

REFERENCES

1. "Fukushima nuclear accident update log, updates of 15 March 2011", IAEA. 15 March 2011. <http://www.iaea.org/newscenter/news/2011/fukushima150311.html>. Retrieved 8 May 2011.
2. "The International Chernobyl Project", Technical Report Prepared by an International Advisory Committee, ISBN-90-0129191-4, IAEA, Vienna, 1991.
3. Askew, Fayers and Kemshell, "A general description of the Lattice Code WIMS", UKAEA, 1967.
4. "New isotopes in the WIMS Library" DIN/GN/001-96, 1996.
- 5- INVAP SE, "CITVAP 3.1, MTR_PC 3.0 user manual", Argentina, 1995.
6. T.B. Fowler and D. R. Vondy, "CITATION, A computer program for solving diffusion theory treating up to three dimension", ORNL-TM 2496 Rev.2, 1972.
7. International Atomic Energy Agency (IAEA), TECDOC-643, "Research Reactor Core Convection Guide Book", Volume 2: Analysis, April , 1992.
8. Egypt Atomic Energy Authority, EAEA, "Safety Analysis Report of ETRR2", Cairo, Egypt, 1997.
9. A. G. Croff, "A User's Manual For The ORIGEN2 Computer Code," ORNL/TM-7175 (CCC-371), Oak Ridge National Laboratory, July 1980.
10. A. G. Croff, "ORIGEN2: A Versatile Computer Code For Calculating The Nuclide Compositions And Characteristics of Nuclear Materials," *Nuclear Technology*, 62, 335-352, September 1983.
11. S. Ludwig, "ORIGEN2, Version 2.1 (8-1-91) Released Notes," revised May 999.
12. "JNDC, Nuclear Data Library of Fission Products" Second Version, JAERI-1320, 1990.
13. M. Chouha, " Contribution to Decay Heat Calculation: Fission Product Mean Beta and Gama Assessment." CEA Centre D'Etudes Nucleaires De Saclay, CEA-N 2645, 1990.

14. S.A. Naff, L. W. Ward, “ Analysis of Decay Heat Removal Following Loss of RHR.” Trans. Of 19th Reactor Safety Information Meeting of Nuclear Regulatory Commision, Bethesda, MD, USA, 20-30 October,1991.
15. P. Pretecasque, J. C. Nema, T. D. Huynh, M. Zachar, “FAKIR: A User Friendly Standard for Decay Heat and Activity Calculations of LWR Fuel” Proc. of 10 Int. Symposium on the Packaging and Transportation of Radioactive Materials, Yokohama, Japa, 13-18 September, 1992.
16. T. Matsumura, A. Sasahara, “Development of Long-lived Radioactive Nuclides Transmutation Technology with Metalic Fuel FBR” Denryoku Chuo Kenkyusho, Hokoku, Japan, T-89006, 1989.
17. J. W. Cho, J. H. Whang, S. K. Chun, S. H. Park, “Estimation of Decay Heat Generated from Long-term Management of Spent Fuel”, J. Korean Nuclear Society, 21, 1989.
18. K. Way, E. P. Wigner, “Radiation from Fission Products”, Phys. Rev. 70, 115, 1946.
19. J. R. Lamarsh, “Introduction to Nuclear Theory”, Addison-Wesey Pub. Co. Inc., 1966.
20. “Reactor Physics Constants”, Report No. ANL-5800 2 Edditon, Washington DC., US Atomic Energy Commission, 1963.
21. J. Casta and A. Nedelik, “ Heating of Fuel Elements Disturbances Decay Heat Removal System”, REX-108, Austrian Study Group for Atomic Energy Ltd., Research center Seibersdorf, Austria Research Institute, 1980.
22. R. Nabbi, “SOTRAN-A Software for Transient Analysis of Research Reactors” Presented at the Regional Training Course on Computer Applications on Research Reactor Control and Calculations”, BATAN-IAEA, Jakarta, 29 Nov. to 19 Dec., 1991.
23. D. R. Patterson R. J. Schlitz, “ The Determination of Heat Generation in Irradiated Uranium”, Exp. No. 11, School of Nuclear Science and Engineering, Argonne National Laboratory, 1955.
24. M. M. El-Wakil, “ Nuclear Heat Transport”, International Textbook Co., 1971.
25. “Decay Heat Power In Light Water Reactors,” ANS Standard 5.1, American Nuclear

Society, 1978.

