

# **Burnup credit bibliography**

## **Publicly available documents**

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A selection of documents assembled until the end of 2005 for the Swedish Nuclear Power Inspectorate under contract 2005/705-20050619

This list is intended as a contribution to the  
OECD/NEA NSC WPNCS Expert Group on Burnup Credit

Even though the documents are publicly available they are often copyrighted and require some payment. Many documents are available electronically on the internet but no effort has been made to include the sources for such documents.

Many documents that are not publicly available have been excluded. In particular, licensing support documents (even though some are publicly available, particularly in the U.S.A.) and working documents from various meetings and studies are excluded. Presentation material (Microsoft PowerPoint etc.) from various meetings may be publicly available but are not included.

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# Litteratur

The list has been structured to simplify search.

## OECD/NEA

### Final reports from Burnup Credit Expert Group

1. NEA/NSC/DOC(93)/22 (JAERI-M 94-003), M. Takano, *OECD/NEA Burnup Credit Criticality Benchmark – Result of Phase IA*, January 1994.
2. NEA/NSC/DOC(96)/06 (ORNL/TM-6901), M. D. DeHart, M. C. Brady, C. V. Parks, *OECD/NEA Burnup Credit Criticality Benchmark – Phase IB Results*, June 1996.
3. NEA/NSC/DOC(96)/01 (JAERI-Research 96-003), M. Takano, H. Okuno, *OECD/NEA Burnup Credit Criticality Benchmark – Result of Phase IIA*, February 1996.
4. NEA/NSC/DOC(1998)1 (IPSN/98-05), A. Nouri, *Burnup Credit Criticality Benchmark: Analysis of Phase II-B Results of a Conceptual PWR Spent Fuel Transportation Cask*, May 1998.
5. NEA/NSC/DOC(2000)12, (JAERI-Research 2000-0441), H. Okuno, Y. Naito, Y. Ando, *OECD/NEA Burn-up Credit Criticality Benchmark Phase IIIA: Criticality Calculations of BWR Spent Fuel Assemblies in Storage and Transport*, September 2000.
6. NEA/NSC/DOC(2002)2 (JAERI-Research 2002-001), H. Okuno, Y. Naito, K. Suyama, *OECD/NEA Burn-up Credit Criticality Benchmarks Phase IIIB: Burnup Calculations of BWR Spent Fuel Assemblies for Storage and Transport*, February 2002.
7. NEA/NSC/DOC(2003)3, G. J. O'Connor, R. L. Bowden, P. R. Thorne, *Burn-up Credit Criticality Benchmark, Phase IV-A: Reactivity Prediction Calculations for Infinite Arrays of PWR MOX Fuel Pin Cells*, 2003.
8. NEA/NSC/DOC(2003)4, G. J. O'Connor, P. H. Liem, *Burn-up Credit Criticality Benchmark, Phase IV-B: Results and Analysis of MOX Fuel Depletion Calculations*, 2003.

### ICSBEP Handbook

Only a few benchmarks are directly referring to burnup credit but many others are important to burnup credit application.

9. ICSBEP Handbook/2005, NEA/NSC/DOC(95)03, International Criticality Safety Benchmark Evaluation Project, *International Handbook of Evaluated Criticality Safety Benchmark Experiments*, September 2005. Updated yearly..
10. ICSBEP Handbook/2005/LEU-COMP-THERM-050, Vol IV, J. A. Anno, <sup>149</sup>Sm *Solution in the Middle of Water*, September 2000 (latest update).
11. ICSBEP Handbook/2005/LEU-COMP-THERM-079, Vol IV, G. A. Harms, *Water-Moderated U(4.31)O<sub>2</sub> Fuel Rod Lattices Containing Rhodium Foils*, September 2005 (latest update).

## IAEA – Technical Committee Meetings on burnup credit

The reports from the Consultancy Meetings between the Technical Meetings have been excluded from the list.

