



*MARINE SERVICES (ASIA) PTE. LTD.*

TECHNICAL CONSULTING



ENGINEERING, SURVEYING

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September 2017

## **ACS SERVICES IN NEWBUILDING PROJECTS**

*REF.: ACS/MSK3*

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## **A) INTRODUCTION**

*ACS MARINE SERVICES LTD.* hereby expresses its interest in offering Services in "Newbuilding Projects Engineering and Supervision Work worldwide.

In the above connection *ACS MARINE SERVICES LTD.* is pleased to present here below the Company's information in qualifying for the Work.

### **OUR PROFILE**

*ACS MARINE SERVICES LTD.* is a wholly-owned Company of Associated Technical Consulting Services founded in 1999 under the Laws of the Marshall Islands and based in London, England, with associated offices in Piraeus, Greece, Singapore and Johor Baru Malaysia.

### **OUR MISSION**

*ACS MARINE SERVICES LTD.* Mission is to pursue added value for our Clients and to protect our Clients' interests by providing diligent and comprehensive Technical Consulting Services in the Marine & Offshore Industrial and Commercial field.

### **OUR PHILOSOPHY**

*ACS MARINE SERVICES LTD.* apply due diligence in assessing project contractual and construction risk as well as operational risk elements. In this respect *ACS MARINE SERVICES LTD.* takes into account and encompasses the major factors that we envisage by experience that are important in decision making and are critical to managing high value Marine Projects. Our technical expertise, our analytical tools and our monitoring and negotiating techniques are utilised to assess proactively the technical and financial performance of a project, to minimize risk and to pursue on added value.

Our approach in managing our projects is based on using our multidisciplinary experience in shipping and our analytical and advance engineering tools and our operational philosophy is a based on a rigorous and pro-active approach.

### **OPERATIONAL OVERVIEW**

*ACS MARINE SERVICES LTD.* offers specialised services in multi-disciplinary type of projects which include design review, advance engineering analysis, project management, quality and verification inspection and monitoring including supervision, testing, and expert witness services.

Our operational history by virtue of the accumulated experience of our employees includes a wide variety of high- and medium-value Marine and Offshore projects involving Ship Managers, Owners and Operators, as well as Technical Consultancy in Ship Project Financing and for Regulatory bodies.

Our Operations provide Services in the following Marine and Industrial fields:

- Ship New Construction
- Shipyard Valuation
- Ship Design Assessment
- Advance Engineering Analysis
- Ship Conversion
- Ship Repair, Modification and Upgrading
- Feasibility Studies
- Longevity Studies
- Safety Case studies in Offshore Industry
- Damage Expert Surveys (Hull, Machinery, Marine Coatings)
- Technical Advice in Project Financing
- Ship Condition and Valuation surveys
- Ship Commercial Surveys
- Third party Inspection
- Guarantee Surveys
- Witnessing of Test and Trial of Ships Equipment and Materials

By virtue of our experience in the Marine Industry, our services provide third party validity and an assurance to the interested parties.

## **B) NEW BUILDING PROJECTS**

### **1. DETAIL SCOPE OF PPROVIDED SERVICES**

In representing our Clients' interests in New Building Projects we are prepared to carry out the following services of technical advice and project management for contractual compliance:

