


“Knowledge management :
An international perspective”


“Knowledge management: A foundation for WANO; a
stake in the future”

Jacques Regaldo, Chairman of WANO



Summary of Presentation


1. WANO : Mission & Programmes
2. WANO Training
3. WANO Young Generation knowledge management
4. Conclusion



To maximise the safety and reliability of nuclear
power plants worldwide by working together to
assess, benchmark and improve performance
through mutual support, exchange of information,
and emulation of best practices.




WANO mission




WANO Mission

The foundation and existence of WANO is the transmission & circulation of every Nuclear Operator knowledge and operating experience to increase the level of nuclear safety worldwide

It is necessary to have high level & skilled operators to operate safely
 It is necessary to have high level & skilled reviewers to perform efficient & credible reviews




WANO




INPO created in 1979 after TMI


WANO created in 1989 after Chernobyl


118 member utilities affiliated to one or more RC


Atlanta







Moscow


Paris


Tokyo



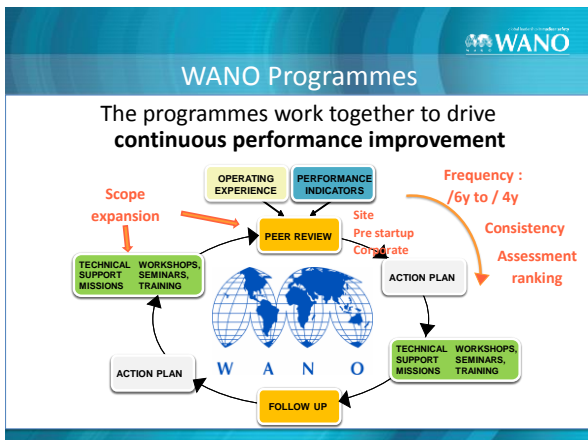
WANO Governing Board


	 Managing Director George Folgate Company Secretary Rick Halsey	 Chairman J. Regaldo EDF	 President V. Asmolov Rosenergoatom	
	Atlanta	Moscow	Paris	Tokyo
Most Influential Utility in Region	 B. Willard INPO	 E. Romanov Rosenergoatom	 H. Proglio EDF	 M. Yagi FEPC
Regional Chairman	 T. Michell OPG	 A. Vuorenmaa Fortum	 P. Van Troeye Electrabel	 S. K. Jain NPCIL
CEO Nominated by Region	 G. Gates OPPD	 V. V. Kim NNEGC	 He Yu CGNPC	 Chen Hua CNNC



WANO Programmes


1. Peer Reviews
Station, Pre Start-up, Corporate, Long term Shutdown & restart
2. Operating Experience
Significant Event & Operating Experience Reports, CEO update...
3. Technical Support and Exchange
Technical Support Missions, Performance Indicators, Guidelines, ...
4. Professional and Technical Development Programme
Biennial General Meetings (BGM), Site Vice President (SVP) Conference, Small Group CEO Meetings, ...





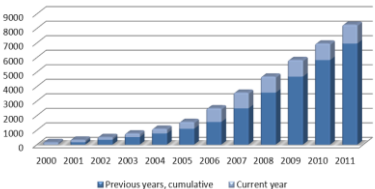
Peer Review Programme

- Station Peer Review
 - Six-year frequency by full team to assess performance
- Pre-startup Peer Review
 - ✓ Conducted prior to start-up to assess readiness for safe and reliable operation from the first core loading onward.
- Corporate Peer Review
 - ✓ As requested, but target is one per region per year to assess effectiveness of corporate support
- Long-term shut-down review
- Restart review




Operating Experience (OE)

Importance of sharing experience between operators.
 WANO Members provided 1292 OE reports in 2011.
 Since 2000, WANO database comprises more than 8000 event reports.




