



World Nuclear Association Annual Symposium
5-7 September 2001 - London

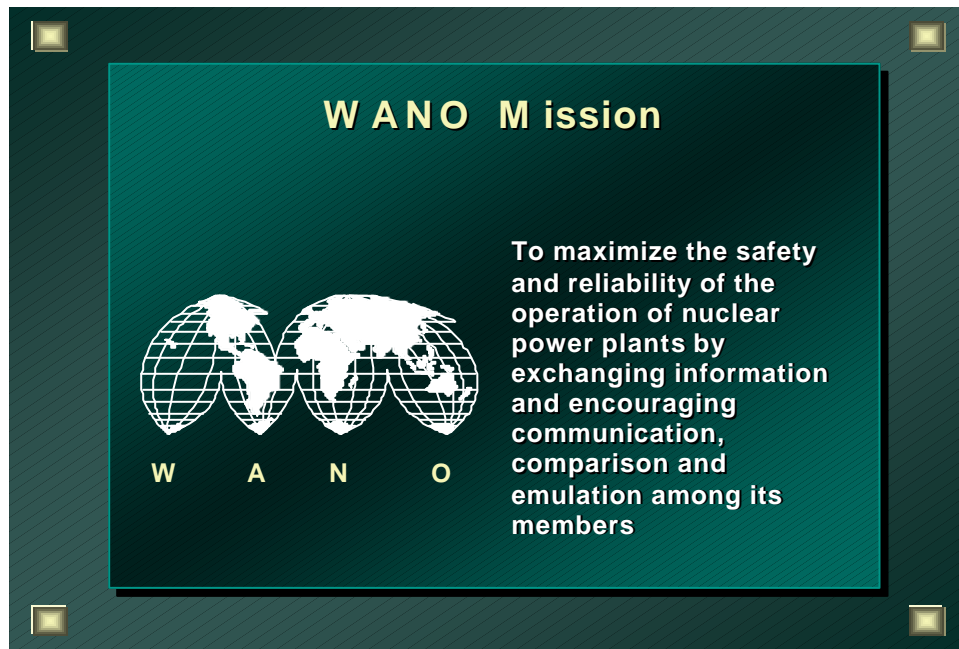
World Association of Nuclear Operators

Zack T Pate

Good morning. It is a pleasure for me to represent the World Association of Nuclear Operators before this distinguished audience. And it is an honour for me to speak at the new World Nuclear Association's first Annual Symposium.

Over the past several years, the worldwide nuclear industry has compiled an increasingly impressive record of performance. Many factors have contributed, but this improvement is due - in a very significant way - to unprecedented cooperation and information exchange. Forums like this help further this dialogue and cooperation.

My plan is to give you an update on the World Association of Nuclear Operators and the progress being made by our members.



Slide 1: Mission

WANO was formed in 1989 as a worldwide utility response to the accident at Chernobyl. As shown on this slide, our mission is to maximize the safety and reliability of the

operation of nuclear power plants by exchanging information and encouraging communication, comparison and emulation amongst its members.

As many of you know, WANO's membership includes organizations in all 33 countries that operate nuclear electric generating plants. Our members currently operate 433 units at 202 stations in these 33 countries.



