fact Sheets, Good Practice Guides and Information Papers, which are of value to nuclear transport operators. Such seminars will continue. In addition, the regional seminars in some of the so-called emerging markets will continue. WNTI continues to maintain and develop its links with educational establishments, particularly those with interests relevant to the nuclear and transport industries. WNTI has been invited to deliver lectures in recent years at the World Maritime University in Malmo, Sweden, to students who are involved in sea transport. This is important to industries dependent on the transport of nuclear materials.

WNTI also provides a transport lecture and case study to future nuclear leaders and experts enrolled in the INLEP Program of the prestigious Massachusetts Institute of Technology in the USA. The WNTI has also been invited to introduce and present the challenges of the transport of radioactive materials to students from over 25 countries participating in the Summer Institute of the World Nuclear University. This work will continue in 2017.

WNTI has a competent, dedicated and motivated team. Their responses to the WNTI and its members have always been of great value to the transport community. I would like to acknowledge their efforts and enthusiasm to make the WNTI voice the most efficient in promoting a sound, stable and harmonised regulatory regime, fit for purpose to guarantee safe and secure transport operations.

Finally, WNTI will reach its 20th Birthday in April 2018, and we look forward to celebrating this milestone with our members, partners and key stakeholders.



John Mulkern

Overview of Radioactive Material Transport

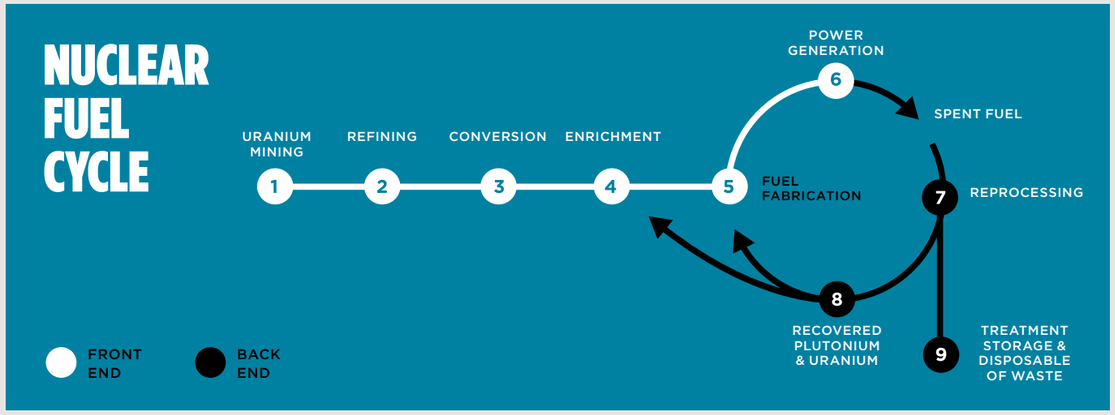
Each day thousands of shipments of radioactive materials are transported around the world.

These consignments which are carried by road, rail, sea and inland waterways can range from smoke detectors, cobalt sources for medical uses, to nuclear fuel cycle materials for electricity generation.

The transport of radioactive materials has a long history spanning several decades. Over this period a stringent regulatory regime has been developed at both international and national levels. The safety record of these shipments is impressive, 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.

To sustain this important source of energy, nuclear utilities around the world depend on safe, efficient and reliable transport of the full range of nuclear fuel cycle materials.

The international transport of radioactive materials is governed by a stringent regulatory regime, which 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.



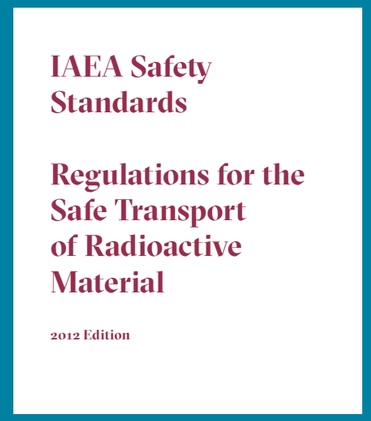
The International Atomic Energy Agency (IAEA) Safety Standards Series Regulations for the Safe Transport of Radioactive Material set the basis for nuclear fuel cycle transport.

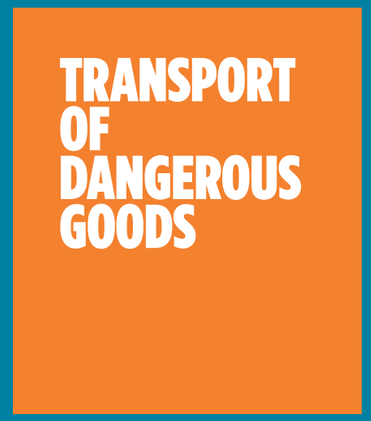
The IAEA Regulations are based on the fundamental principle that radioactive material being transported should be packaged adequately to provide protection against the various hazards of the material under both normal and potential accident conditions.
Safety, therefore, relies on the packaging adapted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

They provide for five different primary packages, (Excepted, Industrial, Type A, Type B and Type C) and set the criteria for their design according to both the activity and the physical form of the radioactive material they may contain. The IAEA Regulations lay down corresponding test procedures to demonstrate compliance with the required performance standards.

The provisions of the IAEA Regulations are not only reflected in the national requirements of Member States, but also in the regulation relative to each mode of transport as issued by international or regional bodies.

Publications



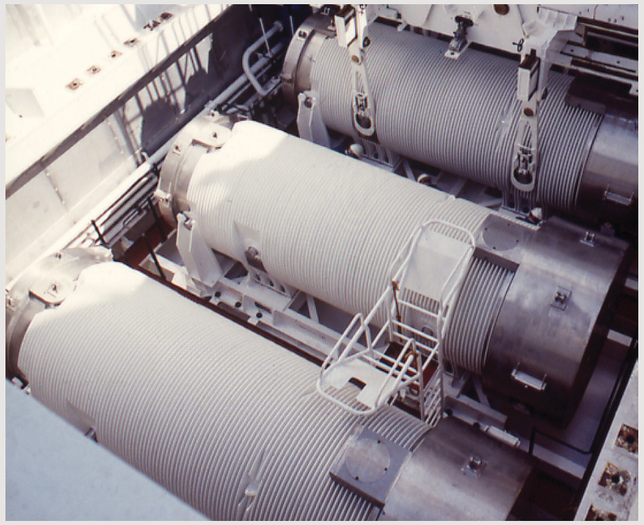


‘Dedicated to the safe, secure, efficient and reliable transport of radioactive materials.’

– Voice and ears of the radioactive material transport Industry

Overview of the WNTI

In 1998, the World Nuclear Transport Institute (WNTI), a Non-Governmental Organisation, was founded by International Nuclear Services Ltd (United Kingdom), AREVA (France), and the Federation of Electric Power Companies (FEPC, Japan) to represent the collective interests of the nuclear and radioactive materials, transport industry, and those who rely on the safe, secure and reliable packaging and efficient regulations that can be implemented by industry. The WNTI Head Office is based in London.



