

**Reading List For Reliability Engineering Principles Training Class**

† = Contains failure rate data or failure mode data

**Abernethy, Dr. Robert B., The New Weibull Handbook, 4<sup>th</sup> Edition, Published by Dr. Robert B. Abernethy, 536 Oyster Road, North Palm Beach, FL 33408, 2000, Phone/FAX (561) 842-4082, E-mail: [weibull@worldnet.att.net](mailto:weibull@worldnet.att.net) **Acquisition Priority #3.** (Price is US\$98 + s/h): ISBN 0-9653062-1-6 . See more details by [clicking here](#).**

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**Bloch, Heinz P. and Fred K. Geitner, Machinery Reliability Assessment, Second Edition, Gulf Publishing Company, Houston, TX, 1994 ISBN: 0-88415-172-7 †**

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**Green, A. E., Safety Systems Reliability, John Wiley & Sons, 1983. †**

**Goble, William M., Evaluating Control Systems Reliability, Instrument Society of America, Research Triangle Park, NC, 1992.**

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**Henley, Ernest J., and Hiromitsu Kumamoto, Probabilistic Risk Assessment: Reliability Engineering And Risk Assessment, The Institute of Electrical and Electronics Engineers, New York, 1991. (This is a paperback version formerly published by Prentice Hall in 1981.) †**

**Høyland, Arnljot and Marvin Rausand, System Reliability Theory: Models and Statistical Methods, John Wiley & Sons, 1994.**

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IEEE Std 500-1984: **IEEE Guide to the Collection and Presentation of Electrical, Electronic, Sensing Component, and Mechanical Equipment Reliability Data for Nuclear-Power Generating Stations**, Distributed by John Wiley & Sons, Inc., 1984. (1,424 pages!) †

---THIS BOOK IS OUT OF PRINT—BUY IT IF YOU CAN FROM USED BOOK STORES!

**Ireson, W. Grant, Clyde F. Coombs, Jr., and Richard Y. Moss, Handbook of Reliability Engineering and Management, 2<sup>nd</sup> Edition, McGraw-Hill, New York, 1996. **Acquisition Priority 2, Price is US\$ 110 + s/h, ISBN:0-07-012750-6****

IPT Publishing and Training Ltd with training manuals on *good practices* for **Rotating Equipment, Mechanical Power Transmission, Fasteners, Industrial Trades (gears, bearings, clutches, etc.), Metal Trades (heat exchangers towers, tanks, etc.), Piping, Electrical, Cranes and Rigging, and Safety** —written by a variety of authors, Phone: 1-888-808-6763, FAX: 780-962-4819, E-mail: [info@iptbooks.com](mailto:info@iptbooks.com), Web: <http://www.iptbooks.com> the handbooks are US\$12-18/each and the training manuals are US\$20-30/each plus shipping & handling.

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<b>Moubray, John, Reliability-centered Maintenance</b> , Industrial Press Inc., New York, 1992.
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<b>O'Connor, Patrick D., Practical Reliability Engineering</b> , Fourth Edition, John Wiley & Sons, 2002. <b>Acquisition Priority 1, Price: US\$45 + s/h, ISBN: 0-470-84463-9 (paperback) or \$110 + s/h for hardcover.</b>
<b>OREDA-1995 (Offshore Reliability Data)</b> , Contact Bernie Webber at DNV Technica, 16340 Park Ten Place, Suite 100, Houston, TX 77084, phone 281-721-6786, or FAX 281-721-6904. †
<b>Pecht, Michael, Product Reliability, Maintainability, and Supportability Handbook</b> , CRC Press, New York, 1995
<b>Proceedings of the Annual Reliability and Maintainability Symposium</b> , (Produced annually since 1954), available from Evans Associates, 804 Vickers Avenue, Durham, NC 27701-3143 USA @ US\$50 each and also available are <b>Tutorial Notes of the Annual Reliability and Maintainability Symposium @ US\$40 each</b> <a href="http://www.rams.org/">http://www.rams.org/</a> .
<b>Raheja, Dev G., Assurance Technologies</b> , McGraw-Hill, Inc., 1991
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<b>Stamatis, D. H., Failure Mode and Effect Analysis—FMEA for Theory to Execution</b> , ASQC Quality Press, Milwaukee, WI, Phone 1-800-248-1946, 1995. †
<b>Suzuki, Tokutarō, TPM In Process Industries</b> , Productivity Press, Portland, Oregon, 1994 (This book on total productive maintenance was originally published by the Japan Institute of Plant Maintenance in 1992)
<b>Taylor, J. R., Risk Analysis for Process Plant, Pipelines and Transport</b> , E & FN Spon, New York, 1994. Price: US\$215 + s/h, ISBN: 0-419-19090-2 †
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**The references below are from the Reliability Analysis Center:** Reliability Analysis Center, PO Box 4700, Rome, NY 13442-4700, Phone: (315)-337-0900 or (800)-526-4802, or FAX (315)-337-9932 for books and reports <http://rac.alionscience.com/> or view the RAC catalog from the RAC home page by clicking on Publications & Tools—then click on the catalog hyperlink (you can't get to the PDF files directly by hyperlink!)

