

APPENDIX I

REFERENCES

NOTE: Although the following references were current when this NRTC was published, their continued currency cannot be assured. Therefore, you need to be sure that you are using the latest version.

Chapter one

Military Requirements for Petty Officer Third Class, NAVEDTRA 12024, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1999.

Naval Search and Rescue Manual, NWP 3-50.1, Office of the Chief of Naval Operation, Washington D.C., July 1983.

Standard Organization and Regulations of the U.S. Navy, OPNAVINST 3120.32B, Office of the Chief of Naval Operations, Washington, D.C., September 1986.

U.S. Department of Transportation, *Navigation Rules, International-Inland*, USCOMDTINST M16672.2C, U.S. Coast Guard, Washington, D.C., 1995.

Chapter two

Operations Specialist I&C, NAVEDTRA 12126, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1993.

Standard Organization and Regulations of the U.S. Navy, OPNAVINST 3120.32B, Office of the Chief of Naval Operations, Washington, D.C., September 1986.

Chapter three

Allied Communications Publication, *Radio Telephone Procedures*, ACP 125, the Joint Chiefs of Staff, Washington, D.C., 1987.

Basic Military Requirements, NAVEDTRA 12018, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1999.

Voice Communications, NTP 5, Naval Telecommunication Command, Washington, D.C., 1984.

Chapter four

Basic Operational Communications Doctrine, NWP 6-01, Office of the Chief of Naval Operations, Washington, D.C., 1981.

Department of the Navy Information Security Program Regulations, SECNAVINST 5510.36, Office of the Secretary of the Navy, Washington, D.C., 1999.

Department of the Navy Personnel Security Program, SECNAVINST 5510.30A, Office of the Secretary of the Navy, Washington, D.C., 1999.

Military Requirements for Petty Officer Third Class, NAVEDTRA 12024, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1999.

Naval Warfare Document Guide, NWP 1-01, Office of the Chief of Naval Operations, Washington, D.C., 1998.

Preparing, Maintaining and Submitting the Ship's Deck Log, OPNAVINST 3100.7B, Office of the Chief of Naval Operations, Washington, D.C., March 1986.

Standard Organization and Regulations of the U.S. Navy, OPNAVINST 3120.32B, Office of the Chief of Naval Operations, Washington, D.C., September 1986.

Chapter five

Navy Electricity and Electronics Training Series (NEETS), Module 18, *Radar Principles*, NAVEDTRA 172-18-00-84, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1984.

Radar Systems Fundamentals, NAVSHIPS 900.017, Bureau of Ships, Navy Department, Washington, D.C., 1944.

Chapter six

Indicator Group AN/SPA-25G, NAVSEA SE251-DG-MMO-010, Commander, Naval Sea Systems Command, Washington, D.C., 1989.

Chapter seven

Allied Tactical Publication, *Allied Maritime Maneuvering Instructions*, ATP 1, Vol. I., NATO, 1983.

Navy Electricity and Electronics Training Series (NEETS), Module 18, *Radar Principles*, NAVEDTRA 172-18-00-84, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1984.

Radar Systems Fundamentals, NAVSHIPS 900.017, Bureau of Ships, Navy Department, Washington, D.C., 1944.

Chapter eight

Allied Communications Publication, *IFF/SIF Operational Procedures*, ACP 160, the Joint Chiefs of Staff, Washington, D.C., 1978.

Allied Communications Publication, *IFF Mark XII Standing Operating Procedures for the Identification of Friendly Military Aircraft and Ships (U)*, ACP 160 US Supp 1(C) (S).

Allied Communications Publication, *Policy and Procedures of IFF (NATO Supplement No. 1) (U)*, ACP 160 NATO Supp 1(B) (S).

Antiair Warfare, NWP 3-01.01, Office of the Chief of Naval Operations, Washington, D.C., 1983.

Limited Maintenance Manual KIR-1A/TSEC and KIT-1A/TSEC (U). KAM-225D/TSEC.