Developing Awareness

The WNTI produces technical and factual information to support a background for balanced policies and regulations. Scientific and other academic papers are published regularly and presented to key officials including regulators.

In the interest of enhancing communication and broadening understanding, by request, the WNTI runs site visits to nuclear industrial facilities subject to the international transport safety regulatory regime. The visits give an opportunity to many senior officials of the International Organisations and members of their national delegations, to see first-hand the practices, procedures and equipment involved in fuel cycle transport.

The WNTI publications available on www.WNTI.co.uk

Technical Publications for the Industry

The WNTI members exchange good practices during the meetings of the Industry Working Groups and together develop Guides, Information Papers, Fact Sheets and Standards based on these exchanges.

Forum for Exchange of Information and Views

The Semi-Annual Members Meetings bring together the WNTI Member companies in various locations worldwide to address challenges facing the nuclear transport industry, and provide the opportunity to share information and ideas.

In addition to this, the WNTI Industry-led Working Groups meet to provide a more technical forum for the exchange of information, with a view to developing consolidated industry positions.

WNTI Organisational Structure and Team

The WNTI is an international organisation for all sectors of the nuclear and radioactive materials transport industry. Headquartered in London, the WNTI Secretariat has a small team of qualified professionals working closely with Members and other international bodies involved in the transport of radioactive materials.

WNTI BOARD OF DIRECTORS

David Ohayon
Chairman
AREVA TN INTERNATIONAL

Mark Jervis
INTERNATIONAL NUCLEAR SERVICES

Alastair Brown
INTERNATIONAL NUCLEAR SERVICES

Frederic de Agostini
AREVA TN INTERNATIONAL

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Jennifer Nugent
INTERNATIONAL NUCLEAR SERVICES

Graham Rose
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Regional Representative
Frank Boulton

China
Regional Representative
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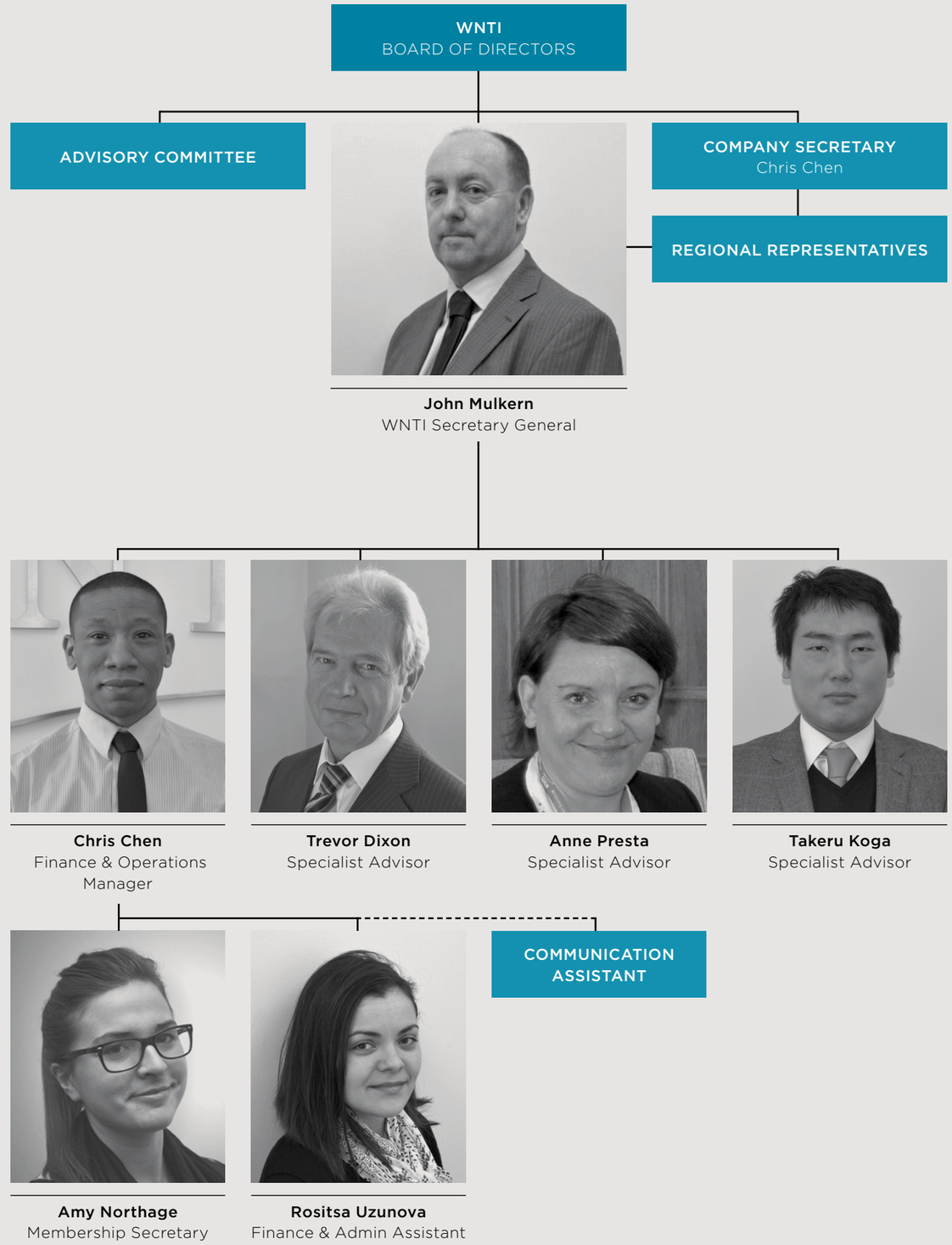
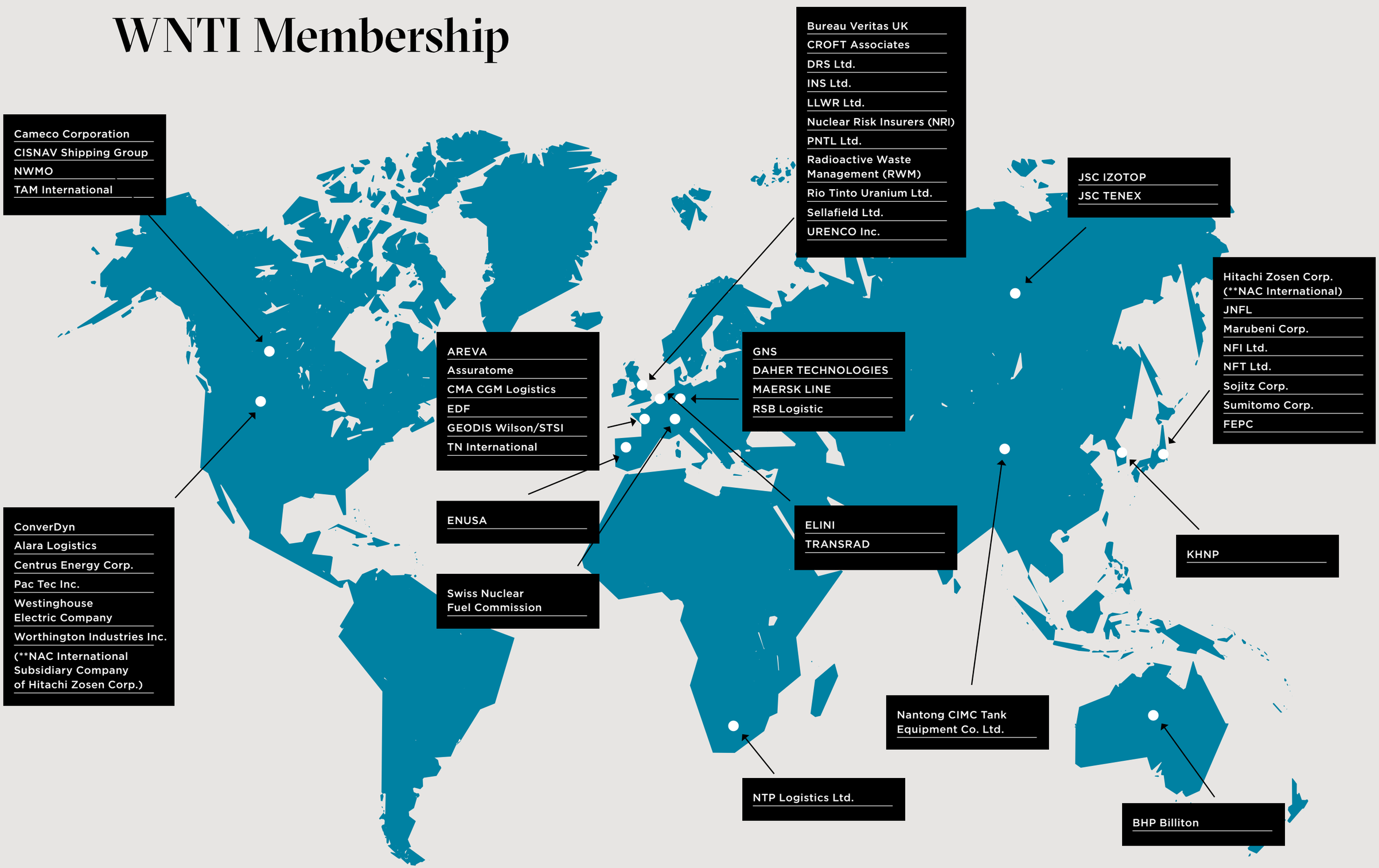
Regional Representative
Captain Sanjoy Sen



