

## WM2016 Conference Panel Report

**PANEL SESSION 1:** WM2016 Plenary Session

**Co-Chairs:** **James Gallagher**, *Chairman of the Board of Directors Waste Management Symposia*

**James Fiore**, *President, Waste Management Symposia*

**Panel Reporter:** **Linda Lehman**, *CH2M*

### **Panelists:**

1. **John Clarke**, *Chief Executive Officer of the Nuclear Decommissioning Authority (NDA) (UK)*
2. **Tom Jones**, *Vice-President for Strategy and Business Development for AMEC Foster Wheeler Clean Energy Business.*
3. **Monica Regalbuto**, *Assistant Secretary for Environmental Management*

The Plenary Session set the tone for the remainder of the conference and featured speakers from the UK which was this year's Featured Country and from the US. The plenary attendance ranged between 800 and 1,000. Mr. James Gallagher and Mr. James Fiore both welcomed the attendees to the 42<sup>nd</sup> annual conference and gave opening remarks.

### **Summary of Presentations:**

**Mr. Gallagher** mentioned that our luncheon speaker would be Mr. Yasuharu Igarashi, Executive Director of the Nuclear Damage Compensation and Decommission Facilitation Corporation of Japan or NDF. Mr. Igarashi has had a long and distinguished career with over 40 years of experience throughout the industry in various executive capacities.

Mr. Gallagher introduced the Featured Country for this year which is the United Kingdom, whose companies have championed nuclear power development in their countries and internationally. There were 113 attendees from the UK at the conference. In addition to the Plenary session presentations, three additional sessions will discuss waste management progress in the UK.

**Mr. James Fiore** stated that the WM Symposia is a non-profit organization with all proceeds going to further educational objectives. Last year, we were able to make substantial contributions to Universities, students and faculty, and we have significantly increased student participation at the Conference over the past few years. This year we have 53 students attending and giving presentations.

Our subsidiary organization, the Post Foundation, has been able to grant 22 scholarships (16 graduate awards, 6 undergraduate awards) that will be presented at the Awards Luncheon. Also the James A. Glasgow Scholarship Awards for 2<sup>nd</sup> or 3<sup>rd</sup> year law students demonstrating a meaningful interest in environmental law, will provide an additional 2 scholarships. John Longenecker of Longenecker and Associates, has also graciously donated an additional 5 scholarships.

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The US DOE will have two featured sites this year; Oak Ridge National Laboratory on Tuesday and the Sandia National Laboratories on Wednesday. Additionally, four sessions are planned on the Hanford Direct Feed Low-Activity Waste progress and the Portsmouth and Paducah Sites will also present their latest information on Thursday.

**Mr. John Clarke**, Chief Executive Officer of the NDA, discussed the major achievements that have been realized by the NDA and their various programs on safety, waste processing and decommissioning. Some of these achievements follow:

- Over 70% of the hazard has been removed from the Sellafield Pile Fuel Storage Pond
- The first sludge has now been retrieved from Sellafield First Generation Magnox Storage Pond
- The Windscale Advanced Gas-Cooled Reactor (AGR) has been decommissioned.
- Approximately 85% of waste destined for LLW disposal has been diverted, which will extend repository life by 100 years.
- Spent fuel has been removed from 8 of the 10 Magnox reactor sites, reducing radiological hazard at those sites by 99%.
- The Dungeness A turbine hall has been completely demolished.
- Wylfa NPP stopped generating after a 5 year license extension
- Out of 9 original experimental reactors at Winfrith, only 2 remain.
- Much of the waste treatment at Sellafield is being done robotically.

In addition to these major achievements, the UK program has also provided international expertise and assistance to Japan; work was started on a new nuclear archive facility in Wick, Scotland and NDA has supported 1,165 apprentices since 2005.

**Mr. Tom Jones**, AMEC-Foster Wheeler discussed the global challenges facing decommissioning and waste management. He divided his presentation into three primary sections; stating the problems, discussing the challenges and defining the opportunities.

The problem is very large and is estimated to cost more than \$100 billion over the next 15 years. This was based on the need to shut down over 200 nuclear reactors over the next 15 years, the fact that 10's of millions of cubic meters of LLW/ILW will require disposal and that hundreds of thousands of cubic meters of HLW will require safe disposal. He further broke down expected decommissioning expenditures by country as follows:

- Canada > \$6 bn
- USA > \$1 bn
- France > \$18 bn
- Germany > \$7 bn
- UK > \$20 bn
- Russia > \$12 bn
- Japan > \$15 bn

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Major challenges that are facing the industry are not unique to each country, many similarities can be shown across the board such as:

- Complexities introduced by ageing legacy sites as well as major incident sites
- There is a tendency to delay spending
- Most of these programs are exceptionally long, lasting for decades.
- Many countries face barriers to cooperation
- Lastly, there is a general lack of public agreement regarding deep geologic repositories.

Mr. Jones listed what he considered to be the most critical of the industry challenges and that being, #1, the need to complete the nuclear fuel cycle by putting in place a long-term solution for HLW, and #2, the need to view waste management and decommissioning as an investment rather than a distressed purchase.

With respect to opportunity he sees three benefits to creating effective delivery and those are: it will make our world a safer place; it will boost public confidence in the industry and it will train generations of engineers in valuable skills.

Mr. Jones further elaborated on what he meant by effective delivery. To be effective you must address at least the following 7 areas.

- Scope – he says that the scope of work will change so be flexible and put in place a commercial model that can offer flexibility.
- Technical Innovation – don't over engineer it. The best solutions can be simple.
- Delivery Strategy – when developing a strategic plan you must understand your role, trust the contractor, engage the supply chain and build long term relationships.
- Commercial – collectively manage the risks
- People and Culture – Success relies on people and their mindset, try to help develop the mindset.
- Processes – We need to take the time to radically re-think our current approaches. Try to do more for less.
- Collaboration – Some of the most complex problems are often too big for one country or one company to handle, so collaboration becomes critically important. It is also important to be aware of the best practices and expertise around the world and use them.

**Mrs. Monca Regalbuto**, Assistant Secretary for US DOE EM, stated that we are focused on near-term cleanup goals and transforming EM for continued success over our 50-plus year mission. She highlighted workers and their success stories. She also presented plans for 2017.

EM has submitted a 2017 budget request to Congress which totals \$6.119 Billion in total. Those funds are allocated as follows:

- 40% - Radioactive tank wastes will receive \$2410 Million
- 14% - Facility D&D will receive \$887 Million
- 14% - Special Nuclear Materials and Used Nuclear Fuel \$873 Million

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- 13% - Transuranic and Solid Waste \$773 Million
- 12% - Site Services \$732 Million
- 07% - Soil & Groundwater will receive \$445 Million

Mrs. Regalbuto discussed the work planned at all the major sites, with Hanford and Savannah River receiving the lion's share for tank waste retrieval and processing and a number of major projects at Hanford including planning for dry storage of the cesium/strontium capsules and the final steps in decommissioning the Plutonium Finishing Plant. Savannah River will continue to process high-level tank waste and will complete construction of the Saltstone Disposal unit 6. Lesser amounts are on tap for Oak Ridge, Idaho, Los Alamos, Carlsbad, Portsmouth and Paducah.

Regalbuto described her vision of the future EM, which included having Direct Feed Law operational by 2022; utilization of advanced robotics technology to improve safety and overcome technical challenges; participate in technology collaboration with academia, non-nuclear sectors and internationally. She described her motto of attract, train and retain.