SUMMARY REPORT

D&D Knowledge Management through Contributions in Wikipedia

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DISCLAIMER

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INTRODUCTION

ARC has developed a knowledge management information tool (KM-IT) framework applied to the area of deactivation and decommissioning (D&D) in collaboration with DOE, EFCOG and the former ALARA centers at Hanford and Savannah River. The objectives of knowledge management in the context of the DOE are: 1) to prevent the loss of a unique knowledge base and expertise that has been gained over the years by employees and contractors of DOE for the future workforce; 2) to collect, consolidate and share this valuable knowledge in a universally available and usable system; and 3) to provide single-point access into the collective knowledge-base of a community of practice within and outside of the U.S. Department of Energy. The long-term strategic vision for the D&D Knowledge Management Information Tool (D&D KM-IT), developed for DOE's D&D community of practice, is that *it will continue to grow and mature into a self-sustaining system through the active participation of the D&D community it was designed to serve.*

In late 2011 and early 2012, FIU developed a white paper titled "Leveraging Wikipedia and Wiki-Based Technologies: Significance to D&D Knowledge Management." One of the conclusions of this paper indicated that there is an excellent opportunity for FIU to improve the depth of information available for specific D&D-related terms on Wikipedia. FIU could contribute to and augment Wikipedia by building a stronger presence via adding to its collection on knowledge management and specifically on D&D related topics. In this way, FIU would build a stronger web presence, which in turn has the potential of helping to leverage the D&D KM-IT work, while adding value to Wikipedia that will, in the long run, benefit the D&D community by adding content on high-value D&D topics.

METHODOLOGY

D&D knowledge management through contributions in Wikipedia was included as a part of the outreach and training (D&D community support) subtask included in the D&D Knowledge Management Information Tool task in the Project Technical Plan (ARC 2013). The general D&D knowledge which has been gained through this project offers an opportunity to expand access to a broad audience via Wikipedia, which has a significant presence on the web, thereby offering greater opportunities for collaboration on D&D knowledge. ARC researched and targeted D&D information on Wikipedia where D&D KM-IT could provide additional relevant information while citing the source of the original information on D&D KM-IT. The information sources focused on for this initial effort were the EFCOG lessons learned and best practices that have been developed in collaboration between FIU and EFCOG and published on D&D KM-IT.

The objective of this effort is to share relevant D&D information on Wikipedia without re-writing D&D KM-IT on it. By becoming collaborators on Wikipedia, more users may be drawn to the D&D KM-IT since D&D knowledge management is core to the project.

ARC staff and the FIU students supporting this effort completed the following steps in the performance of this task:

a) Kick-off meeting with D&D KM-IT team and supporting FIU students to discuss task and approach.

b) Review of Wikipedia guidelines and restrictions for editing, including "Wikipedia: Best practices for editors with close associations" (http://en.m.wikipedia.org/wiki/Wikipedia:Best_practices_for_editors_with_close_associations) and "Wikipedia: Conflict of interest" (http://en.m.wikipedia.org/wiki/Wikipedia:Conflict_of_interest).

c) Review of EFCOG best practices and lessons learned published on D&D KM-IT and creation of a list of keywords to search Wikipedia for related information.

d) Search on Wikipedia for articles where information from the best practices and lessons learned published on D&D KM-IT could add relevant and significant information to the Wikipedia article.

e) Development of draft additional text and notation of the related reference for the identified Wikipedia article. Performance of internal review of draft text by ARC staff. Once approved, edit of the Wikipedia article with the additional text, adding reference to source of information on D&D KM-IT.

f) Performance of internal review by ARC staff for edited Wikipedia article. Completion of revisions as required.

As noted in the FIU white paper on leveraging Wikipedia (Phillips 2011), one restriction with Wikipedia is conflict of interest (COI) editing. Wikipedia discourages COI editing, describing it as "Changing pages to promote your own interests or those of other people, companies, or groups, is a COI. Where outside goals are more important to a user than building Wikipedia, that

person has a conflict of interest." Generally, a user who is suspected of COI editing will have their changes reviewed for self-praise and false information. If the user appears to be utilizing Wikipedia for their own self-promotion, their changes could be removed or, in some cases, the user banned from contributing to Wikipedia.

