

World Association of Nuclear Operators (WANO)

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Who is WANO?

- WANO is an international organization with a single aim:
 - . . .to promote the highest levels of safety and reliability at nuclear power plants around the world



WANO Formation

WANO was formed in 1989, following the 1986 Chernobyl accident to bring together the worldwide nuclear industry to develop programmes and methods to improve nuclear safety and, thereby, prevent future accidents.



WANO Mission

‘To maximise the safety and reliability of the operation of nuclear power plants by exchanging information and encouraging communication, comparison and emulation amongst its members.’



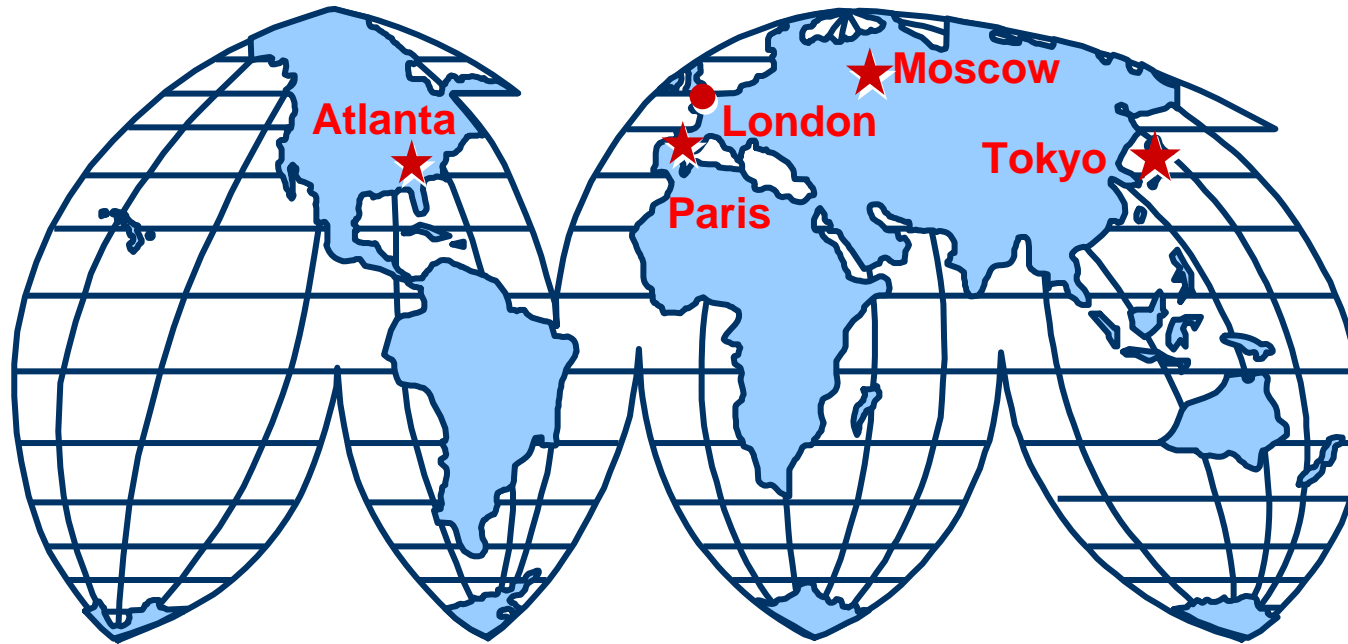
WANO Charter

The WANO Charter, signed by each member organisation at the time of WANO's formation, states:

...each operator has an *individual* responsibility to guarantee nuclear safety. The operators also have a *collective* responsibility to work together to improve their performance and continually upgrade the safety of operating plants.



