

ARTICLE 13

QUALITY ASSURANCE

1. The Purchaser shall arrange, within the framework of Intergovernmental agreement between countries members of NATO (STANAG 4107) and relevant MOU for services beyond those provided by STANAG 4107 and the Contractor shall accept himself and shall procure that the Main Subcontractor shall also accept Governmental Quality Assurance performed by the German Government, Ministry of Defence Procurement Agency (BWB). BWB shall assign to the premises of the Main Subcontractor duly authorised and competent personnel – hereinafter referred to as Quality Assurance Representative (QAR) – to perform quality control in accordance with AQAP-110 requirements during the execution of the Contract related with the design of the modernization and manufacture and testing (FATs) for all new manufactured or modified equipment / systems for the modernization, repair and construction of the Submarines.

2. The QAR shall, to the extent of their functions, communicate and cooperate closely with any Purchaser's representatives.

3. The Purchaser shall appoint, for the part of the Contract related with the modernisation, repair, construction and acceptance tests and trials of the Submarines, duly authorised representatives – hereinafter referred to as Team of Quality Assurance (TQA) – to perform the Governmental Quality Assurance at all stages of this Contract, up to its completion. The TQA may be assisted by an authorised Quality Assurance Authority (Classification Society).

4. The TQA shall be constituted by and assigned to the General Directorate of Defence Investments and Armaments (GDDIA) in accordance with Articles 7 and 8 of the Governmental Quality Assurance Regulations for the Defence Procurements. Its task shall be to monitor the fulfilment by the Contractor of his contractual obligations related with the conformity of materials and services with the contractual stipulations, the achievement of Greek Added Value (GAV) for Submarine 1 and time of delivery, in accordance with this Article, Article 20 and the Governmental Quality Assurance Regulations for the Defence Procurements (ed. June 1998).

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5. The TQA, to the extent of its functions, shall communicate and cooperate with the Purchaser's representatives, viz. Hellenic Naval Detachment of Skaramanga (HNDS), who shall be properly authorised to follow the execution of the Contract on behalf of the Purchaser, as described in Article 34 of this Contract. With respect to the TQA personnel assigned to the Contractor's premises, the Contractor shall provide relevant facilities for the implementation of their functions (office with phone, PC, Fax etc.).

6. The Contractor is obliged to document and implement a Quality Assurance System satisfying the requirements of ISO 9002 and be certified by an appropriate member of the International Association of Classification Societies (IACS). For the object of this Contract, the Contractor is bound to submit to TQA a Quality Plan within twenty six (26) months after the Effective Date in accordance with the Governmental Quality Assurance Regulations and AQAP-120. The TQA will, within forty (40) Days from the date of receipt, approve the Quality Plan or provide his remarks / observations for consideration. The Contractor shall therefore comply with the TQA's remarks / observations and re-submit the Quality Plan within ten (10) Days after the date of receipt. Final approval by TQA shall be performed within the following ten (10) Days. It is accepted that the Quality Plan implemented by the Contractor could be, following its approval, supplemented by specific additional requirements, which shall be mutually agreed between the Parties.

7. The major subcontractors selected by the Contractor with the Purchaser's consent, shall implement a Quality Assurance System for the products and services assigned to them by the Contractor that shall satisfy the requirements of ISO 9002 and ISO 9001. Alternatively, they shall implement a Quality System approved by the Contractor in accordance with his Quality Assurance System procedures.

8. All inspections and evaluations shall be performed in such a manner that will not unduly delay the work. Any document and data which the Contractor will submit to TQA, HNDS and QAR respectively for approval shall be returned to the Contractor, with the appropriate approval or comments, if any, within twenty (20) Days from the submission date. In the event the documentation is not returned after

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the lapse of twenty (20) Days, the submitted document and data shall be considered approved.

9. The Contractor or the Main Subcontractor shall advise in writing the TQA, HNDS and QAR respectively of the availability of materials and items ready for Factory Acceptance Tests (FAT) at the subcontractors' premises, at least five (5) Working Days in advance. In addition, the Contractor shall notify, in the same manner, about preliminary inspections and in-plant tests at least three (3) Working Days in advance, so that the QAR and the Inspectors may attend.

10. Each inspection shall commence and be conducted promptly in order not to unduly delay the work, after the contractual items made are available for inspection.

11. Irrespective of the activities of the TQA, HNDS and QAR, the Contractor is not released from his sole responsibility for the satisfactory and timely execution of the Project.

12. The Purchaser shall arrange a Certificate of Conformity (CoC) to be issued for each Submarine, in accordance with the Governmental Quality Assurance Regulations covering the Submarine and its systems.

13. Especially for the Package Materials that will be manufactured / modified in Germany for the Submarines, a Certificate of Conformity (CoC) shall be issued by the Governmental Quality Assurance of the Republic of Germany (BWB), which shall be arranged by the Purchaser in accordance with the Intergovernmental agreement (STANAG 4107).

14. The materials and systems of Submarine 1, which will be modernized and/or modified, shall be accompanied by Certificates of Conformity issued by the relevant manufacturers. The final products (SUBMARINES) shall be accompanied by the Certificate of Conformity (CoC) countersigned by the TQA of GDDIA. When these certificates are issued, after the successful completion of all acceptance tests and trials, the qualitative delivery of the Submarines is considered as performed.

15. Personal expenses of the Purchaser's personnel (salaries, travelling, boarding, lodging, health insurance etc.) as set forth in this Article, shall be at the cost and expense of the Purchaser.

16. The quality standards ISO and AQAP, which are valid at the time this Contract becomes effective and referred throughout this Article, shall be implemented and be valid until the finalisation of this Contract.

17. With respect to the Purchaser's personnel related with each Submarine assigned to the Contractor's premises for the implementation of this Contract, the Contractor shall provide relevant facilities. Specifically the Contractor shall provide an office for the Captain, an office for the officers and living spaces (office, dressing, room etc.) for the rest personnel. The offices for the Captain and Officers will be equipped with telephone, PC, Fax etc.

ARTICLE 14

ACCEPTANCE TESTS AND TRIALS

1. The Acceptance Tests and Trials of the equipment and the systems to be modernised (new and modified), repaired and constructed for each of the Submarines 1, 2 & 3, as the case may be, shall be performed as follows:

1.1 Factory Acceptance Tests (FATs) to be conducted at the Contractor's and his subcontractors' or suppliers' premises.

1.2 Harbour Acceptance Trials (HATs) to be conducted at the Contractor's shipyard.

1.3 Sea Acceptance Trials (SATs) to be conducted after completion and fitting out of each Submarine.

2. FATs related with the works that will be performed at the Contractor's premises shall be conducted under the responsibility of the Contractor.

3. The HATs and SATs shall be performed under the responsibility of the Contractor. The Acceptance Tests and Trials (FATs, HATs and SATs) are listed in the reference list of tests and trials of Bgr. 0603 of Appendices 1 & 3 of Annex A of this Contract.

4. The test specifications for FATs, HATs and SATs shall be provided to the Purchaser latest five (5) months before scheduled start of the respective test as per the Contract.

5. Unfinished work, defects, deficiencies, omissions and damages ascertained during the FATs should be corrected by the Contractor as per above paragraph 1, who shall be required to repeat the relevant part of FAT of the corresponding system, where necessary, in order to demonstrate the correct functioning of the equipment / system.

6. The completion of a FAT, HAT or SAT shall not be withheld where only minor defects of the deliverables exist, but such defects shall not prevent the

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accomplishment of an operational or mission essential function or jeopardise personnel or equipment safety. Such defects shall be rectified as soon as reasonably possible. In case of FAT as per paragraph 1.1 hereof defects shall be rectified before FOB/FCA delivery to the Contractor.