WNTI Membership



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PNTL · RioTinto · RSB Logistic Projektspedition GmbH · Radioactive Waste Management · Sellafield Ltd · sojitz · Sumitomo Corporation

TAM International Inc. · TENEX · Transrad Responsible Logistics · urenco · Westinghouse · Worthington Industries

1

To promote the safe, secure, efficient and reliable transport of nuclear and other radioactive materials by sea, land and air through the harmonised application of national and international standards, regulations and procedures

2

To consult with governmental and non-governmental bodies to support balanced international standards, regulations, guidelines and procedures through the preparation of industry position papers, technical briefs, standards and scientific research

3

To develop industry good practices

4

To provide factual information on the safe transport of nuclear and other radioactive materials

5

To act as a catalyst and facilitator bringing Members together to exchange views on nuclear and other radioactive materials transport issues and to participate in appropriate meetings, conferences and media briefings

6

To support the research, development and testing of packaging and systems for the transport of nuclear and other radioactive materials

7

To provide a collective voice for the industry and a forum to share information and ideas

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For further information about becoming a WNTI Member, please contact the WNTI Membership Secretary:

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Email: wnti@wnti.co.uk

WNTI Activity

Industry Representative in Intergovernmental Organisations

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

IAEA International Atomic Energy Agency
Atoms For Peace

The International Atomic Energy Agency (IAEA) is widely known as the world's "Atoms for Peace" organisation within the United Nations family. Set up in 1957 as the world's centre for cooperation in the nuclear field, the Agency works with its Member States and multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.

WNTI STATUS

To enable the Agency to secure expert information or advice from organisations having special competence in the field in which such information or advice is required, to promote knowledge of the principles and activities of the Agency, enabling organisations which represent important groups whose work is relevant to that of the Agency to express their views. In order to achieve the objectives above, the Agency considers to grant observer status to non-governmental organisations such as WNTI.

WNTI is invited by the Deputy Director General, Head of the Department of Nuclear Safety and Security, to participate in the Transport Safety Standards Committee meetings (TRANSSC), the Emergency Preparedness and Response Standards Committee (EPReSC) and the Nuclear Security Guidance Committee (NSGC). WNTI contributes to the committees as an expert and can deliver Industry's opinions for safe, secure, efficient and reliable transport.

TRANSSC

The premier IAEA body for making recommendations on the regulation for the transport of radioactive material is the Transport Safety Standards Committee (TRANSSC).

WNTI was invited to attend its first TRANSSC meeting in 2000 and since then has been involved continuously in a series of IAEA meetings to review the Transport Regulations, including TRANSSC (and its supporting Review Panel), and Technical and Consultant Services meetings. The Technical and Consultant Services meetings consists of groups of experts from IAEA Member States and international organisations to propose and further develop positions on issues for consideration by the Secretariat and TRANSSC in the Transport Safety Standards Committee meetings (TRANSSC), the Emergency Preparedness and Response Standards Committee (EPReSC) and the Nuclear Security Guidance Committee (NSGC).

WNTI contributes to the committees as an expert and can deliver Industry's opinions for safe, secure, efficient and reliable transport.

NSGC

Security has always been at the forefront of the IAEA with the development of the Convention on Physical Protection of Nuclear Material signed in 1980, INFCIRC 225 and the Code of Conduct on the Safety and Security of Radioactive Sources.

The Director General of IAEA has now elevated the security section to a Division with a standalone "Nuclear Security Guidance Committee" (NSGC) that oversees all security related issues throughout the IAEA which will also bring together transport security developments. WNTI has observer status at the NSGC and has been invited continuously in a series of IAEA meetings relating with Transport Security.

EPRESC

The purpose of the Emergency Preparedness and Response Standards Committee (EPReSC) operating Guidelines is to describe how the EPReSC will conduct its business in a manner that is consistent with its terms of reference.

The chair of the EPReSC may, from time to time call for extraordinary meetings. Once per year, at the discretion of the Chair and in cooperation with the other Safety Standards Committees (SSC) and Nuclear Security Guidance Committee (NSGC), the meeting of the EPReSC may, in part, be conducted jointly with one of the other SSCs and NSGC. WNTI has been invited to a series of IAEA meetings relating with Transport EPR since the committee started in 2015.

