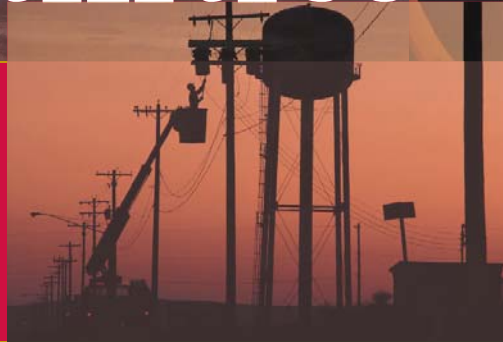
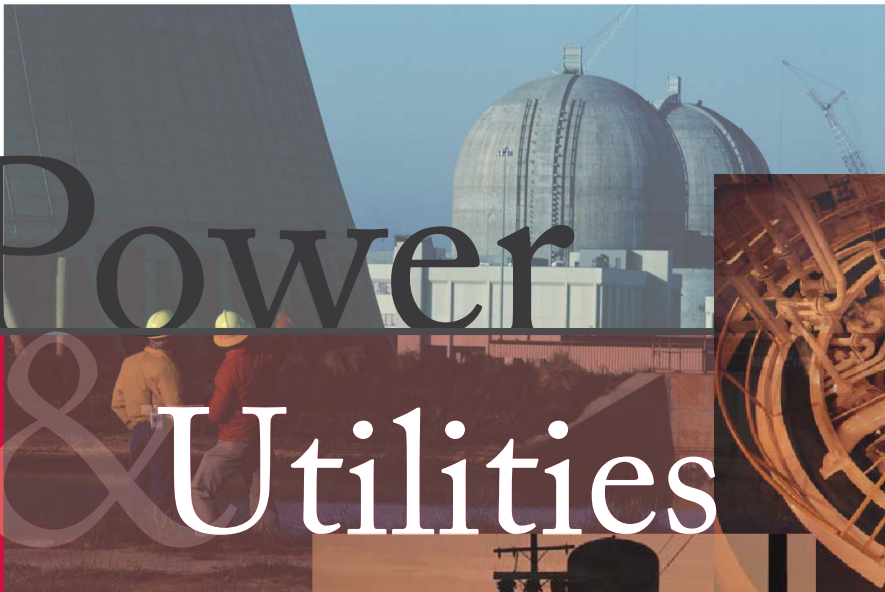




BUREAU
VERITAS

Power & Utilities





Statement of Qualifications

Firm Profile

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Statement of Qualifications

References

France

Nuclear



Client: EDF (Electricité de France)

Business Challenge:

- › Nuclear power plants management: a massive task with no margin for errors
- › Bureau Veritas is active in 19 PWR of the 58 reactors in France
- › Maintaining the image of a “responsible organization”

Solution:

- › Constant and permanent surveillance of every sort of installation; a total safety approach
- › Periodic regulatory and non-regulatory services (e.g. investigation, non-destructive testing and pressure testing, fire safety checks)
- › Non destructive testing during planned outages
- › Training and auditing

Benefits:

- › EDF is able to go beyond the legal requirements in its strict QHSE&SA standards, which the company considers important in the context of atomic energy
- › E.G. their gas and liquid emission levels are up to 100 times lower than what is actually authorized



Client: Areva

Project: George Besse 1 – nuclear waste treatment plant

Services: › Independent Remaining life assessment for major equipment prior to license extension request approval by the French Nuclear Safety Authorities



Statement of Qualifications

References

France Cont.

Fossil Fired



Client: Suez Energy
Project: Fos Cogeneration power plant – gas fired – 400 MW
Services: > Siting assistance to regulatory compliances
> Environmental impact analysis

Client: Gaz de France
Project: Cogeneration power plant – gas fired – 400 MW
Services: > Siting assistance to regulatory compliances
> Environmental impact analysis



Client: Cofathec
Project: DK6 Cogeneration plant – gas fired – 800 MW
Service: > Performance testing
> Emissions measurement

Client: EDF
Project: Porcheville Power Station (4x600MW, coal)
Services: > Periodical Inspections for all electrical, pressure, boilers and lifting/crane equipment