WANO Organization



● Coordinating Center ★ Regional Centers



WANO Structure

- Membership: 198 stations, 447 units in 32 countries/areas
- WANO Governing Board (representatives from each of the four regional governing boards)
- Coordinating Centre in London
- Four regional governing boards and regional centres: Atlanta, Moscow, Paris, Tokyo
- Over 300 member utility peers participate on peer reviews and technical support missions



WANO Programmes

- Peer Reviews
- Operating Experience
- Technical Support and Exchange
 - Technical Support Missions
 - Performance Indicators
 - Guidelines and Good Practices
- Professional and Technical Development



WANO Programmes

“You must learn from the mistakes of others. You can’t possibly live long enough to make them all yourself.”

Sam Levenson (1911 – 1980)



Peer Reviews

- First peer review conducted in 1992
- Each operating station is scheduled to have a peer review at least once every six years
- Consistent standards are used in different regions
- Provide a thorough review of plant performance by a team of industry peers – allows frank exchange of ideas and problems
- An annual summary of peer review results is shared with members



Peer Reviews

“Honest criticism is hard to take, particularly from a relative, a friend, an acquaintance, or a stranger.”

Franklin P. Jones

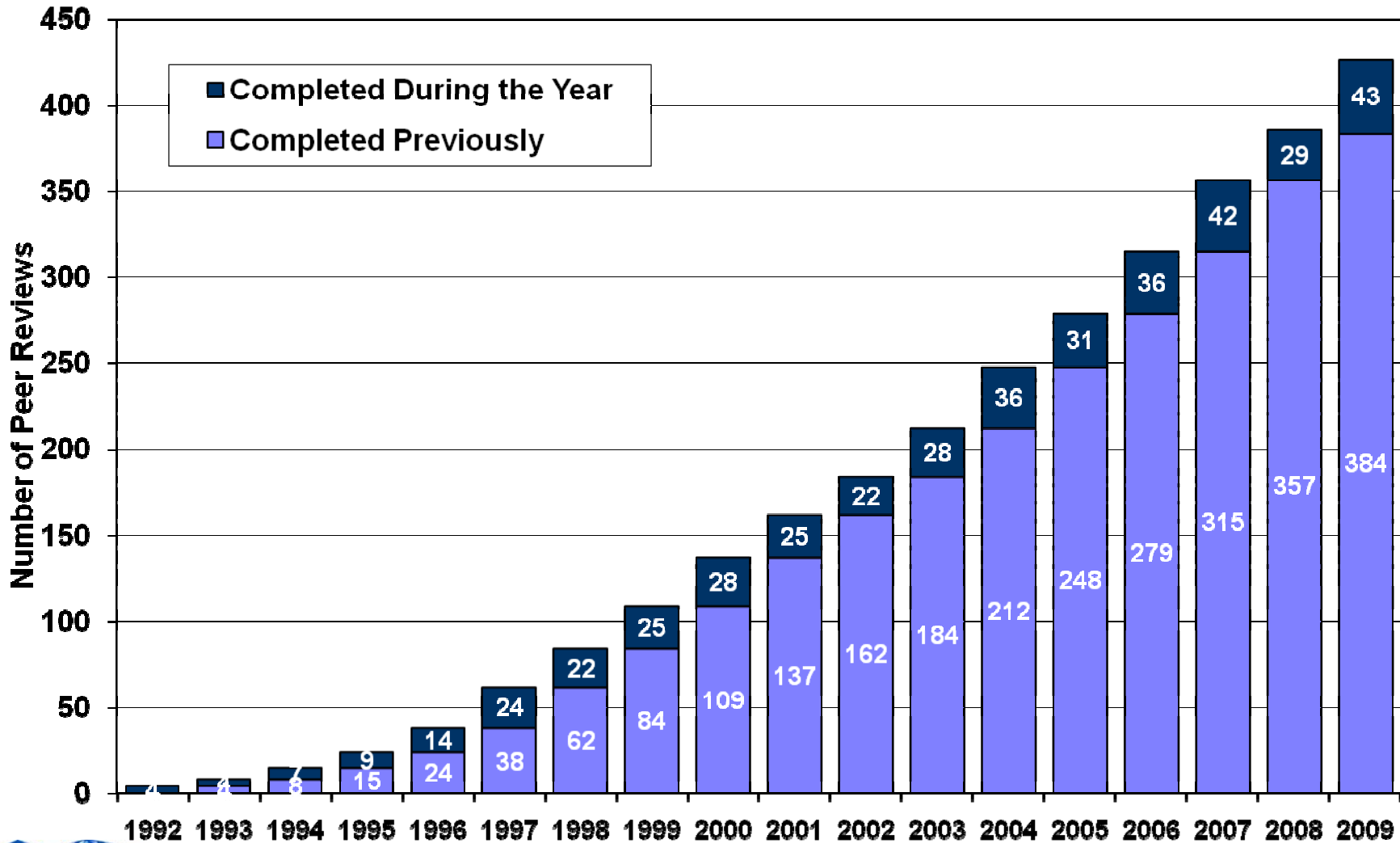


Peer Reviews

- Peer Review Teams:
 - consist of 15 – 20 peers from multiple regions
 - are onsite for 2 – 3 weeks
 - observe work, review documents, & interview staff
 - observe operators responding to simulated events
 - observe outages
 - Identify areas for improvement and strengths
- Results are held strictly confidential between WANO and its members, and are discussed with member senior executives, typically the CEO
- Member utility responds with planned actions to address the areas for improvement



Peer Reviews



Pre-startup Peer Reviews

- Review the attributes needed for a unit to begin operating safely, from the start
- Supports transition from construction culture to an operating culture
- Bring the new plant in contact with international nuclear community
- WANO developing plans to effectively support new plants and organizations new to the nuclear power



Operating Experience

- WANO members report events at their stations to a secure members' Web site
- All WANO members have access to the Web site and can review events from other stations
- Sharing of event reports enables members to identify actions to prevent similar events
- Event reports provide valuable information for a broad scope of plant and WANO activities



Operating Experience

WANO personnel analyse reported events and highlight problem areas for industry attention:

- Significant Operating Experience Reports
- Significant Event Reports
- Just In Time briefing sheets
- CEO Updates
- Hot Topics