### 1997 Proceedings of Advisory Group – Vienna, 20-24 October

12. IAEA-TECDOC-1013/1, *Summary - Implementation of Burn-Up Credit Spent Fuel Management Systems*, October 1997.
13. IAEA-TECDOC-1013/2, M. Manolova, *Burnup credit implementation in WWER spent fuel management systems: Status and future aspects*, October 1997.
14. IAEA-TECDOC-1013/3, L. Markova, *Status of the development of burnup credit in the Czech Republic*, October 1997.
15. IAEA-TECDOC-1013/4, Y. Chanzy, E. Guillou, *COGEMA/TRANSNUCLEAIRE's experience with burnup credit*, October 1997.
16. IAEA-TECDOC-1013/5, J.-C. Neuber, *Present status and future developments of the implementation of burnup credit in spent fuel management systems in Germany*, October 1997.
17. IAEA-TECDOC-1013/6, G. Hordosy, *Burnup credit assessment in Hungary*, October 1997.
18. IAEA-TECDOC-1013/7, Y. Nomura, *Study on burnup credit evaluation method at JAERI towards securing criticality safety rationale for management of spent fuel*, October 1997.
19. IAEA-TECDOC-1013/8, H. S. Shin, Y. J. Shin, S.-G. Ro, *Application of burnup credit for spent fuel management in the Republic of Korea*, October 1997.
20. IAEA-TECDOC-1013/9, V. I. Koulikov, T. F. Makarchuk, N. S. Tikhonov, *Application of burnup credit in spent fuel management at Russian NPPs*, October 1997.
21. IAEA-TECDOC-1013/10, V. Petenyi, V. Chrapciak, *Burnup credit implementation for spent fuel management options in the Slovak Republic*, October 1997.
22. IAEA-TECDOC-1013/11, J. M. Conde, M. Recio, *Credit to fuel burnup for criticality safety evaluations in Spain*, October 1997.
23. IAEA-TECDOC-1013/12, L. Agrenius, *Burnup credit in Sweden*, October 1997.
24. IAEA-TECDOC-1013/13, L. Agrenius, *Burnup credit in the Central Storage Facility for Spent Nuclear Fuel in Sweden*, October 1997.
25. IAEA-TECDOC-1013/14, P. Grimm, *Status of burnup credit implementation in Switzerland*, October 1997.
26. IAEA-TECDOC-1013/15, R. Bowden, *The application of burnup credit for spent fuel operations in the United Kingdom*, October 1997.
27. IAEA-TECDOC-1013/16, W. Lake, *Burnup credit activities being conducted in the United States*, October 1997.
28. IAEA-TECDOC-1013/17, D. B. Lancaster et. al., *Actinide-only burnup credit methodology for PWR spent nuclear fuel*, October 1997.
29. IAEA-TECDOC-1013/18, M. C. Brady et. al., *Findings of the OECD/NEA study on burnup credit*, October 1997.