Wind Power



Client: Gamesa Eolica, Repower, Enercon, GE Wind, Vestas, Nordex, Jeumont
Project: More than 350 Windmills
Services: > Electrical Conformity Assessment
> Machine Conformity Assessment (CE Marking)
> Civil & Structural Engineering Independent Review
> Health & Safety on Site during Erection



Statement of Qualifications

References

Denmark

Wind Power



Client: **Suzlon Energy**

Suzlon Energy being one of the fastest growing Wind Energy key companies in the world has its headquarter in Denmark and subsidiaries in US, Australia (for Asia Pacific Market), China, India, Germany and Netherlands

Services: Bureau Veritas contract covers inspection and technical assistance services including productions assessment, involvement in kick off meeting, review of technical documents and non conformity assessment. BV-Net will be used as the information system for this frame agreement

Finland

Nuclear



Client: **TVO**

Project: 1600 MW PWR, 3rd Generation NPP located in Olkiluoto, Finland

Services:

- > Review of approval of Construction Plan for Safety Class 3 and 4 mechanical & electrical equipments
- > Construction Inspections
- > Manufacturing Supervisions
- > Manufacturing inspections covering European countries such as France, Germany, UK and Italy
- > Specific set up of Intranet (*BVnet*) to communicate all reporting to the client



Statement of Qualifications

References

Finland cont.

Fossil Fired



Client: Kvaener Power Oy

Project: Bubbling Fluidized Bed Boilers

Services:

- › Certification according to PED Directive 97/23/EC Module G
- › Particular Material Appraisals
- › Design approval including safety related system
- › Manufacturing inspections
- › Assembly inspections including final testing
- › Verifying FAT of SRS
- › Final documentation review and issuing of certificate

Client: Foster Wheeler Oy

Project: Wilton Biomass Power Plant

Lomellina II 75 MW RDF Fired Power Plant

Services:

- › Certification according to PED Directive 97/23/EC Module G
- › Particular Material Appraisals
- › Design approval including safety related system
- › Manufacturing inspections
- › Assembly inspections including final testing
- › Verifying FAT of SRS
- › Final documentation review and issuing of certificate

Client: Wartsila Finland Oy

Project: Various diesel & gas engines

Services: › Third Party inspections



Statement of Qualifications

References

Germany

Nuclear



Client: RWE

Project: Biblis Nuclear Power Plant

The plant consists of two units, pressurized water reactors, with a total electrical capacity of about 2,500 MW.

- Services:**
- › Manual NDT examination of reactor A & B shutdowns and in service
 - › More than 75.000 NDT tests performed since 1986 (Radiographic, Ultrasonic, Surface Crack Testing, Mobile Hardness Testing), special UT Testing of fittings / valves
 - › As-built documentation, inspections-isometrics, 3D documents for planning of shutdowns
 - › Databases for inspection and maintenance optimization
 - › Inspection manuals for equipment

Fossil Fired



Client: Siemens AG

Project: Al Ezzel Power Plant, Bahrain (950 MW)
Ras Laffan Power Plant, Qatar (750 MW, Water & Power)
Sugen CCGT, Surat, India (1100 MW)

- Services:**
- › Erection supervision of recovery steam generator
 - › Expediting of components of heat recovery steam generators and auxiliary steam generators
 - › QA/QC supervision and coordination

Wind Power



Client: Nordex Energy GmbH

- Services:**
- › Review of documentation and legal requirements at Tortosa site in Spain during erection of windmills
 - › Supervision of on-site work safety



Statement of Qualifications

References

Italy

Fossil Fired / Hydro



Client: Enelpower
Project: Chivasso Power Station (1140MW, thermo-CCGT)
Services: > Expediting and Inspection Services

Client: Technip
Project: Termoli (CCGT, 770MW)
Services: > ATEX Services



Client: Nuovo Pignone
Services: > Gas turbine, compressors package
 > Pressure Equipment Directive services

Client: Enelpower
Project: Turbines, Runners for Chievo's Hydroelectric Plant
Services: > Expediting & Inspection Services

Client: Enelpower
Project: Turbines, Runners for Bussolengo's Hydroelectric Plant
Services: > Expediting & Inspection Services

Client: Foster Wheeler Italia
Project: RDF gas fired power plant (75MW)
Services: > Pressure Equipment Directive services