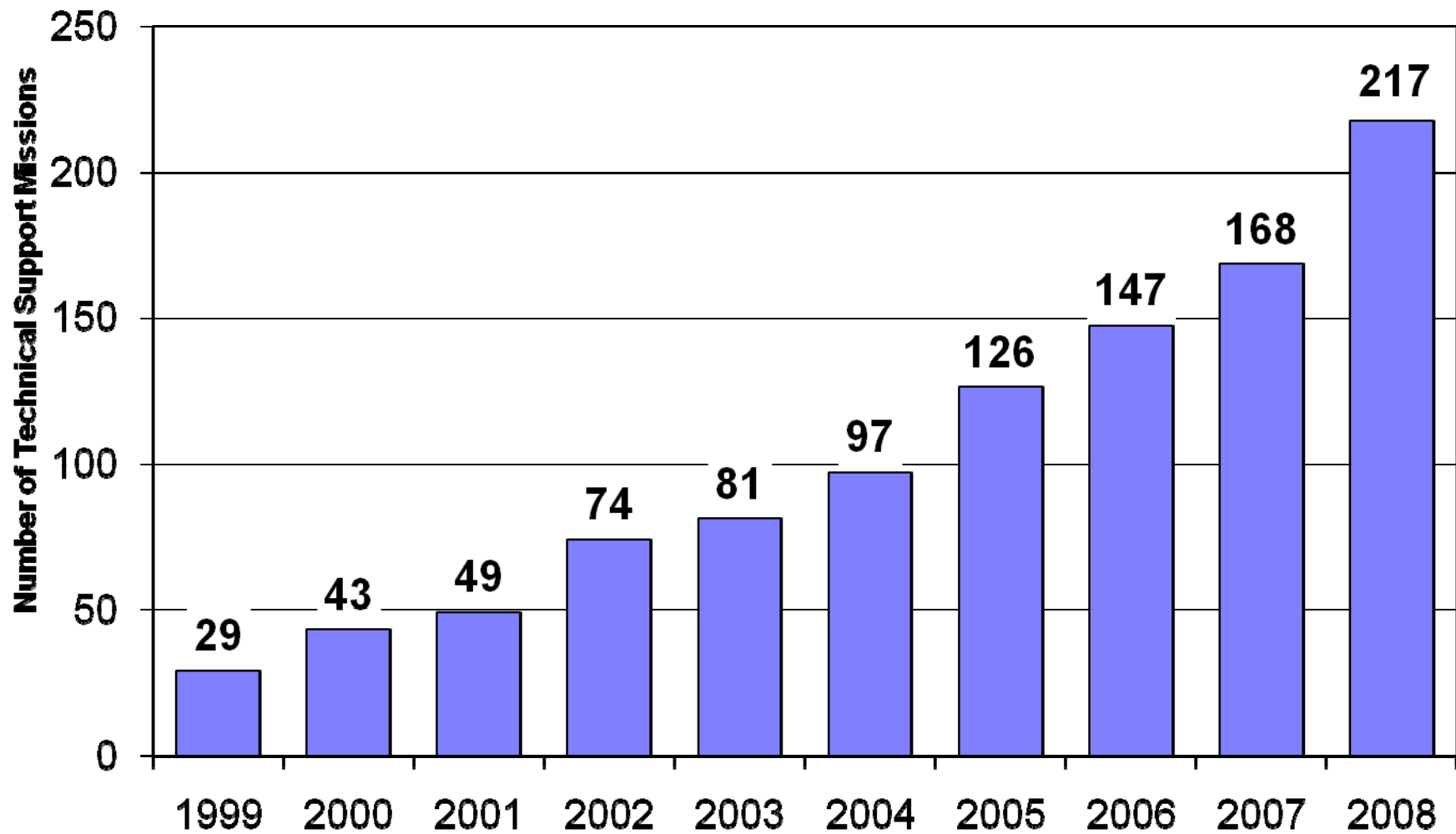


Technical Support Missions

- Assistance focused on supporting station improvement
- Technical support missions are delivered to help resolve key issues from the peer review
- Typically one week in duration with 2 – 4 external peers
- Example topics:
 - Safety Culture, Organizational Effectiveness, Human Performance, Self-assessment, Equipment Reliability, Work Management



Technical Support Missions



Performance Indicators

- Performance Indicators provide a quantitative indication of plant performance in the areas of nuclear safety, plant reliability and personnel safety
- WANO members report data for 11 performance indicators, with a common set of definitions for the data to be reported
- Members can compare performance at their stations to similar stations throughout the world – facilitating benchmarking and emulating industry best practices

Communication

- WANO maintains a members' Web site for exchanging timely operating experience and document information
- Each regional centre has a communication contact to facilitate communication between the centre and the member
- *Inside WANO*, the members' magazine, is published two to three times per year in six languages. More than 8000 copies are mailed to member personnel.
- WANO maintains a public web site (www.wano.info) with selected information available, including *Inside WANO*, the biennial Review, and performance indicator results



Biennial General Meeting

- Meeting of WANO member executives to review industry progress during the previous two years and discuss future plans
- 9th Biennial General Meeting, September 2007
Theme – *‘Closing the Gap: Turning today’s promise into tomorrow’s reality’*
 - More than 400 nuclear executives participated
 - WANO Nuclear Excellence Awards presented to six recipients
- 10th Biennial General Meeting, January-February 2010
Theme – *‘Moving Forward Safely – In a Changing World’*



The Role of WANO

- Maintain emphasis on safe operation of nuclear power plants
- Provide members with performance feedback and tools to help them improve performance
- Ensure actions to improve performance are supported by senior management of members
- Engage new entrants to ensure high standards of performance throughout the life of the plant

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