#### **CURRICULUM VITAE 2023 Mohamed EL BAHRY**

Year of Birth: 1955

City and Country of Residence: Berlin, Germany

Date of CV Revision: 29/01/2023

Nationality: German

## **Competency Summary**

Disciplines		Material Form		Materials Types		Pressure Equipment		Rotating Equipment	
Mechanical General	х	Plates	х	Carbon Steel		Pressure Vessels	x	Pumps	х
Electrical General	x	Pipe	х	High Chrome Steels		Boilers	x	Compressors	х
Instrumentation General	x	Flanges & Fittings	x	High Alloy Steel (Stainless)		Heat Exchangers/H eaters	x	Turbines	x
Painting / Coating Corrosion	x	Castings	x	Duplex/Super Duplex Steels		Process Control Valves	x	Gears	x
Welding	x	Forgings	x	Aluminium / Titanium Alloys		Safety Valves	x	Engines	x
NDT/E	x	Fabricated /Welded	x	Non Metallic Materials		Gas Cylinders		Mechanical	х
						Line Pipes – Rigid		Equipments & Components	
Instrumentation Equipment		Electrical Equipment		Lifting Equipment		Subsea Equipment		Drilling & Wellhead Equipment	
Communication Systems		Generators	x	Cranes	x	Subsea Structures/Te mplates		OCTG Oil Country Tubular Goods	
Fire and Gas Detection		Motors	х	Hoists / Winches	х	Subsea Valves/ Pumps	x	Blow Out Preventers	
Gauges and Metering Equipment		Transformers		Lifts		Flexible Pipes and Risers		Xmas Trees	
Meter Skid, Prover Loop		Switchgear	х	Lifting Loose Gears		SPS Equipment		Other Wellhead Equipment	
Control Panels		Circuit Breaker		Lifting Cables	х	Umbilicals		Completion Equipment	
DCS / ESD System Equipment		Electrical Panel	x						
Service Profile		Inspector & Vendor Surveyor	x	Academic Degree	x	Shipbuilding Engineer	X		

## **EDUCATION**

- 1975 ~ 1980: Institution: Suez-Canal University, Faculty of Engineering and Technology, Department of Ship Engineering, Port-Said, Egypt.
- Degree Certificate: Bachelor of Science (B. Sc.) Degree in Shipbuilding Engineering, with general appreciation "GOOD "and the Project appreciation "GOOD ". The Project was: "Design and Construction of an Excursion Boat, Items: Loa=36 m, Boa=7.25 m, T=1.63 m, D=3.1 m, V=13 Knots, for 120 Persons ".
- Languages: German fluently, English fluently, Arabic native language.

#### **EXTERNAL - PROFESSIONAL QUALIFICATIONS**

#### 1. Egypt: March - April 1986

Alexandria University, Egypt.

Special course for: "Developing abilities of Management positions ".

#### 2. Germany: October 1992

Government-Recognized Training and Testing Institute for Welding-Engineering, Duisburg, Germany. Special course for: "Analysis and Evaluation of Radiograms of Welds".

#### 3. Germany: January - May 1996

Government-Recognized Training and Testing Institute for Welding-Engineering, Berlin-Brandenburg, Germany. Special course for: "Welding Engineering and Quality Control,".

#### 4. Germany: October 1997 - May 1998

Institute for Computer Technology, Leer (East Friesland).

Course for: "CAD and Computer Science,..

#### 5. Germany: July 1998

Numeriek Centrum Groningen, Holland. A special course for Ship Design with the Program (NUPAS-CADMATIC-*Hull*). Only 3 Days.

#### 6. Germany: Nov.-Dec. 1998

Assessment-Centre for Management Positions.

## 7. Germany: January-May 1999

Schloemer Shipyard, in Leer, Technical Practice in the Design Office.

#### 8. Germany: Sep 2001 - Feb 2002

Courses (Microsoft Certified Professional), and become a MCP.

#### 9. Germany: January – June 2009

attended several Courses and instructions for Marine Surveyors in the Germanischer Lloyd's Academy

#### 10. England & USA: Nov. 2011 & Jan. 2012

Training in the ABS Academies in London (UK) and Houston Texas (USA) for Surveyors.

#### 11. India: 2013: Courses for Marine Surveyors

#### 12. Germany: February - June 2016

Visiting courses for Computer Aided Design (CATIA & SIEMENS NX)

**13. Germany**: 1st Sep. – 25th October 2016: Yacht & Boat Inspection & Evaluation Course, and become Certified Professional Boat Inspector.

## eLearning - PROFESSIONAL TRAINING / QUALIFICATIONS

- eLearning (Intertek) 2018 ~ 2022, (SGS) 2019 ~ 2020, (Fluor University) 2022:
  - o Certificate Pressure Vessels
  - o Certificate Technical Specialist Charter
  - Certificate Body of Knowledge Mechanical
  - o Certificate HSE Charter
  - Certificate IS (Inspection Specialist) HSE Charter DVA
  - Certificate Safety Awareness Series-Stop Work Authority
  - o Certificate TIS (Technical Inspection Specialist) Expediting DVA
  - Certificate TIS Preservations & Coatings DVA
  - o Certificate Operation Systems for the TS
  - o eLearning (BV): BV Inspection Handbook, Non-exclusive inspection Handbook
  - o Think-Integrity (SGS), Be-Data-Safe, Roles 4 Life, COVID-19 release of March 12<sup>th</sup> 2020
  - Validation Pumps & Report writing (Fluor University) 2022
  - o Validation Exams for: MECHANICAL GENERAL & EXPEDITING FIELD (29/01/2023)

#### **SPECIFIC WORK EXPERIENCE (Projects and activities)**

General Scope of Inspections: Verification, inspection and Reporting of Industrial, Marine & Machine Components at manufacturer's Works like:

- Engines, Turbines, Gear boxes, Welding,
- NDE, (Mechanical Tests) Tensile tests, bending tests, Welding, etc...
- Pumps, Castings (Gusstechnik / Casting technology),
- FAT (Functional & Factory acceptance tests for Gear Boxes, Turbines, Pumps etc.).