### 2000 Technical Committee Meeting – Vienna, 10-14 July

30. IAEA-TECDOC-1241/1, H. P. Dyck, *Implementation of burnup credit in spent fuel management systems*, July 2000.

31. IAEA-TECDOC-1241/2, M. Brady-Raap, Y. Nomura, E. Sartori, *Overview of the burnup credit activities at OECD/NEA/NSC*, July 2000.
32. IAEA-TECDOC-1241/3, R. Keqiang, X. Xiaogang, S- Leisheng, *Burnup credit study and application in spent fuel management in China*, July 2000.
33. IAEA-TECDOC-1241/4, V. Fajman, *TCM implementation of burnup credit in spent fuel management systems*, July 2000.
34. IAEA-TECDOC-1241/5, H. Toubon, *Current applications of actinide-only burnup credit within the COGEMA group and R&D programme to take fission products into account*, July 2000.
35. IAEA-TECDOC-1241/6, J.-C. Neuber, H. Kühl, *Present status and future developments of the implementation of burnup credit in spent fuel management systems in Germany*, July 2000.
36. IAEA-TECDOC-1241/7, J. M. Conde, M. Recio, *Burnup credit in Spain*, July 2000.
37. IAEA-TECDOC-1241/8, D. Mennerdahl, *Irradiated fuel storage and transport: A Swedish perspective*, July 2000.
38. IAEA-TECDOC-1241/9, P. Grimm, *Status of burnup credit implementation and research in Switzerland*, July 2000.
39. IAEA-TECDOC-1241/10, V. Medun, *Burnup credit demands for spent fuel management in Ukraine*, July 2000.
40. IAEA-TECDOC-1241/11, W. H. Lake, D. A. Thomas, T. W. Doering, *Burnup credit activities in the United States*, July 2000.
41. IAEA-TECDOC-1241/12, J.-C. Neuber, H. H. Schweer, H. G. Johann, *Regulatory status of burnup credit for dry storage and transport of spent nuclear fuel in the United States*, July 2000.
42. IAEA-TECDOC-1241/13, J. M. Conde, *Regulatory aspects of burnup credit implementation*, July 2000.
43. IAEA-TECDOC-1241/14, D. E. Carlson, *Regulatory Status of Burnup Credit for Dry Storage and Transport of Spent Nuclear Fuel in the United States*, July 2000.
44. IAEA-TECDOC-1241/15, K. Van der Meer et. al., *REBUS: A burnup credit experimental programme*, July 2000.
45. IAEA-TECDOC-1241/16, L. Markova, *Study of multiplication factor sensitivity to the spread of WWER spent fuel isotopics calculated by different codes*, July 2000.
46. IAEA-TECDOC-1241/17, U. Hesse et. al., *KENOREST – A new coupled code system based on KENO and OREST for criticality and burnup inventory calculations*, July 2000.
47. IAEA-TECDOC-1241/18, J.-C. Neuber et. al., *Siemens PWR burnup credit criticality analysis methodology: Depletion and verification methods*, July 2000.
48. IAEA-TECDOC-1241/19, V. Chrapciak, *The implementation of burnup credit in VVER-440 spent fuel*, July 2000.
49. IAEA-TECDOC-1241/20, T. W. Doering, D. A. Thomas, *Disposal criticality analysis methodology's principal isotope burnup credit*, July 2000.
50. IAEA-TECDOC-1241/21, C. V. Parks et al., *Validation Issues for Depletion and Criticality Analysis in Burnup Credit*, pp. 167-179, July 2000.
51. IAEA-TECDOC-1241/22, J.-C. Neuber, *Evaluation of axial and horizontal burnup profiles*, July 2000.
52. IAEA-TECDOC-1241/23, G. Hordosy, *Studies on future application of burnup credit in Hungary*, July 2000.

53. IAEA-TECDOC-1241/24, D. Lancaster, *Details on actinide-only burnup credit application in the USA*, July 2000.
54. IAEA-TECDOC-1241/25, C. V. Parks, M. D. DeHart, J. C. Wagner, *Phenomena and Parameters Important to Burnup Credit*, pp. 231-247, July 2000.
55. IAEA-TECDOC-1241/26, A. Lebrun, G. Bignon, *Non destructive assay of nuclear LEU spent fuels for burnup credit applications*, July 2000.
56. IAEA-TECDOC-1241/27, P. Malesys, *Transnucleaire's experience with burnup credit in transport operations*, July 2000.
57. IAEA-TECDOC-1241/28, H. G. Johann, J.-C. Neuber, *The Neckarwestheim fuel handling procedure*, July 2000.
58. IAEA-TECDOC-1241/29, Y. Nomura, K. Itahara, *Burnup credit implementation plan and preparation work at JAERI*, July 2000.
59. IAEA-TECDOC-1241/30, T. W. Doering, G. A. Cordes, *Status of the multi-detector analysis system (MDAS) and the fork detector research programs*, July 2000.
60. IAEA-TECDOC-1241/31, C. V. Parks, J. C. Wagner, *Issues for Effective Implementation of Burnup Credit*, pp. 298-308, July 2000.
61. IAEA-TECDOC-1241/32, Group discussions, *Wet storage and dry storage*, pp. 311-321, July 2000.
62. IAEA-TECDOC-1241/33, Group discussions, *Transport working group*, pp. 322-333, July 2000.
63. IAEA-TECDOC-1241/34, Group discussions, *Application of burnup credit to reprocessing*, pp. 334-336, July 2000.
64. IAEA-TECDOC-1241/35, Group discussions, *Disposal issues*, pp. 337-342, July 2000.

