

## WM2015 Conference Panel Report

**PANEL SESSION 110: UK/USA Partnering Across the Pond - Accomplishments and Lessons Learned**

**Session Co-Chairs:** **Laurie Judd**, *NuVision Engineering*  
**John Mathieson**, *UK NDA*

**Panel Reporter:** **Angie Jones**, *Amec Foster Wheeler*

### **Panelists:**

- **John Mathieson**, *International Programmes, UK NDA*
- **Rodrigo (Rod) Rimando**, *Senior Technical Advisor, US DOE – EM*
- **Graham Jonsson**, *Deputy Head of Programme, Sellafield, UK NDA*
- **Terrel J. Spears**, *Deputy Manager, Savannah River Site Operations, US DOE*
- **Keith Miller**, *Head of Marketing Strategy and Business Development, UK NNL*
- **Anthony Banford**, *Chief Technologist, UK NNL*
- **Sharon Marra**, *Associate Laboratory Director, Environmental Stewardship, Savannah River National Laboratory*

This panel will give an update on progress made under the UK-US relationship, which was updated in September 2014 when the UK National Laboratory (NNL) joined DOE and NDA as signatories. Representatives of DOE, NDA and NNL will identify benefits to the respective National Programs through cooperation. Examples of the collaboration include support to WTP, senior management exchanges, National Laboratory teaming and geological disposal. During the session, panelists and audience members provided perspectives and considerations related to partnering agreement. A summary of the panel discussion of concepts, challenges, and opportunities for future efforts and approaches is presented below.

### **Summary of Presentations:**

1. **John Mathieson** and **Laurie Judd** gave an overview of the session and the panelists
2. **Rodrigo Rimando**
  - a. Perspective on the relationship with UK for shared nuclear cleanup in a statement of intent - US DOE, UK NDA, UK NNL
  - b. Trilateral agreement for exchange of information , technology & personnel
  - c. Now includes the DOE Office Of Nuclear Energy & NNL
  - d. It is a relationship of sharing, partnering, & collaboration
  - e. Why does it exist - shared interest and mission with government liabilities and taxpayer stewardship using the same global market facing a generational challenge
  - f. Collaborate in glass chemistry, decom technology, spent fuel, nuclear supply chain, and more
  - g. Consult for engineering design of Hanford WTP
  - h. Future collaboration in new areas of graduate scheme that the NDA is successful
  - i. Participating in the UK DISTINCTIVE university consortium in four key areas for collaboration in nuclear research
  - j. SOI is effective instrument for international cooperation and collaboration
  - k. UK-US relationship continues to grow with commitment from leadership

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### 3. Graham Jonsson

- a. Had a safety share - rugby versus cycling (Use your head)
- b. Focused on programme and project management to get better, quicker project outcomes including contract models and supply chain performance (and ability to perform)
- c. Focus has been working with Terry Spears & Dave Moody at SRS
  - i. Sellafield is 2.3 square miles where SRS is 310 Square miles
  - ii. Sellafield has 10,000 where SRS has 12,000 workforce
- d. Benchmarking of the approach to capital projects
- e. Participating in review of SRS SWPF project with comparison to Evaporator D project in UK
- f. Looking to expand to other sites across the portfolio/ estate to further the exchange value

### 4. Terry Spears

- a. Talk about partnership between SRS and NDA
- b. Reciprocal site visits and personnel exchanges taking three leaders with programme/ project areas to review similarities & differences (development of people was a bonus)
- c. Sharing lessons learned and best practices
- d. Targeting future information exchange in key technical areas
  - i. Fuel drying
  - ii. HEU processing
  - iii. Pu processing and disposition
  - iv. TRU waste disposition
- e. Pursuing new areas to collaborate
  - i. cleanup end state approaches and onsite disposal options
  - ii. Major capital projects reviews
- f. Learning from experience on similar projects like SWPF & Evap D
- g. Developing formal partnership with SRNL & NNL
- h. Sharing knowledge tools, best practices on managing major capital projects
- i. SRNL & NNL collaboration areas to establish formal partnership
  - i. Enterprise modeling - technical basis for cleanup
  - ii. Robotics
  - iii. Characterization & disposition approaches for orphaned nuclear materials
- j. Establishing small integrated teams for each of these technical areas with a plan to scope & deliver
- k. Currently SRNL/NNL have spent 6 months scoping & working with legal to establish non-disclosure agreement with once agreement is in place the team can begin work

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### 5. **Keith Miller**

- a. Gave a historical view of how NNL has evolved into a GOCO
- b. Gave a view of location of facilities indicating that the North west of England
- c. Approximately 1000 employees
- d. Similar size and customer base with SRNL
- e. Now a GOGO into the Department of Energy & Climate Change
- f. Support to national R&D programme and National lab for UK government and Industry
- g. Participation in the trilateral agreement focused on strategic objectives, international collaboration
- h. Working to sign Confidentiality Agreement when DOE visit NNL in April 2015
- i. NNL has reviewed Tank Waste Technology Development Plan...(See Keith's PPT)