7. All Acceptance Trials (HATs, SATs), shall be conducted before the delivery of each Submarine. Part of Acceptance Tests and Trials may be conducted during the warranty period, if mutually agreed upon.

8. The Purchaser shall make available the officers and crew needed for the SATs of the Submarines, when requested by the Contractor. For this an advance notice in written form at least three (3) months prior to the foreseen starting date of SATs will be provided to the Purchaser by the Contractor.

9. Acceptance Tests and Trials (FAT, HAT, SAT) carried out after the delivery of the Submarines as per above paragraph 7 or as otherwise agreed, shall be conducted under the responsibility of the Purchaser. For these tests and trials on request of the Purchaser the Contractor will provide the instruments as foreseen in the relevant agreed test procedures for the execution of the particular tests or trials, if necessary, and the personnel as deemed appropriate by the Contractor for support.

10. The Purchaser shall provide or shall arrange the availability at his expense of other naval ships, aircraft, helicopters and targets necessary for the execution of HATs and SATs, which require such availability. Furthermore the Purchaser shall provide the necessary weapons (as set forth in Annex C) for the execution of the relevant tests and trials as stipulated in said Annex or as mutually agreed upon.

11. The Purchaser shall procure that the appropriate regulatory framework governing the terms and conditions of the performance of SATs of Submarines 2 and 3, in Greek territorial waters shall be enacted the latest the latest sixty (60) Days prior to the commencement of SATs for Submarine 2. To this effect the Contractor shall notify in writing the Purchaser ninety (90) Days before the scheduled date for commencement of SATs for Submarine 2. In case of failure of the Purchaser to enact such appropriate regulatory framework within the aforementioned period, then the Contractor shall be entitled to an extension of the delivery period(s) provided for in

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Article 24 paragraphs 1.2-1.3 of this Contract by one (1) Day for each Day after the lapse of the aforementioned period for which the failure of the Purchaser to enact the appropriate regulatory framework for the SATs of Submarines 2 and 3 persists. In case such failure of the Purchaser persists for more than ninety (90) Days after the receipt by the Purchaser of the above notice of the Contractor for the commencement of the SATs for Submarine 2, the SATs for the said Submarine shall be deemed as completed. The above shall apply mutatis mutandis with respect to the SATs for Submarine 3.

12. Acoustic and magnetic signature tests for Submarines 2 and 3:

In case that after the successful completion of all HATs and SATs for Submarines 2 and 3 and prior their delivery to the Purchaser, there are no facilities in Greece for the execution of the acoustic and magnetic signature tests for the said Submarines, then the following will apply:

12.1. Delivery of Submarine(s) shall be performed to the Purchaser, provided that all other obligations of the Contractor with respect to the Delivery and Acceptance of the relevant Submarine according to the Contract have been fulfilled, eventually rest points still to be cleared. Five (5) days before the delivery of each Submarine the Contractor shall issue and present to the Purchaser a corporate "Payment Guarantee Letter" fifteen percent (15%) of the price of the respective Submarine as referred to in Article 5 paragraph 3 hereof. This "Payment Guarantee Letter" will be valid during the whole period of execution of the acoustic and magnetic signatures and will be returned to the Contractor after the successful completion of these tests. These tests must have been concluded within a period of five (5) months after the delivery date of each Submarine. After this five (5) month period, in case the tests have not been performed, the Payment Guarantee Letter shall be returned to the Contractor.

12.2. In the warranty period of Submarines, as per Article 17, the time needed for the execution of these tests shall be added.

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ARTICLE 15

PERFORMANCE VALUES OF THE SUBMARINES

1. The performance of the Submarines shall be in accordance with the requirements laid down in Annexes B and B1 of this Contract. With regard to Submarine 1 since the performance of the said Submarine is dependent upon the proper performance of the necessary repair works, in order the specified performance values of this Submarine to be met, the Purchaser shall accept the advice and recommendations of the Contractor for the additional works (if any) identified to be needed during the execution of the repair works as per the final Repair Specification.

2. Detailed quantitative values for evaluating the performance or the status of each of the Submarines are specified in Annexes B and B1 of this Contract, for the following:

2.1 For the Submarine 1:

2.1.1. Platform

2.1.1.1 Surface Stability MG (Metacentric Height)

2.1.1.2 Submerged Stability BG (Stability Height)

2.1.1.3 Reserve of Buoyancy

2.1.1.4 Max. Submerged Speed (Battery)

2.1.1.5 Max. Submerged Speed (Fuel Cell)

2.1.1.6 Max. Snorkelling Speed (Diesel)

2.1.1.7 Max. Surface Speed (Diesel)

2.1.1.8 Max. Submerged Cruising Range (Battery)

2.1.1.9 Submerged Cruising Range (Fuel Cell)

2.1.1.10 Tactical Indiscretion Rate

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- 2.1.1.11 Tactical Diameter
- 2.1.1.12 Environmental Conditions
- 2.1.1.13 Cavitation
- 2.1.1.14 Waterborne Noise
- 2.1.1.15 Combat System Sensor Accuracy Criteria

2.2 For the Submarines 2 and 3:

2.2.1. Platform

- Metacentric Height
- Stability Height
- Reserve of Buoyancy
- Diving Test Depth
- Maximum Submerged Speed, Battery
- Maximum Submerged Speed, Fuel Cell
- Maximum Submerged Speed, Mast Operation
- Maximum Surface Speed, Diesel
- Maximum submerged cruising range with battery
- Submerged cruising range with Fuel Cell
- Tactical indiscretion rate (1st case – 8%)
- Tactical indiscretion rate (2nd case – 12,5%)
- Tactical diameter
- Environmental conditions

2.2.2. Signatures

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Water-borne Noise

Magnetic Signature

Transient Noise

Cavitation

2.2.3 Combat System

3. Computation, simulation tests and/or trials may be carried out as specified in Annex A of this Contract in order to prove that the performance, or the status of each individual system and - where applicable - the Submarine as a combined system (including GFE systems) - is in compliance with the requirements as specified in Annexes A (Appendices 1 & 3), B and B1, as applicable, of this Contract.

4. In case of failure of any system to meet the Technical Specification as per Appendices 1 and 3 of Annex A of this Contract, the Contractor will exercise all available remedies to obtain identification and correction of malfunction and correction or replacement of faulty equipment. For GFE Article 21 of this Contract applies.

5. If the performance values of Submarines have not been reached as per Annex B and B1 respectively, then additionally Articles 25 and/or 27 hereof (if applicable) shall apply.

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ARTICLE 16

DELIVERY AND ACCEPTANCE PROCEDURES

1. After the successful completion of all Factory, Harbour and Sea Acceptance Tests and Trials (FATs, HATs, SATs), except such tests mutually agreed to be performed during the warranty, to demonstrate the conformity of each Submarine with this Contract, the said Submarine clean, painted and safely moored shall be accepted by the Purchaser's Acceptance Committee and a Delivery and Acceptance Protocol as per Annex N of this Contract shall be issued and duly signed by the Contractor and the Purchaser's Acceptance Committee, certifying that the said Submarine has been modernized and repaired or constructed, as the case may be, in accordance with this Contract. This protocol will contain a declaration of warranty by the Contractor that the Submarine is delivered free and clear of any liens, claims, mortgages or other encumbrances upon the Submarine and all of her components. At the time of delivery, the Contractor shall hand over to the Chief of the Inspectors the certificates stipulated in this Contract.

2. Minor deviations from the agreed performance data or deficiencies which will not adversely affect the function of the Submarine shall not hinder the acceptance of the Submarine but shall be rectified as to be agreed in the relevant Delivery and Acceptance Protocol as per Annex N of this Contract.