# **Brief Scope of Inspections**

Date of visits: Dec. 2022

Supplier / Vendor / Manufacturer: GEA Refrigeration Germany GmbH

Client: Lotte E&C

Scope of Inspections: Test Run & Performance Test Inspection

**Items:** Screw Compressor

Date of visits: Nov. 2022

• Supplier / Vendor / Manufacturer: Siemens Energy Global GmbH / Duisburg & Berlin

Client: WOODFIBRE LNG Limited / USA & CANADA

Scope of Inspections: Pre-Inspection-Meeting

• Items: LP & HP Compressor Drive/Synchronous Motors

Date of visits: March, April, August & September 2022

• Supplier / Vendor / Manufacturer: ATB Schorch GmbH / Mönchengladbach (Test did at Siemens Test fields)

Client: Ruhrpumpen GmbH / Witten

• Scope of Inspections: FAT (Type, Routine & Vibration Test) for E-motor 2,5 MW and 6,5 MW

Items: Several E-Motors: SCHO\_ E-motor Sch\_2,5 MW and 6,5 MW

Date of Inspection: 09/02/2021

Supplier / Vendor / Manufacturer: Enderss+Hauser

Client: HME OVERSEAS DMCC China Oil HBP

Scope of Inspections: Following inspections were performed according to contract and above

referred documents during the stage of: Visual inspection

**Items:** Pressure & Level Transmitters

• Date of visits: Long Project lasts period >> June 2022 ~ February 2023

• Supplier / Vendor / Manufacturer: STADLER GmbH

• Client: Deutsche Bahn (German Train)

Scope of Inspections: Production Monitoring

Items: New Trains of Berlin

• Date of visits: June 2022

Supplier / Vendor / Manufacturer: RST Rail SystemTesting GmbH

Client: RITZ Instrument Transformers GmbH

• **Scope of Inspections:** Testing the Outdoor & Indoor Busbar system Units in a Dust Chamber and after words in a Water schwer & water Jet stream.

• Items: Indoor and Outdoor busbar systems

Date of visits: 03/2022

• Supplier / Vendor / Manufacturer: GEA Refrigeration Germany GmbH

Client: HYUNDAI ENG & CONST CO.LTD

Scope of Inspections: Test Run & Performance Test Inspection

Items: Screw Compressor

Date of visits: 03/2022

• Supplier / Vendor / Manufacturer: HSE Hennigsdorfer Steel Engineering GmbH

Client: Talgo, 2 E-28290 Las Matas-Madrid, Spain

Scope of Inspections: Welding inspection

- Items: Train Wagons Welded Walls
- Date of visits: 2019 ~ 2022
- Supplier / Vendor / Manufacturer: Sick Engineering GmbH (SICK AG)
- Client: Ontras Steinitz, RMG Deutschland, ALWAHA, IRAQ
- Scope of Inspections: Tightness Test
- Items: Ultrasonic Gas Flow Meter
- Date of visits: December 2021
- Supplier / Vendor / Manufacturer: Siemens Energy, Berlin
- Client: TRACTEBEL Engineering (GDF Suez) BELGIUM
- Scope of Inspections:

Verification of the final rotor alignment on the closed gas turbine analogously to Siemens specification.

Correction of prior measurements, which taken before our presence to the inspection.

- Items: Gas Turbine
- Date of visits: November & December 2021
- Supplier / Vendor / Manufacturer: MAN Energy Solutions SE, Berlin, GERMANY
- Client: Shanghai Electric Group
- Scope of Inspections: Speed and leakage test
- Items: 3 Gear Boxes
- Date of visits: October 2021
- Supplier / Vendor / Manufacturer: Tridelta Meidensha GmbH, Hermsdorf, Germany
- Client/Project: RABAI-KILIFI 132 KV POWER GENERATION EVACUATION LINES AND ASSOCIATED SUBSTATIONS
- Scope of Inspections: Tests are carried out according to the Routine Tests Procedure for Surge Arresters of Tridelta Meidensha GmbH.
- Items: Different types of surge arresters.
- Date of visits: September & October 2021
- Supplier / Vendor / Manufacturer: Kompressorenbau Bannewitz GmbH
- Client: Bouygues Energies & Services
- Scope of Inspections: Witnessed Non-destructive examination for parts, Hydrostatic Test for Bearing Housing, Running Test
- Items: 4 turbo compressors
- Date of visits: September 2021
- Supplier / Sub-Vendor / Manufacturer: FSM Frankenberger & WSM Walower Stahl & Maschinenbau GmbH
- Client: WTE / Essen (Project: TUBLI STP Expansion Phase 4, Wastewater and Incineration Project (Project-No. FSM: 2251))
- Scope of Inspections: Final Machine Assembly Inspection Tests.
- Items: 3 off SPF300, 1 off SF300, 2 off SF400, 2 off SPW 350
- Date of visits: August 2021
- Supplier / Vendor / Manufacturer: MAN Berlin
- Client: Thyssenkrupp Industrial Solutions AG, Business Unit Chemical & Process Technologies, Dortmund
- Scope of Inspections: Mechanical Running Test / Factory Acceptance Test
- Items: Air Compressor Unit, Type: RG 56-6

- Date of visits: 09~13/08/2021
- Supplier / Vendor / Manufacturer: Siemens Energy, Dresden, Germany
- Client: Ministery of Electricity of IRAQ
- Scope of Inspections: Factory Acceptance Test
- Items: 2 off Single Phase Power Transformer, Type NDPN 7956D
- Date of visits: 07/06/2021
- Supplier / Vendor / Manufacturer: Siemens Energy, Berlin, Germany
- Client: Bureau Veritas Turkey / TEIAS
- Scope of Inspections: Factory Acceptance Test according to IEC Publ. 62271-1, IEC Publ. 62271-100
- Items: Circuit Breaker type: 3AP2FI-1S, 420,0 kV
- Date of visits: 28 / 06 / 2021
- Supplier / Vendor / Manufacturer: Tridelta Meidensha GmbH, Hermsdorf, Germany
- Client: Power Grid Company of Bangladesh Ltd
- Scope of Inspections: Factory Acceptance Test.
- Project: Procurement of different types Silicon Composite Surge Arrester (400KV, 230KV, 132KV & 33KV) for different Grid Substations under Transmission-1 & 2, PGCB
- Routine Test of Surge Arresters:
  - SBKC 390/SH-II
  - o SBKC 192/SM-II
  - o SBKC 120/SM-II
  - o SBKC 30/SM-II
- Date of visits: 2021
- Supplier / Vendor / Manufacturer: Büsch Armaturen Geyer GmbH
- Client: Dutco Tennant
- Scope of Inspections: Pressure and dimensional tests, as well Visual Inspection.
- Items: Penstock in deferent dimensions.
- Date of visits: 2021
- Supplier / Vendor / Manufacturer: MAN + AviComp, Leipzig
- Client: Shell Exploration and Production Company
- Scope of Inspections: FAT, wiring system, dimensional and visual check, etc.
- Items: Unit Cabinet Panel + Machine Monitoring System
- Date of visits: 2021
- Supplier / Vendor / Manufacturer: Tridelta Meidensha GmbH, Hermsdorf, Germany
- Client: different Clients
- Scope of Inspections: FAT for Arrestors
- **Items:** Surge Arrestors
- Date of visits: December 2020
- Supplier / Vendor / Manufacturer: Siemens Energy, Berlin, Germany
- Client: Ministry of Electricity (MoE), Iraq
- Scope of Inspections: Factory Acceptance Test according to IEC Publ. 62271-1, IEC Publ. 62271-100
- Items: Circuit Breaker type: 3AP1FG