26. The RELAP5 Code Development Team, "RELAP5/MOD3 Code Manual", USA: Idaho National Engineering Laboratory, 1995.
27. Pablo Abatte, " CONVEC MOD 3.40: A program for thermal-hydraulic analysis of a MTR-type core in natural circulation regime", INVAP S.E., 2002
28. K. H. Lee, J. H. Yoon, H. Y. Lee, J. H. Ha, J. M. Kim, "Criticality safety evaluation of spent fuel storage rack under normal condition using PHOENIX-P code." Conference: 2000 autumn meeting of the KNS, Taejon (Korea, Republic of), 26-27 Oct 2000; Other Information: 8 refs, 8 figs, 4 tabs; PBD: Oct 2000.
29. D. G. Lee, J. H. Ko, J. H. Park, Conference: 2009 autumn meeting of the KNS, Kyungju (Korea, Republic of), 29-30 Oct 2009.
30. K. J. Jang, M. J. Lee, H. U. Jin, J. H. Park, "Accident Analysis of High Density Storage Rack for Fresh Fuel Assemblies.", Conference: 2009 autumn meeting of the KNS, Kyungju (Korea, Republic of), 29-30 Oct., 2009.
31. Park, Dong Hwan; Cha, Kyoon Ho, Conference: 2008 autumn meeting of the KNS, Pyongchang (Korea, Republic of), 30-31 Oct., 2008.
32. J. H. Yun, J. K. Jeon, D. J. Ko, J. H. Ha, Conference: 2000 spring meeting of the KNS, Kori (Korea, Republic of), 26-27 May 2000.
33. SEMBIRING T M, "Criticality Safety Assessment on the RSG-GAS Spent Fuel Storage for Anticipating the Next Core Conversion Program.", Nippon Genshiryoku Kenkyujo JAERI,Conf., VOL.;NO.;PAGE.416-421,2003.
34. H. S. Sin, J. C. Lee, K. S. Bang, "Criticality safety analysis for the storage of metalized spent fuel", Conference: 2002 autumn meeting of the KNS, Yongpyoung (Korea, Republic of), 24-25 Oct 2002.
35. Mohamed Shower Abd el-moula, " Criticality Verification for Unloaded Core Fuel elements During Long Term Shutdown", (0767-0740-3TANU-197-1O).
36. Ayman Said Nour Eldin, " Criticality Verification for Unloaded Core Fuel elements During Long Term Shutdown", (0767-0740-3TANU-204-1O).
37. C. L. Lecot, " Reactor and Auxiliary Pool Fuel Storage Design Verification", (0767-0740-3TANU-124-1O).

38. M Aziz, Krzysztof Andrzejewski, “Criticality calculations for the spent fuel storage pools for Etrr_1 and Etrr_2 reactors”, *Nukleonika*, vol: 45, no.: (2):142-144, 2000.
39. E. Massoud, O. H. Sallam and E. Amin, “Criticality safety of the ETRR1 new spent fuel storage pool”, *Annals of Nuclear Energy*, Volume 28, Issue 4, , Pages 375-383, March 2001.
40. E. Amin et al “Spent Fuel Storage Criticality Safety” Arab Conference on the Peaceful Uses of Atomic Energy , Cairo, Egypt 5-9 Nov., 1994.
41. A.M. Hathout et al “ Criticality Safety Analysis for MPR Storage Facility” 19th International Meeting on Reduced Enrichment for Research and Test Reactors, Soul, Oct. 6-10, 1996.
42. A.M. Hathout et al “Calculations on Safe Storage and Transportation of Radioactive Materials” 3th Radiation Physics Conference, Cairo, Egypt, vol. 2, 1996.
43. S. Anim-Sampong, E. H. K. Akaho, H. O. Boadu, J. D. K. Intsiful and S. Osae, “ Fuel Depletion Analysis for the HEU Ore of GHARR-1; Part I: Actinide Inventory”, International Meeting on Reduced Enrichment for Research and Test Reactors, Budapest, Hungary, 1999.
44. S. Anim-Sampong, E. H. K. Akaho, H. O. Boadu, J. D. K. Intsiful and S. Osae, “ Fuel Depletion Analysis for the HEU Ore of GHARR-1; Part II: Fission Product Inventory”, International Meeting on Reduced Enrichment for Research and Test Reactors, Budapest, Hungary, 1999.
45. M. Manolova, S. Kadalev, “Criticality Safety Analysis of IRT-200 Storage Pool with IRT-4M Fuel Assemblies” 10th International Topical Meeting Research Reactor Fuel Management, Sofia, Bulgaria, 30 April - 3 May 2006.
46. Ik-Soo Kim, et.al, “Characteristics of Reduced Metal from Spent Oxide Fuel by Lithium”, *journal of Korean nuclear society* volume 35, number 4, pp. 309~317, august 2003.
47. Boris Bergelson, Alexander Gerasimov, “Influence of High Burnup on the Decay Heat Power of Spent Fuel at Long-Term Storage” International Conference, Nuclear Energy of New Europe 2005, Slovenia, September, 5-8, (2005).