3. Without prejudice to the provisions of Article 7 paragraph 1, at the moment the Delivery and Acceptance Protocol as per Annex N of this Contract of the Submarine is duly signed, the full property, possession and risk of the said Submarine are transferred to Purchaser.

4. There will be a "Pre-Transit Period" at the Contractor's premises for each of the Submarines of not more than fourteen (14) Days commencing with the Day following delivery and acceptance of the relevant Submarine by the Purchaser. Within this Pre-Transit Period all such remaining items as have been agreed as per the Delivery and Acceptance Protocol as per Annex N of this Contract will be rectified prior to departure of the Submarine, from the Contractor's premises.

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5. The Contractor and his subcontractors and suppliers may perform warranty work on the Submarines during their Pre-Transit Periods.
6. The Purchaser will arrange each Submarine to leave the premises of the Contractor on or before expiration of the relevant Submarine's Pre-Transit Period.

ARTICLE 17

WARRANTY

1. The warranty for each Submarine shall apply as follows:

1.1. The Contractor warrants the modernization and repair work for Submarine 1, as described in Annex A of this Contract, for a period of twelve (12) months from the date of Submarine 1 acceptance as per Article 16. Furthermore the Contractor shall transfer to the Purchaser the existing warranties received by way of assignment from its subcontractors and suppliers, as these warranties stand as of EDCA. Such warranties shall apply then directly in favour of the Purchaser who shall be vested with all rights and claims against the respective subcontractor/supplier under the terms and conditions of each such warranty. Within this period the Contractor is responsible to remedy at his expenses any defects caused by faulty workmanship or defective materials. This includes to investigate the root cause of the defect or deficiencies and to ensure that the said root cause shall not occur in the respective systems or equipment in the Submarine 1 again. The Purchaser shall allow unhindered examination and remedy of the defective part and the root cause of the defect or deficiency. The warranty does not cover any defects or deficiencies due to normal wear and tear, wrong or negligent handling and/or maintenance, acts of God and wrong handling of third parties nor replacement of consumable items and the GFE.

1.2. The Contractor warrants Submarines 2 and 3, as described in Annex A of this Contract, for a period of eighteen (18) months starting from the scheduled date for their delivery as stipulated in paragraphs 1.2 and 1.3 of Article 24 hereof (the "Warranty Period for Submarines 2 and 3"). The commencement of the Warranty Period for Submarines 2 and 3 shall be extended for as long as the delivery of each of these Submarines is delayed for reasons attributable to fault of the Contractor. Within this period the Contractor is responsible to remedy at his expenses any defects caused by faulty workmanship or defective materials. This includes to investigate the root cause of the defect or deficiencies and to ensure that the said root cause shall not occur in the

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respective systems or equipment in the Submarines 2 and 3 again. The Purchaser shall allow unhindered examination and remedy of the defective part and the root cause of the defect or deficiency. The warranty does not cover any defects or deficiencies due to normal wear and tear, wrong or negligent handling and/or maintenance, acts of God and wrong handling of third parties nor replacement of consumable items and the GFE.

2. The warranty period of systems, equipment or items of the Submarines repaired or replaced under these conditions of warranty shall be extended and this extension shall be equal to the time they cannot be used in service.

2.1 The Contractor's obligation in case of warranty shall be, at the Contractor's option, to promptly repair or provide replacement parts of the defective item. In case a replacement cannot be performed by the Submarine's crew it shall be carried out by the Contractor.

2.2 This warranty is subject to receipt by the Contractor of a written notice of the defect, promptly given, in accordance with the procedure as provided for in Annex O of this Contract upon such defect coming to the attention of the Purchaser and a receipt by the Contractor of such notice in no case beyond the warranty period as applicable.

3. The Contractor, at the end of Warranty Period for Submarines 2 and 3, as defined above in paragraph 1.2 of this Article, shall transfer to the Purchaser the warranty of those systems or equipment or items of Submarines 2 and 3 which are warranted by his subcontractors for a period lasting more than the Warranty Period for Submarines 2 and 3.

4. In case a warranty claim can only be remedied at a ship repair facility, the Purchaser and the Contractor shall agree to bring any system, equipment or item for execution of the necessary warranty repairs to the Contractor's yard, to execute the necessary warranty repairs made there, or have the same made at the Purchaser's Naval Bases, or any other Mediterranean or European port, selecting the most time and cost efficient alternative. In the two latter cases the Contractor shall reimburse the

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Purchaser the cost of making such repairs and provide at his expense specialists if so agreed with the Warranty Engineer.

5. When performing warranty work the Contractor may request the Purchaser to make Base Spare Parts available to the Contractor's personnel on a loan basis which shall be replaced by the Contractor CIF (INCOTERMS Edition 1990, Publication No. 460) Piraeus.

In case the Contractor fails to diligently attend to any Purchaser's warranty claim within a period of thirty (30) Days from receipt of the relevant warranty form, then the Purchaser shall be entitled a) to have the defect remedied by the respective manufacturer / supplier and the Contractor shall reimburse the Purchaser for any cost reasonably incurred thereby, or b) in case the Contractor is the manufacturer / supplier of the item being subject to such warranty claim, the warranty period for such item, in addition to what is stated in this Article 17 shall be extended by the period between Contractor's receipt of Purchaser's relevant warranty form up to the repair of the item or exchange of the part by the Contractor, as applicable.

6. The Contractor undertakes to cover the expenses of:

6.1 Transportation, freight, insurance and repair of those defective equipment or items under the warranty terms of this Contract sent by the Purchaser to the Contractor or his subcontractors and vice-versa.

6.2 Transportation, freight and insurance according to INCOTERMS 1990 for forwarding to the Purchaser and returning to the Contractor or his subcontractors, all required special devices necessary for the troubleshooting and repair of a damaged equipment.

6.3 Employment of specialists in case such employment has been agreed in accordance with paragraph 4 above.

6.4 Cost of refilling of the oxygen tanks and/or hydrogen storage tanks, if during warranty works the evacuation of such tank is necessary and the defect or deficiency is related with the new or modified equipments.

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7. During the warranty period the Contractor is to furnish the Purchaser all repair or replacement items in the shortest reasonable possible time, as per above paragraph 5.

8. The warranties, obligations and liabilities expressly mentioned under this Contract are exclusive and shall constitute the sole liability of the Contractor under this Article; in no case shall the Contractor have any obligation or be liable for consequential, direct or indirect damages, except as specifically provided for in this Article.

9. The Contractor shall make available, one (1) Warranty Engineer for all the Submarines, at the disposal of the Purchaser, from the date of the acceptance of each Submarine until the date of expiration of the warranty period of each Submarine as foreseen in this Article. Procedures concerning the Warranty Engineer are laid down in Annex O of this Contract. Further necessary procedures in addition to those of Annex O of this Contract will be established between the Purchaser and the Contractor in due time.

10. The Purchaser accepts that the above Warranty Engineer may board the Submarine while it is operating at sea. In such cases he shall receive facilities corresponding to those of an officer of the Hellenic Navy at no charge.

11. The Contractor accepts to cover all the warranty claims of the Purchaser as they are defined in this Article 17.

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ARTICLE 18**TRAINING**

The Contractor will arrange training to be provided for the operation and maintenance of the new and modified equipment / systems of Submarine 1 as stipulated in the Article 19 of this Contract.

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ARTICLE 19

LOGISTIC SUPPORT (LS)

1. The Contractor shall provide to the Purchaser Logistic Support (LS) for the Submarines, as detailed in Bgr. 0700 of Appendix 1 and 3 to Annex A of the Contract.