Wind Power

Client: Gamesa Eolica
Project: Monte Magiore Belsito, Sicily – (24MW)
Services: > Health & Safety Coordination during erection of the wind Mills
 > Adaptation to local regulations
 > Compliances Monitoring



Statement of Qualifications

References

Netherlands

Fossil Fired



Client: Essent

Projects: Amer Power Plant (coal, 1305 MW), Claus (steam, gas, 1278MW), Moerdijk (Gas, 358MW)

- Services:**
- > Providing a complete set of services for 46 operating power plants (coal, supercritical and critical, CHP, cogen, gas-fired)
 - > Air emissions (NOx, SO2, CO, CO2, etc.)
 - > Performance testing for new machines and after overhaul
 - > PED/CE Marking
 - > Process & sewage water management and analysis
 - > Safety Inspections for burners
 - > Non destructive testing
 - > Safety and Operational Technical trainings for boilers
 - > Tuning of gas turbines



Client: Electrabel

Project: Cogen WKC "de Griff"
District Heating 3 Boilers

- Services:**
- > Performance Testing & Emissions measurements
 - > NOx Trading Measurement
 - > Gas turbines mapping



Statement of Qualifications

References

Spain

Fossil Fired



Client: Iberinco / Iberdrola
Project: Aceca Combined Cycle (400MW)
Services: > Technical Assistance and Quality control on site (PED Certification, Machinery Inspections)
 > Worldwide Manufacturing Shop Inspection

Client: Gas Natural
Project: Escombreras Combined Cycle (3 x 400MW)
Services: > Worldwide Manufacturing Shop Inspection



Client: Iberinco / Iberdrola
Project: Arcos 1, 2 & 3 Combined Cycle (2x400 MW, 800MW)
Services: > Technical Assistance and Quality control on site (PED Certification, Machinery Inspections)
 > Worldwide Manufacturing Shop Inspection
 > Inspection of Pressure Equipment off-loading

Client: Elyo Iberica Energia
Project: Solvay-Martorell Cogeneration (22MW – gas)
Services: > Independent Performance Testing during commissioning
 > Emissions Monitoring Measurements and Analysis (O₂, CO, CO₂, NO, NO₂, NO_x)



Client: CNIM
Project: Zabalgardi Waste to Energy Plant (44MW, 30t/h)
Services: > Performance Testing (Net Electrical output power, Net heat rate, Flue gas emission after treatment and at HRSG main stack, Gas turbine flue gas emissions)
 > Emissions Monitoring (CaO, SiO₂, Fe₂O₃, CaCO₃, MgO, H₂O)



Client: Tractament Metropolità de Fangs, S.L (Gas Natural)
Project: (6x4.125 MW – Gas Engines)
Services: > Independent Performance Testing during commissioning
 > Analysis of combustion/emissions (O₂, CO, CO₂, NO_x)
 > Atmospheric pressure and ambient air temperature at charge air inlet
 > Measurement of electrical power generation
 > Establishment of specific gas consumption based on lower heating value
 > Establishment of specific lubricating oil consumption
 > Noises, acoustic pressure levels



Statement of Qualifications

References

Spain cont.

Other Projects

Client: Iberdrola

Services: > Periodical electrical inspections for all fossil-fired power plants
> Quality Assurance Compliance Audits for all HT transformers centers located in the Basque Province and Madrid

Wind Power



Client: Gamesa Eolica

Services: > Worldwide Quality on-site inspections during installation and before commissioning
> Torque verification, nacelle and gearbox inspections
> Off loading inspections for Nacelles, Blades, Towers
> Concrete foundations & steel structural calculation review
> Health and Safety during construction, installation and erection according to local legislation



Statement of Qualifications

References

United Kingdom

Nuclear



Client: **British Energy**

AGR Power Stations - Heysham Stage A & B, Hartlepool & Hinkley Point (2x575 MW, 2x625MW, 2x605MW, 2x610MW)

Project: > Our verification role will help ensure the safe and reliable operation of the power stations. This win is a major success, especially since the previous inspection company had the contract for over 20 years. Bureau Veritas was chosen for its innovative approach to maximize resource efficiency and maintain high service levels at British Energy nuclear power stations. With this contract, our share of the UK nuclear energy and statutory inspection market is now over 40%.