48. Gašper Žerovnik, Matjaž Ravnik, Luka Snoj, Marjan Kromar. "Isotopic Composition and Decay Heat Calculations of Spent Nuclear Fuel from Krško NPP" International Conference, Nuclear Energy of New Europe 2008, Slovenia, September, 8-11, (2008).
49. Foudil Zeggar et,al, "Fuel Depletion Calculation in MTR-LEU NUR Reactor", BIBLID: 1451-3994, 23, 1, pp. 11-18, 2008.
50. Tadashi Yoshida, " Decay Heat Calculations Based on Theoretical Estimation of Average Beta- and Gamma-Energies Released from Short-Lived Fission Products", Journal of Nuclear Science and Technology, 18[6], pp. 393~407, June. 1981.
51. K. Oyamatsu et. al, "New Method for Calculating Aggregate Fission Product Decay Heat with Full Use of Macroscopic-Measurement Data", Journal of Nuclear Science and Technology, Vol. 38, No. 7, pp. 477-489. July 2001.
52. Akihiro Sasahara et. al, " Chemical Isotopic Analysis of Fission Products in PWR-MOX Spent Fuels and Computational Evaluation Using JENDL, ENDF/B, JEF, and JEFF", Journal of Nuclear Science and Technology, Vol. 45, No. 5, p. 390–401 2008.
53. M. Adorni, A. Bousbia-salah , F. D'Auria, "Accident Analysis in Research Reactors", International Conference, Nuclear Energy for New Europe 2007, Portoroz, Slovenia, September 10-13, 2007.
54. Kazem Farhadi, "Statistical Calculation of Hot Channel Factors", Journal of Nuclear and Radiation Physics, Vol. 3, No. 1, pp. 11-20, 2008.
55. Mohamed Y. Khalil, et.al., "Hot channel factors evaluation for thermalhydraulic analysis of MTR reactors" NUKLEONIKA, ;49(2):61–67, 2004.
56. M.N. Baldwin and et.al., "In-storage criticality safety during the manufacturing of research reactor fuel" Proc. Topic. Meeting on criticality safety in the storage of fissile material, Jackson, Wyoming, Sept. 8-11, Ans, pp1. 1985.
57. S.A. Baytelesov and et.al, " Neutronics and Steady State Thermal Hydraulics Analysis for the HEU, Mixed HEU-LEU and the First Full LEU Cores of WWR-SM Reactor at INP AS RUZ", RERTR Meeting, Prague, Czech Republic, Sep. 23-27, 2007.