INTERNATIONAL MARITIME ORGANIZATION (IMO)

The International Maritime Organization (IMO) is the specialised agency of the United Nations Organization providing the mechanism for Member States to develop regulations and codes of practice to preserve safety of life at sea, ensure maritime security, and protect the marine environment from pollution by shipping. The IMO provisions for radioactive materials are based on the IAEA Transport Safety Regulations and are incorporated into the IMO International Maritime Dangerous Goods Code (IMDG Code).

WNTI has been granted a consultative status by the Assembly, the council of the IMO. WNTI follows and contributes for developing Class 7 (radioactive material) of the IMDG Code and International Nuclear Fuel Code (INF Code), and can deliver Industry's opinion.

WORLD MARITIME UNIVERSITY

The World Maritime University (WMU), established by the IMO in 1983, and based in Malmö, Sweden, has as its prime objective to increase the number of highly trained specialist maritime personnel around the world. Over the past years, through a series of lectures the WNTI in partnership with the WMU has encouraged a fuller understanding of the issues surrounding the transport of radioactive materials, including packaging and the need for such transports.

UN ECOSOC
Sub-Committee of Experts on the Transport of Dangerous Goods (UNSCETDG)

The UN formed the Committee of Experts on the Transport of Dangerous Goods which first drafted the Recommendations for the Transport of Dangerous Goods (also known as the "Orange Book") in the 1950's. In 2001, the UN Economic and Social Council (ECOSOC) agreed the UN Committee of Experts should be reconfigured as the "Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals". Two Sub-Committees were established, one being the UN Sub-Committee of Experts on the Transport of Dangerous Goods (UNSCETDG). The UNSCETDG updates and amends the UN Recommendations every two years. This biennial revision cycle allows the Experts to keep the Orange Book up to date with the latest developments in dangerous goods transport.

WNTI has a consultative status of the Sub-Committees with relevance to the transport of radioactive material.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)

The International Civil Aviation Organization (ICAO), a United Nations Specialized Agency, is the global forum for civil aviation. 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 (DGP WG).

In cooperation with International Organisations

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

The International Organization for Standardization (ISO) is a non-governmental body with a mission to promote the development of standardization and related activities worldwide.

A Technical Committee (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 (nuclear fuel cycle).

Three standards, which we focus on, 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' are dealt with the ISO Working Group 4 (Transportation of nuclear and other radioactive material).

CARGO INCIDENT NOTIFICATION SYSTEM (CINS)

Cargo Incident Notification System (CINS) was established in 2011 to share information on all cargo related incidents. CINS are an industry organisation which comprises of the major Containers Shipping Companies, with several of them operating the maritime transport of radioactive materials (Class 7 materials).

Their main purpose and aim is to:

- Collect information on operational cargo-related accidents and incidents from seaborne carriers (relevant information, excluding any commercial information, is entered into the CINS database)
- Analyse global operational information on all cargo and container related accidents
- Establish areas of concern and trends in order to improve safety in the transport chain

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

WORLD NUCLEAR ASSOCIATION · WORLD INSTITUTE FOR NUCLEAR SECURITY · INMM · FORATOM THE VOICE OF THE EUROPEAN NUCLEAR INDUSTRY · NEI NUCLEAR ENERGY INSTITUTE

Sponsorship, Lectures and Courses

SPONSORSHIP

As part of its commitment to future generations, WNTI sponsors a student to attend the World Maritime University (WMU), and has previously sponsored 7 students.

The students undertake an MSc level programme at the WMU in Malmo, Sweden, over a period of just over 1 year. WNTI is continuing this sponsorship with a further student in 2017/18. The students thereafter continue their work in the International Maritime transport industry.

7
STUDENTS SPONSORED

LECTURES AND COURSES

In addition to the student sponsorship, WNTI is also invited to provide a lecture on transport of radioactive materials of World Nuclear University Summer Institute, held each year in Sweden.

WNTI SAMM

The WNTI hosts it's Semi-Annual Members Meetings (SAMM) twice a year.
One meeting is hosted in June, whilst the second takes place in December. These meetings are organised to provide all WNTI members with the opportunity to come together to discuss in-depth current issues and challenges the industry faces; along with occurrences that have transpired throughout the year; with the aim to put in place resolutions and potential future plans.

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Semi-Annual Members Meetings

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Working Groups

WNTI Industry Working Groups

SSR-6 Industry Working Group

Message from the Chair

The WNTI SSR-6 Industrial Working Group is an active party in addressing an industry perspective on the application of the Regulations and Guidelines on national and international transportation of radioactive material. The Working Group consist of members from package designing, manufacturing, and shipping companies.

The Working Group follows the review and revision process on the IAEA Regulations for the Safe Transport of Radioactive Material (SSR-6), associated Guidelines, and the IAEA Recommendations on Transport Security. Many members of the Working Group participate actively to the IAEA Transport Safety Standards Committee (TRANSSC) on the IAEA Regulations, as well as in dedicated Consultant Meetings (CM) and Technical Meetings (TM) established by the IAEA Transport Safety Unit in order to present consolidated industry positions to specific developments of the SSR-6.

THE PURPOSE OF THE GROUP

The purpose of the WNTI SSR-6 Industry Working Group is to arrive at consolidated industry positions on the IAEA Regulations for the Safe Transport of Radioactive Material (SSR-6) review and implementation issues. The Working Group plays an important role in providing advice to support WNTI representatives at IAEA and other meetings.

THE ACTIVITIES OF THE GROUP

The activities of the Working Group are focused on the review of the issues identified during the 2016 review cycle on SSR-6 and the Advisory Material for the IAEA Regulations for the Transport of Radioactive Material (SSG-26), providing an industry consolidated position and feedback (who to) on the Transport Regulations. The WNTI participates actively in dedicated Working Groups set up by the IAEA Transport Safety Standards Committee (TRANSSC) in order to study further some specific topics of the SSR-6, such as dual-purpose casks, low specific activity material, fissile exceptions and transport of Large Objects.

THE SUMMARY OF 2016 ACTIVITIES

In 2016, the main task of the SSR-6 Working Group has been to participate to the review cycle of the IAEA regulations for the Safe Transport of Radioactive Material (SSR-6) and its Advisory Material (SSG-26).

The topics addressed in 2016 at the SSR-6 WG meetings:

- Transport of Large Objects
- Dual Purpose Cask
- Ageing management of the transport & storage casks
- Transitional arrangements
- Transport Index except exclusive use

THE FUTURE CHALLENGES FOR THE GROUP

- To accompany its industry members into the entry into this new life cycle of the nuclear industry concerning transport regulations in terms of safety, through a common work with international organisation such as IAEA
- To support the IAEA in developing guides and other publications

FOR MORE INFORMATION CONTACT:

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Uranium Concentrates Industry Working Group

Message from the Chair

Uranium ore concentrates are transported internationally by road, rail and sea from the uranium producers to uranium converters. These international transport routes involved large distances and in some cases many jurisdictions.

