TECHNICAL EXHIBIT (TE) 5 - LUBE OIL ANALYSIS

LUBE OIL ANAYLISIS

General. The Government will require the Contractor to ensure that an Oil Analysis Program for the routine laboratory analysis of oil samples from selected pieces of machinery is in place within 60 days of the start of this contract. Objectives of this program are to reduce the probability of unexpected mechanical failure, to predict repair requirements, and to conserve lube oil resources. This Exhibit sets forth the Contractor's responsibilities and describes the Government provided materials and services for the Oil Analysis Program.

Government Furnished Material and Services, General. Through an Independent Agency, the Government will provide oil sample bottles and express mailers to the contractor. The contractor shall identify lube oil supply requirements to the Government representative who will make the request to the Independent Agency. The Contractor may not request these services directly. All equipment/material provided by the Independent Agency shall remain on the vessel and shall be regarded as Government property throughout the term of this contract.

Sample Bottles. The Independent Agency will provide the Contractor with oil sample bottles with express mailers to be used for off ship lube oil sample laboratory analysis.

Lubrication Charts. Upon request, the Independent Agency will provide the Contractor a lubrication chart that identifies the type of lubricant to be used onboard the vessel for each equipment's lubrication requirements.

Oil Sample Analysis and Reporting. The Independent Agency will provide the Government analysis of oil samples received from the Contractor. The Government will receive the test data results and provide the contractor with a recommendation as to the corrective actions needed to be taken in order to minimize the effects of oil degradation or contamination. A historical database of all oil sample results and recommendations is maintained by the Independent Agency and the Government

Contractor Duties, General. The Contractor shall obtain and submit oil samples to the Government appointed Independent Agency for analysis. The Contractor shall maintain those records required by the Oil Analysis Program for identification of oil sample data and historical tracking of oil analysis results.

Obtain Oil Samples. The Contractor shall draw lubricating oil and hydraulic oil samples from all machinery which uses pressurized or circulating oil and/or hydraulic oil (including all diesel engines, all steam turbines, reduction gear, steering gear, anchor windlass, mooring capstans, air compressors, refrigerant compressors, etc.) as directed by existing maintenance program.

Diesel Engine Lubricating Oil. In addition to the above sampling frequencies, a shipboard lube oil sample viscosity test shall be conducted daily on all operating main propulsion and ship service diesel generators, if applicable.

Reports and Records. The Contractor shall maintain shipboard used oil test records for a period of one year and document any follow-up action taken in response to the oil analysis report alerted conditions.

Replacement of Equipment/Material/Lubricants. The Contractor shall submit requests for replacement of equipment/material and lubricants to the designated Government representative within 10 working days prior to the required delivery date. As a minimum, agent, port, quantity, and phone number are required.