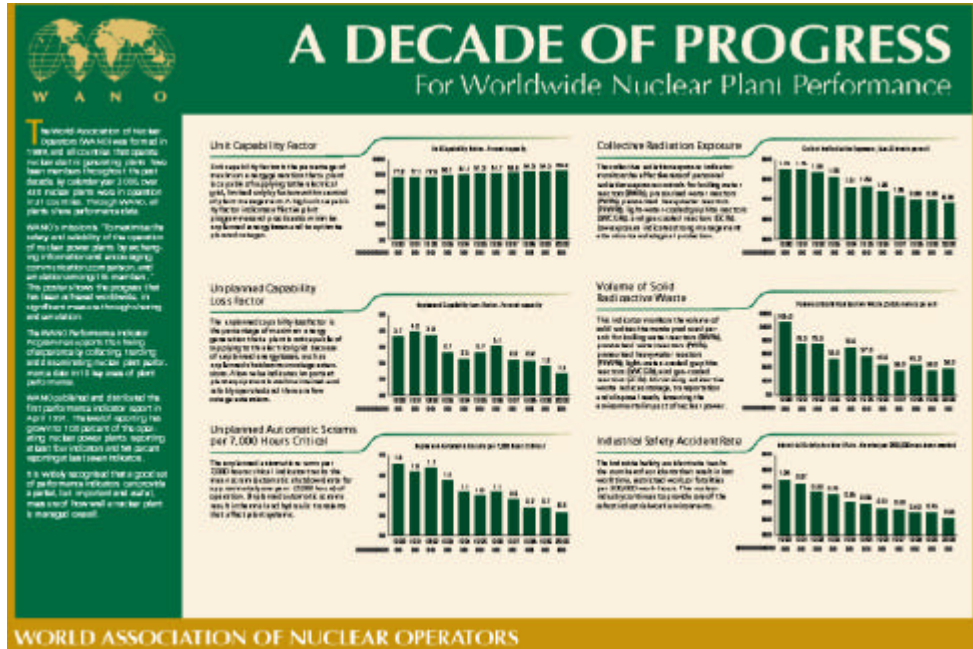
Slide 2: WANO World Map

As shown by this map, we operate through four regional centers, in Atlanta, Moscow, Paris, and Tokyo. Our Coordinating Centre is in London, just a few blocks away in Smith Square.

Each centre has a director and a small, experienced staff - many of whom are seconded from member organizations. There is a Governing Board for each regional centre and a central or worldwide governing board that provides overall coordination and direction. The central governing board is made up of an elected chairman - the position I currently hold - and representatives from each Regional Centre Governing Board.

First, let's begin with a discussion of what has become a customary and widely accepted method of measuring progress, the WANO performance indicators. Most of these indicators are in use at every plant in the world, and they have certainly served us well as both a benchmark for comparison and as a catalyst for improved performance. When plant personnel see that something at another plant is working better than at home, there is a strong human tendency to want to borrow, or copy, or otherwise emulate that better practice.

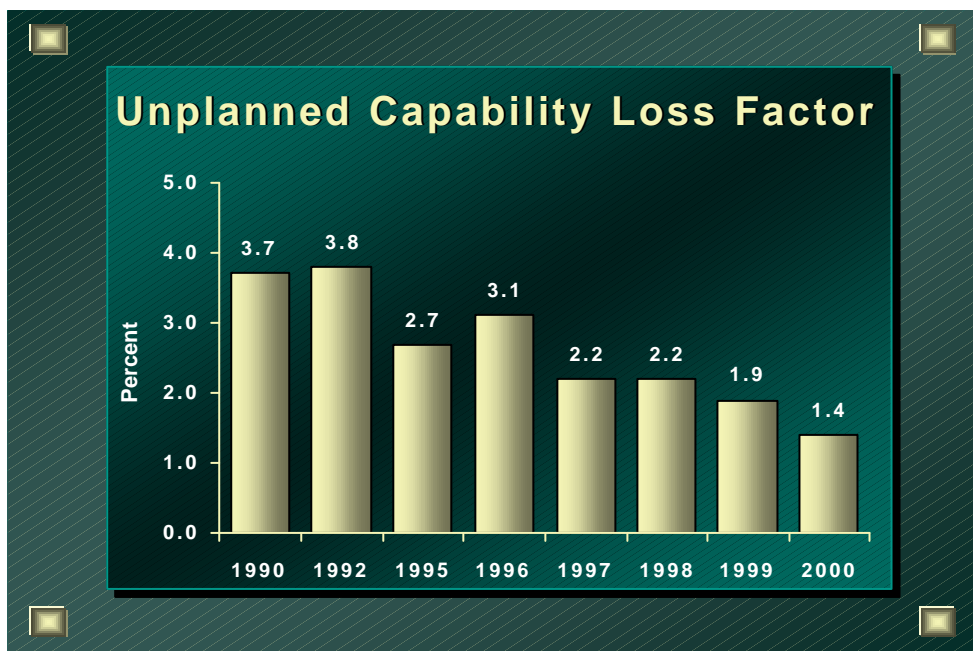
In June, we distributed more than 600 copies of this poster that depicts the steady improvement made by the worldwide nuclear community over the past decade. The poster shows excellent progress for each of the six indicators depicted.