- Date of visits: 2020 ~ 2021
- Supplier / Vendor / Manufacturer/ Tester: IPH, Berlin, Germany
- Client: Deltatek Offshore
- Scope of Inspections:
  - NON-ELECTRICAL TYPE TESTS: Mechanical characteristics/properties Tests of XLPE and PE before and after ageing.
  - ELECTRICAL TYPE TESTS: Heating cycle test 95 °C < Θ conductor < 100 °C.</li>
  - Water penetration test
- Items/Material:
  - Test object for type test (Electrical):
    CU 3x 95mm² 8.7/15 (17.5) kV XLPE power cable, Test samples: 1 main loop of at least 15 meter between the ends of the sheath, 1 reference loop of at least 5 meter between the ends of the sheath, Bending length: ca. 50 meter, Cable weight in air: 15.6 kg/m.
  - Test object for type test (NON-Electrical):
     CU 3x 95mm² 8.7/15 (17.5) kV XLPE power cable, Test samples: 1 loop of at least 6 meter for non-electrical testing, 1 loop of at least 4 meter for water-penetration test.
- Date of visits: 2020 ~ 2021
- Supplier / Vendor / Manufacturer: GEBR Vibration Control, Berlin, Germany
- Client: Bouygues Energies & Services
- Scope of Inspections: Coating thickness, Welding works and NDE
- Items: Vibration Isolation System (VIS)
- Date of visits: September 2020 ~ 2021
- Supplier / Vendor / Manufacturer: Siemens Gas and Power, Berlin
- Client: HARBIN Electric International Company Limited ~ and other Clients & Projects
- Scope of Inspections: Verification of the final rotor alignment on the closed gas turbine analogously to Siemens specification.
- Items: Gas Turbine
- Date of visits: September 2020
- Supplier / Vendor / Manufacturer: Schraubenwerk Zerbst, Germany
- Client: L&T Mumbai Metro Project
- Scope of Inspections: Witnessing Tests, which were done satisfactorily,

#### Final Inspection:

- Visual examination & dimensional check.
- Witnessed Dimensional and Mechanical-Material test,
- Verification of materials to Drawings
- Verification of Calibration certificates of all equipment used for measurements.
- Items: Sleeper Screw Ss 35 and Washer Uls 7
- Date of visits: August 2020
- Supplier / Vendor / Manufacturer: PHE Borsig, Berlin
- Client: BUREAU VERITAS VIETNAM LTD
- Scope of Inspections: Hydrostatic & Pneumatic pressure Tests (pressure test of outer and inner pipes), material stamp check, nameplates check.
- Items: Quench Exchangers
- Date of visits: July 2020
- Supplier / Vendor / Manufacturer: Siemens, Berlin
- Client: KEC Abu Dhabi / ADNOC-ABU DHABI NATIONAL OIL CO. / AE
- Scope of Inspections:

Applied test specifications: Acceptance Test according to IEC 60099-4, edition 3.0 (2014).

- Tests performed:
  - o Reference voltage measurement
  - o Partial discharge test
  - o Residual voltage test
  - Counting test of surge counter at minimum current
  - o Counting test of surge counter at maximum current
  - o Check of leakage current meter / operation test on surge counter
  - Visual and dimensional check.
  - Items: Arrester Type: 3EL1 049-1PH21-4XR1-Z and Surge Monitor / Counter Type: 3EX5 050-7
- Date of visits: 2020
- Supplier / Vendor / Manufacturer: J.D. Neuhaus GmbH &CO.KG, Witten, Germany
- Client: LLC LUKOIL-Nizhnevolzhskneft
- Scope of Inspections: FAT, weighing, Visual Inspection (Online-Remote Inspection).
- Items: 2x JDN Underslung Travelling Crane ELK 10 t
- Date of visits: 2019-2020
- Supplier / Vendor / Manufacturer: BorgWarner, Sweden AB, PowerDrive Systems
- Client: Zhejiang Huashuo Technology Co., Ltd., China
- Scope of Inspections: D7u, (Inspection of valve chamfers) and Micro-Measurement Inspection
- Items: Car Cover Housing
- Date of visits: 2019 ~ 2021
- Supplier / Vendor / Manufacturer: Siemens Berlin (Huttenstrasse)
- Client: SAMSUNG ENGINEERING CO., LTD. ~ and other Clients & Projects
- Scope of Inspections: Factory Acceptance Tests, Overspeed Test, Final Balancing and Rotor alignment Tests
- Items: 220kV Gas-Insulated, Switchgear
- Date of visits: 2019 ~ 2020 ~ 2021
- Supplier / Vendor / Manufacturer: Siemens Berlin
- Client: Haya Dubai, ~ and other Clients & Projects
- Scope of Inspections: Factory Acceptance Tests, Overspeed Test, Final Balancing and Rotor alignment Tests
- Item: Gas Turbines
- Date of visits: 2019
- Supplier / Vendor / Manufacturer: Energietechnik Essen GmbH
- Client: GE General Electric
- Scope of Inspections: Pre-Forging, identification check, check of holding Time and forging Temperature
- Items: HINKLEY POINT C, RETAINING RING
- Date of visits: 2019
- Supplier / Vendor / Manufacturer: Siemens Turkey / 35KM shatra-Rifai 132 kV, IRAQ
- Client: Siemens Berlin
- Scope of Inspections: Factory Acceptance Tests
- Items: Circuit Breaker Type: 3AP1FG And Arrester Type: 3EP4 120-2PJ31-1DR1-Z
  - Date of visits: 2019
- Supplier / Vendor / Manufacturer: KSB, Halle
- Client: CCC, Abu Dhabi, P1186 EPIC for Hamad International Airport Jet Pumps
- Scope of Inspections: Factory Acceptance Tests

- Items: Jet Pumps KRTK 350-420/1006WNG1-S and KRTK 150-315/304WEG1-S IE3
- Date of visits: 2019
- Supplier / Vendor / Manufacturer: GEA Refrigeration GmbH
- Client: China Tianchen engineering corporation
- Scope of Inspections: Visual and tightness test
- Items: Screw Compressors
- Date of visits: 2019
- Supplier / Vendor / Manufacturer: ARROW VALUE RECOVERY GERMANY GMBH
- Client: Dell
- Scope of Inspections: Audit
- Items: Dell RSDS EDP Audit Protocol
- Date of visits: 2018 ~ 2021
- Supplier / Vendor / Manufacturer: BGH Edelstahl Freital GmbH
- Client: GE General Electric/ / HINKLEY POINT C
- Scope of Inspections: VT Visual test, US ultrasonic test, Geometric & Dimensional Inspection, Identification Marking
- Items: 20 Forged Bar FL 154x102 / X22CrMOV12-1
- Date of visits: 2018 ~ 2019
- Supplier / Vendor / Manufacturer: Siemens, Berlin
- Client: Republique Algerienne / Ministry of Energy and Mines / Regulatory Authority of Hydrocarbons / (SINOHYDRO CORPORATION LIMITED)
- Scope of Inspections:

Reference Voltage measurement Test at reference current 3 mA on the complete arrester.