- 1.1 Preparation of Tender Technical File
- 1.2 Pre-qualification assessment of Shipyards versus Project specific needs and construction risk
- 1.3 Review and comparative evaluation of Bidder Specifications
- 1.4 Contract Specification Review
- 1.5 Initial design review and assessment with supportive advance structural and engineering review.
- 1.6 Technical advice and assistance in Technical negotiations.
- 1.7 Due-diligence Review of Detail Design Drawings for Contractual Compliance and Owners' Approval.
- 1.8 Owners' Representation and On-Site Construction Supervision including the following:
  - Owners' Representation at the Shipyard in accordance with the Contract
  - Inspection and Monitoring of the Quality and Procedures of Production and Construction
  - Witnessing of the Material, Equipment and Construction tests and trials at Shipyard as well as onboard and at manufacturing shops.
  - Inspection and Witnessing of tests at Manufacturing Shops for compliance
- 1.9 Project Management of Construction including the Monitoring and Verification of:
  - Compliance of construction with the Contract and the approved detail design as being developed
  - Compliance of procured materials and equipment
  - Progress of Construction as per agreed Master and detail schedules
  - Milestones and volume of stage Works
  - Compliance of Subcontractors and Makers of machinery and equipment
  - Construction risk and Contract risk with application of Critical path analysis
  - Inspection and verification at non-domestic manufacturing shops world wide.
  - Contract completion.
- 1.10 Independent Advance Structural and Engineering Analysis using solver NASTRAN and processor FIMAP:
  - FEM Analysis
  - Simplified Fatigue, Spectral Fatigue Analysis, Fatigue Life
  - Dynamic Load Approach analysis (DLA)
  - Safehull Analysis
  - 2-D, 3-D Structural zooming Analysis
  - Loading analysis (including multi-port and sequence loading)
  - Buckling Analysis
  - Sloshing Analysis
  - Ship Powering and Speed Analysis
  - Tank Test and Sea Trials witnessing and Evaluation of results
  - Shipboard Vibration and Acoustic Analysis (design stage and trouble-shooting)
  - Mechanical engineering analysis (in design and trouble-shooting)
- 1.11 Metallurgist, corrosion and Marine Coatings Expert Services in support of Owners' interest in corrosion control of W.B. tanks (SOLAS Chapter II-1 Part A Reg.3 (2) and IACS SC122).

**2. OUR APPROACH TO PROJECT MANAGEMENT**

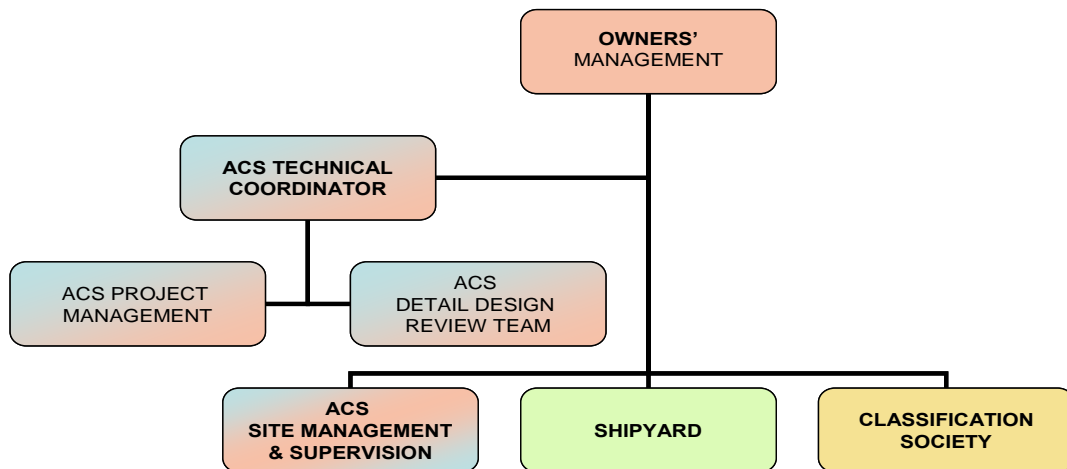
Our approach to managing New Building projects is based on our experience gained through working with both Shipyards and Classification Societies for various Clients Ship Owners and Ship Managers. Such multi-disciplinary experience is proven advantageous in enhancing our knowledge and negotiating techniques in recognizing and dealing with all factors that are critical for the successful outcome of a New Building project and are connected with the type of ship, the specific Shipyard and the assigned Classification Society.

ACS MARINE SERVICES LTD. wish to emphasize the paramount importance of developing a comprehensive Design as a first step towards a reliable Construction. The compliance of the Construction with the approved Design as well as the various design issues emanating from the approval process of the detail Drawings, both require to be duly addressed in the Construction through approved procedures in order to minimize construction risk. In this connection ACS MARINE SERVICES LTD. strongly pursues the full integration of a diligent Design Review involving Shipyard, Class and Owner with an efficient Construction Supervision. Such integration of Design and Construction needs to be early established by a continuous flow of information and instructions by the Plan Approval Team to the Site Supervision Team by the Project Management and be maintained throughout the duration of the project. Due to many complications normally raised by a diligent plan approval, ACS MARINE SERVICES LTD. is of the opinion that the Project Management and the Site Supervision need to be fully aware of all the details and issues of the detail design approval in order to equally exercise the necessary diligence for the application of the approved design in the construction.