### 6. **Anthony Banford**

- a. Spoke on common challenges and opportunities like legacy waste, tanks, pools, & aging infrastructure, disposal, SC demographics, skills pipeline
- b. A problem shared is a problem halved so there is an opportunity to solve problems quicker
- c. R&D themes includes WM&D like underpinning research, evolutionary R&D, and revolutionary step/ game changing technology
- d. NNL R&D portfolio management through technology readiness level small scale to full scale working in partnership with end users and the supply chain technology demonstration alliance ( basic science => research,=> deployment)
- e. Working on optimising robotic technologies - from lab scale to full-scale deployment in the field
- f. Collaborative activities include understanding US/UK context, peer reviews for tank waste management,
- g. INEL collaboration on fogging/ misting for decontamination/ contamination coating bringing two technologies together - demonstrating now with further collaboration for full-scale deployment
- h. Working with SRNL on HLW glass product quality validation
- i. Lessons learned include
  - i. Many common challenges
  - ii. Ultimately the same mission goals
  - iii. Opportunity to learn from each other
  - iv. Move forward collaboratively to develop high impact technologies

### 7. **Sharon Marra**

- a. Shared a SRNL that has 832 employees with \$214M budget being in existence for 60 years expanding recently into national security
- b. Common cleanup and fuel cycle challenges
- c. Collaboration is key to INNOVATION
- d. Collaboration has been strong in the area of waste forms, meeting at conference to discuss glass chemistry, thermal treatment technologies, glass corrosion, tech selection processes/ assessment

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- e. DISTINCTIVE programme is a consortium of 10 UK universities performing research to support nuclear waste cleanup activities in the UK
    - i. SRNL & PNNL will be at this meeting
  - f. SRNL & NNL are partnering on proposals to EM international program
  - g. Collaboration in the future is important for networking to share & promote innovation and share new opportunities & knowledge transfer for the next generation of engineers & scientists
  - h. Look for potential to exchange personnel to foster this teaming
  - i. Focus on areas of complementary capabilities
  - j. Working to formalizing partnership with NNL
8. Question & Answer session
- a. Christine Fahey asked Keith like NNL, AECL has a strong commercial remit where DOE doesn't how did this factor into relationship
    - i. UK government has remit to collaborate with others in nuclear industry
    - ii. UK wants NNL to be a major player in nuclear industry
  - b. Question from Hanford WTP asked about compliance for NQA1 for glass in three areas with changes happening annually. How can the partnering help with cross walk with similar standards.
    - i. Laurie gave perspective from NuVision who is both NQA1 qualified & ISO9001 and what they have done is a cross walk between the quality standards
    - ii. Anthony noted small businesses are having challenges with this
    - iii. Someone from PNNL used NuVision cross walk
  - c. What themes will there be for UK as featured country next year WMS?
    - i. Terry - cost, safety, schedule in field from project and operational perspective
    - ii. Rod - 35% of budget on tank waste program (Hanford & SRS) and then D&D so shared solutions/ strategy to address challenges; safety; robotics; innovations
    - iii. Graham - find a way to tell the success story from government agency, managing contractor, down to Tier 3 contractor; must understand that attendees are also coming to look for opportunities for work (grow their business)
    - iv. Keith - inclusive view building on Grahams points to include academia
    - v. Anthony - gave further view on UK graduate program and need to understand US program to build upon
    - vi. Sharon - show how an idea started and went through successful deployment
  - d. How can we promote innovation with some consideration for a website where innovative ideas can be shared?
    - i. Rod answered that a lot of small businesses have great ideas with the capital to build upon it so building off SB innovation program
    - ii. Looking at the ability to radioactive test beds for vendors to demonstrate their products
    - iii. Looking at means to fund these collaboration activities - conducting risk view across complex to improve problem statements so that R&D and associated funding can be clearly aligned to these

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- iv. DOE budget now is < 2% for R&D activities
- v. Graham noted NDA mentoring scheme for SME (small, medium enterprises)
- vi. Anthony noted there are several schemes to encourage innovation (ex, Innovate UK) for SMEs and larger corporations with some funding after competition. To get a technology from idea level to deployment is quite a journey so creating a means to expedite the process through the partnership.
- vii. Laurie expanded on NuVision's journey to take technologies to the field & from country to country is expensive so must have means to support and show savings in baseline schedules by expediting the technology to full deployment
- viii. Terry expanded to say DOE is supportive of innovation and has incentivized their contractors to deliver this along with other programs