The initial 3-year contract will involve 30 Bureau Veritas experts. They will inspect 28,000 different items at the sites including pressure equipment, lifting equipment and cranes.

Fossil Fired



Client: **Scottish Power**

Project: 2 conventional coal-fired Power Stations Longannet & Cockerzie (4x300 MW, 4x600 MW)

Services: > Electrical and all lifting appliances Statutory Inspections
> Outage planning management



Client: **Barking Power Station**

Project: CCGT (1000MW)

Services: > Statutory Inspection for all pressure, electrical and lifting equipments
> Outage Technical Support)
> Emissions monitoring at Barking power station
> Vibration monitoring of heat exchanger bundle



Statement of Qualifications

References

United Kingdom cont.



Wind Power

Client: E.ON – Off Shore Wind turbines

Services: > Environment Impact Analysis

Client: Scottish Power – 350 Wind turbines

Services: > Statutory Inspection for all lifting equipment

Other Projects



Client: Severn Trent

Project: Networks Distribution Operation & Maintenance Strategy

- Services:** > ATL has developed a cost-optimised Operations & Maintenance Strategy that was based on evaluating historical data collected by STW for delivery to the Regulator.
- > Parameters included quality of water, quantity of water delivered to the customer and operation & maintenance costs. Data analysis, which identified 5 grades of risk, was substantiated with the local knowledge of STW personnel at both a Regional and District Metering Area (DMA) level.
 - > Potential OPEX cost saving of 20 % has been identified.

Client: Veolia Sheffield

Project: Waste to energy plant (100,000 tons/year)

- Services:** > Thermal and emissions verification for Sheffield waste to energy scheme
- > Independent Performance Testing



Statement of Qualifications

References

China

Hydro



Client: CTGPC - China YangTze Three Gorges Project Corporation

- Project:**
- › Inspection and expediting services of 14 turbo-generating units of the left bank of the YangTze River in China. When fully commissioned, it will include 26 X 700MW units installed at the toe of the dam. The dam is a concrete gravity type 185 m high and 2.3 km long. With a 18 000 MW installed capacity, the Three Gorges Project will be the largest hydroelectric complex in the world.
 - › BV China project management team dispatches 2 expatriate and 6 local inspectors for the resident inspection in China, and more than 10 inspectors outside China



Client: Zhejiang Provincial Electric Power Company (ZPEPC)

Project: Tongbai Pump Storage (1000 MW)

- Services:**
- › Shop inspection of all mechanical and electrical equipment for turbine, runner, shaft, generators
 - › Expediting services
 - › Services performed over 15 countries



Client: Jiangsu Provincial Electric Power Company

Project: Yixing Pump Storage (4 x 250 MW)

- Services:**
- › Shop inspection of all mechanical and electrical equipment for turbine, runner, shaft, generators, transformers, GIS.
 - › Expediting services
 - › Services performed over 15 countries



Statement of Qualifications

References

China Cont.

Wind Power



Client: Gamesa Eólica, S.A.

Project: More than 400 machines inspected

- Services:**
- > Non Destructive Testing
 - > Fabrication Supervision & Inspection of Towers Suppliers
 - > Expediting & Inspection at Manufacturing facilities
 - > Second Party Audit (Vendors Assessments)
 - > WPS/PQR Welding Procedure Auditing
 - > Raw Material Inspection
 - > Painting Process Control

Client: GE Wind

Project: More than 140 Machines inspected

- Services:**
- > Welding & NDT Supervision
 - > Documentation Review
 - > Painting & Packing Inspections



Statement of Qualifications

References

Japan

Nuclear



Client: **Mistubishi Heavy Industry**

Project: Construction of Nuclear Vessel for Olkiluoto 3 EPR in Finland

- Services:**
- > Monitoring & Qualifications of welding procedures according to RCCM (French nuclear building codes)
 - > Qualifications of welding material specifications. Qualification of welders
 - > Witness of nondestructive test during the entire manufacturing process. Witness of hydrostatic test.