Test Procedure: Increase of Voltage up to a Value (reference Voltage) that the reference current 3 mA (peak value) is flowing through the complete arrester. Min. / Max. limiting value of measurement of reference voltage: 63 kV / 69 kV.

**Partial discharge** Test at the complete arrester at a test voltage of 50.4 kV (=1.05 Uc, complete arrester). Test Procedure: Increase of Voltage up to the complete arrester rated voltage 60 kV and decrease within 10s to the test voltage 50.4 kV and measurement of partial discharge Limiting value of partial test <10pC.

Tightness Test: Leakage test at the complete arrester using the Diaphragram camber method

**Residual Voltage** at complete arrester: Measurement of lightning impulse residual voltage at 10 kA, 8/20 μs.

Max. Limiting value of residual voltage: 150 kV.

- Items: Arrester Type: 3EP5 060-2PJ31-1DB1-Z
- Date of visits: 2018
- Supplier / Vendor / Manufacturer: Siemens, Berlin
- Client: Ministry of Electricity (MOE) IRAK and other clients
  - Scope of Inspections:

Measurement of mechanical operating values

Undervoltage function

Auxiliary switch signal

Voltage drop of the main circuit

Control circuits (2kV test)

Recharging time

Specified limits check

High Voltage test

Rating plate check

- Items: Circuit Breakers type 3AP1FG
- Date of visits: 2018
- Supplier / Vendor / Manufacturer: Siemens, Berlin
- Client: Electricity Generating Authority of Thailand
- Scope of Inspections:

Mechanical Tests of the circuit breaker

Mechanical Tests of the disconnector / earthing switch

High voltage test and PD-measurement

- Items: Switch Gear Type 8DN9 / 245kV
- Date of visits: 2018 ~ 2021
- Supplier / Vendor / Manufacturer: Siemens AG, Görlitz
- Client: YANCHANG
- Scope of Inspections: Steam turbines OUTER CASING Pressure test
- Items: Steam turbines
- Date of visits: 2018
- Supplier / Vendor / Manufacturer: NEA SEA NEUMAN & ESSER GmbH Maschinenfabrik Wurzen GmbH
- Client: HQSM / HRC Malaysia
- Scope of Inspections: Cylinder Leakage & Hydro Test of Bare Compressors
- Items: Bare Compressors
- Date of visits: 2017 ~ 2018
- Supplier / Vendor / Manufacturer: Pro Beam, Burg, Germany
- Client: Nucleare Energia Group Ansaldo/Mangiarotti/Walter tosto
- Scope of Inspections:

Electron Beam Welding in Vacuum Chamber

Grinding, TIG- remelting, VT Visual Inspection after Welding, Roughness Testing, PT Penetrate testing, Radiographic testing.

t and graphic teeting.

- Items: Welding Process Certification
- Date of visits: 2017 ~ 2021
- Supplier / Vendor / Manufacturer: SIEMENS Berlin
- Client: China Machinery Engineering Corp. ~ and other Clients & Projects
- Scope of Inspections: Balancing and over Speed tests
- Items: GAS TURBINE
- Date of visits: 2017 ~ 2019
- Supplier / Vendor / Manufacturer: Borsig Process Heat Exchanger GmbH, Berlin/
- Client: SP Olefins Chemicals
- Scope of Inspections:

Pressure tests (Hydro & pneumatic tests),

visual and dimensional checks

Check for Dryness after the hydro test.

- Items: Taixing-Ad/U, USX Quench Exchanger
- Date of visits: 2017
- Supplier / Vendor / Manufacturer: Sosta GMBH, Könnern, Germany
- Client: Petrofac

#### Scope of Inspections:

Mechanical tests: 7 sets of specimens were tested; each set took 30 to 40 Minutes. Each set consists of: 1 corrosion specimen, 1 Chemical Analyze specimen, 1 Hardening specimen, 2 Bending specimens and 1 Tensile specimen. 6 of 7 tests are passing the test, one fails.

visual and dimensional checks

The Documents are reviewed and stamped.

Dimensions Checked, Markings Checked and additional Marking: Country of Origin "Germany", Color codes Green and Beige.

• Items: Welded Stainless Steel Pipes

Date of visits: 2017-2018

• Supplier / Vendor / Manufacturer: VDL Delmas, Berlin

• Client: Siemens AG

Scope of Inspections:

Pressure tests (Hydro & pneumatic tests),

Visual and dimensional checks

Check for Dryness after the hydro test.

Leakage Test: Shell & Tube Sides, Requirements fulfilled, and found acceptable.

Test medium: Water, Test duration: 1 Hour, Test temperature: 20°C.

Shell side test pressure: 0,7 bar, Tube side test pressure: 71 bar.

Main skid and connection dimensions checked (spot check) according to drawing, measured values are noted in the attached drawing. Module visual inspected and KKS labeling, name and identification plates checked (spot check). Coating thickness measured (min.  $80 \mu m$ , spot check). Documents according to the QST reviewed and found acceptable.

• Items: Gland steam condensers

• Date of visits: 2017 - 2018

- Supplier / Vendor / Manufacturer: KSB AG, 06110 Halle
- Client: Panorama Contracting & Engg Services
- Scope of Inspections:

Packing inspection

Photography, reviewing and signing documents.

Items: Pumps

• Date of visits: 2017 - 2018

Supplier / Vendor / Manufacturer: Siemens AG

Client: PETROLEUM DEVELOPMENT OMAN

Scope of Inspections:

The 2 run out tests were done successfully.

The Measurements were in the tolerance range.

Measuring Instruments are still properly calibrated.

Test Report/Certificates were issued and signed.

