

SUMMARY REPORT

D&D Knowledge Management through Contributions in Wikipedia

Date submitted:

June 28, 2017

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Submitted to:

U.S. Department of Energy
Office of Environmental Management
Under Grant # DE-EM0000598



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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.

Since 2014, ARC scientists as well as DOE Fellows from the DOE-FIU Science and Technology Workforce Development Program and other FIU graduate students working at ARC as research assistants have researched and targeted D&D information on Wikipedia where additional relevant information could be added, citing the source of the original information on D&D KM-IT where available. The results of these effort are documented each year in a summary report titled, "D&D Knowledge Management through Contributions in Wikipedia."

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 2016). 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 additional relevant information could be added.

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 scientists and the DOE Fellows supporting this effort completed the following steps in the performance of this task:

- a) Discussed task and approach during a D&D KM-IT team meeting.
- b) Reviewed the report on this effort from the previous year.
- c) Reviewed the Wikipedia guidelines and restrictions for editing, including “Wikipedia: Best practices for editors with close associations” and “Wikipedia: Conflict of interest.”
- d) Reviewed the Wikipedia videos for new contributors as well as the coding language used for other Wikipedia entries to gain an understanding of how to format new material.
- e) Registered with Wikipedia as a contributor in order to add new article entries.
- f) Searched on Wikipedia for topics where additions could add relevant and significant information to an existing Wikipedia article or where a new Wikipedia article could be created on the subject.
- g) Developed draft additional text for the existing or new Wikipedia article.
- h) Added references to the source of information, as well as footnotes and hyperlinks to other Wikipedia entries. These steps are important for getting new entries accepted.
- i) Edits to existing Wikipedia articles were made directly while new articles were submitted to Wikipedia for review.
- j) Completed revisions as needed.

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 as new Wikipedia articles or to existing articles, specifically building on the information available in Wikipedia.

RESULTS

During the completion of this task, the following Wikipedia articles were added or edited. For each of these articles, relevant and significant text was added to the body of the article and a reference to the information source was included. Screenshots for each of the added/edited Wikipedia articles are included in the Appendix. It is important to note that the information available on wikis is continually evolving and may be further edited by other participants at any time.

1. **Fixative**

<https://en.wikipedia.org/wiki/Fixative>

This article was edited with the following additional text:

- [Radioactivity Fixatives](#), specialized polymer coatings used to contain or "fix" radionuclides to surfaces of equipment and buildings thereby preventing exposure to humans.

2. **Radioactivity Fixatives**

https://en.wikipedia.org/wiki/Radioactivity_Fixatives

This was submitted and accepted as a new article:

[Radioactivity](#) or [radionuclide](#) fixatives are specialized polymer coatings used to “fix” radioactive isotopes or [radioactive](#) material to surfaces. These fixatives, also known as permanent coatings in the radioactive contamination control field, have been used for many decades in facilities processing radioactive material to control [radioactive contamination](#). There has been increased interest in these fixatives or coatings recently due to the growing concern of contamination from a radioactivity dispersal device (RDD also known as a [dirty bomb](#)) and because radioactivity fixatives in use today lose the ability to contain the radioactivity to the surface during a fire.

Radioactivity fixatives reduce or eliminate the movement of [radionuclides](#) from surfaces thereby lowering the health risk of inhalation or other exposure to radioactive isotopes. There are many articles on the use of radioactive fixatives with a review article^[1] from 1983 often used as a reference. A more recent review article^[2] looks at the use of these radioactive fixatives for use after the detonation of a RDD. Current research is investigating new coatings that are effective at containing radioactive material to the surface during and after fires.

3. Radioactivity

<https://en.wikipedia.org/w/index.php?title=Radioactivity&redirect=no>

The following text was submitted as a new article and is currently undergoing review by Wikipedia. Currently, a search for radioactivity redirects the reader to the page for radioactive decay.

The local presence of [nuclear radiation](#) arising from the [radioactive decay](#) of [radionuclides](#). The unit of radioactivity from the [System International](#) of units (SI system) is the [becquerel](#) (Bq) defined as the radioactive decay or disintegration of one radionuclide per second. Radioactivity is a measure of the total, local rate of radionuclides decaying per unit time and is dependent upon the total number of atoms, [decay constants](#), and all decay branching pathways for each radionuclide. See sections under [radioactive decay](#) entitled, "units of radioactivity" and "radioactive decay rates." For the origin and levels of radioactivity seen in all earth-bound measurements arising from cosmic and terrestrial radionuclides see [background radiation](#).