To ensure the safe, secure and efficient transport of uranium ore concentrate, the WNTI Uranium Concentrates Industry Working Group has been at work in developing standards, guidances and fact sheets. More recently the Working Group has reviewed and revised the Standard for Packaging and Transport of Uranium Concentrates and drafted a Generic Safety Data Sheet for Uranium Ore Concentrate. Version 2 of the standard will soon be available on the WNTI website.

THE PURPOSE OF THE GROUP

To discuss and explore the three main aspects of uranium concentrates shipping in ISO containers:

- The drum used for packaging
- The containers themselves
- Restraint of the drums in the containers

THE ACTIVITIES OF THE GROUP

To develop publications and WNTI standards for the Uranium Concentrates Transport Industry particularly for ISO Containers in Multimodal Transport.

THE SUMMARY OF 2016 ACTIVITIES

Further discussed the creation of a generic Safety Data Sheet (SDS) for U3O8, the toxicity and solubility of UOC and if there have been any studies, and different packing techniques and bracing methods/layouts.

THE FUTURE CHALLENGES FOR THE GROUP

The group discussed if there is a need for development of a guidance for different packing techniques and bracing methods/layouts.

FOR MORE INFORMATION CONTACT:

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Transport Security Industry Working Group

Message from the Chair

The exponential growth of security in the nuclear sector continues to draw international attention and WNTI is committed to supporting its members in this important area.

The WNTI Transport Security Working Group (TSWG) offers a forum where WNTI members can come together to share and discuss security matters, with a view to developing a consolidated industry position where necessary. Some recent TSWG themes include the cyber security of transport assets, understanding maritime threat assessments and supply chain security. Offering a collective voice for its members, the TSWG is an active participant at the IAEA and works closely with a number of competent authorities.
The TSWG is in the process of developing its new 3-year road map, and based on member's needs and requirements, these themes of work will continue to help share and promote good practice supporting the safe, secure, efficient and reliable transport of radioactive materials.

THE PURPOSE OF THE GROUP

- Assess the implications of security measures and State regulations on the transport of nuclear and other radioactive material.
- Develop industry good practice publications
- Liaise with other non-governmental security organisations
- Be active in developments of transport-related IAEA security series publications
- Evaluate consequent interaction between safety and safeguards; and be the voice of the industry on transport security-related issues
- Share best practices in transport security-related issue

THE ACTIVITIES OF THE GROUP

- Identify transport security issues affecting the transport of radioactive & nuclear material which are of importance to WNTI members and which need to be addressed to ensure the safe, secure and efficient transport of such material by WNTI members
- Develop consolidated industry positions
- Share useful information, collect and disseminate examples of good-practice
- Develop consolidated industry positions on transport security issues
- Liaise with other WNTI Working Groups where appropriate
- Develop a WNTI industry perspective on general and specific transport issues and feed these into the IAEA or other regulation review process as and when appropriate

THE SUMMARY OF 2016 ACTIVITIES

The Working Group shared good practice and reviewed IAEA publications and meetings regarding security in transport. In particular the 9th and 10th meeting of the IAEA Nuclear Security Guidance Committee.

THE FUTURE CHALLENGES FOR THE GROUP

- Assist the IAEA in developing a programme for the IAEA International Conference on Physical Protection of Nuclear Material and Nuclear Facilities (2017) and the transport security Technical Meeting (2018)
- Support the IAEA in developing guides and other publications
- Provide security related presentations and lectures

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Secretary: Trevor Dixon
WNTI, Specialist Advisor
trevord@wnti.co.uk

HEXT Industry Working Group

Message from the Chair

Uranium Hexafluoride is a main component for the production of clean nuclear energy and is transported internationally by road, rail and sea from the convertors to the enrichment and fuel production facilities. Like other nuclear products these international transport routes involve large distances and in some cases many jurisdictions on container vessels.

To ensure the safe, secure and efficient transport of Uranium Hexafluoride the WNTI HEXT Working Group has been working on developing Fact Sheets and transport guidance information for the general public and industry. These are especially developed by industry to have an industry common agreement on how these products are shipped safely round the world. The HEXT group also interacts and plays an important role within the WNTI SSR-6 Working Group in development of the IAEA regulations for the safe transport of radioactive material.

THE PURPOSE OF THE GROUP

To consider transport and package requirements in transport safety regulations SSR-6 and other relevant dangerous goods regulations for the transport of Uranium Hexafluoride (Hex).

THE ACTIVITIES OF THE GROUP

The Working Group provides a forum for WNTI Members to exchange information on a range of issues including package approvals, validations and specifications. Information is also shared on technical and operational solutions to satisfy regulatory requirements and on good practice for the handling and transporting of Hex.

THE SUMMARY OF 2016 ACTIVITIES

The Working Group activity includes closely following developments in applicable regulations, especially with regard to non-fissile, fissile-excepted and fissile Hex. In this context, the development regarding the H(U) approvals for 48 inch cylinders and B(U)F approvals for 30 inch cylinders requires special attention.

During 2016 the Working Group reviewed package approvals for:

- For 48Y cylinders
- Bare 30B cylinder with heel, USA 0411 / UK 3518A
- Revision SSR-6
- IMDG changes on Freight Containers
- IATA changes for UN3507
- Considered regulatory developments

Reviewed WNTI publication

On the margins of the HEXT group the WNTI has been developing a Unique Identifier for UF6 cylinders. This guide is intended to provide a standardized format and application method for a global identifier for the Uranium Hexafluoride (UF6) cylinders most commonly used across the nuclear industry. Development of a guidance for different packing techniques and bracing methods/layouts.

THE FUTURE CHALLENGES FOR THE GROUP

To monitor the regulatory developments especially with regards to management of ageing packages.

FOR MORE INFORMATION CONTACT:

Chairman: Florian Spielmann
Urenco, Head of Supply Chain Execution
florian.spielmann@urenco.com
Secretary: Trevor Dixon
WNTI, Specialist Advisor
trevord@wnti.co.uk

Back-End Transport Industry Working Group

Message from the Chair

Spent fuel and radioactive wastes vary greatly in their chemical, physical and radioactive properties. Radioactive wastes have to be processed and packaged, transported for storage and eventually for disposal. The Back-End Transport Working Group (BETWG) allows WNTI Members to share experiences and to discuss techniques which have been found to be successful and thereby to facilitate good practice in the packaging and transport of these radioactive waste materials. The BETWG have developed a forward workplan to workstream specific contemporary BET issues and drive the delivery of tangible outputs which further the objectives of the BETWG. The current workstream themes are:

- Waste Characterisation
- Dual-Use (Transport & Storage) Casks
- Waste Transport Regulation Revision
- Cask Decommissioning
- Consignee Duty-Holding

The BETWG meet formally twice-yearly, coinciding with the broader WNTI Semi-Annual Members Meetings (SAMM's), to share good practice through pertinent presentations and to review the BETWG Workplan.

THE PURPOSE OF THE GROUP

The purpose of the Working Group is to develop all Back-End transport issues with the potential to affect radioactive materials transport in terms of safety requirements, costs, delays and any other aspects.