2. The Logistic Support is defined as activities and deliverables necessary to enable the Purchaser to integrate new or modified equipment/systems into the Purchaser's organisation procedures and to prepare maintenance, material management activities and training and as specified in the following deliverables, which are specified in Appendix 1 of Annex A of this Contract for Submarine 1. The scope of supply and services as to be delivered/rendered under this Contract for Submarines 2 and 3 is described in Annex P1 in the quantity as required for Submarines 2 and 3.

2.1 Material Support for new and/or modified equipment/systems for the Submarine 1.

2.1.1 On board spare parts for a mission of fifty (50) days duration, but subject to the provisions of paragraph 7 of this Article.

2.2 Technical Logistic Documentation for new or modified equipment / systems for the Submarine 1:

2.2.1 Ship Management Documentation

2.2.2 System and Equipment Documentation

2.2.3 Drawings

2.2.4 Certificates (FAT)

2.3 Training of on board personnel for the new or modified equipment/systems (one time training execution as stipulated in Bgr. 0770 of Appendix 1 to Annex A of this Contract for Submarine 1).

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2.4 Training Courses

The scope of supply and services to be delivered/rendered under this Contract is described in Appendix 1 to Annex A.

3. The training courses, as per above paragraph 2.3 for Submarine 1 shall cover each specified training subject in adequate depth, to enable the trainees to acquire sufficient skills to operate safely and efficiently and maintain successfully the new or modified equipment/systems of the Submarine 1. The training material and training courses, as per Annex P1 shall cover each specified training subject in adequate depth, to enable the trainees to acquire sufficient skills to operate safely and efficiently and maintain successfully the Submarines 2 and 3.

4. The training described in above paragraph 2.3 for Submarine 1 and in Annex P1 for Submarines 2 and 3 shall be performed in the facilities and/or on board the Submarines, as specified in Annex A (Bgr. 0770) of this Contract, on equipment/systems of the Submarines.

5. Training costs related to implementation and performance of courses including training media and aids as laid down in the relevant specifications are included in the Total Basic Contract Price as per paragraph 2 of Article 5 of this Contract. All other cost such as personal expenses of the trainees (e.g. salaries, travelling / board / lodging / health insurance) shall be borne by the Purchaser.

6. Details about time, duration, prerequisites, place, training material, maximum number and qualification of the participants and management of each specific training course are outlined in Appendix 1 (Submarine 1) and Appendix 3 (Submarines 2 and 3) of Annex A of this Contract and will be specified accordingly.

7. The Contractor shall procure an initial outfit of ships' general stores ("first outfit"). The scope of supply is described in PBS 9 of Appendix 3 of Annex A.

8. Original onboard spare parts shall be provided for modernized and/or new equipment/systems by the manufacturer of origin and respectively the actual subcontractor.

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9. The Contractor declares that based on its own experience, the experience of the Main Subcontractor and the mission profile taken into account, the spare parts, special tools, measuring and test equipment intended to be stored on board the Submarine shall be sufficient for on board maintenance and repair of new or modified equipment/systems of a fifty (50) Days mission with reference to Submarine 1.

For Submarines 2 and 3 the spare parts, special tools measuring and test equipment and outfit intended to be stored on board the Submarines 2 and 3 shall be sufficient for onboard maintenance and repair of a forty (40) days mission.

10. In accordance with normal standard practice the Contractor shall require his subcontractors to offer and, if so ordered, deliver spare parts for new or modified equipment/systems which are compatible in fit and function, during a period of ten (10) years after delivery of the last Submarine but not longer than eighteen (18) years after receipt of payment of paragraph 2.2.2.1 of Article 6. If, for any reason, spare parts would not be anymore in production then the Contractor undertakes to inform the Purchaser, at least one (1) year before the end of production, and consequently assist the Purchaser with proposals for an equivalent solution.

11. The Contractor shall provide the Purchaser with NATO Stock Numbers for Submarine 1 where existing for the material to be provided and in possession of the Main Subcontractor.

12. The Contractor declares the availability of logistic support for spare parts and tools with exception of logistic support for crankcase for MTU type 12V493 diesel engines until the year 2020 for the Submarine 1.

ARTICLE 20**GREEK ADDED VALUE (GAV)**

1. The Parties explicitly state and recognise that the Greek Added Value requirements for Submarine 1 have been fully achieved as of EDCA and the Purchaser shall issue upon EDCA the relevant certificate.
2. The construction of Submarines 2 and 3 shall not be subject to any Greek Added Value requirements.

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ARTICLE 21

GOVERNMENT FURNISHED EQUIPMENT AND INFORMATION

1. The Purchaser shall deliver to the Contractor, for use in connection with and under the terms of this Contract, the material and information described in Annex C of this Contract as Government Furnished Equipment (GFE) with the relevant documentation and Government Furnished Information (GFI).

2. Such GFE and GFI shall be delivered by the Purchaser to the Contractor's shipyard. The Contractor shall accept delivery when made and undertakes the unloading and storage at his own expense.

3. The Contractor accepts the delivery times of such GFE as per paragraph 1 above as laid down in Annex C of this Contract and agrees, that if followed, the delivery time of the Submarines should be as stipulated in Article 24 of this Contract. The Contractor accepts a grace period of two (2) weeks for late delivery of the GFE / GFI.

4. Should the delivery of GFE and / or GFI be delayed for reasons other than Force Majeure, the Contractor shall evaluate the consequences and the overall influence on the time of delivery of the relevant Submarine and the Purchaser in co-operation with the Contractor has then the right to decide whether to:

4.1 Accept the Submarine with the relevant delay and assume responsibility for the delay and its consequences.

4.2 Accept the Submarine on the specified delivery time, as per Article 24 of this Contract without the delayed GFE / GFI but fitted for. In this case this Contract shall be deemed to be fulfilled and the Contractor will reimburse the Purchaser for the corresponding expenses for man-hours work (installation, integration, testing) not performed by adjusting the Total Basic Contract Price accordingly.

4.3 Adopt any other solution proposed by the Contractor to complete the Submarine on Purchaser's cost.

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5. Title of property to all material furnished to the Contractor by the Purchaser, shall remain with the Purchaser. Title of property to the Purchaser's material shall not be affected by the incorporation into or attachment thereof to any material or property not owned by the Purchaser.

6. The Contractor shall take all reasonable steps to comply with all appropriate directions, guidelines or instructions that the manufacturer of GFE may prescribe as reasonably necessary for the protection of GFE.

7. The Contractor shall be liable for any loss of or damage to GFE or for expenses incidental to such loss or damage, where this loss or damage occurred after the delivery of GFE as per paragraphs 1 and 2 above.

8. The Purchaser may (i) decrease the GFE furnished or to be furnished by the Purchaser under this Contract, or (ii) substitute other Purchaser owned material for material to be furnished by the Purchaser under this Contract and (iii) request incorporation of engineering retrofits. Such decrease, substitution or request shall be considered as a modification requested by the Purchaser and Article 22 of this Contract shall apply.

9. The GFE/GFI has to be in compliance with the agreed technical specifications and with Annex C of this Contract. With regard to the GFE received by the Contractor, the Contractor shall notify in writing the Purchaser about any observation made in connection with the visual inspection performed promptly but not later than two (2) weeks from the receipt thereof, concerning the condition of the GFE received. The Purchaser is responsible to remedy any failure identified within the shortest time possible in order to avoid any delay or other impact on the Contractor's activities. Any contractual consequences due to the deficient GFE will be mutually agreed upon between the Purchaser and the Contractor.

