



## In response to MARPOL Annex VI particularly on control of emission of Ozone-Depleting Substances

This course is designed for engine officers and ratings with immediate responsibility for the maintenance and servicing of refrigeration systems onboard. Emphasis of training deals with refrigerant transition and recovery operation in view of environmental protection in adherence to relevant MARPOL 73/78 Annex VI regulations and other related requirements.

**COURSE AIMS:** This course, in effect, shall enable trainees should to gain practical knowledge on recovery of Ozone-depleting substances from onboard refrigeration systems in accordance with current regulations and statutory requirements.

**COVERAGE / PROGRAM FOCUS:** The course deals with the following subject and training areas:

- Basic principles and working components of refrigeration
- Principles of Evaporator, Compressor and Condenser
- Refrigerants and the environments
- Refrigerant recovery operation
- Regulation for the prevention of air pollution from ships
- Safety issues when working with refrigerants
- Practicum on Refrigerant charging and recovery procedures

**METHOD:** Combination of lecture-presentation and practicum with the aid of a refrigeration trainer and equipment/devices such as Recovery Unit, Vacuum Pump, Service Manifold, Weighing Scale, Leak Detector, Tables and Calculations.

**ENTRY REQUIREMENT / TARGET GROUP:** Entry to this course is open to all Engine Officers and ratings.

**COURSE CERTIFICATE:** A Certificate of Completion is given to each participant who satisfactorily fulfills the Course.

**DURATION:**  
3 Days  
(0830H - 1600H)

**SCHEDULE:**  
This course shall be conducted only upon request with minimum of five (5) participants.

**COURSE CONTRIBUTION:**  
USD 257.00  
(NSA Member)

USD 284.00  
(Non-NSA Member)

*Inclusive of course materials compiled in a ring binder*