Slide 3: Poster

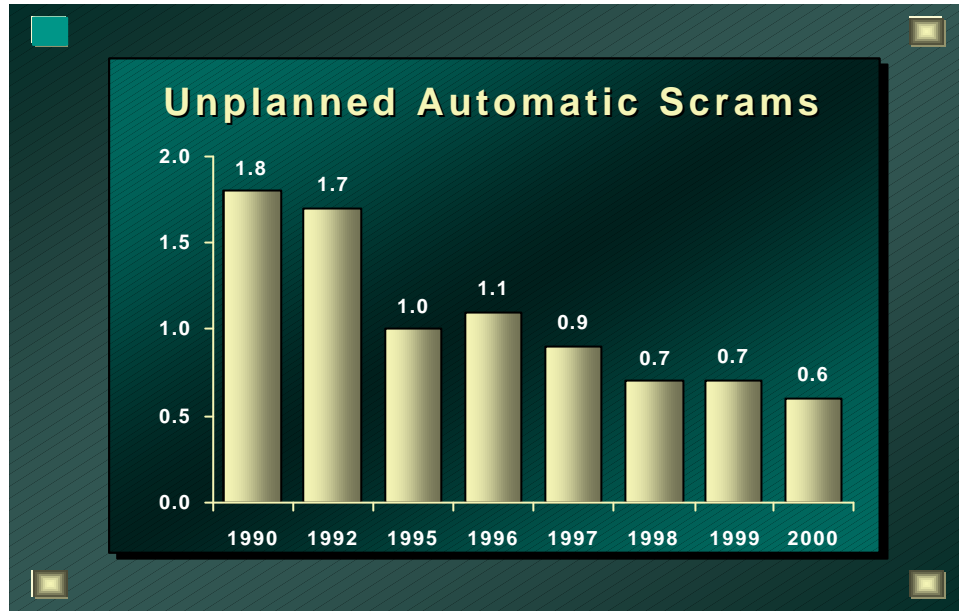
This poster is on display outside this room at the information stand, and copies are available on request from any of our regional centers.

I will not comment on all performance indicators this morning, but I will show you the worldwide trends for three of them.

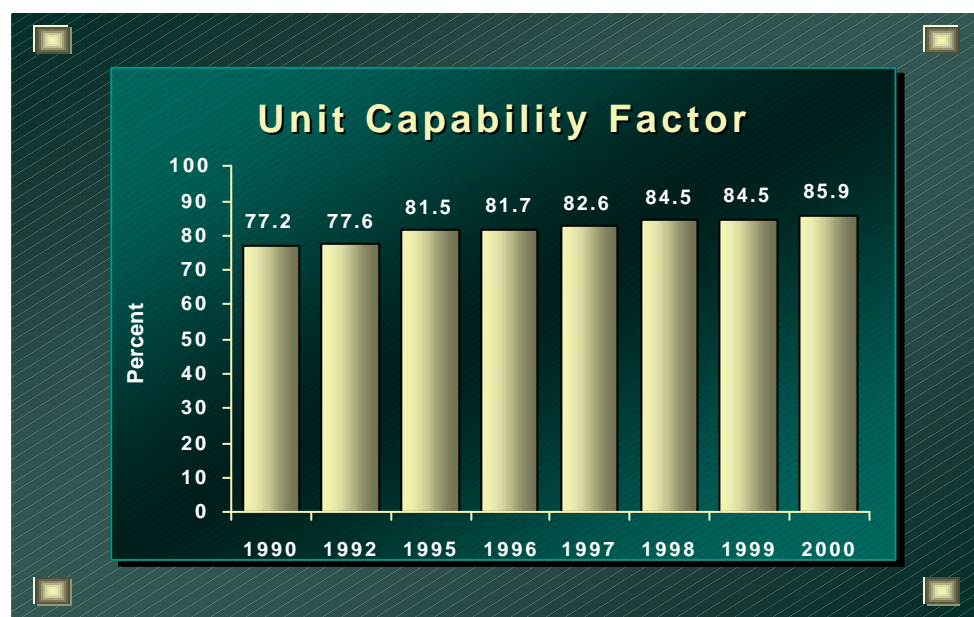


Slide 4: Unplanned Capability Loss Factor

This slide shows the trend for Unplanned Capability Loss Factor. The worldwide industry median continues to improve, showing excellent progress over the past decade. Note that some 422 nuclear units are included in this data.

***Slide 5: Unplanned Automatic Scrams per 7,000 Hours Critical***

The next trend graph is for Unplanned Automatic Scrams. Note that nuclear stations are now averaging well under one scram per year worldwide. Again - excellent progress.