THE ACTIVITIES OF THE GROUP

The activities of the Working Group is to discuss Back- End transport issues and to facilitate good practices in the packaging and transport of Back-End nuclear materials.

THE SUMMARY OF 2016 ACTIVITIES

In 2016, the Working Group members discussed:

- Waste Inventory Forecasting & Characterisation
- Cask Decommissioning
- Waste Transport Regulation Framework
- Dual Purpose Cask (DPC)
- Consignee Duty-Holding

THE FUTURE CHALLENGES FOR THE GROUP

The Working Group sets out to publish WNTI Good Practice Guide about Waste Characterisation and to facilitate discussions on cask decommissioning and develop relevant WNTI publications on this topic, as appropriate.

FOR MORE INFORMATION CONTACT:

Chairman: Martin Porter
Sellafield Ltd, Head of Consignment Services
Martin.porter@sellafieldsites.com
Secretary: Takeru Koga
WNTI, Specialist Advisor
takeruk@wnti.co.uk

Social Media and Publications

WEBSITE

The WNTI public website provides information on nuclear transport including the nuclear fuel cycle, non-fuel cycle transport, regulations and packages. It houses all of the WNTI publications, where some can also be found in Chinese, Spanish, Korean, French, Portuguese and Russian.

Further information on WNTI Member's products and services is available online while current news on industry events is regularly updated. There is also a Members' intranet which provides the latest developments on the packaging and transport of nuclear and other radioactive materials.

PUBLICATIONS

The WNTI suite of publications includes Fact Sheets, Good Practice Guides, Information Papers and Standards.

All our publications are available in PDF format which can be viewed online or downloaded from our website.

"Further information on WNTI Member's products and services is available online while current news on industry events is regularly updated."

WNTI GOOD PRACTICE GUIDES

- WNTI Transport Principles
- Radiation Protection Programmes for Road Carriers, Sea Carriers and Port Handlers
- Good Practice for the Securing of Drums of Uranium Ore Concentrate in 20' ISO Containers
- Electronic Tracking for the Transport of Nuclear and other Radioactive Materials - Revision 1.0 - A WINS/WNTI International Best Practice Guide
- WNTI Best Practice for Checking Shipping Containers Prior to Loading Drums of UOC and Before Dispatch
- Nuclear Transport Security - Revision 1 - A WNTI/WINS International Good Practice Guide
- Communicating Radioactive Materials Transport
- Good Practice Guide for the Transport of UN3507 by Air
- Good Practice Guide for The Installation of Socket Head Plugs in UF6 Cylinders

WNTI FACT SHEETS

- Safety Regulations Governing Radioactive Materials Transport
- Package Types used for Transporting Radioactive Materials Nuclear Fuel Cycle Transport - Front-End Materials
- Nuclear Fuel Cycle Transport - Back-End Materials
- The INF Code and purpose-built vessels
- Quick facts on the transport of Nuclear Fuel Cycle Transport
- The Safe Transport of Uranium Ore Concentrates
- Preparation of Natural Uranium Samples for Shipment in an Excepted Package
- Transport of Large Objects and Special Arrangement
- Uranium Hexafluoride (UF6)
- Nuclear Liability for Transport
- Industry Interpretation of TI and CSI Limits for the transport of UF6 packages by Sea

WNTI INFORMATION PAPERS

- Radioactive Materials Transport - Industry Experience
- Nuclear Fuel Cycle Transport - The IAEA Regulations and their Relevance to Severe Accidents
- Uranium Concentrates Industry Best Practice for avoiding contamination of Packages and Shipping Containers in Multimodal Transports
- Radioactive Materials Transport the International Safety Regime - An Overview of Safety Regulations and the Organisations Responsible for their Development
- Radiation Dose Assessment for the Transport of Nuclear Fuel Cycle Materials
- WNTI Glossary
- New Fissile Exception Provisions in the IAEA Transport Regulations (SSR-6)

WNTI STANDARDS

- Uranium Concentrates Industry Good Practices for ISO Containers in Multimodal Transports – Revision 0
- WNTI Standard - UF6 Cylinder Identification

Recent Events and Moving Forward

WNTI Events Summary 2016

January

IMO Sub-Committee on Ship Design and Construction (SDC) – 3rd Session

IMO Sub-Committee on Human Element, Training and Watchkeeping (HTW) – 3rd Session

PATRAM 2016 Program Committee and Paper Selection Committee meeting

Feburary

IAEA Consultancy Service Meeting to review draft of revision of SSR-6 and SSG-26

March

IAEA Consultancy meeting to prepare for the 2016 Transport Security Technical Meeting

IMO Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) – 3rd Session

IMO Sub-Committee on Ship System and Equipment (SSE) – 3rd Session

ISO TC85/SC5/WG4 meeting Nuclear Industry Security Summi

April

IAEA 2nd Consultancy meeting to prepare draft Technical Guide on Security of Nuclear and Other Radioactive Material in Transport

IMO Facilitation Committee (FAL) – 40th session

IMO Marine Environment Protection Committee (MEPC) – 69th session

May

IAEA Second Consultancy Meeting on the Development of a Safety Guide on Emergency Preparedness and Response for Transport Accidents Involving Nuclear or Radiological Material (TS-G-1.2)

IMO Maritime Safety Committee (MSC) – 96th session

June

IAEA 32nd Meeting of the Transport Safety Standards Committee (TRANSSC 32)

IAEA 9th Meeting of the Nuclear Security Guidance Committee (NSGC 9)

IAEA 2nd Meeting of the Emergency Preparedness and Response Standards Committee (EPReSC 2)

IAEA Third Programme Committee Meeting for the 2016 International Nuclear Security Conference

IMO Legal Committee (LEG) – 103rd session

FORATOM Communication Task Force meeting

WNTI HEXT Industry WG meeting

July

IAEA Technical Meeting on Security of Nuclear and Other Radioactive Material in Transport

IMO Council – 114th session

IMO Sub-Committee on Implementation of IMO Instruments (III) – 3rd session

UN Sub-Committee of Experts on Transport of Dangerous Goods meeting

WNTI Industry Site Visits

WNU Radioactive material transport lecture

August

CINS Members Meeting (6th)

September

IAEA 3rd Consultancy Meeting to Prepare a Draft Technical Guide on Security of Nuclear and Other Radioactive Material in Transport

IAEA 60th General Conference

IAEA Coastal States / Shipping States annual meeting IMO Sub-Committee on Carriage of Cargos and Containers (CCC) – 3rd session

PATRAM 2016

World Nuclear Association Symposium 2016

WNTI Plenary Members Meeting

October

IAEA EPR Technical Meeting – TS-G1.2 Revision cycle

IAEA Consultancy Meeting-Transport Security and Safety Interfaces for Low-Activity Radioactive Materials