Items: Stator Windings

Date of visits: 2017

Supplier / Vendor / Manufacturer: MSA Produktion Berlin

Client: MSA Production Deutschland GmbH

Scope of Inspections:

Inspection of 5% material scope of delivery / purchase order in accordance to QAP inspected with successful results

Scope of delivery final complete manufactured and in workshop stored; for witness checks during inspection for every product 5% of material selected.

Items: Materials, J3 Program Reliance India

- Date of visits: 2017
- Supplier / Vendor / Manufacturer: Siemens Leipzig
- Client: AMEC Foster Wheeler
- Scope of Inspections:

Visual check of (Numbering, Labeling, Cleanliness). Oil system cleanliness test acc. API 5<sup>th</sup> Edition §7.3.3.9 Performance Test acc. ASME PTC 10 1997 type 2 Mechanical Test Run acc. API 617 7th Edition

Noise Level Measurement as reference Vibration measurement during test

Temperature Measurement

Bearing Inspection Gas Leakage Test

Items: Nitrogen Compressor Unit

- Date of visits: 2017
- Supplier / Vendor / Manufacturer: VELDE Boilers + Plants, Köthen, Germany
- Client: Shell-Gabun Scope of Inspections: Final Visual Inspection

Final Review and Check of Documentation Drawing No.: A1001-00-68170-01, Rev. C

Conformity assessment procedure of the Manufacturer acc. to PED 2014/68/EU

Final check of insulation system. Hydraulic Pressure Test to 21 bar

Items: Boilers

- Date of visits: 2017 2018
- Supplier / Vendor / Manufacturer: (AMW) Ansaldo Mangiarotti Walter Tosto and Pro-Beam AG & Co. KGaA,
- Client: (AMW) Ansaldo Mangiarotti Walter Tosto Ansaldo NUCLEARE Energy Group
- Scope of Inspections:

Verification of thickness misalignment and gap at the joint

Measuring Check of the 2 Plates (Coupons), Thickness,

Distances from Zero Point, Measuring the Gab, Misalignments,

Welding, Grinding, TIG remelting, Penetrant Testing, Roughness testing, and Radiographic Testing.

- Items: Electron Beam Welding Tests
- Date of visits: 2017
- Supplier / Vendor / Manufacturer: Siemens Leipzig
- Client: AMEC Group Itd., BV Kuwait
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

Dimensional Check Mechanical testing

Items: Compressor

- Date of visits: 2013 + 2017
- Supplier / Vendor / Manufacturer: Schraubenwerk Zerbst GmbH, Zerbst
- Client: Schwihag AG
- Scope of Inspections:

Visual examination and dimensional checks (Measuring Screws),

Witnessed Tensile and Bending tests,

Measured the Zinc Coating Layer thickness of the five test pieces.

- Items: Sleeper Screws Sets
- Date of visits: 2017
- Supplier / Vendor / Manufacturer: Siemens AG + Dresser-Rand
- Client: Siemens Pte Ltd., Singapore
- Scope of Inspections:

Combined Performance Tests of: Transformer, item No.: 834-VTR-301, Converter, item No.: 834-VFD-301,

RCU (Re-Cooling Unit), item No.: 834-RCU-301 and Motor, item No.: 834-KM-301

Items: Taweelah Gas Compressor Station Project

- Date of visits: 2017
- Supplier / Vendor / Manufacturer: Meisterlaser/ Exklusiv Laser GmbH
- Client: Meisterlaser/ Exklusiv Laser GmbH
- Scope of Inspections: Function test
- Items: Laser engraving and cutting machine
- Date of visits: 2011-2012
- Supplier / Vendor / Manufacturer: Silbitz Guss GmbH
- Client: MAN Augsburg
- Scope of Inspections:

Mechanical-Material tests,

**Documentation & Dimensional Check** 

Inspection of casting Parts

- Items: Different Marine & Offshore Components
- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: MAN Diesel & Turbo/ Augsburg
- Client: Indian marine, Shipyards & others
- Scope of Inspections:

FAT (Functional & Factory acceptance tests for Gear Boxes, Turbines)

Mechanical-Material tests,

Verification, inspection and Reporting of Marine & Machine Components including casting Parts.

- Items: MAN Diesel & Turbo also designs & Manufactures gas turbines of up to 30 MW/ Gear Casings, Turbo Chargers & diff. Marine Components, Control Panels / Switchboards
- Date of visits: 2011
- Supplier / Vendor / Manufacturer: MAP Maschinen- & Apparatebau Produktions GmbH
- Client: Indian marine, Shipyards & others
- Scope of Inspections:

Final Inspection

Mechanical-Material tests,

Visual check of welding seams of pedestal adapter

Dimensional & documentation check

Inspection of casting Parts

- Items: Motor and generator housings for powerful electric drive systems
- Date of visits: 2012 2015
- Supplier / Vendor / Manufacturer: RENK, Augsburg, Germany
- Client: Indian Marine & Shipyards
- Scope of Inspections:

FAT (Factory acceptance tests), Functional / Performance Test

NDT, Filter Check

Mechanical-Material Tests,

Documentation check

Inspection of casting Parts (for example: Casings of Gear Boxes)

Items: Gear Boxes (reduction gearing)

Date of visits: 2014

Supplier / Vendor / Manufacturer: RENK, Rheine, Germany

Client: Renk AugsburgScope of Inspections:

Mechanical-Material tests,

**Documentation & Dimensional Check** 

Items: Gear Couplings

Date of visits: 2011 - 2015

Supplier / Vendor / Manufacturer: Alfing Kessler, Aalen, Germany

Client: Voith Schneider & Shipyards

Scope of Inspections:

Mechanical-Material tests,

Documentation & Dimensional Check

• Items: Propeller Blades and Crankshafts

Date of visits: 2013 - 2015

Supplier / Vendor / Manufacturer: Pleissner Guss, Herzberg am Harz, Germany

Client: Renk Augsburg

Scope of Inspections:

Mechanical-Material tests,

Documentation & Dimensional Check

Inspection of casting Parts (for example: Casings of Gear Boxes)

Items: Driving Sleeve & thrust plates

Date of visits: 2013

Supplier / Vendor / Manufacturer: Günther+Schramm, Oberkochen, Germany

Client: Renk Augsburg

Scope of Inspections:

Mechanical-Material tests.