4. Strippable Coatings for Surface Decontamination

https://en.wikipedia.org/wiki/Draft:Strippable_coatings_for_surface_decontamination

The following text was submitted as a new article and is currently undergoing review by Wikipedia:

Strippable coatings for surface decontamination are used for removing contamination from building and equipment surfaces. These coatings are typically used to remove radioactive material from surfaces in buildings being prepared for demolition as well as from buildings with ongoing operations involving radioactive material. A variety of different polymer coatings are used containing chemicals to mobilize the radioactive material in order to move it to the surface and into the coating material as it solidifies. These coatings are then pulled or stripped off the surface, thereby removing the radioactive contaminants that were mobilized into the coating. The process of stripping the coating from the surface does not mar or negatively impact the surface. The coatings when dried or cured binds with the radioactive material physically or chemically or by both processes. The coatings when dried have greater internal cohesion than adhesion to the surface allowing them to be peeled off in sheets though some are scrubbed off. The composition of these coatings when dried contain no hazardous materials. They may be used to remove radioactive and hazardous materials. The application of the coatings is accomplished via brushes, rollers, foggers, foam or sprayers. The application of strippable coatings removes radioactive material thereby preventing the release of radioactive material from typical industrial surfaces such as: concrete, asphalt, brick, granite, limestone, aluminum, stainless steel, painted and steel, glass, painted wood, and unpainted wood, and plastic.

5. **D&D KM-IT**

https://en.wikipedia.org/wiki/D%26D_KM-IT

The D&D KM-IT entry in Wikipedia was also reviewed and the most recent link to the D&D KM-IT Fact Sheet on the DOE website was updated under the External Links and References sections.

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. The text may be further edited by other Wikipedia participants at any time. 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.

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APPENDIX: SCREENSHOTS

Fixative



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Fixative

From Wikipedia, the free encyclopedia

A **fixative** is a stabilizing or preservative agent:

- Dye fixatives or mordants, are chemical substances used in processing fabrics to create circumstances in the micro-substrates causing dye molecules to adhere and remain that way.
- Fixative (drawing), a liquid usually sprayed over a finished piece of artwork to better preserve it and prevent smudging
- Fixation (histology), a solution used to preserve or harden fresh tissue of cell specimens for microscopic examination
- Fixative (perfumery), a substance used to reduce the evaporation rate and improve stability when added to more volatile components
- Embalming chemicals, a variety of preservatives, sanitising and disinfectant agents, and additives used in modern embalming
- Radioactivity Fixatives, specialized polymer coatings used to contain or "fix" radionuclides to surfaces of equipment and buildings thereby preventing exposure to humans.

 Lock up *fixative* or *fixatives* in Wiktionary, the free dictionary.



 *This disambiguation page lists articles associated with the title **Fixative**. If an internal link led you here, you may wish to change the link to point directly to the intended article.*

Categories: [Disambiguation pages](#)


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Radioactivity Fixatives



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Radioactivity Fixatives

From Wikipedia, the free encyclopedia

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Radioactivity fixatives reduce or eliminate the movement of radionuclides from surfaces thereby lowering the health risk of inhalation or other exposure to radioactive isotopes. There are many articles on the use of radioactive fixatives with a review article^[1] from 1983 often used as a reference. A more recent review article^[2] looks at the use of these radioactive fixatives for use after the detonation of a RDD. Current research is investigating new coatings that are effective at containing radioactive material to the surface during and after fires.

References [edit]



1. [^] Tawil, J.J.; Bold, F.C. "Guide to Radiation Fixatives"[Ⓔ]. OSTI. doi:10.2172/5554825[Ⓔ]. Retrieved 8 April 2017.
2. [^] Parra, Ramona; Medina, Victor; Conca, J.L. (September 2009). "The use of fixatives for response to a radiation dispersal device attack - a review of the current (2009) state-of-the-art". *Journal of Environmental Radioactivity*. **11** (100): 923–934. doi:10.1016/j.jenvrad.2009.07.006[Ⓔ].