IMO Marine Environmental Protection Committee (MEPC) 70th Session

ICAO Dangerous Goods Panel WG meeting

FORATOM Communication Task Force meeting

November

IAEA Tenth Meeting of the Nuclear Security Guidance Committee (NSGC 10)

IAEA 33rd Meeting of the Transport Safety Standards Committee (TRANSSC 33)

IAEA Third Meeting of the Emergency Preparedness and Response Standards Committee (EPReSC 3)

IAEA 3rd Consultancy Meeting on the Development of a Safety Guide on Emergency Preparedness and Response for Transport Accidents Involving Nuclear or Radiological Material (TS-G-1.2)

December

IAEA International Conference on Nuclear Security

IMO Council 117th Session

WNTI Semi-Annual Members Meeting

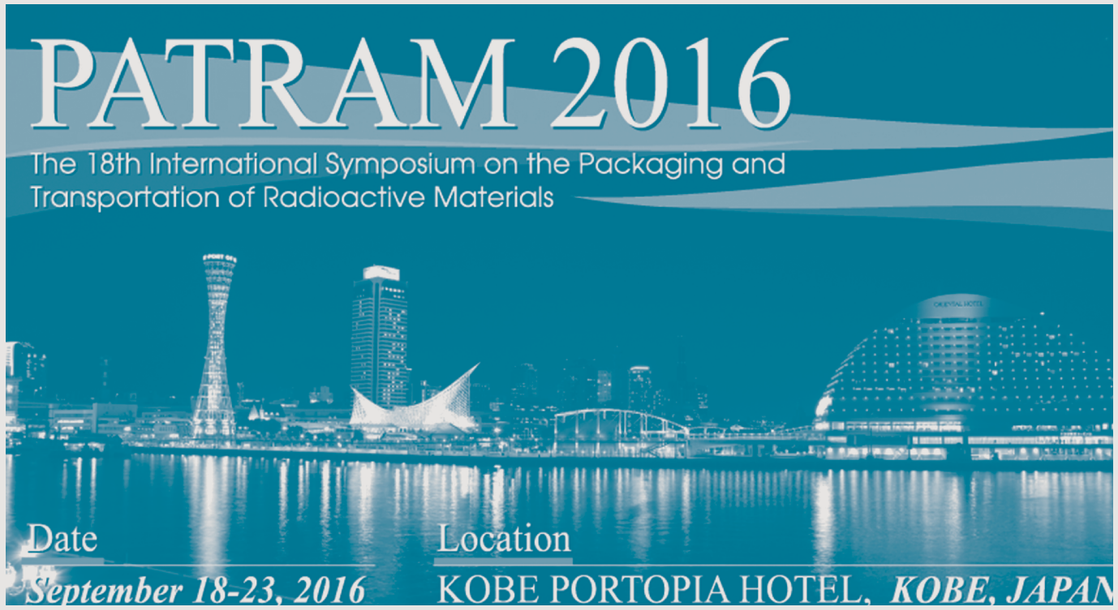
PATRAM 2016

WNTI had sole sponsorship of AV – Audio-Visual Equipment, meaning the WNTI Company logo appeared on every screen used throughout PATRAM 2016.

WNTI exhibited at PATRAM 2016. The WNTI Secretary General, Specialist Advisors and Chairmen of the WNTI Working Groups were very present and visible having delivered several presentations during the conference:

- The WNTI SG delivered an opening plenary keynote speech on the first PATRAM day
- The WNTI Specialist Advisors and Chairs of the WNTI Working Groups gave 7 presentations during technical sessions
- 3 technical sessions were chaired and co-chaired by WNTI Representatives
- The WNTI SG was part of the PATRAM panel on the denial of Shipment

WNTI staff attended all technical sessions to supply a structured report which identified topics of interest to help improve services to our members.



WNTI Industry Site Visits

In the interest of broadening understanding, the WNTI provides a programme of site visits to industrial facilities in France and the UK which are subject to the international transport safety regulatory regime. The visits have given an opportunity to many senior officials of the IMO and IAEA Secretariats, and members of national delegations to these organisations, to see first-hand the practices, procedures and equipment involved in fuel cycle transport.

The WNTI provides a programme of site visits to industrial facilities in France and the UK.

Key Goals and Events for 2017

WNTI has been involved in the preparation and will participate in several important International Conferences and key events during 2017:

- Public Information Materials Exchange (PIME)
- World Nuclear Fuel Cycle Conference (WNFC)
- INPPS Conference – WNTI Transport Side Event
- US DOE National Transportation Stakeholder Forum
- China Transport Seminar
- IAEA International Conference on Physical Protection of Nuclear Material and Nuclear Facilities

WNTI will continue to develop its close cooperation with UN Bodies (IAEA, IMO, ICAO and the UN Sub-Committee of Experts on the Transport of Dangerous Goods), through strong involvement and participation at major transport related events throughout the year – these being:

IAEA
61st General Conference, Transport Safety Standards Committee (TRANSSC), Emergency Preparedness and Response Standards Committee (EPReSC) and Nuclear Security Guidance Committee (NSGC)

IMO
Assembly
Maritime Safety and Technical Co-operation Reinforce the WNTI and IMO relations

ICAO
Dangerous Goods Panel Working Group

WNTI is also continuing to strengthen its cooperation with other Industry Organisations:

CINS	NEI
FORATOM	WANO
INMM	WNA

On behalf of, and with its Members, WNTI will maintain its strong engagement for promoting effective safety and security standards for the packaging and transport of radioactive materials.

Members Voice

Steven Hansen

Vice President
Regulatory Compliance

TAM International

What WNTI means for you?
WNTI for me, since my job title is regulatory compliance it is an opportunity as an industry to get together and discuss the issues. We can talk openly and work through the changes and regulations. If one of the transporters has an issue in a specific country it's not really their own issue it's bigger than that it's an industry wide issue; so by everyone coming together it helps to solve these issues. WNTI allows us the opportunity to address continual issues that effect this industry.

There's competitors, suppliers and customers, WNTI is the platform to be one group and a sole entity to try and solve issues in order to move forward.

WNTI is transportation, my company's core job is transportation.

What are your expectations for WNTI for the future?
To continue to do what they are doing.

To make sure meetings and Working Groups are maintained. Continue to provide the opportunities for people to come together and discuss issues and keep locations easily accessible for meetings to support the core group of WNTI in coming together to exchange.

"WNTI is the platform to be one group and a sole entity to try and solve issues in order to move forward."

Claire Grossi

Transport Safety Advisor
Safety Analysis & Transport Regulations

AREVA – French Site

What WNTI means for you?
WNTI is a partnership for industrials which is interesting; as it allows Clients and Suppliers to come together and put the commercial aspects aside to talk about common problems, regulatory issues and share thinking processes in order to try and help each other.

It provides a good opportunity to see people/fellow clients in person (as opposed to daily emails) and network; helping to establish new relationships and strengthen the existing ones.

The meetings are valuable as it's great to be involved with all aspects of the industry not just the sections that are relevant to my job role.