10. The Contractor shall identify the interfaces of the GFE with the Submarine's systems and shall make himself aware of the performance requirements of all GFE. If interface conflicts are discovered during setting to work and FATs, that adversely affect any individual system's ability to satisfy the GFEs integrated performance requirements or the Submarine's systems requirements as per Annex B of this

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Contract and such interface conflicts have not been notified by the Contractor to the Purchaser within a reasonable period of time after having received the respective complete GFE-technical specification from the Purchaser, the Contractor shall take the appropriate measures to remedy the conflicts under his full responsibility.

11. Upon the delivery of GFE and related GFI in accordance with the requirements of this Contract the Contractor warrants that the installation, integration and testing effort performed by him will not damage the GFE.

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ARTICLE 22

MODIFICATIONS

1. The Purchaser may request the Contractor in writing to make modifications to the Technical Specification (Appendices 1 and 3 of Annex A) of this Contract and the Contractor may agree to carry out such modifications or an accumulation of such modifications, if they are technically feasible. Article 13 shall apply to the implementation of modifications as per this Article 22.
2. In case that the Purchaser wishes to evaluate any price change due to modifications or to changes proposed by the Contractor, the Contractor shall provide to the Purchaser all necessary information to permit the adequate evaluation of the price submitted.
3. The Contractor has the right to continue performance on the basis of the existing Technical Specification and the plans until agreement has been reached on such modifications and an AMENDMENT as per Article 35 paragraph 8 to this Contract is effective.
4. The Contractor may implement changes to the Technical Specification as per Appendices 1 and 3 of Annex A of this Contract found necessary by him to suit local yard conditions and facilities. The approval of the Purchaser on such modifications will be necessary in accordance with the provisions of this Article; such approval will not be unreasonably withheld. For this reason the Contractor will make available all necessary information to the Purchaser in order to obtain his approval.
5. Upon the agreement on a modification the Contractor shall revise accordingly the relevant pages of the Technical Specification and/or drawings and provide to the Purchaser adequate copies of such revisions. For this purpose the Contractor shall procure the co-operation of the Main Subcontractor.
6. Should any slight deviations from the details shown in the drawings or described in the Technical Specification, be considered desirable during the progress of the production work, the same are to be performed subject to mutual agreement without being considered as modifications.

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7. Should a modification result in an increase or decrease in price and/or change in the delivery time, these increases or decreases in price and/or the changes in the delivery time shall be agreed upon in writing by the Parties via an AMENDMENT as per paragraph 8 of Article 35 of this Contract before execution of such modifications.

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ARTICLE 23

FORCE MAJEURE

1. No sanctions are imposed upon the Parties for their scope of actions as described in this Contract and upon the Purchaser for his obligation to deliver the GFE and GFI due to Force Majeure. As cases of Force Majeure can be considered, indicatively but not limited to the following events:

1.1. General or partial strike involving the discontinuance of the works of the shop or of the factory of the Contractor.

1.2. General or partial fire at the shop or at the factory or at the offices of the Contractor.

1.3. Flood

1.4. Earthquake

1.5. War

1.6. Failure in the supply of electric current or damage of the machinery having been competently ascertained and on the condition that same affects the execution of their contracts by the respective Parties or their subcontractors.

1.7. Commercial imports embargo

1.8. Commercial transports lockout (affecting the International Transport Network).

2. In any case of Force Majeure, the inability to perform must be due to reasons beyond the control and not due to fault or negligence of the Party claiming the Force Majeure.

3. The above mentioned events must be reported in writing to the other Party within a revocatory (annulling) time limit of thirty (30) Days as from their manifestation, while in the case of continuation of the above events, the Party affected

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must report, within the same as herein above period of time, their commencement and their termination and such events must further be certified by the competent authorities.

4. Default in performance of any subcontractor of the Contractor or the Purchaser is not considered a case of Force Majeure for the respective Party's obligations under this Contract, unless such Party provides evidence to the other Party, that the delay of such subcontractor was due to Force Majeure and had a direct influence on the time of performance of that Party's obligations under this Contract.

5. Thus, in case of Force Majeure according to the definitions of this Article, the Party who has given such notice shall be excused from the performance or punctual performance of its obligations under this Contract for so long as the relevant event of Force Majeure continues and to the extent that such Party's performance is prevented, hindered or delayed and the delivery schedule shall be extended accordingly. The Parties shall meet to establish by mutual agreement the revised delivery date(s) resulting from the Force Majeure.

6. In case two or more reasons of Force Majeure occur simultaneously, then the overlapping period will only be counted once.

ARTICLE 24

TIME AND PLACE OF DELIVERY

1. The Submarines with all equipment and services as specified in Article 2 hereof will be ready for delivery at Contractor's premises after successful tests and trials as per Annex E of this Contract, as follows:

- 1.1 Submarine 1: within nineteen (19) months, after the EDCA.
- 1.2 Submarine 2: within ninety three (93) months, after the EDCA.
- 1.3 Submarine 3: one hundred and five (105) months, after the EDCA.
- 1.4 In order the above schedule to be implemented the Purchaser shall arrange the Submarine 1 (properly prepared as per Article 8) to arrive at Contractor's premises in order to start the modernization and repair work thirty (30) months after the Effective Date as per Article 32.

2. The Contractor shall deliver the items as set forth below as follows:

- 2.1 On board spare parts shall be delivered together with each Submarine.
- 2.2 On board Documentation shall be delivered as specified in Appendices 1 and 3 of Annex A of this Contract.
- 2.3 Services (training for Purchaser's personnel, Warranty Engineer, services to Purchaser's personnel at Contractor's and Main Subcontractor's facility, etc.) to be performed under this Contract, shall be performed at the dates specified elsewhere in this Contract and its Annex A (Appendices 1 & 3).
- 2.4 All other deliverables such as drawings, reports, data and other items, all as required by this Contract, together the delivery of each Submarine, unless otherwise specified elsewhere in this Contract, or as agreed from time to time in accordance with Article 22 hereof.

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3. The delivery times as per paragraphs 1 and 2 above may be extended and/or revised as stipulated in this Contract.

ARTICLE 25

LIQUIDATED DAMAGES

1. Delay in Delivery

1.1 If the Submarines should not be presented for acceptance due to Contractor's default within the relevant period stated in Article 24 as revised and/or amended in accordance with the provisions of this Contract, the Contractor shall pay to the Purchaser following a grace period of four (4) months for each Submarine, liquidated damages foreseen in P.D. 284/89. The maximum amount to be paid will not exceed the 4,00% (four percent) of the prices of each of the Submarines mentioned in paragraph 3.1, 3.2 and 3.3 of Article 5 of this Contract.

1.2 If the delivery of a Submarine is so delayed by more than three hundred five (305) Days, the Purchaser and the Contractor shall meet in order to examine the problem. If a solution cannot be mutually agreed within sixty (60) Days, Article 27 hereof shall apply.

2. Technical Deficiencies of Submarine 1

If the below mentioned performance values should not be reached and not remedied until delivery of the Submarine 1 or such other time as mutually agreed upon, the Contractor shall pay to the Purchaser liquidated damages for the full and final satisfaction of all claims as follows:

2.1. Submarine 1 Surface Stability MG (Metacentric Height) as per Annex B

The stability trial shall furnish the proof of surface stability data as defined in the Technical Specification of Appendix 1 to Annex A, Attachment 1 to PBS O, page 2. A stability trial shall be performed and readings shall be taken in the same weight condition as if ready for operation. In case of a decrease in the said surface stability, the following liquidated damages shall be applied,

Decrease

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up to 10 % of the respective value 0,050 %

> 10 % to 20 % of the respective value 0,075 %

The above amounts of liquidated damages are not cumulative.