58. R. B. Pond and J. E. Matos, "Nuclear Mass Inventory, Photon Dose Rate and Thermal Decay Heat of Spent Research Reactor Fuel Assemblies", International Meeting on Reduced Enrichment for Research and Test Reactors, Seoul, Korea, October 7–10, 1996.
59. R. B. Pond and J. E. Matos, " Photon Dose Rates from Spent Fuel Assemblies with Relation to Self Protection", International Meeting on Reduced Enrichment for Research and Test Reactors, Paris, France, September 18-21, 1994.
60. Y.P.Alekseev et.al, "Analytical Investigation of Fuel Cooling Conditions in WWER-440 Spent Fuel Pool During Transient Caused by Failures in the Cooling System", 17th AER Symposium on VVER Reactor Physics and Reactor Safety, Yalta, Crimea, Ukraine, 23-29 September 2007
61. United Kingdom Atomic Energy Authority, "MONK 6.3", Winfrith, UK, 1985 .
62. NEA Data Bank, F-91191 Gif sur Yvette, CEDEX, “ MONK code users manual”, France, 1997.
63. IAEA1336,"MTR_PC modular system for neutronic, thermo-hydraulic and shielding calculation", MTR_PC V.3.0 2003.
- 64.J. F. Briesmeister, "MCNP, A general Monte Carlo N-Particle transport theory", LA-12625-M. Manual Version, 1997.
- 5.J. F. Briesmeister et al., "MCNP – A General Monte Carlo N-Particle Transport Code, Version 4C, LA-13709-M, Los Alamos National Laboratory, Los Alamos, New Mexico, April, 2000.
65. EC. Merelle, A. Tas, Spent fuel storage. TECDOC-643, Vol. 5. IAEA, Vienna, pp 143–147, 1992.
66. KH. A. Khalid, "Determination of Multi-group Neutron Fluxes Distributions in Some Subcritical Assemblies" M.SC. Thesis, Fac. of Science, AL-Azhar Univ., Egypt, (1992).
67. Safety Analysis Report of RRR reactor, Australia, ch. 10, 2004.
68. INVAP MPR document number, 0767 0710 EBIT 002 1O, “Basic specification of fuel assembly”, 1995.
69. IAEA-TECDOC-233, IAEA, “Research reactor core conversion from the

- use of HEU to LEU fuels”, Guidebook IAEA, Vienna, Austria, 1980.
70. International Atomic Energy Agency, IAEA, “Nuclear research reactors in the world”, 1999.
 71. Askew, Fayers and Kemshell, “A general description of the Lattice Code WIMS”, UKAEA, 1967.
 72. DIN/GN/001-96, “New isotopes in the WIMS Library”, 1996.
 73. IAEA, “Research Reactor Core Conversion Guide Book”, *Volume 2: Analysis*, IAEA TECDOC-643, International Atomic Energy Agency, April, 1992.
 74. ORNL, "SCALE 5.0 user manual", Oak Ridge National Laboratory, April, 2005.
 75. K. Mishima, H. Nishihara and T. Shibata,” CHF Correlations Related to the Core Cooling of a Research Reactor”, Paper Presented at the International Meeting on Reduced Enrichment for Research and Test Reactors, Takai, October 24-27, 1983.
 76. Ha Van Thong, et.al, “Delayed Photo neutrons of the Dalat Nuclear Research Reactor”, Proceedings of the 4th National Conference on Physics Hanoi, Vietnam, 5 - 8 October 1993..
 77. J. Wm. Garland, Frank Saunders, "Decay Heat Estimates for the McMaster Nuclear Reactor", Technical Report 1998-03, McMaster Nuclear Reactor, McMaster University, February, 1999.
 78. J. Weisman. “Elements of Nuclear Reactor Design”. 2nd Edition. Krieger Publishing Company, 1983.
 79. M. M. ElWakil, “Nuclear Heat Transport “. International Textbook Co., 1971.
 80. Yukio Sudo, Hiroei Ando, Hiromasa Ikawa and Nobuaki Ohnishi.” Core Thermal Hydraulic Design with 20 % LEU Fuel for Upgraded Research Reactor JRR-3’. Journal of Nuclear Science and Technology, 22-7(1985)551.564
 81. Handbook of single-phase Convective Heat Transfer, S Kakac et all, Chapter 3, Flat-Duct Page 3.40, 1987.
 82. Convective Heat and Mass Transfer. W.M. Kays.
 83. Principles of Heat Transfer -2d Ed. Frank Kreith.
 84. Private Communications from dr. Kamal Talha about RELAP code.
 85. R. H. Carcagno, S. Pissanetsky, “SPCONVEC”, Instituto Balseiro.

86. P. Abbate, "Desarrollo de un modelo para el cálculo termohidráulico en convección natural de reactores MTR", AATN, 1990.
87. F. W. Dittus and L. M. K. Boelter, "Heat Transfer in Automobile Radiators of the Tubular Type," Publications in Engineering, 2, University of California, Berkeley, 1930, pp. 443-461.
88. W. M. Kays, "Numerical Solution for Laminar Flow Heat Transfer in Circular Tubes," Transactions of the ASME, 77, 1955, pp. 1265-1274.
89. S. W. Churchill and H. H. S. Chu, "Correlating Equations for Laminar and Turbulent Free Convection from a Vertical Plate," International Journal of Heat and Mass Transfer, 18, 1975, pp. 1323-1329.