ACS MARINE SERVICES LTD. are also aware of the criticality of an early information and prompt action in expediting correct decisions and actions in the Construction site considering the today's strict deadlines in the production pipeline and the backlog of the Shipyards and the resulting pressures to the production plans of the Shipyards at the expense of the quality and reliability of the Construction.

Below is our standard-proposed Organization Chart aiming to establishing a closed loop of information/action within the triangle of Owner, Class and the Shipyard. This is necessary to connect the Design Approval by Owners and Rule and the Procedures and Applications in the Construction.

**Proposed Project Org. Chart**



### 3. OUR APPROACH TO PROJECT TASKS AND OBJECTIVES:

Below in Tables 1 and 2 are Matrices of the project tasks and objectives as well as our recommended action and response flow within our applied Project Management needed to link all parties for prompt information, decision making and action.

**Table 1: Organization Matrix of Flow of Tasks and Project Objectives**

DESIGN ENGINEERING ANALYSIS AND DETAIL PLANS	PROCUREMENT OF MATERIALS, EQUIPMENT	CONSTRUCTION AT SHIPYARD AND AT SUB- CONTRACTORS	MASTER SCHEDULE- MILESTONES- DETAIL SCHEDULES	FINANCING	
→	→	→	→		VERIFICATION
	→	→			QUALITY CONTROL
→	→	→			REGULATION
→	→			→	EXTRAS

**Table 2: Proposed Matrix of Project Main Action & Response Activities Flow**

DESIGN ENGINEERING ANALYSIS AND DETAIL PLANS	VERIFICATION AND TESTING OF MATERIALS, EQUIPMENT	CONSTRUCTION SUPERVISION AT SHIPYARD AND AT LOCAL SUB- CONTRACTORS	SUPERVISION AT REMOTE OR FOREIGN CONTRACTORS		PROJECT MANAGEMENT: MILESTONES- VERIFICATION- REGULATION- EXTRAS		OWNER
↓	↓	↓	↓		↓		↑
<b>ACS Design &amp; Engineering Team</b>	<b>ACS Inspectors</b>	<b>ACS On-Site Supervision Team</b>	<b>ACS Stationed Inspectors</b>	↔	<b>ACS Technical Coordinator</b>	↔	<b>OWNERS' MANAGEMENT</b>
↕	↕	↕	↕		↕		↕
<b>ACS Project Management &amp; Technical Coordination</b>	<b>ACS Project Management &amp; Technical Coordination</b>	<b>ACS Project Management &amp; Technical Coordination</b>	<b>ACS Project Management &amp; Technical Coordination</b>	↔	<b>ACS MANAGEMENT &amp; ADMINISTRATION OF RESOURCES</b>	↔	<b>OWNERS' Project Coordinator</b>

### **C) OUR EXPERIENCE**

*ACS MARINE SERVICES LTD.* has extensive experience in Marine Consulting work. By virtue of the work of its employees and associates, *ACS MARINE SERVICES LTD.* has been involved with major projects of series of new ship constructions in Japan, P.R. China, S. Korea, Singapore, Croatia, Poland, Romania and Ukraine and has gained a high reputation among its Clients.

*ACS MARINE SERVICES LTD. Managers and Employees* have obtained years of experience as Executives and Senior Managers in the Marine Industry, working for Ship Owners and Ship Managers, or for Classification Society, as well as for the Shipbuilding and Ship Repair Industry. *ACS MARINE SERVICES LTD.* has been always working closely with major Classification Societies and our worldwide correspondent surveyors also attend on behalf of Ship Administrations and Certifying bodies.

*ACS MARINE SERVICES LTD.* has provided Project Management, QA/QC Monitoring, Engineering Consultancy and Site Supervision services in Ship Newbuildings using recognised acceptance procedures and standards, advance engineering tools and hands-on experience on numerous vessels of various types and sizes for major Clients and operating interests worldwide.