2.2. Submarine I Submerged Stability BG (Stability Height) as per Annex B

The stability trial shall furnish the proof of submerged stability data as defined in the Technical Specification of Appendix I to Annex A as per Attachment 1 to PBS O, page 2. A stability trial shall be performed and readings shall be taken in the same weight condition as if ready for operation. In case of a decrease in the said submerged stability, the following liquidated damages shall be applied,

Decrease

up to 10 % of the respective value 0,050%

> 10 % to 20 % of the respective value 0,075%

The above amounts of liquidated damages are not cumulative.

2.3. Submarine I Reserve of Buoyancy as per Annex B

In the event that the Reserve Buoyancy with all ballast tanks blown is less than the value as defined in the Technical Specification of Appendix I to Annex A as per Attachment 1 to PBS O, page 2, and proof given by calculation as defined in BV1033.2 Rule 13, the following liquidated damages shall be applied:

< 9,1 to 9,0	percent of surface displacement	0,1 %
< 9,0 to 8,6	percent of surface displacement	0,2 %
< 8,6 to 8,1	percent of surface displacement	0,6 %

The above amounts of liquidated damages are not cumulative.

2.4. Submarine I Maximum Submerged Speed, Battery as per Annex B

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The maximum speed trial shall furnish the proof of the submerged speed data in battery operation mode, as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0, page 3. A speed trial shall be performed in the submerged mode and readings shall be taken in the same weight condition as if ready for operation. As condition a complete set of new batteries (GFE) has to be installed as part of the repair program. In the event the submerged speed of the Submarine as defined in the Technical Specification is not reached in the trial, the following liquidated damages shall be applied:

Decrease of speed from

> 0,0 to 0,3 knots	0,000%
> 0,3 to 0,6 knots	0,190%
> 0,6 to 0,8 knots	0,375%
> 0,8 to 1,1 knots	0,540%

The above amounts of liquidated damages are not cumulative.

2.5. Submarine I Maximum Submerged Speed, Fuel Cell as per Annex B

The maximum speed trial shall furnish the proof of the submerged speed data in fuel cell operation mode as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0, page 3. A speed trial shall be performed in the submerged mode and readings shall be taken in the same weight condition as if ready for operation. In the event the submerged speed of the Submarine as defined in the Technical Specification is not reached in the trial, the following liquidated damages shall be applied:

Decrease of speed from

> 0,0 to 0,1 knots	0,000%
> 0,1 to 0,2 knots	0,190%

> 0,2 to 0,3 knots	0,375%
> 0,3 to 0,4 knots	0,600%

The above amounts of liquidated damages are not cumulative.

2.6.1 Submarine I Maximum Snorkelling Speed, Diesel as per Annex B

The maximum speed trial shall furnish the proof of the snorkelling speed data in diesel operation as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0, page 3. A speed trial shall be performed in the snorkelling mode and readings shall be taken in the same weight condition as if ready for operation. In the event the snorkelling speed of the Submarine as defined in the Technical Specification is not reached in the trial, the following liquidated damages shall be applied:

Decrease of speed from

> 0,00 to 0,25 knots	0,000%
> 0,25 to 0,50 knots	0,150%
> 0,50 to 0,75 knots	0,300%
> 0,75 to 1,00 knots	0,450%

The above amounts of liquidated damages are not cumulative.

2.7. Submarine I Maximum Surface Speed, Diesel as per Annex B

The maximum speed trial shall furnish the proof of the surface speed data in diesel electric mode as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0, page 3. A speed trial shall be performed in the surface mode and readings shall be taken in the same weight condition as if ready for operation. In the event the surface speed of the Submarine as defined in the Technical Specification is not reached in the trial, the following liquidated damages shall be applied:

Decrease of speed from

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> 0.0 to 0.25 knots 0,000%

> 0.25 to 0.5 knots 0,075%

> 0.5 to 0.75 knots 0,150%

> 0.75 to 1.0 knots 0,225%

The above amounts of liquidated damages are not cumulative.

2.8. Submarine 1 Max. Submerged Cruising Range, Battery at 4 knots as per Annex B

In the event the cruising range submerged, battery operation of the Submarine as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0, page 3, is not reached by calculation based on tests and trials, an excess of the actual value of cruising range submerged, fuel cell operation run against the values as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0 shall be credited against the shortfall. As condition a complete set of new batteries (GFE) has to be installed as part of the repair program. In case of a further shortfall, the following liquidated damages shall be applied,

Decrease of cruising range from

> 0 nm to 25 nm 0,00%

>25 nm to 30 nm 0,05%

>30 nm to 35 nm 0,10%

>35 nm to 40 nm 0,25%

>40 nm to 50 nm 0,55%

The above amounts of liquidated damages are not cumulative.

2.9. Submarine 1 Submerged cruising range, with Fuel Cell at 4 knots as per Annex B

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In the event the cruising range submerged, fuel cell operation of the Submarine as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0, page 3, is not reached by calculation based on tests and trials, an excess of the actual value of the cruising range submerged, battery operation against the values as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0 shall be credited against the shortfall. In case of a further shortfall the following liquidated damages shall be applied:

Decrease of cruising range from

> 0 nm to 70 nm	0,00%
> 70 nm to 90 nm	0,15%
> 90 nm to 110 nm	0,30%
> 110 nm to 130 nm	0,45%
> 130 nm to 150 nm	0,60%
> 150 nm to 170 nm	0,80%

The above amounts of liquidated damages are not cumulative.

2.10. Submarine I Tactical indiscretion rate at SOA 6 kts as per Annex B

The tactical indiscretion trial shall furnish the proof of the tactical indiscretion rate as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS 0. A tactical indiscretion trial shall be performed and readings shall be taken in the same weight condition as if ready for operation. As condition a complete set of new batteries (GFE) has to be installed as part of the repair program. In the event the tactical indiscretion rate of the Submarine as defined in the Technical Specification is not reached by calculations based on tests and trials, the following liquidated damages shall be applied:

Exceeding of tactical indiscretion rate (absolute) from

> 12,600% to 13,500 %*	0,000%
> 13,501 % to 13,650 %	0,187%
> 13,651 % to 13,900 %	0,375%
> 13,901 % to 14,150 %	0,560%
> 14,151 % to 14,400 %	0,750%

*contains calculation tolerance of 6 %.

The above amounts of liquidated damages are not cumulative.

2.11. Submarine I Tactical diameter as per Annex B

The tactical diameter trial shall furnish the proof of the submerged data as defined in the Technical Specification of Appendix 1 to Annex A as per Attachment 1 to PBS O. page 4. A tactical diameter trial shall be performed and readings shall be taken in the same weight condition as if ready for operation. In the event the tactical diameter at submerged condition of the Submarine is greater than the figure as defined in the Technical Specification in the trial, the following liquidated damages shall be applied:

Exceeding of tactical diameter from

> 0,0 to 0,1 boat lengths	0,075%
> 0,1 to 0,25 boat lengths	0,100%
> 0,25 to 0,5 boat lengths	0,125%

The above amounts of liquidated damages are not cumulative.

2.12. Submarine I Environmental conditions of CO2 as per Annex B

The environmental trial shall furnish the proof of the environmental conditions of CO₂ as defined in the Technical Specification of Appendix I to Annex A as per PBS 4, Bgr. 4675. In the event the environmental conditions of CO₂ of the Submarine are exceeding the figure as defined in the Technical Specification in the trial, the following liquidated damages shall be applied:

Exceeding of CO₂ concentration to a concentration of

> 0,501 % to 0,800 %	0,010 %
> 0,801 % to 0,850 %	0,020 %
> 0,851 % to 0,900 %	0,120 %
> 0,901 % to 0,950 %	0,160 %
> 0,951 % to 1,000 %	0,200 %

The above amounts of liquidated damages are not cumulative.