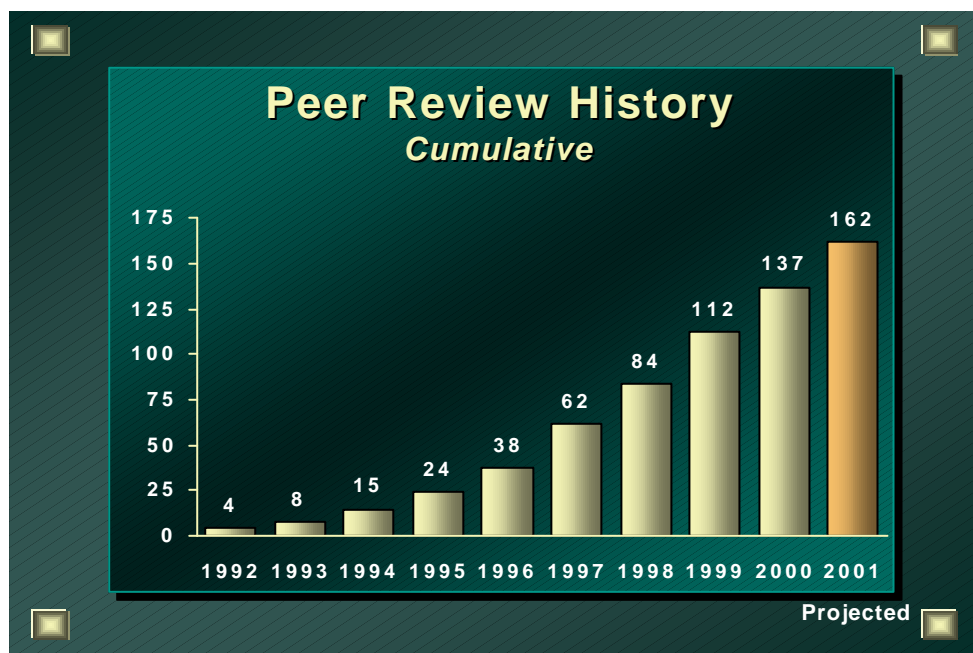
Slide 6: Unit Capability Factor

The last performance indicator graph I will show is Unit Capability Factor. Four hundred twenty units reported data for this indicator for 2000. Note the steady trend of progress, and the substantial gain in production.

To give some added perspective to the impact of this worldwide improvement in unit capability factor, the gain is equivalent to the generation from about 40 additional 1,000-megawatt nuclear plants. In effect we have added 40,000 megawatts to worldwide capacity by improving performance of existing plants.

I hasten to add, as I always do, that WANO did not bring about all this progress - credit for that achievement goes to our members and especially to the hard working, dedicated staffs of our nuclear plants. At the same time, of course, WANO has made an important contribution.

Let me now shift from performance indicators to peer reviews, where there is also encouraging progress. As most of you are aware, our peer review teams spend about three weeks conducting each peer review, at least two of which are at the plant site. The teams of 15 or so people come from all regions, but predominantly the region where the host plant is located. Member involvement in the WANO peer review programme can best be illustrated with graphs.



Slide 7: Trend of peer reviews since 1992

This slide shows the trend of cumulative peer reviews since the program began in 1992.

Now let's look at progress toward our goals.