Documentation & Dimensional Check

Items: Bevel Pinions

• Date of visits: 2011 - 2012

Supplier / Vendor / Manufacturer: KRAL, Lustenau, Austria

Client: Shipyards

Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

**Dimensional Check** 

Items: Pumps & Flowmeters

Date of visits: 2013 - 2014

Supplier / Vendor / Manufacturer: Karl Diederichs, Remscheid, Germany

Client: Renk & others

Scope of Inspections:

Mechanical-Material tests,

**Documentation & Dimensional Check** 

Inspection of casting Parts (for example: Casings of Gear Boxes)

Items: Bevel Gears

• Date of visits: 2011 - 2012

Supplier / Vendor / Manufacturer: Zollern / Herbertingen / Germany

Client: Different ClientsScope of Inspections:

FAT (Factory acceptance tests) Functional / Performance Test

Mechanical-Material tests,

**Documentation & Dimensional Check** 

Items: Winch Gears

Date of visits: 2011 - 2012

Supplier / Vendor / Manufacturer: Teufelberger, Wels, Austria

• Client: Shipyards

Scope of Inspections:

Mechanical-Material tests (Destructive testing is a tensile test performed on a test piece of a rope to determine

its ultimate tensile strength)

Dimensional & documentation check

Items: Winch Ropes

Date of visits: 2011 - 2015

Supplier / Vendor / Manufacturer: Leistritz Pumps, Nürnberg

Client: Renk & othersScope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

Dimensional Check

Items: Screw spindle pumps

• Date of visits: 2011 - 2012

• Supplier / Vendor / Manufacturer: WILO, Hof

Client: Shipyards

• Scope of Inspections:

Hydrostatic Pressure Tests Functional / Performance Test

**Documentation & Dimensional Check** 

Items: Supsea Pumps

• Date of visits: 2011 - 2012

Supplier / Vendor / Manufacturer: Silbitz Gus, Silbitz

Clients: MAN & others

Scope of Inspections:

Mechanical-Material tests.

Visual check of welding seams of pedestal adapter

Dimensional & documentation check

Inspection of casting Parts for Offshore Industry.

• Items: Castings, Forgings & Connecting rods

• Date of visits: 2011 - 2012

• Supplier / Vendor / Manufacturer: Zirro, Schrobenhausen, Germany

- Clients: Renk & MAN
- Scope of Inspections:

Mechanical-Material tests,

Visual check of welding seams of pedestal adapter

Dimensional & documentation check

Inspection of casting Parts (for example: Casings of Gear Boxes)

Items: Gear Casings

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: HYDAC International, Sulzbach-Saar, Germany
- Clients: Renk & others
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

**Documentation & Dimensional Check** 

Items: Duplex filters

- Date of visits: 2014 2015
- Supplier / Vendor / Manufacturer: WILHELM SANDER FERTIGUNG GmbH, Bremen, Germany
- Client: Pipavav Defence and Offshore Engineering Company Ltd., India
- Scope of Inspections:

Visual and dimensional inspection.

Reviewed Valves test documentations

Functional Test including transfer between Valves and Cabinet by simulation, other tests and trials in accordance ith Factory Acceptance Protocol,

Verification of Calibration certificates of all equipments used for measurements

- Items: Remote controlled Valve System
- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Hoerbiger, Wien, Austria
- Clients: Renk & others
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

Documentation & Dimensional Check

• Items: Valves

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Voestalpine, Linz, Austria
- Client: Different Clients
- Scope of Inspections:

Mechanical-Material tests,

**Documentation & Dimensional Check** 

Items: Steel plates

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Geislinger, Hallwang, Austria
- Client: Different Clients
- Scope of Inspections:

Mechanical-Material tests,

**Documentation & Dimensional Check** 

Items: Couplings & Flywheels

Date of visits: 2011 - 2015

• Supplier / Vendor / Manufacturer: Elwa / Maisach / Germany

Client: Different ClientsScope of Inspections:

Visual examination, dimensional check, verification scheme of connection.

Pressure test of shell on completion of fabrication.

High Voltage test. Insulation Resistance before and after HV test.

Electrical functional test

Items: Cooling & Heating Units

Date of visits: 2011 - 2015

• Supplier / Vendor / Manufacturer: Allweiler, Radolfzell, Germany

• Client: Renk & Different Clients

Scope of Inspections:

Hydrostatic Pressure Test Functional / Performance Test

Documentation & Dimensional Check

Items: Pumps

• Date of visits: 2011 - 2012

Supplier / Vendor / Manufacturer: BWB, Burgau, Germany

• Client: Different Clients

• Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

**Documentation & Dimensional Check** 

Items: Pressure vessels

• Date of visits: 2011 - 2015

Supplier / Vendor / Manufacturer: GEWES, Stadtilm, Germany

Client: Different Clients

Scope of Inspections:

Mechanical-Material tests,

Visual check of welding seams of pedestal adapter

Dimensional & documentation check

Items: Crankshafts

Date of visits: 2011 - 2015

Supplier / Vendor / Manufacturer: SHW / Aalen / Germany

Client: Different Clients

Scope of Inspections:

Hydrostatic Pressure Test

Mechanical-Material tests,

Dimensional & documentation check

Inspection of casting Parts (for example: Gear Casings)

Items: Castings of Gear Box Casings

Date of visits: 2011 - 2013

• Supplier / Vendor / Manufacturer: Siemens, Nürnberg, Germany

Client: Different Clients

Scope of Inspections:

Functional / Performance Test

Documentation & Dimensional Check

• Items: Electric Motors

- Date of visits: 2014
- Supplier / Vendor / Manufacturer: ATB Schorch GmbH, Mönchengladbach
- Client: Schottel
- Scope of Inspections:

Visual examination, Verification of materials to Drwg., Witnessed Type test, Witnessed Insulation test, Witnessed overload test at 160% for 1 minute, Verification of Calibration certificates of all equipments used for

measurements.

• Items: Electric Motor

Date of visits: 2011 - 2012

Supplier / Vendor / Manufacturer: Deutz, Ulm

Client: Different ClientsScope of Inspections:

Functional / Performance Test

Filter Check

**Documentation & Dimensional Check** 

Items: Diesel Motors

Date of visits: 2011 - 2012

Supplier / Vendor / Manufacturer: Max Weishaupt, Schwendi, Germany

Client: Different ClientsScope of Inspections:

Functional / Performance Test

**Documentation & Dimensional Check** 

Items: Brenner

- Date of visits: 2012 2015
- Supplier / Vendor / Manufacturer: Voith Turbo, Heidenheim, Germany
- Client: Indian Marine, Shipyards & others
- Scope of Inspections:

FAT (Factory acceptance tests),

NDT & Mechanical-Material Tests,

Documentation check

Items: Voith Schneider Propellers

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: Bosch Rexroth, Lohr am Main, Germany
- Client: Renk & Different Clients
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

**Documentation & Dimensional Check** 

Items: Manifolds

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: GKW & WSW, Wildau, Germany
- Client: Different Clients
- Scope of Inspections:

Mechanical-Material tests,

NDT & Visual check of welding seams of pedestal adapter

Dimensional & documentation check

Items: Crankshafts

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Bosch Rexroth / Elchingen / Germany
- Client: Renk & Different Clients
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

**Documentation & Dimensional Check** 

- Items: Pumps
- Date of visits: 2011 2014
- Supplier / Vendor / Manufacturer: Sternberg GmbH, Hohenstein-Ernstthal
- Client: Voith Turbo Schneider Propulsion, Heidenheim
- Scope of Inspections:

Visual inspection & Check of thread dimensions tolerances.