In the performance of this task, FIU kept these restrictions in mind and focused on locations where relevant and significant information on D&D could be added to existing Wikipedia articles, specifically building on the information available in Wikipedia.

RESULTS

During the completion of this task, the following Wikipedia articles were edited with information from the noted EFCOG best practice or lessons learned document. For each of these articles, relevant and significant text was added to the body of the article and a reference to the information source (EFCOG lesson learned or best practice on D&D KM-IT) was included in the article's list of references.

1. **Area 25 (Nevada National Security Site)** with information from the lesson learned titled, "Accelerated Demolition of the Reactor Maintenance Assembly, and Disassembly Facility and the Pluto Disassembly Facility." (http://en.wikipedia.org/wiki/Area_25_(Nevada_National_Security_Site)

   The article was edited with the following additional text:

   The R-MAD Facility was built to support the nuclear rocket program and was operational from 1959 through 1970. It was used to assemble reactor engines and to disassemble and study reactor parts and fuel elements after reactor tests.

   One of the test stands of Area 25, the Reactor Maintenance, Assembly, and Disassembly (R-MAD) facility, has been demolished. The non-radiologically contaminated portions of the facility were demolished in late 2005. Demolition activities for the radiologically contaminated portions of the R-MAD Facility were initiated in October 2009 and completed on July 15, 2010.

2. **Building Implosion** with information from the following two best practices: "The Use of Explosives to Demolish the 185-3K Cooling Tower at SRS" and "Explosive Demolition of Buildings 337, 337B and 309 Stack at the Hanford's 300 Area." (http://en.wikipedia.org/wiki/Building_implosion)

   The article was edited with the following additional text:

   Building implosion has been successfully used at Department of Energy sites such as the Savannah River Site (SRS) in South Carolina and the Hanford Site in Washington. The SRS 185-3K or "K" Area Cooling Tower, built in 1992 to cool the water from the K Reactor, was no longer needed when the Cold War ended and was safely demolished by explosive demolition on May 25, 2010.

3. **National Electrical Code** with information from the best practice titled, "Electrical Code Guidance for Decontamination and Decommissioning Activities at DOE Facilities." (http://en.wikipedia.org/wiki/National_Electrical_Code)

   The article was edited with the following additional text:

   The Deactivation and Decommissioning (D&D) customized extension of the electrical engineering standards defined by the National Electrical Code was developed since

current engineering standards and code requirements do not adequately address the unique situations arising during D&D activities at U.S. Department of Energy (DOE) facilities. The additional guidance is needed to clarify the current electrical code for these situations. The guidance document provides guidance on how to interpret selected articles of NFPA 70, "National Electrical Code" (NEC), in particular certain articles within Article 590, "Temporary Power," for D&D electrical activities at DOE sites.

4. **Heavy Water Components Test Reactor** with information from the lesson learned titled "Unanticipated High Dose during the Removal of Wire Flux Monitor Cabling form the HWCTR Reactor Vessel."
(http://en.wikipedia.org/wiki/Heavy_Water_Components_Test_Reactor)

   The article was edited with the following additional text:

   During deactivation activities at the HWCTR in 2010, an unanticipated high dose was experienced during the removal of wire flux monitor cabling. On November 2, 2010, when work was in progress to remove the instrumentation, one of three small helium-filled ion chambers was removed from the instrumentation sleeve. A higher than expected dose rate was detected when the lowest of the three ion chambers exited the reactor vessel below the lower axial shield. As a result, three workers received whole body doses of 2.52 mREM, 2.7 mREM, and 5.6 mREM.

CONCLUSIONS AND FUTURE WORK

It should be noted that by its very nature, Wikipedia is a work in progress. The information available on this web resource is continually evolving. As of the date of this report, the text added by FIU to Wikipedia on D&D related topics is available on the stated Wikipedia article pages. Some of the text has been further edited by other Wikipedia participants since it was added but the main message and references to the lessons learned and best practices on D&D KM-IT remain intact. FIU will continue to look for opportunities in the future to add valuable content to Wikipedia, which will enrich the D&D community and D&D KM-IT's knowledge management resources.

REFERENCES

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