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## **Prospects for Nuclear Power: The Role of Safety**

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Good morning. It is an honour for me to represent the World Association of Nuclear Operators before this distinguished audience.

Over the past several years, the worldwide nuclear industry has achieved an impressive record of performance. Many things have contributed to this improvement, but I believe it is due — in a very significant way — to unprecedented cooperation and information exchange. The WNA Annual Symposium helps further this dialogue and cooperation, and I appreciate John Ritch's invitation to speak to you today.

In July, I succeeded Mr. Hajimu Maeda as WANO Chairman. Mr. Maeda provided strong leadership to WANO as chairman for two years, and our industry owes him a debt of gratitude for his service. He continues to serve our industry as a member of the Atomic Energy Commission of Japan.

I have worked in the commercial nuclear power industry for more than 30 years — both on the operational side and the executive side. And my involvement with WANO goes back to its beginnings, including serving for many years as a member of the WANO Governing Board and participating in seven of the eight Biennial General Meetings that have been held. A hurricane kept me away from one I missed.

This long experience has reinforced my belief in the great value, and even greater potential, of both nuclear energy and WANO.

Nuclear energy makes a unique contribution to meeting the world's energy needs — a role that grows in importance as we face environmental issues and economic realities. But, as we will discuss throughout this Symposium, fulfilling the potential of nuclear energy will not happen easily. Public trust and a competitive edge have to be earned daily.

With the echoes of the Mihama steam leak event still reverberating throughout our industry, we meet here today to talk about the prospects for nuclear power. Given WANO's mission, I will share some thoughts on the vital role of safety and how it

is fundamental to any discussion about the prospects for nuclear power in the future

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Mihama is just the most recent event that brings us face to face once again with the fact that our technology requires constant vigilance, sensitivity to operations, and conservative decision making.

As WANO marks its 15<sup>th</sup> anniversary this year, it's clear to me that WANO is as important today as it was when it was founded as a response to the Chernobyl accident.

I vividly recall that when WANO was just an idea, the thought of getting more than 30 countries in all corners of the globe to really cooperate in a non-governmental safety organization was considered a formidable — if not impossible — task.

I had the opportunity to meet recently with several former leaders of WANO and I was particularly struck by a comment made by Rémy Carle, WANO's second chairman and a former senior executive at EDF. Many of you know Rémy, I'm sure.

Of WANO's 15<sup>th</sup> anniversary, he said, and I quote:

*“I think good work has been done, but the risk is to say that, ‘Well, now we have 15 years of good work, it's enough.’ No, it's not enough because you have to increase safety culture everywhere and forever. WANO has to remain a tool for creating and exchanging safety culture.”*

He went on to say that WANO was formed to help bring all the members up to the same high level of performance. As long as WANO has not done that, he said, WANO has not succeeded.

So our work is not done.

In our time together today, I would like to focus your attention on some of our industry's key issues — the complexities of operating in a competitive environment, the need for greater sharing of operating experience, and why WANO peer reviews figure prominently in the prospects for nuclear power in the future.

First, the competitive environment.

Let me state clearly my strong belief that high levels of safety and a competitive environment can coexist. I know this is true because I have seen it in many places throughout the world.

I have also seen examples in which the rigors of a competitive marketplace have tempted operators to reduce plant resources to a level that will not sustain safety and reliability.

An additional concern is that commercial competition has the potential to erode nuclear cooperation. I challenge you instead to use increased competition as a catalyst to increase sharing among nuclear organizations.

Each nuclear operator must recognize and respond to the simple but profound fact that it is in their economic self-interest to assure that every other nuclear plant succeeds.

In Cameroon, they have a saying that rain does not fall on one rooftop alone. So it is with the immediate and global effect of a nuclear accident. In an age of instantaneous news coverage and limited public support for nuclear energy, an accident at one plant affects us all.

However, this fundamental truth may not be self evident to the many new senior executives in our industry who have little or no nuclear background.

Many new CEOs didn't grow up in this industry. They come from a different business environment — a very challenging, competitive one — and now they're operating nuclear plants. While financially astute, they don't share the “emotional operating experience” of the founders of WANO.

The market is focused on short-term results. The nuclear industry must be managed for the long-term. Therein lies the conflict.

But when viewed from a purely financial perspective, there is no better insurance policy than participating fully in WANO programs — given the huge economic investment that our members have in their nuclear facilities.

As Rémy Carle said to me recently:

*“It will take a new vocabulary to communicate with people who think profit and sales – they must be taught to think safety first.”*

It is vital for the CEOs of the world's nuclear companies to be involved with WANO – for two reasons. First, CEOs play a key role in establishing the safety culture of their organizations. One of the most powerful tools for ensuring safe operation is a CEO's clear communication of his or her personal expectations about nuclear safety. A CEO who is visibly committed to WANO sends a clear, unambiguous message about the importance of nuclear safety.