*ACS MARINE SERVICES LTD.* employees have a working knowledge of the various regulatory requirements applicable to each specific marine project and type of vessel as well as the applicability of present and forthcoming Regulation and Marine legislation and are aware of its impact on long term Marine ventures.



**D) ACS - SENIOR RESOURCES**

***Tassos Copitsas: Founder and Managing Director of ACS Marine Services Ltd.***

Naval Architect, Marine Engineer (NTUA), MSc, C.Eng. Eur.Ing. Member of SNAME. Thirty years of activity and working experience in the Shipping and the Marine Industry in executive and senior positions involved in most aspects of the Marine and Off-shore Industry working in multi-national environment. He has served as Regional Manager for Europe, Middle East and West Africa Division of ABS Group of Consulting Services, as a Technical Director and Fleet Manager of Multinational and Greek Ship Managements and as Project Manager and Supervisor in Newbuildings worldwide. He has working knowledge of regulatory requirements applicable to all types of vessels and vessel operations, safety and environment policies.

***Peter Contraros: Principal Engineer, Structural engineering specialist.***

HND and Post Diploma in Naval Architecture (Sunderland University), Member of RINA, Ch.Eng.-Eur.Ing (FEANI). ABS Classification Principal Engineer, Manager of R&D (Research and Development) in IACS and ABS SafeHull development. Thirty two years of experience in Shipbuilding, Engineering Approval and Advance Structural Analysis in existing and new Vessels and Offshore Structures: FSOs, FPSOs, SPMs Jack ups. Representative of ABS Class Society in U.K Department of Energy for interpretation of the UK Act of Parliament for Offshore structures in the UK Sector – Jack ups and Semi-submersible Structures. Member of IACS working party for strengthening Ship's Safety. Manager of group of Engineers for the Development of structural formulations and computer tools (programs) for the analysis of special aspects of design of LNG and LPG Carriers, Bulk Carriers, Tankers, Product and Chemical Carriers.

***Malcolm Thomson: Senior Engineer.***

HNC diploma in Naval Architecture, Design and Industrial Management. ABS Senior engineer, Shipyards Project and Production Engineer (Moss Rosenberg, Kvearner, IMPaC Hamburg). His wide range of experience covers naval architecture, conceptual design, feasibility studies, structural design and engineering, planning, plan approval, site work and supervision, deadweight surveys, on/off hire, damage and condition surveys and inclining tests. The range of projects he has been involved with includes structural design, new construction, ship repair and conversion of various types of ships and off-shore structures (production platforms, jack-up, mono hull and semi-submersible drilling rings, steel and aluminium structures, cargo access equipment and harbour installations.

***Heinz Groninga: Senior Engineer:***

Diploma in Marine Mechanical and Electric Engineering (University of Hamburg), DOT First Class combined Steam / Motor Engineer, Chartered Engineer, HNC in Industrial Management. More than 25 years extensive activity and working experience in all aspects of the Marine Engineering design and operation of engines, machinery and related systems and Diesel engines plants for various types of vessels. He has served in field engineering for diesel engines and electric machinery with Shipyards (Eurolog Engineering GmbH Hamburg, Howaldtswerke Hamburg, Schlichting Shipyard, Lubeck: Kvearner UK) and he has attended newbuildings, conversions, upgrading and modification works. He has also worked with Jepsens Hamburg as Technical Manager and as Chief Engineer onboard vessels.

**Tony Lloyd: Senior Electrical Engineer**

FIEE. Chartered Engineer, Dip.EE(1st Degree), Eur.Ing., Member IEE Health & Safety Policy Committee. UKAS(NAMAS) Assessor. He has gained more than 30 years of extensive experience as Senior Electrical Engineer, which covers ship electrical plants and systems, electrical and electronic engineering, design, planning and arrangements of electrical plants, (marine, petrochemical and industrial), power supply industry worldwide. He has been working in conceptual design, electrical engineering, planning, plan approval, site work and supervision of operation, installation and testing. He has also provided technical expert witness.