Operation and Maintenance Overview, General Tri-service Mode 4 Handbook, DOD AIMS 86-100.

Operations: NORAD Identification Friend or Foe (IFF/Selective Identification Features (SIF)) Operating Instructions (U), NORAD 55-68 (S).

Programmed Instruction Handbook for Decoder Group AN/UPA-59AS(V)2, NAVEXLEX 0967-LP-374-7050, Commander, Naval Electronics Systems Command, April 1971.

Programmed Instruction Handbook for Decoder Group AN/UPA-59AS(V)2, NAVEXLEX 0967-LP-456-5010, Commander, Naval Electronics Systems Command, July 1981.

Chapter nine

Allied Tactical Publication, *Allied Maritime Maneuvering Instructions*, ATP 1, Vol. I., NATO, 1983.

Chapter ten

Allied Tactical Publication, *Allied Maritime Maneuvering Instructions*, ATP 1, Vol. I., NATO, 1983.

Allied Tactical Publication, *Allied Maritime Tactical Signal and Maneuvering Book*, ATP 1, Vol. II., NATO, 1983.

Antiair Warfare, NWP 3-01.01, Office of the Chief of Naval Operations, Washington, D.C., 1983.

Maloney, Elbert S., *Dutton's Navigation and Piloting*, 14th ed., Naval Institute Press, Annapolis, 1985.

Target Motion Analysis and Passive Localization for Surface Ships, NWP 3-21.51.3, Office of the Chief of Naval Operations, Washington, D.C., 1983.

U.S. Department of Defense, *Maneuvering Board Manual*, PUB 217, 4th ed., National Imagery and Mapping Agency, Washington, D.C., 1984.

Chapter eleven

Allied Tactical Publication, *Allied Maritime Maneuvering Instructions*, ATP 1, Vol. I., NATO, 1983.

Allied Tactical Publication, *Allied Maritime Tactical Signal and Maneuvering Book*, ATP 1, Vol. II., NATO, 1983.

Antiair Warfare, NWP 3-01.01, Office of the Chief of Naval Operations, Washington, D.C., 1983.

Maloney, Elbert S., *Dutton's Navigation and Piloting*, 14th ed., Naval Institute Press, Annapolis, 1985.

Target Motion Analysis and Passive Localization for Surface Ships, NWP 3-21.51.3, Office of the Chief of Naval Operations, Washington, D.C., 1983.

U.S. Department of Defense, *Maneuvering Board Manual*, PUB 217, 4th ed., National Imagery and Mapping Agency, Washington, D.C., 1984.

Chapter twelve

Antiair Warfare, NWP 3-01.01, Office of the Chief of Naval Operations, Washington, D.C., 1983.

Maloney, Elbert S., *Dutton's Navigation and Piloting*, 14th ed., Naval Institute Press, Annapolis, 1985.

U.S. Department of Commerce, *Nautical Chart Symbols and Abbreviations*, Chart No. 1, 10th ed., National Oceanic and Atmospheric Administration, Washington, D.C., November 1997.

U.S. Department of Defense, *Catalog of Maps, Charts, and Related Products, Part 2, Vol. 1, Hydrographic Products*, 9th ed., National Imagery and Mapping Agency, Washington, D.C., 1998.

U.S. Department of Transportation, *Navigation Rules, International-Inland*, USCOMDTINST M16672.2C, U.S. Coast Guard, Washington, D.C., 1995.

Chapter thirteen

Allied Tactical Publication, *Search and Rescue*, ATP 10, NATO, 1999.

National Search and Rescue Manual, Vol. I: National Search and Rescue System, JP 3-50, the Joint Chiefs of Staff, February 1991.

National Search and Rescue Manual, Vol II: Planning Handbook, JP 3-50-1, the Joint Chiefs of Staff, February 1991.

Naval Search and Rescue Manual, NWP 3-50.1, Office of the Chief of Naval Operation, Washington D.C., July 1983.

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