2.13. Submarine I Cavitation

The cavitation trial shall furnish the proof of the cavitation data as defined in the Technical Specification of Appendix I to Annex A as per Attachment I to PBS 0, page 4. A cavitation trial shall be performed and readings shall be taken in the same weight condition as if ready for operation.

Decrease of inception speed cavitation from

> 0,0 kts to 0,5 kts	0,000 %
> 0,5 kts to 1,0 kts	0,200%
> 1,0 kts to 1,5 kts	0,400%
> 1,5 kts to 2,0 kts	0,600%
> 2,0 kts to 2,5 kts	0,800%
> 2,5 kts to 3,0 kts	1,000%

The above amounts of liquidated damages are not cumulative.

2.14 Waterborne Noise

2.14.1. Submarine 1 Dynamic Radiated Broadband Waterborne Noise as per Annex B for the entire Submarine

The dynamic radiated broadband waterborne noise level (with Bandwidth 1/3 Octave in the range of 16Hz to 16 kHz) measurement trial shall furnish the proof of the improvement for dynamic radiated broadband waterborne noise data for the respective Submarine as defined in the Technical Specification of Appendix I to Annex A, Status Report No. 0190.2.

A dynamic radiated broadband waterborne noise level measurement trial shall be performed and readings shall be taken in the same weight condition as if ready for operation.

In the event that the improvement for the noise level L_i exceeds the noise level LLC of the Reference Limit Curve for the respective Submarine for dynamic radiated broadband waterborne noise spectra (as specified in Appendix I to Annex A, Status Report No. 0190.2) the following liquidated damages shall be applied:

In case that

- AV is positive but not greater than 1 dB
- or
- three L_i exceed by more than 3 dB but not more than 4 dB
- or
- four L_i exceed by more than 2 dB but not more than 3 dB

0,06 % for Submarine 1

In case that

- AV is greater than 1 dB but not greater than 2 dB

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or

- four Li exceed by more than 3 dB but not more than 4 dB

or

- five Li exceed by more than 2 dB but not more than 3 dB

0,12 % for Submarine 1

In case that

- one Li exceeds by more than 4 dB but less than 5 dB

0,06 % for Submarine 1

- one Li exceeds by more than 5 dB but less than 6 dB

0,12 % for Submarine 1

The above amounts of liquidated damages are not cumulative.

2.14.2 Submarine 1 Stationary Radiated Broadband Waterborne Noise as per Annex B (for each of the six equipment) (not applicable for Submarine 2 and 3)

The stationary radiated broadband waterborne noise level (with Bandwidth 1/3 Octave in the range of 16Hz to 16 kHz) measurement trial shall furnish the proof of the improvement for stationary radiated broadband waterborne noise data for the respective equipment as defined in the Technical Specification of Appendix I to Annex A, Status Report No. 0190.2.

A stationary radiated broadband waterborne noise level measurement trial shall be performed and readings shall be taken in the same weight condition as if ready for operation.

In the event that the improvement for the noise level Li exceeds the noise level LLC of the Reference Limit Curve for the respective equipment for stationary broadband waterborne noise spectra (as specified in Appendix I to Annex A, Status Report No. 0190.2) the following liquidated damages shall be applied:

In case that

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- AV is positive but not greater than 1 dB

or

- three Li exceed by more than 3 dB but not more than 4 dB

or

- four Li exceed by more than 2 dB but not more than 3 dB

0,01 % for the respective equipment

In case that

- AV is greater than 1 dB but not greater than 2 dB

or

- four Li exceed by more than 3 dB but not more than 4 dB

or

- five Li exceed by more than 2 dB but not more than 3 dB

0,02 % for the respective equipment

In case that

- one Li exceeds by more than 4 dB but less than 5 dB

0,01 % for the respective equipment

- one Li exceeds by more than 5 dB but less than 6 dB

0,02 % for the respective equipment

The above amounts of liquidated damages are not cumulative.

2.14.3 Submarine 1 Stationary Narrow Band Waterborne Noise as per Annex B for each of the six equipments (not applicable for Submarine 2 and 3)

The stationary narrow band waterborne noise level (with Bandwidth 1Hz in the range 10Hz to 1500 Hz) measurement trial shall furnish the proof of the

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improvement for stationary narrow band waterborne noise data for the respective equipment as defined in the Technical Specification of Appendix 1 to Annex A, Status Report No. 0190.2.

A stationary narrow band waterborne noise measurement trial shall be performed and readings shall be taken in the same weight condition as if ready for operation.

In the event that the improvement for the point of highest value of the curve for the respective equipment for stationary narrow band waterborne noise spectra (as specified in Appendix 1 to Annex A, Status Report No. 0190.2) cannot be fulfilled the following liquidated damages shall be applied:

Improvement 5 dB to 3 dB 0,00 % for the respective equipment

Improvement 3 dB to 2 dB 0,03 % for the respective equipment

Improvement 2 dB to 0 dB 0,06 % for the respective equipment

The above amounts of liquidated damages are not cumulative for the respective equipment.

2.15 Combat System Sensor Accuracy Criteria

If the measured values for the Combat System Sensors and TMA accuracies do not reach the values as laid down in Appendix 1 to Annex B for Submarine 1 the following liquidated damages shall apply as connected to the categories (Steps) 1 to 3 which are in detail laid down in Annex U:

for Step 1 0,10%

for Step 2 0,20%

for Step 3 0,30%

The above mentioned values shall apply for the Combat System Sensors with the exception of Radar and ESM for which three quarters (3/4) of the values of liquidated damages of the above mentioned steps shall apply.

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The above amounts of liquidated damages are not cumulative.

3. Technical Deficiencies of Submarines 2 and 3

If the below mentioned performance values should not be reached and not remedied until delivery of Submarines 2 and 3 or such other time as mutually agreed upon, the Contractor shall pay to the Purchaser liquidated damages for the full and final satisfaction of all claims as follows:

3.1 Metacentric Height as per Annex B 1

Decrease of 0 % to 10% of the respective value, as per Annex B1

=0,000%

Decrease of 10,01 % to 20% of the respective value, as per Annex B1

=0,050%

Decrease of 20,01% to 25% of the respective value, as per Annex B1=0,100%

The above amounts of liquidated damages are not cumulative

3.2 Stability Height as per Annex B 1

Decrease of 0 % to 10% of the respective value, as per Annex B1 =0,000%

Decrease of 10,01% to 15% of the respective value, as per Annex B1=0,050%

Decrease of 15,01 to 20% of the respective value, as per Annex B1

=0,100%

The above amounts of liquidated damages are not cumulative

3.3 Reserve of Buoyancy as per Annex B 1

9,501% to 10,000% of surface displacement 0,000%

9,001% to 9,500% of surface displacement 0,010%

8,501% to 9,000% of surface displacement 0,300%

The above amounts of liquidated damages are not cumulated.

3.4 Reduction of Diving Test Depth as per Annex B 1

Reduction of Diving Test Depth from 0m to 9,9 m 0,000%

Reduction of Diving Test Depth from 10 m to 24,9 m 1,000%

The above amounts of liquidated damages are not cumulative.

3.5 Maximum Submerged Speed, Battery as per Annex B 1

Decrease of speed from 0,01 to 0,400 knots 0,0 %

Decrease of speed from 0,41 to 0,600 knots 0,25 %

Decrease of speed from 0,61 to 0,800 knots 0,5 %

Decrease of speed from 0,81 to 1,100 knots 0,75 %

The above amounts of liquidated damages are not cumulative.

3.6 Maximum Submerged Speed, Fuel Cell as per Annex B 1

Decrease of speed from 0,01 to 0,200 knots 0,000%

Decrease of speed from 0,21 to 0,300 knots 0,250%

Decrease of speed from 0,31 to 0,400 knots 0,500%

Decrease of speed from 0,41 to 0,500 knots 0,800%

The above amounts of liquidated damages are not cumulative.

