

# **The International Forum for Reactor Aging Management (IFRAM)**

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# IFRAM - Objective

- Develop an Organization to Facilitate Exchange of Information Among Global Organizations Addressing NPP Aging Management Issues
  - (i) Cooperate to achieve common objectives;
  - (ii) Share information/data;
  - (iii) Identify and promote the adoption of best practices and;
  - (iv) Identify possible collaborative research projects
- Pursue collaborative research projects separately from IFRAM

# Establishment of IFRAM

- Formal agreement is pending
  - Draft agreement has been tentatively accepted
  - Formal agreement is being circulated for signature
- Potential founding parties
  - US Nuclear Regulatory Commission (NRC)
  - Canadian Nuclear Safety Commission (CNSC)
  - Czech Republic's Nuclear Research Institute Rez
  - Chinese Academy of Sciences' Institute of Metal Research
  - Materials Aging Institute (MAI)
  - JRC (Petten)
  - PRIMA-NET (Korean Advanced Institute of S & T,)
  - Tohoku University (supported by Nuclear Safety Authority)
  - Center for NDE, Iowa State University

# IFRAM – Structure

- Develop a “virtual” organization
  - Hold bimonthly teleconferences
  - Develop an information repository
    - Operating experience
    - Share plans on proposed and ongoing research
    - Research results
    - Best practices
  - Maintain a list of experts
- Occasionally hold actual meetings in concert with other events
  - International Cooperative Group on Environmentally Assisted Cracking – 2015
  - Offer virtual support for all meetings

# IFRAM/IAEA Handbook

- Development led by Il Soon Hwang (Seoul National University)
- Describe best practices for managing age-related degradation of passive system components
- Provide considerations for prioritizing aging management activities in nuclear power plants
- Plan to electronically published handbook for the broader benefit of international community – fall 2014
- Publish some portions separately in peer-reviewed journals and other professional media.

# IFRAM – Status of Other Activities

- Information Portal
  - Under development – mailing list
  - New website
    - [http: IFRAM.org](http://IFRAM.org)
    - Updating content: current content transferred from original website at PNNL
    - Future IFRAM meeting information
    - Links to other aging activities and networks
  - Description of research activities in each organization



*IFRAM's mission is to facilitate the appropriate exchange of information among those parties and organizations around the world that are presently, or are planning to, address aging management issues of nuclear power plant (NPP) systems, structures and components.*

#### Participate in IFRAM

IFRAM participants are individuals, groups or organizations committed to the work needed to achieve IFRAM's mission. The primary requirement for participation is having a strong interest and expertise in some aspect of plant life management. In addition to individuals, groups and organizations authorize specific individuals to participate in IFRAM activities. All participants contribute voluntarily and are responsible for their own expenses while participating in IFRAM activities. Go to the IFRAM website to learn more about this international forum and its activities: <http://ifram.pnnl.gov/>

#### Welcome from IFRAM Chairman



*Professor Tetsuo Shoji  
Tohoku University (Japan)*

At the first Leadership Council of IFRAM held after the Kick-Off meeting on August 4 and 5, 2011, in Colorado Springs, I was elected as the first chairman of IFRAM. It was a great honor and privilege for me to accept to be the chairman of this world-wide International Forum of Reactor Aging Management. The importance and significance of the role of IFRAM in ensuring and improving the safety and reliability of aging NPPs is well accepted by the members, and I hope all of the members play a role towards our common goal, which includes a compilation of our knowledge and experiences as well as collaboration of ongoing and/or under-planning Research, Development and Demonstration (RDD). Safety and reliability must be high quality in depth and should be equal quality for NPPs throughout the world. Knowing the differences is a beginning of learning. Knowledge management to identify where the knowledge is needed and where the knowledge exists is one of the important roles of IFRAM. Let's work together in solving the issues and in preventing potential problems to occur, for our common goal, Safe and Reliable NPP operation irrespective to plant ages. I am very much excited to work with all of you in the scheme of IFRAM. We should recognize the impact of the Fukushima Dai-ichi accident on NPP life management and we need to learn a lot about this event by knowing what are the pre-assumptions in design and construction, what are the operational conditions assumed in general, and what would be a deviation from the pre-assumed design and operational conditions. Knowledge integration and proactive aging management based upon these lesson-learned would be one of the important roles of IFRAM.

# Conclusions

- Research is necessary to provide an understanding of age-related degradation of important passive systems, structures, and components and demonstrate the effectiveness of aging management programs for long-term operation of existing nuclear plants beyond 60 years
- Information sharing and international cooperation through IFRAM can leverage national programs
  - Close knowledge gaps
  - Help resolve issues
- Cooperation and collaboration can be performed in a cost effective manner through virtual networking