Slide 8: Progress toward peer review goals

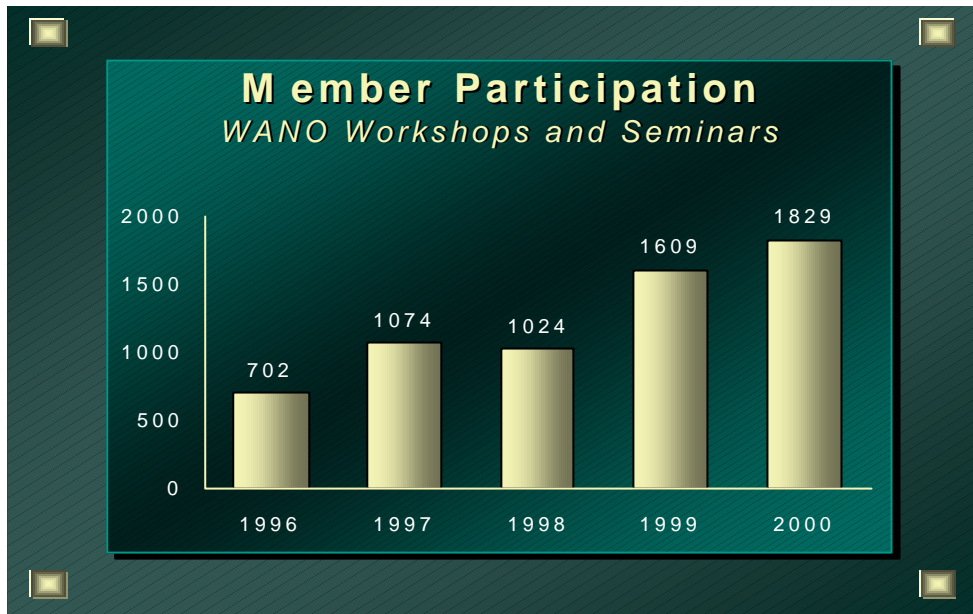
First, WANO established a goal of conducting a peer review at 50 percent of the stations worldwide by the year 2000. We met that goal in January of that year with the completion of the peer review at the Narora Nuclear Power Plant in India. By the end of 2000, we had completed peer reviews at 62 percent of nuclear stations worldwide as shown by the bars on the left.

Next, in a speech at our Biennial General Meeting in Victoria two years ago, former WANO president Al Kupcis challenged members to complete a peer review at all nuclear stations worldwide by 2005. Subsequently, the WANO Governing Boards adopted this challenge as a goal.

The bars on the right shows that 92 percent of all nuclear stations have already scheduled a peer review before 2005. Thus, we are over 90 percent there with four years to go.

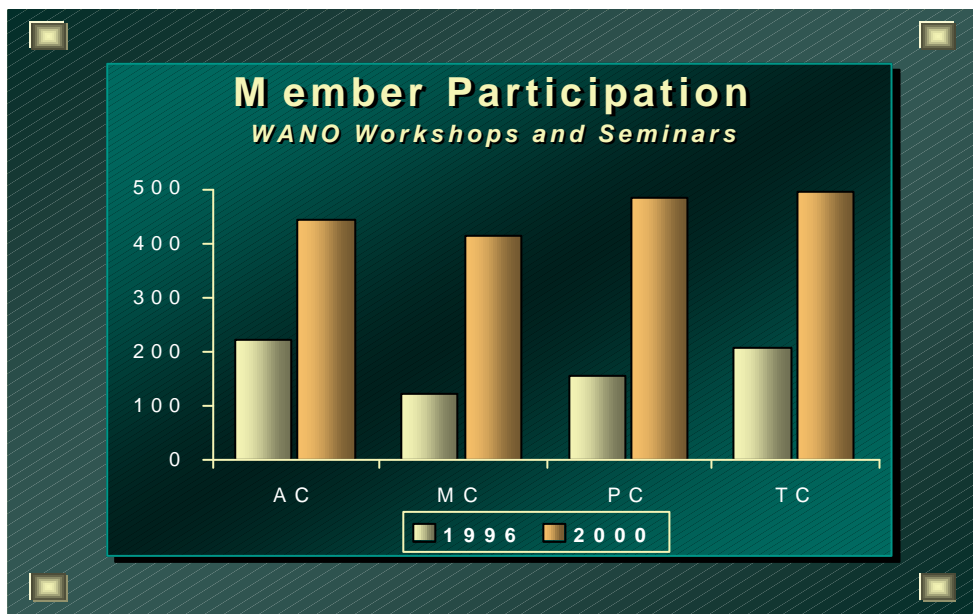
It is important to add that these data do not account for the many stations that have already had two or more peer reviews, and many others are now scheduling recurring peer reviews as a part of their business plan.

Let me turn your attention now to member participation in other WANO activities.



Slide 9: Member Participation Trend Graph

Here is the trend of member participation in WANO-sponsored professional and technical development activities since 1996. As you can see, participation in WANO workshops and seminars has more than doubled over just the past five years.