Check of thread pitch with Gauge.

Review of 3.2 material Certificates from mill including ultrasonic test.

Review of MPI test Certificates.

- Items: Special Screws
- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Diepa, Neustadt bei Coburg, Germany
- Client: Shipyards
- Scope of Inspections:

Mechanical-Material tests (Destructive testing is a tensile test performed on a test piece of a rope to determine its ultimate tensile strength)

Dimensional & documentation check

Items: Wire Ropes

- Date of visits: 2012
- Supplier / Vendor / Manufacturer: GEA ECO / Saarstedt / Germany
- Client: Voith Turbo Schneider Propulsion, Heidenheim
- Scope of Inspections:

Pressure Test

**Dimensional Check** 

Items: Heat exchangers

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: HS-Cooler GmbH, Wittenburg
- Client: Voith Turbo Schneider Propulsion, Heidenheim
- Scope of Inspections:

Pressure Test

**Dimensional & Documentation Check** 

Items: Heat Exchangers

- Date of visits: 2013 2014
- Supplier / Vendor / Manufacturer: Jahnel-Kestermann, Bochum
- Client: Voith Turbo Schneider Propulsion, Heidenheim
- Scope of Inspections:

Mechanical-Material Tests, Documentation check

Items: Helical gear units

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: Rickmeier GmbH, Balve, Germany
- Client: Voith Turbo Schneider Propulsion, Heidenheim
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

Dimensional Check

• Items: Gear pumps

- Date of visits: 2013
- Supplier / Vendor / Manufacturer: VOITH TURBO GMBH & CO. KG, Crailsheim, Germany
- Client: Voith Turbo Schneider Propulsion, Heidenheim
- Scope of Inspections:

Visual examination & dimensional check of components.

Witnessed Mechanical-Material Tests

Verification of relevant materials to approved Drwg including component dynamic balancing.

Centrifugal test with oil filled.

Tightness test with heating up to 100 °C centrifugal action at 1600 rpm. Coupling tight, running smooth.

Centrifugal speed test at 1920 rpm for 5 minutes.

Verification of Calibration certificates of all equipments used for measurements Visual examination & dimensional check of components.

Witnessed Mechanical-Material Tests

Verification of relevant materials to approved Drwg including component dynamic balancing.

Centrifugal test with oil filled.

Tightness test with heating up to 100 °C centrifugal action at 1600 rpm. Coupling tight, running smooth.

Centrifugal speed test at 1920 rpm for 5 minutes.

Verification of Calibration certificates of all equipments used for measurements

• Items: Voith Turbo couplings, Dolphin Project

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Netzsch, Waldkraiburg, Germany
- Client: Renk
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

Dimensional Check

• Items: Pumps

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: / Speck Triplex, Geretsried, Germany
- Client: Renk
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

Dimensional Check

Items: Pumps

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Dickow, Waldkraiburg, Germany
- Client: Renk
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

**Dimensional Check** 

- Items: Pumps
- Date of visits: 2012
- Supplier / Vendor / Manufacturer: Palfinger, Friedburg, Austria
- Client: Shipyards
- Scope of Inspections:

Visual check of welding seams of pedestal adapter Shop test / FAT (Functional / Performance Test)

Documentation check

• Items: Cranes

- Date of visits: 2012
- Supplier / Vendor / Manufacturer: STABA, Pegnitz, Germany
- Client: Renk
- Scope of Inspections:

**Pressure Test** 

Functional / Performance Test

• Items: Valves

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Kolmeder / Ergolding / Germany
- Client: Renk Augsburg
- Scope of Inspections:

Visual check of welding seams of pedestal adapter

documentation check

Inspection of casting Parts (Casings of Gear Boxes)

Items: Gear Box-Casings

- Date of visits: 2011 2013
- Supplier / Vendor / Manufacturer: MTU, Friedrichshafen, Germany
- Client: Indian Shipyards
- Scope of Inspections:

Factory acceptance tests

Functional / Performance Test

Items: Engines, Electrical Panel

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: ZF, Friedrichshafen, Germany
- Client: Indian Shipyards
- Scope of Inspections:

FAT (Factory acceptance tests) & Documentation check

- Items: Gear Boxes (reduction gearing)
- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: Reintjes, Hameln, Germany
- Client: WARTSILA & Indian Shipyards
- Scope of Inspections:

FAT, Functional / Performance Test

NDT, Filter Check

Mechanical-Material & Pressure Tests,

Documentation check

- Items: Gear Boxes (reduction gearing)
- Date of visits: 2014
- Supplier / Vendor / Manufacturer: Harms, Magdeburg, Germany
- Client: Renk Augsburg
- Scope of Inspections:

Mechanical-Material Tests,

Dimensional & documentation check

Items: Bevel gears

- Date of visits: 2014 2015
- Supplier / Vendor / Manufacturer: Pameto / Helsinki / Finnland
- Client: Rolls-Royce AB, Kristinehamn, Sweden
- Scope of Inspections:

Visual inspection & Check of thread dimensions tolerances.

Check of thread pitch with Gauge.

Review of 3.2 material Certificates from mill including ultrasonic test.

Review of MPI test Certificates.

Items: Bolts

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: Kromet, Elplag, Poland
- Client: Renk Augsburg
- Scope of Inspections:

Mechanical-Material tests,

Visual check of welding,

Dimensional & documentation check

Inspection of casting Parts (for example: Casings of Gear Boxes)

Items: Gear Box-Casings

- Date of visits: 2013 2014
- Supplier / Vendor / Manufacturer: Damen, Gdank, Poland
- Client: Schottel, Germany
- Scope of Inspections:

Process qualification including welding records.

Visual examination, dimensional check.

Verification of materials

Pressure tested to 0.2 bar.

Verification of Calibration certificates of all equipments used for measurements

Items: Nozzles-Casings

- Date of visits: 2014
- Supplier / Vendor / Manufacturer: Schottel GmbH, Spay, Germany
- Client: Indian Shipbuilders
- Scope of Inspections:

Visual examination and dimensional check.

Electronic controls and cabinets tested.

Rudder Propeller casing hydraulically tested.