#### **2002 Technical Committee Meeting – Madrid, 22-26 April**

65. IAEA-TECDOC-1378/1, *Summary*, April 2002.
66. IAEA-TECDOC-1378/2, W. Danker, *Overview on the BUC activities at the IAEA*, April 2002.
67. IAEA-TECDOC-1378/3, M. Brady-Raap, *OECD/NEA report*, April 2002.
68. IAEA-TECDOC-1378/4, B. Roque, A. Santamarina, *Experimental validation of actinide and fission products inventory from chemical assays in French PWR spent fuels*, April 2002.
69. IAEA-TECDOC-1378/5, A. Courvelle et. al., *Improvement of the BUC-FP nuclear data in the JEFF library*, April 2002.
70. IAEA-TECDOC-1378/6, P. Grimm et. al., *Measurements of reactivity effects and isotopic composition of highly burnt fuel in LWR-PROTEUS Phase II*, April 2002.
71. IAEA-TECDOC-1378/7, C. Alejano, *Experimental measurement of the isotopic composition of high enrichment and high burnup fuel*, April 2002.
72. IAEA-TECDOC-1378/8, P. Baeten et. al., *The burnup credit experimental programme REBUS*, April 2002.
73. IAEA-TECDOC-1378/9, N. T. Gulliford, *BUC validation in the UK: Design of experiments and lessons learnt*, April 2002.
74. IAEA-TECDOC-1378/10, A. Machiels, A. Wells, *EPRI R&D perspective on burnup credit*, April 2002.
75. IAEA-TECDOC-1378/11, J.-C. Neuber, *Impact of the initial enrichment on the end effect*, April 2002.

76. IAEA-TECDOC-1378/12, G. Hordosy, *Studies of the influence of the spatial change of the fuel burnup on criticality in WWER-440 systems*, April 2002.
77. IAEA-TECDOC-1378/13, V. Chrapciak, P. Mikolas, *Evaluation of horizontal burnup profile for WWER-440 fuel assembly*, April 2002.
78. IAEA-TECDOC-1378/14, M. Kromar, B. Kurincic, *Burnup credit methodology in the NPP KRzko spent fuel pool reracking project*, April 2002.
79. IAEA-TECDOC-1378/15, D. Lopez, C. Töre, *WWER fuel rod isotopics by MONTEBURNS 1.0 – Influence on the multiplication factor and comparison with the CV3 benchmark data*, April 2002.
80. IAEA-TECDOC-1378/16, C. V. Parks, J. C. Wagner, I. C. Gauld, *Research to support expansion of U.S. regulatory position on burnup credit for transport and storage casks*, April 2002.
81. IAEA-TECDOC-1378/17, J.-C. Neuber, *Bounding approach to burnup credit criticality safety analysis*, April 2002.
82. IAEA-TECDOC-1378/18, Y. Kovbasenko, *Comparative analysis of multiplying properties of WWER-1000 spent fuel depending on assembly layout in the reactor core and their operating conditions*, April 2002.
83. IAEA-TECDOC-1378/19, D. Lancaster, *Practical issues with implementation of burnup credit in the USA for storage and transportation*, April 2002.
84. IAEA-TECDOC-1378/20, J.-C. Neuber, *Risk, confidence, tolerances and bias – Brief outlines of the basic concepts*, April 2002.
85. IAEA-TECDOC-1378/21, I. C. Gauld, C. V. Parks, *Strategies for applying isotopic uncertainties in burnup credit*, April 2002.
86. IAEA-TECDOC-1378/22, W. H. Lake, *Probabilistic assessment of dry transport with burnup credit*, April 2002.
87. IAEA-TECDOC-1378/23, D. N. Simister, *UK regulatory perspective on the application of burnup credit in plant criticality safety cases*, April 2002.
88. IAEA-TECDOC-1378/24, T. Doering, D. Brownson, J. Knudson, *Risk Informed Processes*, PPT presentation also available, April 2002.
89. IAEA-TECDOC-1378/25, R. Aydinyan, *Burnup factor in the licensing of Armenian NPP SFDS*, April 2002.
90. IAEA-TECDOC-1378/26, M. A. Manolova, R. I. Prodanova, T. G. Apostolov, *Criticality calculations of WWER spent fuel casks implementing burnup credit*, April 2002.
91. IAEA-TECDOC-1378/27, S. Zhao et. al., *Research and application of burnup credit technology in China*, April 2002.
92. IAEA-TECDOC-1378/28, L. Markova, J. Svarny, *Burnup credit implementation in WWER-440 dual purpose cask*, April 2002.
93. IAEA-TECDOC-1378/29, A. Miasnikov, *Computer codes qualification in the Czech Republic*, April 2002.
94. IAEA-TECDOC-1378/30, C. Lavarenne et. al., *A new method to take burnup into account in criticality studies considering an axial profile of burnup plus some fission products*, April 2002.
95. IAEA-TECDOC-1378/31, J. Vaclav, *Utilization of BUC in Slovenia*, April 2002.
96. S. H. Lee, J. G. Ahn, H. R. Hwang, *Criticality analysis with burnup credit for APR1400 in the Republic of Korea*, April 2002.
97. IAEA-TECDOC-1378/32, A. Smaizys, P. Poskas, *Possibility for BUC implementation in RBMK-1500 fuel dual purpose storage casks*, April 2002.
98. IAEA-TECDOC-1378/33, D. Mennerdahl, *BUC – A simple nuclear criticality safety concept that can be very difficult to implement*, April 2002.