What are your expectations for WNTI for the future?
It is good to find people and companies who have the same issues and create Working Groups to come together and exchange views through WNTI. Communication through WNTI is crucial as it's provides a different outcome and result than what would be received if contacting them personally/directly, so I hope this continues to happen.

"It is good to find people and companies who have the same issues and create Working Groups to come together and exchange views through WNTI."

Joel Kruehler

Manager *Logistics Compliance*

Urenco Limited

“WNTI is the voice of the Industry, observing and participating in meetings to prepare and improve transport regulations.”

What WNTI means for you?
WNTI is for me a consolidated voice for the Industry involved in the transport of radioactive materials. The continuous exchange of technical and regulatory challenges, information and potential solutions are prudent for my work.

I appreciate the opportunity provided by WNTI to discuss actual challenges with experts from around the world. Of course, sometimes we have different opinions on the interpretations of regulations, however most of times we work this out and find a common sense together as one group.

WNTI is the voice of the Industry, observing and participating in meetings to prepare and improve transport regulations.

What are your expectations for WNTI for the future?
I appreciate the way WNTI is operating at this time, however in order to provide some constructive feedback, I’d say that WNTI focuses more on the challenges of their actual members instead of participating in meetings in developing countries.

I appreciate the support WNTI is providing in these countries and if the Members have an interest in transporting through or within these countries this is obviously justified. Other than that, I hope that WNTI remains in the way it is organised and continue to represent their Members concerns to regulatory bodies or within IAEA TRANSSC meetings.

Finally I hope the current Members remain as members of WNTI, and they continue to extend their contributions to the Working Groups.

Stefan Hoeft

Chief Operating Officer

RSB Logistic

What WNTI means for you?
It’s a place where all our stakeholders meet altogether and work on solutions to make transport easier and to inform everybody what is going on in the industry – challenges, problems, denials and changes- we try to discuss and solve these challenges here. Absolutely perfect platform!

What are your expectations for WNTI for the future?
The next younger generations which are already starting to visit will continue to engage and join WNTI. Having been with my company for 15 years and attending WNTI Events, I’ve seen the membership change a little bit due to cost savings but moving forward we have to continue to progress be careful and make sure WNTI DOES NOT DIE!!

George Kargopolov

Manager *Transportation and Special Projects*

CISNAV Shipping Group

What WNTI means for you?
WNTI as an organisation develops recommendations, industry standards and has influences on the legal standard development through observer status involvement within organisations such as IAEA and IMO. Being a part of WNTI means we can indirectly participate in those industry standards discussions and share our best practices and ideas.

What are your expectations for WNTI for the future?

I wish for WNTI to continue to bring together different/contrasting views of the industry to make the organisation more balanced in helping to achieve common ground for cargo interest and carriers. I also hope for them to remain with their efforts to resolve Industry problems.

Farewell Message from the Outgoing Chairman

“Our objective is to facilitate the development and adoption of the best technical and operational practices together with strict compliance to the regulatory requirements throughout the nuclear transport industry supply chain.”

The various WNTI Industry Working Groups on specific technical topics have continued to make a valuable contribution to this objective. These continue to be reinforced by our Seminar Programme. These seminars, regional or topical, organised by the WNTI, sometimes in partnership with other International Organisations, or in cooperation with the IAEA or the IMO, promote the safe, secure, efficient and reliable transports of nuclear and other radioactive materials compliant with harmonised regulatory regimes. They are particularly welcomed in countries relatively new to the nuclear transport business, bringing together the main stakeholders concerned with nuclear transport in a region, including regulators and the transport industry with others, where appropriate, such as representatives of relevant government ministries and the public.

In the wake of its previous seminars in Namibia, Russia, Kazakhstan, China and Denmark, WNTI was recently invited by the Nuclear Industry Association of Turkey to present at a Transport side event, as part of the International Nuclear Power Plants Summit in Istanbul. WNTI, supported by members INS, Areva TN and Geodis delivered presentations regarding Transport operations, Regulatory Framework and Public acceptance. This approach supports the safe and secure Transport of Radioactive materials in the emerging countries.

WNTI has also continued to organise topical seminars to address specific topics, such as communication, liability and insurance issues for nuclear transport operations and Back-End transport. These seminars have been very successful in defining issues, shaping good practices and proposing solutions relevant to the local conditions. They clearly demonstrated the advantages to be gained when the various stakeholders work together, allowing best practices in these areas to be collected in new good practice guides. WNTI continues to be invited to contribute to such Seminars and the WNTI Board continues to support this key area of work.

Transport security continues to be an important topic for the WNTI. We continue to have close cooperation with the International Atomic Energy Agency, the World Institute for Nuclear Security, the Institute for Nuclear Materials Management in the USA and the World Nuclear Association. This cooperation has been essential in facilitating our contribution to this increasingly important topic.

The WNTI was involved in the IAEA International Security Conference in July 2013, took part in the 2014 Nuclear Industry Security Summit in the Netherlands, supported the preparatory meetings related to the 2016 Nuclear Security Summit held in the USA. In addition, the WNTI SG co-chaired the Transport Security session at the 2nd IAEA International Security Conference in December 2016. Our WNTI objective is to ensure that security is fully achieved through a viable balance between regulatory requirements, operational efficiency and practicability for the transport industry. Our involvement in these Conferences has been valuable in facilitating this.

As a past Chairman, I am very keen that the Institute has a sustainable strategy in line with Members requirements and capable of meeting the future transport challenges and constraints which WNTI will have to face. Following a Members’ Forum with Senior Representatives of member companies, the WNTI Secretary General was asked to set up a Transitional Development Committee (TDC) to prepare a strategic plan to address this issue and report its progress to the WNTI Board. Representatives from WNTI member companies, who are experienced in nuclear transport and are familiar with the role of the WNTI, served on the TDC. The final report of the TDC was endorsed at the December 2016 Board, and the recommendations are now being implemented.

After more than 6 years in the role, Mr Henry-Jacques Neau has recently stepped down as Secretary General and has returned to his parent company AREVA. Mr John Mulkern from INS has taken up the Secretary General role from 1 April and brings with him over 30 years experience in the Nuclear Industry. The efforts of the Institute’s Secretary General and his team, consistent with the roles and values of the WNTI, have long been recognised by International Organisations, Governments and all major stakeholders of the nuclear transport sector. These permanent WNTI experts and WNTI Member representatives have also been invited as keynote speakers in International events, to deliver lectures in prestigious Universities and academic bodies and also to deliver training in technical courses developed by the IAEA. I do really want to pay tribute to their dedication and motivation to keep the safety and security of our transport operations at the highest level.

Finally, I will personally retire from the Nuclear Industry later in 2017, and thus will relinquish my role as a WNTI Director. Mr David Ohayon from AREVA has already taken up the role of WNTI Chairman, effective 1st April. I wish the WNTI all the very best and will continue to monitor WNTI’s progress.

Mark Jervis

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Images courtesy of World Nuclear Transport Institute Members

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