3.7 Maximum Submerged Speed, Mast Operation as per Annex B 1

Decrease of speed from 0,01 to 0,250 knots 0,000%

Decrease of speed from 0,26 to 0,500 knots 0,200%

Decrease of speed from 0,51 to 0,750 knots 0,400%

Decrease of speed from 0,76 to 1,000 knots 0,600%

The above amounts of liquidated damages are not cumulative.

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3.8 Maximum Surface Speed, Diesel as per Annex B 1

Decrease of speed from 0,01 to 0,250 knots	0,000%
Decrease of speed from 0,26 to 0,500 knots	0,100%
Decrease of speed from 0,51 to 0,750 knots	0,200%
Decrease of speed from 0,76 to 1,000 knots	0,300%

The above amounts of liquidated damages are not cumulative.

3.9 Maximum submerged cruising range with battery as per Annex B 1

(nm = nautical miles)

$\geq 1 < 10$ nm	0,00 %
≥ 10 nm < 20 nm	0,10 %
≥ 20 nm < 30 nm	0,20 %
≥ 30 nm < 40 nm	0,50 %
≥ 40 nm < 50 nm	0,90 %

The above amounts of liquidated damages are not cumulative.

3.10 Submerged cruising range, with Fuel Cell as per Annex B 1

(nm = nautical miles)

$\geq 1 < 20$ nm	0,00 %
≥ 20 nm < 40 nm	0,20 %
≥ 40 nm < 60 nm	0,40 %

≥60 nm <80 nm 0,60 %

≥80 nm <100 nm 0,80 %

≥100 nm <120 nm 1,00 %

The above amounts of liquidated damages are not cumulative.

3.11 Tactical indiscretion rate, (1st case) as per Annex B 1 increase by

From 0,001 % to 0,200 % 0,00 %

From 0,201 % to 0,250 % 0,25 %

From 0,251 % to 0,500 % 0,50 %

From 0,501 % to 0,750 % 0,75 %

From 0,751 % to 0,999 % 1,00 %

added to the specified value as per Annex B 1

The above amounts of liquidated damages are not cumulative.

3.12 Tactical indiscretion rate, (2nd case) as per Annex B 1 increase by

From 0,001 % to 0,200 % 0,000 %

From 0,201 % to 0,250 % 0,250 %

From 0,251 % to 0,500 % 0,500 %

From 0,501 % to 0,750 % 0,750 %

From 0,751 % to 0,999 % 1,000 %

added to the specified value as per Annex B 1

The above amounts of liquidated damages are not cumulative.

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3.13 Tactical diameter as per Annex B 1 increase by:

From 0, 10 to 0,175 boat lengths	0,100 %
From 0,176 to 0,250 boat lengths	0,150 %
From 0,251 to 0,499 boat lengths	0,200 %

added to the specific value as per Annex B 1

The above amounts of liquidated damages are not cumulative.

3.14 Environmental conditions as per Annex B 1

From 0,501 % to 0,85 %	0,000%
From 0,851 % to 1,000 %	0,100%

The above amounts of liquidated damages are not cumulative.

3.15 Water-borne Noise as per Annex B 1

If the average radiated noise level **broad band** as per Technical Specification, Building Group 0026.3 Fig. 1 and 2 measured and evaluated as set forth in Building Group 0459.2.1 is not reached and curve established therein is exceeded by mean of:

Silent/Quiet condition (4 kn) according to PBS0, Bgr 0026.3 (Battery/FC)

By more than 4 dB to 8 dB	0,5%
By more than 8 dB to 12 dB	1,0 %

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Patrol/Cruising condition (6 kn) according to PBS0, Bgr 0026.3

By more than 6 db to 10 dB 0,5%

By more than 10 dB to 12 dB 1,0 %

Snorkelling condition (4 kn) according to PBS0, Bgr 0026.3

By more than 2 db to 8 dB 0,5%

By more than 8 dB to 12 dB 1,0 %

The amounts are not cumulative, however each of the three operation conditions as defined in Building Group 0026.3 shall be considered.

If the radiated noise **narrow band** as per Technical Specification, Building Group 0026.3 measured and evaluated as set forth in Building Group 0459.2.1 is exceeded as follows:

Silent/Quiet condition (4 kn) and Patrol/Cruising condition (6 kn):

By more than five spikes, but not more than seven spikes with more than 5 dB but not exceeding 14 dB above the limit curve, or alternatively more than four spikes, but not more than eight spikes with more than 2 dB, but not exceeding 6dB above the limit curve: 0,2%

By more than eight spikes, but not more than ten spikes with more than 5 dB but not exceeding 14 dB above the limit curve, or alternatively more than nine spikes, but not more than fourteen spikes with more than 2 dB, but not exceeding 6dB above the limit curve: 0,5%

Snorkelling condition (4 kn):

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By more than two spikes, but not more than four spikes with more than 5 dB but not exceeding 14 dB above the limit curve, or alternatively more than three spikes, but not more than eight spikes with more than 2 dB, but not exceeding 10 dB above the limit curve: 0,2%

By more than four spikes, but not more than eight spikes with more than 5 dB but not exceeding 14 dB above the limit curve, or alternatively more than eight spikes, but not more than fourteen spikes with more than 2 dB, but not exceeding 6 dB above the limit curve: 0,5%

The amounts are not cumulative, however, each of the three operation conditions as defined in the Building Group 0026.3 shall be considered.

For the purpose of calculating Liquidated Damages hereunder, in case of spikes of different excess values occurring in combination, the following shall be considered:

A spike in excess of 5 dB, but not in excess of 10 dB shall be equivalent to two spikes in excess of 2 dB, but not exceeding 5 dB.

3.16 Magnetic Signature

The calculation of the magnetic signature, according to the definition of the German Navy Testcenter, for the degaussing system (HDW NATO secret letter dd. 01.02.1999) showed a 100 % value A for the untreated boat at a distance of 8,7 m from the hull and calculated for the Hellenic Sea area. The expected value for the depermed Submarine shows a decreased value of 33 % of the value A.

If during the measurement the measured values after deperming treatment do not reach the contractual values, according to the procedures of the German Navy Testcenter the following Liquidated Damages shall apply:

From 0 to 0,3 μ T 0%

> 0,3 to 0,5 μ T 0,1%

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> 0,5 to 0,7 μ T 0,3%

> 0,7 to 1,0 μ T 0,5%

The above amounts of liquidated damages are not cumulative.

3.17 Transient Noise

By more than twelve spikes, but not more than fifteen spikes with more than 5 dB but not exceeding 12 dB above the limit curve, or alternatively the arithmetic average is more than 2 dB but not more than 6 dB above the limit curve: 0,5%

By more than sixteen spikes, but not more than eighteen spikes with more than 5 dB but not exceeding 12 dB above the limit curve, or alternatively the arithmetic average is more than 6 dB but not more than 10 dB above the limit curve: 1,0%

The above amounts of liquidated damages are not cumulative.

3.18 Cavitation

Cavitation occurs at speed less than the specified value as per Annex B 1

Reduction by 0,0 kts up to 1,0 kts	0%
Reduction by more than 1,0 kts up to 1,5 kts	0,2%
Reduction by more than 1,5 kts up to 2,0 kts	0,4%
Reduction by more than 2,0 kts up to 2,5 kts	0,6%
Reduction by more than 2,5 kts up to 3,0 kts	0,8%
Reduction by more than 3,0 kts up to 3,5 kts	1,0%

The above amounts of liquidated damages are not cumulative.