99. IAEA-TECDOC-1378/34, D. Thomas et. al., *Future Disposal Burnup Credit Process and Efforts*, PPT presentation also available, April 2002.
100. IAEA-TECDOC-1378/35, B. Gmal, E. F. Moser, H. Scheib, *Consideration of burnup in criticality analysis for long term storage and final disposal of spent nuclear fuel in Germany*, April 2002.
101. IAEA-TECDOC-1378/36, H. Toubon et. al., *Burnup credit methodology for UO<sub>2</sub> and MOX fuel assemblies in AREVA/COGEMA*, April 2002.
102. IAEA-TECDOC-1378/37, A. Lebrun, C. Riffard, H. Toubon, *Cross-checking of the operator data used for burnup measurements*, April 2002.
103. IAEA-TECDOC-1378/38, J. Coletta, M. Brady-Raap, *Burnup credit in the evaluation of MOX fuel storage in the USA*, April 2002.
104. IAEA-TECDOC-1378/39, B. Roque, A. Santamarina, N. Thiollay, *Burnup credit calculation route for PWR MOX assemblies and experimental validation in Minerve RI-MOX and SLB1 P.I.E.*, April 2002.

### **2005 Technical Meeting – London, 29 August-2 September**

The proceedings were not available at the end of 2005 but all papers are listed even though some of the papers were not distributed at the meeting.

105. W. Danker, *Overview of IAEA Spent Fuel Management Activities*, August 2005.
106. M. Brady-Raap, *OECD/NEA report*,
107. C. V. Parks, J. C. Wagner, *A Coordinated US Program to Address Full Burnup Credit in Transport and Storage Casks*,
108. M. D. DeHart, *Improved Radiochemical Assay Analyses Using TRITON Depletion Sequences in SCALE*,
109. T. Nakata, *Integrated Depletion Code MVP-ORBURN: Development, Validation and Application Study to the Burnup Credit Evaluation*, August 2005.
110. R. Hüggenberg, D. Winterhagen, H. Köhl, *A Burnup Credit Concept for CASTOR Transport and Storage Casks with PWR Spent Fuel*, Inte distribuerad.
111. G. Gmal, R. Kilger, J. Thiel, *Issues and Future Plans of Burnup Credit Application for Disposal*,
112. M. Brady-Raap et. al., *An Intelligent Spent Fuel Database for BWR Fuels*,
113. A. P. Chetverikov et. al., *Investigation of burnup and nuclide composition of spent nuclear fuel for use when solving “burnup credit” tasks*, August 2005.
114. B. Lance et. al., *Preliminary Analysis of the REBUS-PWR Results*,
115. M. Hennebach H. Köhl, *Monte Carlo Calculations of the REBUS Critical Experiment*,
116. D. E. Mueller, J. C. Wagner, *Application of Sensitivity/Uncertainty Methods to Burnup Credit Criticality Validation*,
117. G. Hordosy, *Investigation of the influence of the plutonium and uranium cross section uncertainties in burnup credit application*, August 2005.
118. V. Chrapciak, *Calculations of criticality and nuclide compositions for VVER-440 fuel by new version of the SCALE 5 code*, August 2005.
119. G. You et. al., *The Study of Burn-up Credit Technology for Spent Fuel Storage in China*, August 2005.
120. A. Barreau et. al., *Recent advances in French validation program and derivation of the acceptance criteria for UOx Fuel*, August 2005.
121. P. Hutt, *Development of Burn-up Credit Loading Criterion for the Sizewell B Spent Fuel Storage Ponds*, August 2005.