Categories: [Radioactivity](#)


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Radioactivity (draft)



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Radioactivity

From Wikipedia, the free encyclopedia
Redirect page



↳ Radioactive decay

The local presence of **nuclear radiation** arising from the **radioactive decay** of **radionuclides**. The unit of radioactivity from the **System International of units (SI system)** is the **becquerel (Bq)** defined as the radioactive decay or disintegration of one radionuclide per second. Radioactivity is a measure of the total, local rate of radionuclides decaying per unit time and is dependent upon the total number of atoms, **decay constants**, and all decay branching pathways for each radionuclide present. See sections under **radioactive decay** entitled, "units of radioactivity" and "radioactive decay rates." For the origin and levels of radioactivity seen in all earth-bound measurements arising from cosmic and terrestrial radionuclides see **background radiation**.


This page was last edited on 6 June 2017, at 00:29.

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Strippable Coatings for Surface Decontamination (draft)



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Draft:Strippable coatings for surface decontamination

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References [[edit](#)]

Handbook of Radioactive Contamination and Decontamination, J. Severa and J. Bar, Elsevier Press, 1991. ISBN 0-444-98757-6

Review waiting.

This may take more than 3 weeks. **The Articles for creation process is very highly backlogged. Please be patient.** There are 1,853 submissions [waiting for review](#).

- If the submission is **accepted**, then this page will be moved into the article space.
- If the submission is **declined**, then the reason will be posted here. Please check back here later to see the outcome of your request.

SUPPLEMENTAL ATTACHMENT

The following is excerpted from the D&D KM-IT Metrics and Training Progress Report

FIU is targeting a minimum 4 edits to existing Wikipedia articles or creation of new articles. The following information will be captured as shown in Table 5:

- Title of edited/new Wikipedia article and direct link to the article
- Date article was edited/created
- Summary of information added
- Location on D&D KM-IT where information was sourced
- Number of visitors to D&D KM-IT from Wikipedia

Table 5. D&D KM-IT Outreach and Training Metrics – Contributions to D&D Knowledge via Wikipedia

Title of Article	Date	Information Added	Location on D&D KM-IT	Number of visitors from Wikipedia
D&D KM-IT	April 22, 2015	Article text updated and links to D&D KM-IT Factsheet updated to newest one on DOE EM website.	Homepage	2
Nuclear Power in the United States	May 8, 2015	Plant Decommissioning section: information on <i>in situ</i> decommissioning performed at SRS	Best Practice: SRS P and R Reactor Disassembly Basin <i>In Situ</i> Decommissioning	12*
Occupational Hygiene	May 8, 2015	Basic Characterization, Hazard Identification and-Walk Through section: information on personnel interviews and development of historical hazards identification maps	Best Practice: Historical Hazard Identification Process for D&D	2*
Asbestos Abatement	May 8, 2015	Removal Procedures section: information on innovative method of asbestos removal (remote controlled track mounted wet cutting saw) was used at LLNL.	Best Practice: Open Air Demolition of Asbestos Guniting by Using Track Mounted Wet Cutting Saw	5*
Nuclear Decommissioning	April 4, 2016	Cost section: information on cost savings via <i>in situ</i> decommissioning at SRS P and R reactors.	Best Practice: SRS P and R Reactor Disassembly Basin <i>In Situ</i> Decommissioning	0
Occupational Safety and Health	March 22, 2016	Hazards Identification section: information sources for historical hazards.	Best Practice: Historical Hazard Identification Process for D&D	0
Robotics	March 25, 2016	Applications section: application of robotics for D&D	D&D KM-IT robotics database	9
Radioactive Contamination	April 1, 2016	Decontamination section: contamination control products	Newsletter on contamination control products	0

* Between Aug 1, 2016 to Feb 28, 2017

Table 6 captures the total number of sessions and new users that come to D&D KM-IT from Wikipedia and the Wiki.energy.gov websites.

Table 6. D&D KM-IT Outreach and Training Metrics – Sessions and Users from Wikipedia

Source	Sessions*	New Users*
En.wikipedia.org	18	14
En.m.wikipedia.org	9	7

* Between Aug 1, 2016 to Feb 28, 2017

(Source: Progress Report – Metrics Progress for D&D KM-IT Outreach & Training- March 31, 2017)