Year	Current year	Previous years, cumulative
2000	~500	~500
2001	~500	~1000
2002	~500	~1500
2003	~500	~2000
2004	~500	~2500
2005	~500	~3000
2006	~500	~3500
2007	~500	~4000
2008	~500	~4500
2009	~500	~5000
2010	~500	~5500
2011	1292	6792




Significant Operating Experience Reports (SOER)

WANO issued 18 SOER (including 4 after Fukushima) describing significant events or trends, including recommendations requiring WANO members to identify and implement appropriate corrective actions.



These recommendations are to become compulsory. If implemented, more than 60% of the events worldwide would have been avoided.



Technical Support Exchange (TSM)

TSM : Missions carried out at the request of the plant to assist each other. A team of peers is selected on the basis of their expertise in a specific area.

Performance Indicators: Method for members to assess the performance of their plants. (international benchmark)

Guidelines & Good practices : help members to achieve high standards of performance & safety made on proven practices at other stations.

Operator Exchange : any information exchanged between operators to increase the safety and reliability.


 WANO

Professional & Technical Development

Biennial General Meetings (BGM)


Site Vice President and Plant Manager Conferences

Small Group CEO meetings

 WANO

Summary of Presentation


1. WANO : Mission & Programmes
2. WANO Training
3. WANO Young Generation knowledge management
4. Conclusion

 WANO

WANO Resources

In 1989 : 120 staff (<0,3 / unit)
 In 2010, after Delhi : 150 staff (0,35 / unit)
 In 2014 / 2015 : >400 staff (0,85 / unit)

In parallel : increase of quality of reviewers & team leaders



Knowledge Development

One way to prevent accidents is to help staff increase their skills and knowledge so they can deal with potential safety issues.


WANO members have access to workshops, conferences, seminars, expert meetings and training courses to hone their skills and deepen their knowledge (operations, maintenance, engineering & upon request).



WANO Seminars & Training Sessions

2012	Atlanta	Moscow	Paris	Tokyo	Total
Technical & Safety related meetings	5 seminars 5 days	10 seminars days	34	8 seminars 28 days	2 seminars 4 days
Reverse Accident Management, Emergency Preparedness, Crisis Organisation		4 seminars days	5	1 seminar 3 days	
Informative meetings	1 seminar 2 days	2 seminars days	5	2 seminar 6 days	1 seminar 2 days
DE Feedback	1 seminar 2 days	2 seminars days	9	3 seminars 12 days	1 seminar 2 days
Reviewers training process		1 seminar days	3		3 seminars 12 days
Management training	2 seminars 10 days	1 seminar days	5	2 seminars 10 days	
Total Prof. & Tech. Development (man days)	837	1816	1880	436	5069
186 Technical Support Missions	81 <small>(only non US stations)</small>	37	71	27	
21 Benchmark visits	15		2	4	
Total TSM (man days)	859	833	999	421	2612
Overall total (man days)	1396	2449	2979	857	7681

In 2012, WANO performed 7681 man days of training including 186 TSMs (TSMs to the 65 US stations are performed and tracked by INPO)



Summary of Presentation

1. WANO : Mission & Programmes
2. WANO Training
3. WANO Young Generation knowledge management
4. Conclusion

Young Generation / Talents

- WANO is increasing its involvement with the young generation
- The Managing Director spoke at the International Youth Nuclear Congress 2012 in Charlotte, North Carolina
- WANO is actively encouraging its members to bring high potential young generation participants to its flagship conference: BGM in Moscow (May 20-22)
- The President of the "International Youth Nuclear Congress" will speak at the next Biennial General Meeting to present the knowledge transfer from the perspective of the young generation

Summary of Presentation

1. WANO : Mission & Programmes
2. WANO Training
3. WANO Young Generation knowledge management
4. Conclusion

Conclusion

- Exchange & transfer of knowledge and information between members is the very essence of WANO
- However, WANO has to:
 - increase and expand the scope of training (technical, safety behavior, management & leadership skills)
 - improve the internal training of its own reviewers
 - welcome the young generation and identify future talent
- WANO should be a privileged path to promote future talent.