**James F. Stanley: Senior Engineer and Project Manager.**

ONC, BSc Naval Architect, (Sunderland University) member of RINA, Chartered Engineer, Quality Assurance Engineer, Shipbuilding Production Engineer. Newbuildings Project Manager, Supervising engineer with extensive experience of steel quality and construction and inspection, coupled with an in-depth knowledge of marine coating systems and their applications to stringent standards on a wide variety of ships and Shipyards in the U.K., Japan, Korea, and China.. Former Quality Assurance Engineer, aware of the procedures of a QA system, knowledgeable of Classification Societies and regulatory bodies requirements, ISO standards, shipyards' standards for the construction of ocean going ships.

**Bjorn Key: Senior Engineer.**

ONC, BSc Marine and Electrical Engineer, Chartered Engineer, Quality Assurance Engineer. First Claas Ch. Engineer (Motor), Project Engineer and Supervisor in new vessel constructions with more than 25 years of extensive experience in mainly machinery and electric construction installation, commissioning, instrumentation and control of machinery and electrical systems and the evaluation of test and trial performance. He is aware of the standards and their application on a wide variety of ships. New Buildings Supervisor for the construction and operation of various types of vessels in Japan, S. Korea, China Shipyards.

**William Loughran: Senior QA/QC Marine Coatings Inspector.**

Corrosion Engineer member of the National Association of Corrosion Engineers (NACE). Senior inspector of International Marine Paints and Hempel Marine Paints. His has experience of over 25 years in marine Coatings Applications, Quality control and Production of Coating Systems and he has been Coatings Supervisor in Newbuildings and ,ajor Shiprepairs in European and Far East Shipyards (Japan, S. Korea, China, Vietnam) Inspection Courses, Airless Spraying Inspection, Shot Blasting Inspection Quality Control, Quality Assurance. Computer Literate.

**Niels Erik Lundgren: Senior QA/QC Paint/Coatings Inspector,**

Qualified Marine Coatings expert previously employed as Senior Coatings Inspector by Hempel Marine Paints, and Jotun Marine Paints Sweden. He has vast supervisory experience based on more than 35 years extensive activity in the Marine Industry, and Petrochemical Industry in the field of Marine Coating applications in Newbuildings and Shiprepairs in Shipyards worldwide (China, Japan, S. Korea, Vietnam, Singapore, Philippines).

**ACS MARINE SERVICES LTD. pres ently assigns our employed Te ams of Supervi sors and associated Ship Surveyors in Shipyards and at Ports Worldwide for the needs of our Clients.**

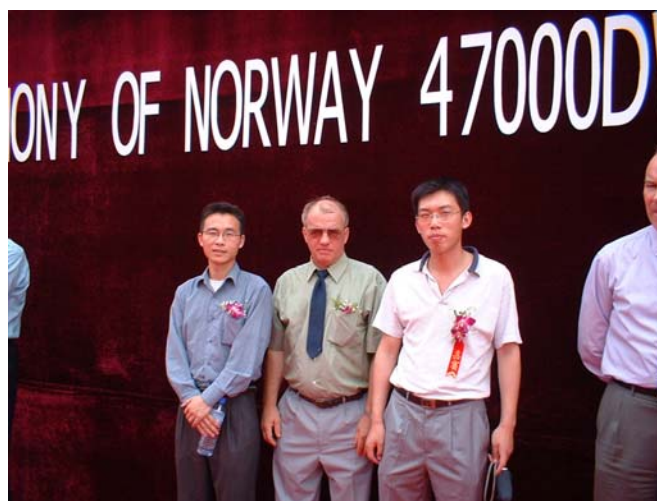
**PHOTO ALBUM**



**ACS – SITE TEAM – JAPAN**



**ACS SENIOR STAFF - JAPAN**



**ACS SITE TEAM – P.R. CHINA**



**LPG/NH3 "ALRAR" SERIES – KAWASAKI - JAPAN**



**LPG "REGGANE" SERIES – KAWASAKI - JAPAN**



**MV "ATLANTICA SUN" SERIES – DAYANG – P.R. CHINA**



**MV "GECON I" SERIES – TSUNEISHI – CEBU / PHILIPPINES**