<b>Borgovini, Robert, Stephen Pemberton, and Michael Rossi, Failure Mode, Effects, and Criticality Analysis (FMECA)</b> , 1993. Price: US\$75 + s/h, Order Code: FMECA †
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<b>Denson, William, Greg Chandler, William Crowell, Amy Clark, and Paul Jaworski, Nonelectronic Parts Reliability Data 1995</b> , 1994. This 1020 page document contains failure data. (Order NPRD-95) † <b>Acquisition Priority 2, Price: US\$195 + s/h, Order Code NPRD-95</b>

**Reliability Toolkit: Commercial Practices Edition**, 1995. (Order CPE) † **Acquisition Priority 1, Price: US\$25 + s/h, Order Code: CPE**

**Rossi, Michael J., Nonoperating Reliability Databook—1987**. This 333 page document gives failure rates for various electronic and nonelectric components. (Order NONOP-1) † **Acquisition Priority 3, Price: US\$75 + s/h, Order Code: NONOP-1**

**Criscimagna, Ned H., Maintainability Toolkit**, 1999, This 390 page publication describes a wide range of maintainability tools and is a companion to the Reliability Toolkit, Price: US\$50 + s/h, Order Code: MKIT

**The documents below are publicly available U.S. Government Military Documents:** Order from: National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161, Phone: (703)-487-4650 or FAX (703)-321-8547 <http://www.ntis.gov/>. For fast (but expensive service) order documents from Global Engineering Documents, Phone: 1-800-854-7179, FAX: 1-303-397-2740 <http://global.ihs.com/>. Many U.S. Government documents are available for no-cost download from Assist-Online at <http://assist.daps.dla.mil/quicksearch>

**NSWC-98/LE1 Handbook of Reliability Prediction Procedures for Mechanical Equipment**, 30 September 1998. This 290 page document consisting of twenty chapters of guidance information with equations, engineering tables and procedures for estimating the reliability of a mechanical design for the intended operating environment. The handbook presents an approach for determining the reliability and maintainability (R&M) characteristics of mechanical equipment. Nineteen basic mechanical components have been identified for which reliability prediction equations have been developed: 1) Seals and Gaskets, 2) Springs, 3) Solenoids, 4) Valves, 5) Bearings, 6) Gears and Splines, 7) Actuators, 8) Pumps, 9) Filters, 10) Brakes 11) Clutches, 12) Compressors, 13) Motors, 14) Accumulators and Reservoirs, 15) Fasteners, 16) Couplings, 17) Slider-cranks, 18) Sensors, 19) Transducers. All mechanical equipment is composed of some combination of these nineteen components, and a designer can utilize the equations to determine individual component reliability and then combine results in accordance with the system reliability diagram to determine total system reliability in operating environment. You must order this document directly by letterhead request (and include a check for US\$200.00) to Tyrone L. Jones, Code 291, Carderock Division, Naval Surface Warfare Center, 9500 MacArthur Boulevard, West Bethesda, MD 20817-5700, Phone: 301-227-4383, FAX: 301-227-5991. **Acquisition Priority 5**

**MIL-HDBK-189: Reliability Growth Management**, 13 February 1981. This 148 page document is for managers and analysts with concepts and principles for growing reliability. **Acquisition Priority 4**

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Real rate (excluding general price inflation): 3.0%  
Nominal rate (including general price inflation): **4.8%**  
Implied long-term average rate of inflation: 1.75% }

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