FATs are witnessed as per manufacturer's test protocol

- Items: Schottel Rudder Propellers
- Date of visits: 2014
- Supplier / Vendor / Manufacturer: Stama, Katowitz, Poland

- Client: Renk Augsburg
- Scope of Inspections:

Mechanical-Material tests,

Visual check of welding

Dimensional & documentation check

Items: Gear Box-Casings

- Date of visits: 2011 2015
- Supplier / Vendor / Manufacturer: Hammerwerk Erft, Bad muensteifel, Germany
- Client: Renk & Different Clients
- Scope of Inspections:

Mechanical-Material tests.

Dimensional & documentation check

Inspection of casting Parts.

Items: Bevel Gears

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: Boll & Kirch Filterbau, Kerpen, Germany
- Client: Renk & Different Clients
- Scope of Inspections:

Hydrostatic Pressure Test

Functional / Performance Test

Dimensional Check

Items: Filter Systems

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: Liebherr-Werk Nenzing, Nenzing, Austria
- Client: Shipyards & Different Clients
- Scope of Inspections:

Visual check of welding seams of pedestal adapter

Shop test / FAT (Functional/Performance Test)

Documentation check

Items: Cranes

- Date of visits: 2014
- Supplier / Vendor / Manufacturer: Behältertechnik Römer GmbH, Wenden, Germany
- Client: Deno Compressors B.V., Krimpen, The Netherlands
- Scope of Inspections:

Verification of all materials and welding p rocesses required to approved Drwg.

Visual examination, review of measurement protocols oiTered & random re-check.

Witnessed Pressure test with water to 49.5 bar, working pressure 33 bar.

Verification of Calibration certificates of all equipments used for measurements

Items: Starting Air Receiver

- Date of visits: 2013
- Supplier / Vendor / Manufacturer: Schraubenwerk Zerbst GmbH, Germany
- Client: Reintjes
- Scope of Inspections:

Visual examination & dimensional check.

Witnessed Mechanical-Material test,

Verification of materials to Drwg.

Verification of Calibration certificates of all equipments used for measurements

• Items: Bolts

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: SKF Coupling System AB Hofors, Sweden
- Client: GOA Shipyard
- Scope of Inspections:

Verification of materials to approved Drwg.

Visual examination, review of measurement protocols offered & random re-eheck. Verification of Calibration certificates of all equipments used for measurements

• Items: Fabricated Propulsion shaft couplings

- Date of visits: 2013
- Supplier / Vendor / Manufacturer: SONDEX, Winsen, Germany
- Client: HYDAC COOLINGScope of Inspections:

Visual examination,

Documentation & dimensional check Witnessed Pressure test of 21 bar

Verification of Calibration certificates of all equipments used for measurements

Items: Plate heat exchangers (PHE)

- Date of visits: 2013 2015
- Supplier / Vendor / Manufacturer: Vulkan Couplings, Germany
- Client: Vulkan Nederland
- Scope of Inspections:

Visual examination & dimensional check.

Verification of materials to approved Drwg.

Witnessed Torsional Static Test to establish adequate bonding strength between elements.

Verification of Calibration certificates of all equipments used for measurements

Items: Vulastik-L couplings

- Date of visits: 2015
- Supplier / Vendor / Manufacturer: Stentor Srl, Curcani, Romania
- Client: Forward Engineering SV
- Scope of Inspections:

Verification of materials to approved Drwgs & Review material certificates.

Witnessed dimensional measurements according to Drwgs.

Nondestructive testing reports reviewed.

Review of welding process & parameters and welders' qualification.

Witnessed pressure test at 0.2 bar

Verification of Calibration certificates of all equipments used for measurements

Items: Propeller Nozzles

- Date of visits: 2014
- Supplier / Vendor / Manufacturer: Specma AB, Örnsköldsvik, Sweden
- Client: RollsRoyce AB, Sweden
- Scope of Inspections:

Visual examination, review of measurement protocols offered & random re-check.

Verification of scheme of connections and materials to approved Drwg.

Verification of crimping and batch numbers on Hydrau1ic hoses.

Witnessed Pressure testing to 180 bar of hydraulic hoses upon manufacture to 1.5 times the working pressure, and witnessed FAT in accordance with manufacturers protocol.

Settings of various flow control valves, safety and relief devises held by manufacturer reviewed.

Verification of Calibration certificates of all equipments used for measurements

• Items: 2 sets of Hydraulic power pack for CPP system and Pumps,

- Date of visits: 2014
- Supplier / Vendor / Manufacturer: REXNORD ANTRIEBSTECHNIK, Dortmund
- Client: Wärtsilä Finland Oy
- Scope of Inspections:

Verification of material to above Drwg and Visual examination.

Verification of Calibration certificates of all equipments used for measurements

• Items: BSD-Clamping Hub

- Date of visits: 2013 2014
- Supplier / Vendor / Manufacturer: PRODAN Antriebselemente GmbH, Germany
- Client: Reintjes
- Scope of Inspections:

Visual examination, dimensional check & verification of materials to approved Drwg.

Witnessed performance Magnetic test for meeting the parameters.

Verification of Calibration certificates of all equipments used for measurements

• Items: 2 OFF finished machined Electromagnetically operated clutches / Couplings

- Date of visits: 2012
- Supplier / Vendor / Manufacturer: OLAER INDUSTRIES GmbH, Blieskastel
- Client: VIERECK HYDRAULIK
- Scope of Inspections:

Visual examination, dimensional check.

Verification of materials to approved Drwg.

Witnessed Pressure tests

Verification of Calibration certificates of all equipments used for measurements

Items: Accumulators

- Date of visits: 2014
- Supplier / Vendor / Manufacturer: NK Neuenhauser Kompressorenbau GmbH, Neuenhaus, Germany
- Client: Waertsilae, Finland Oy
- Scope of Inspections:

Verification of all materials and welding processes required to a pproved d rawings.

Visual examination, review of measurement protocols offered & random re~check.

Witnessed Pressure test with water to 50 bar, Workin g p ressure 33 bar.

Verification of Calibration certificates of all equipments used for measurements

• Items: Starting Air Receiver

- Date of visits: 2011 2012
- Supplier / Vendor / Manufacturer: MAN Diesel & Turbo / Augsburg
- Client: Indian marine, Shipyards & others
- Scope of Inspections:

FAT (Functional & Factory acceptance tests for Gear Boxes, Turbines)

Mechanical-Material tests,

Verification, inspection and Reporting of Marine & Machine Components including casting Parts (for example: Casings of Gear Boxes, Turbines, etc...)

• Items: Diesel & Turbo also designs and manufactures gas turbines of up to 30 MW/ Gear Casings, Turbo Chargers & diff. Marine Components, Control Panels / Switchboards