The second reason that CEO involvement in WANO is essential is that WANO needs resources to be effective. This not only includes funding but it also includes the CEO's support to send personnel to participate in peer reviews and other WANO activities.

The 18 years since the Chernobyl accident serve to further distance us from the galvanizing reasons we came together to form WANO. Quite simply, the passage of time since Chernobyl works against us.

The stark realization that we are only as strong as our weakest link has faded.

This leads me to the second challenge — the need for more emphasis on sharing operating experience.

Before WANO was formed, many operators had essentially no contact with plants in other regions of the world, and often little meaningful exchange with plants in their own region.

The cost of that isolation was high. Windscale. Three Mile Island. Chernobyl. But if those events sound like ancient history, let me bring to your mind more recent events: Tokaimura, Phillipsburg, Paks, and Davis-Besse.

Only by internalizing each other's experiences can we prevent similar events from occurring. I am reminded of a line from a book by Douglas Adams that goes like this:

*“Human beings, who are almost unique in having the ability to learn from the experience of others, are also remarkable for their apparent disinclination to do so.”*

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Worldwide there are seldom any really “new” events, and even fewer new *causes* of events. In addition, the methods available for sharing and for using operating experience are better today than ever before.

As an industry, we have more potential for using operating experience today than at any other time. That's good, because never before have we been so challenged. For example, the industry needs to better understand material vulnerabilities — particularly as aging occurs on the nuclear and secondary side of the plants.

But to benefit from operating experience, we need to first know about it. The level and timeliness of event reporting to WANO improved significantly last year, but we have just scratched the surface.

In addition, learning lessons from the experience of others has to be given visibility and high priority. And that message must come from the top of the organization.

This will become increasingly important as we prepare for the retirement of a significant percentage of our workforce. Just as our plants are aging, our workforce is as well. It is essential that the lessons learned over the past 50 years are systematically retained and shared with those entering the industry.

The plans to build new nuclear plants in several countries will also provide an important opportunity to share experience.

Last October, nearly 400 nuclear utility executives from around the world participated in the WANO Biennial General Meeting in Berlin where we heard presentations about the significant construction programs under way in Asia.

This will be an opportunity for us to both learn from those experiences and to provide assistance to those building plants for the first time. Sharing is critical for the success of these units and the future of nuclear power.

WANO will be working closely with these companies to conduct pre-operational peer reviews of their nuclear plants. We completed two such visits in April in Ukraine at Khmel'nitski 2 and Rovno 4. These reviews are based on standard peer

review methodology, but they incorporate important aspects of a nuclear power plant nearing the beginning of operation.

This leads me to my final topic — peer reviews.

Some of you may remember the 1991 WANO Biennial General Meeting, when Josef Ponya stood up and volunteered Paks to be the site of the very first WANO peer review. That was a huge leap of faith for our industry.

By the end of this year, WANO will have completed some 250 peer reviews since the program began. Several stations have completed multiple peer reviews over the years, which is a testament to their value.

I am pleased to report that WANO will meet its goal to complete a peer review at every nuclear station in the world by 2005 — with the exception of a few plants in Europe that are hosting OSART missions from the IAEA.

It was an extremely ambitious goal set forth by WANO president Al Kupcis at the WANO Biennial General Meeting in 1999, and I know he would be pleased with this result.

WANO will conduct about 35 peer reviews this year and that number has been increasing. I'm also pleased to report that members in all four WANO regional centers are working toward each nuclear station hosting an outside review of its performance at least every three years and a WANO peer review at least every six years.

I can tell you the value of peer reviews from personal experience. While I was at Progress Energy, we hosted several WANO peer reviews. They are truly an opportunity to look at yourself through someone else's eyes. And the diverse backgrounds of the peer review team members provide valuable insights.

Peer reviews are really the heart of WANO. When the peer review process is working best, the plant is sharing its strengths and weaknesses with the team in an atmosphere of professional pride. The plant is being managed with the goal of being a top performer and it uses the WANO peer review as a resource to achieve that goal.

Let me close my remarks today with a story from Dr. Armen Abagyan, the director general of the Russian nuclear research institute, VNIIAES, and vice president of Rosenergoatom.

Armen was a founder of WANO who began his nuclear career nearly 50 years ago. After graduating from the Moscow Engineering Physics Institute, he reported to work at the world's first nuclear reactor at Obninsk in 1956.

Hear Armen's words:

*“When we were young, nuclear energy was new and viewed very favourably by society. It was a high-level priority. This made me want to go into the nuclear field. We felt like we were the first people in the world. We were like heroes.”*

So what about the prospects for nuclear energy? I think they are as bright today as they were when Armen Abagyan was a young engineer.

Working together — through WANO, WNA, the IAEA and others — we can rekindle that sense of purpose, that sense of passion felt by the pioneers of our industry. We can ensure the safe and reliable operation of this important energy source.

At times, society may not make us feel like this is the work of heroes, but it is.

Thank you for your kind attention.