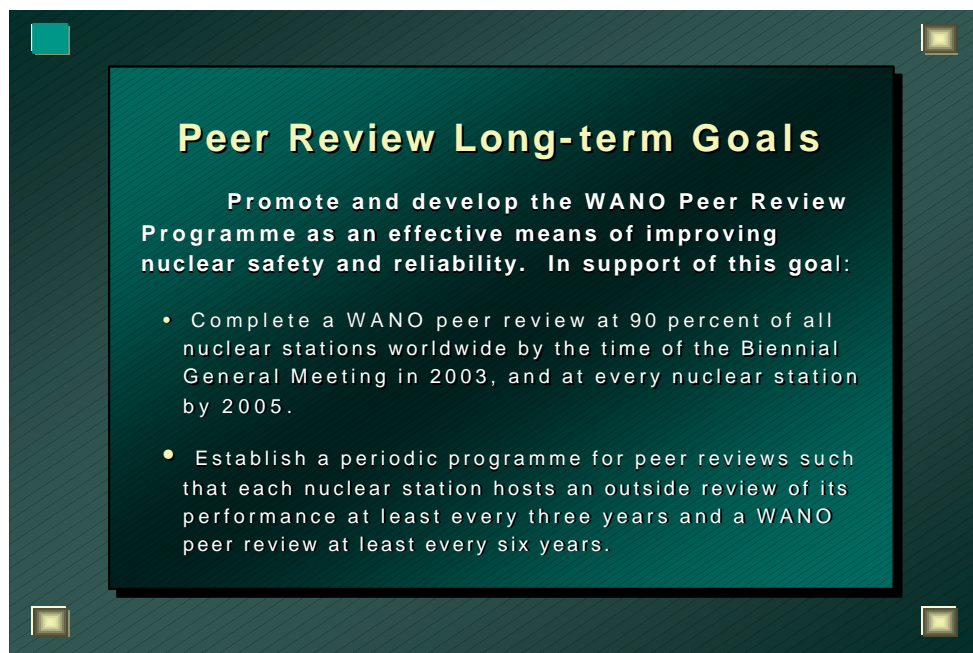


Slide 10: Member Participation by Regional Centre

This graph shows the total number of participants in WANO training seminars and workshops on a regional basis, in 1996 and again in 2000. This is the same data as shown on the previous slide, broken down by region. Note both the increasing participation, and the greater uniformity across regions! I had the feeling that this was occurring but didn't really know until we assembled data for this speech. I was really pleased to see each region's full and growing participation in training seminars and workshops.

If we add to this the number of people participating in WANO peer reviews, technical support missions, and twinning activities, the total number of personnel participating in WANO activities annually is now about 3000, and growing.

The last indication of WANO's continuing evolution I will mention is the progressive set of long-term goals developed and approved last year. These goals went through an extensive development and review process by the WANO regional centre directors, and by each of the four regional governing boards, before final approval by the WANO Governing Board in July 2000. Here, for example, are the peer review goals that I mentioned briefly a few minutes ago.



Slide 11: Peer Review Goals in Words

This one and several other long-term goals provide a clear vision for WANO's future and serve as the foundation for planning at the Regional Centre level.

In WANO's early years, it would not have been possible to set such challenging, far-reaching goals. This is a good example of how far we have come in building relationships and building trust within the WANO community.

Before closing, let me mention some additions to our membership.

At our Biennial General Meeting in Seoul, Korea, we will add two new members, the Atomic Energy Organization of Iran, which is building the Bushehr Nuclear Power Plant,

and the Electric Power Development Company of Japan, which is building the Oma Nuclear Power Station.

And speaking of new members, let me now close on an interesting and unusual note. We now have a unique prospect for another new member.

In May of this year I was invited to the Kola Peninsula, north of the Arctic Circle in Russia, to visit with the Murmansk Shipping Company, which is interested in WANO membership.

The Murmansk Shipping Company is a shareholder company that operates a fleet of 17 ships, seven of which are nuclear powered. They operate a total of 11 nuclear reactors for propulsion of six icebreakers and one nuclear-powered container ship



Slide 12: Nuclear-powered Icebreaker

This slide shows one of their nuclear-powered icebreakers of the Arktika class. It is named “*the Russia*”. *The Russia* has two reactors.

I am quite pleased that WANO’s reputation reaches to Murmansk, and that this unusual prospective member has applied to join WANO.

WANO is now well into its second decade. I think you can see from the data and information I have presented that the organization is successful and growing. And, more importantly, our members are making progress in improving the safety and reliability of their plants. They are using WANO as a resource, and that’s as it should be.

In closing, I am pleased to add that we look forward to great cooperation with the World Nuclear Association. We believe your work, while quite different from that of WANO, is entirely complementary. And your work is very much in the interest of our members and, indeed, the entire nuclear community. We wish WNA great success.