122. N. T. Gulliford, J. A. Edge, *Analysis of Axial Burnup Profile and Burnable Poison Loading on Spent BWR Fuel Reactivity in the THORP Dissolvers*,
123. M. Manotova et. al., *Criticality safety analysis of WWER spent fuel casks with radial burnup profile implementation*, August 2005.
124. J.-C. Neuber, *Calculation Routes to Determine Burnup Credit Loading Curves*,
125. J.-C. Neuber, W. Tippl, *Presentation of Axial and Horizontal Burnup Profiles*, August 2005.
126. J.-C. Neuber, H. G. Johann, J. Conde, *Double Contingency Principle and Prevention of Misloading Events*,
127. C. Lavarenne, J. Raby, V. Rouyer, *A Conservative Approach to Consider Burnup Credit in Criticality Studies*, August 2005.
128. L. Markova, *PBC Implementation Assessment Relating to Pool at Reactor of Dukovany NPP*, August 2005.
129. J. C. Wagner, D. E. Mueller, *Assessment of benefits for Extending Burnup Credit in Transporting PWR Spent Nuclear Fuel in the USA*,
130. G. Caplin, E. Guillou, A. Marc, *Burn-Up Credit for Receipt and Storage of UOX PWR Fuels in COGEMA/La Hague Pools*, August 2005.
131. L. Agrenius, *Swedish Nuclear Fuel and Waste Management Co – Burnup credit in the Swedish system for management of spent nuclear fuel*, August 2005.
132. J. Vaclav, *Spent Fuel Management in the Slovak Republic*, August 2005.
133. Y. Kovbasenko, *Implementation of burnup and control rod credit for storage of spent nuclear fuel in Ukraine*, August 2005.
134. R. Aydinyan, *The Possibility of Taking into Account BUC for Establishment of Licensing Requirements*,
135. C. V. Parks, C. J. Withee, *US Regulatory Recommendation for Actinide-Only Burnup Credit in Transport and Storage Casks*,
136. D. Mennerdahl, J. In de Betou, *Guide for nuclear criticality safety analysis and review – Accounting for neutron irradiation and radioactive decay*, August 2005.
137. J.-C. Neuber, *The German Burnup Credit Regulatory Standards*,
138. J.-C. Neuber, *Some Words about the 95%/95% Tolerance Limit*,
139. M. D. DeHart, M. Brady-Raap, *Group Discussion: Calculation methodology*,
140. A. Santamarina, B. Lance, *Group Discussion: Validation and criticality safety criteria*,
141. J. Gulliford, J. C. Wagner, *Group Discussion: Procedural compliance with safety criteria*,
142. C. J. Withee, V. Rouyer, *Group Discussion: Regulatory aspects in BUC*,

## **Other meetings related to burnup credit**

### **1973 – IAEA Proceedings – reactor burnup physics IAEA Panel 1971 (Vienna)**

143. A. M. Moncassoli-Tosi, *Burn-Up Predictions for Pressurized-Water-Reactor Cores*, July 1971.
144. B. Michelsen, *Review of the Situation in Burn-Up Physics – as seen from Denmark*, July 1971.
145. C. Hunt, *Burn-Up Physics for the Dragon High-Temperature Reactor*, July 1971.

146. V. Maly, E. Teuchert, *Separated Location of the Partially Depleted Fuel in the Pebble-Bed Reactor*, July 1971.
147. I. Pop-Jordanov, *Advances in Local Nuclear Fuel Burn-Up Physics*, July 1971.
148. R. L. Growther, *Lattice Burn-Up Calculations for Thermal Reactors*, July 1971.
149. J. G. Tyror, J. R. Askew, *The United-Kingdom Approach to the Calculation of Burn-Up in Thermal Reactors*, July 1971.
150. B. P. Rasogi, K. R. Srinivasan, A. N. Nakra, *Fuel Burn-Up Predictions for Heavy-Water-Moderated Reactors*, July 1971.
151. C. Rinaldini, *Needs and Available Calculation Tools in the Field of Homogeneous Methods for Power-Distribution and Fuel-Evolution Analysis of Overall Reactors*, July 1971.
152. A. N. Kamishan, A. N. Novikov, *Physical Characteristics and Fuel Burn-Up of Water-Moderated Water-Cooled Power Reactors*, July 1971 (in Russian).
153. C. Grant, R. Solanilla, H. Moldaschl, *Application of a Heterogeneous Method in the Simulation of Heavy-Water-Reactor Operation*, July 1971.
154. J. Griffiths, *The Nuclide Composition of the NPD Fuel*, July 1971.
155. R. L. Growther, *Lattice Burn-Up Calculations for Thermal Reactors*, July 1971.
156. A. Cricchio et. al., *Determination Experimentale du Taux de Combustion et du Contenu en Isotopes Lourds d'un Assemblage de Combustible du Reactor a Eau Bouillante de Garigliano et Comparaison avec les Calculs Theoretiques*, July 1971.
157. E. Johansson, *Some Burn-Up Experiments in Sweden*, July 1971.
158. M. Robin, J. Bouchard, *Etude Experimentale de l'Evolution du Combustible de Reacteurs a Neutrons Rapides en Fonction de l'Irradiation*, July 1971.
159. A. M. Moncassoli-Tosi et. al., *Post-Irradiated Burn-Up Analysis of Trino-Vercellese Reactor Fuel Elements. Comparison with Theoretical Results*, July 1971.
160. B. Iaponche, R. Vidal, *L'Evolution Neutronique de Combustibles en Fonction de l'Irradiation dans les Reacteurs a neutrons Thermiques*, July 1971.
161. A. J. Fudge, *A Review of Experimental Methods for the Determination of Nuclear Fuel Burn-Up*, July 1971.
162. E. Münch, *Burn-Up Determination by Irreversible Admixture of Fluence-Monitoring Nuclides to Nuclear Fuel*, July 1971.
163. H. Märkl, A. Müller, M. R. Wagner, *Special Fuel and Absorber management Problems of Light-Water Reactors and their Solution with Improved Calculation Methods*, July 1971.
164. R. L. Growther, *Lattice Burn-Up Calculations for Thermal Reactors*, July 1971.
165. Panel, *Conclusions and Recommendations of the Panel*, July 1971.

**1988 Washington D.C. Workshop on the  
Use of Burnup Credit in Spent Fuel Transport Casks**

166. SAND-89-0018/1, T. L. Sanders, *Burnup Credit Issues in Spent Fuel Transportation Workshop – Overview and Objectives*, February 1988.
167. SAND-89-0018/2, G. C. Allen, *Overview of Effects of Burnup Credit on Cask Design*, February 1988.
168. SAND-89-0018/3, C. V. Parks, *Parametric Neutronic Analyses Related to Burnup Credit Cask Design*, February 1988.
169. SAND-89-0018/4, R. M. Westfall, *Effects of Burnup Credit on Cask Basket Design Spacing Requirements*, February 1988.

170. SAND-89-0018/5, R. H. Jones, *A Survey of Previous and Current Industry-Wide Efforts Regarding Burnup Credit*, February 1988.
171. SAND-89-0018/6, I. K. Hall, *Burnup Credit Effect on Proposed Cask Payloads*, February 1988.
172. SAND-89-0018/7, B. H. Wakeman, S. A. Ahmed, M. L. Smith, *Evaluation of Burnup Credit for Dry Storage Casks*, February 1988.
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