Client: **Mitsubishi Heavy Industry**

Project: Construction of 6 steam generators for EDF

- Services:**
- > Qualification of Welding Procedure Specifications and issue of Procedure Qualification Records according to French Nuclear Regulations.
 - > Qualifications of welding material specifications. Qualification of welders
 - > Witness of nondestructive test for welding procedure qualifications

Thailand

Hydro



Client: **EDF- Nam Theun 2 Construction Head Contractor**

Project: 1,070 MW trans-basin hydropower plant in Laos

- Services:**
- > Safety Coordination during construction
 - > Program and QA/QC Management
 - > Worldwide Inspection and Expediting Services for major mechanical and electrical equipments.



Statement of Qualifications

References

Middle East

Fossil Fired



Client: Kuwait MEW (Ministry of Electricity & Water)

Project: All power stations of Kuwait

- Services:**
- > Inspection of existing equipment such as boilers, pressure piping, cranes, elevators, scada system, etc
 - > Inspection of new equipments inside and outside Kuwait
 - > Quality assurance of welding and NDT activities
 - > Quality assurance during maintenance of power station
 - > Engineering consultancy & training services
 - > To assist new during selection of the maintenance contractors



Client: Union Water & Electricity Company, Abu Dhabi

Project: Fujairah Water & Power Project (500 MW)

- Services:**
- > Third Party Field Inspection on Site
 - > Quality Assurance Services
 - > Possible shop inspections



Client: Sohar Power Co

Project: Sohar Power & Water Desalination Plant (585 MW)

- Services:**
- > Design review and verification for pipeline (4 lines) and Conformity with ASTM
 - > In site inspection of GRP and GRA pipe installation



Client: DEWA (Dubai Electricity & Water Authorities)

Project: Jebel Ali Power & Desalination Station "L" phase II project (1,300 MW and 55 MIGD)

- Services:**
- > Design review of Pressure Vessels / Storage Vessels for destination purposes
 - > Inspection and Conformity assessment according to AMSE



Client: ADWEA (Abu Dhabi Water & Electricity Authorities)

Project: Shuweihat S1 Independent Water and Power (1,500MW, 100MIGD)

- Services:**
- > Carry out factories shop inspection pipes and fittings until issuance of factory release certificates (FRC)
 - > Carry out inspection and witness performance test on mechanical equipment (pump, valves, etc.)



Statement of Qualifications

References

United States

Nuclear



Client: Portland General Electric, Oregon

Project: Trojan Nuclear Power Plant Cooling Tower

Services: > Asbestos Abatement Design and Oversight

- > Portland General Electric was in the process of decommissioning the Trojan Nuclear Power Plant Cooling Tower.
- > BV assisted Portland General Electric by providing asbestos abatement services.
- > BV also provided design support and full-time project oversight during the removal of over 8,600 tons of cement asbestos product from the cooling tower interior.
- > During abatement, BV's activities included: (1) daily and final clearance air monitoring and on-site analysis, containment integrity inspections and final visual inspections, (2) design review of alternate means of asbestos removal, (3) asbestos-contaminated waste water sampling and characterization, (4) regulatory compliance support and interface, and (5) project close-out documentation.



Client: PPL Services Corporation, Pennsylvania

Project: Susquehanna, 2 X 1,176 MW BWR

- Services:** > Perform all activities prescribed in ASME Section XI, QAI-1 and National Board of Boiler and Pressure Vessel Inspectors rules
- > Code responsibilities during scheduled (or unscheduled) outages in order to witness a representative number of ISI examinations and repair/replacement activities in the plant
 - > Reviewing and confirming compliance of all Section XI activities through a comprehensive document review
 - > Bureau Veritas' ANII supervisor will perform a semi annual audit of the Inspector's activities as required by QAI-1 2005 and additionally audit representative areas of the client's ISI program as necessary to assure on-going compliance with Section XI requirements



Statement of Qualifications

References

United States Cont.

Fossil Fired



Client: Mountain View – Bechtel Owner Southern Cal Edison

Project: Power Plant 1056 MW

- Services:**
- > Plan Review and Inspection
 - > Construction inspections compliances services according to California Building Codes
 - > BVnet communication intranet



Client: Sempra Utilities

Project: Palomar Energy Center

- Services:**
- > Plan Review and Inspection
 - > Construction inspections compliances services according to California Building Codes
 - > BVnet communication intranet



Client: Calpine Power Company, California

Services: BV is currently providing shop fabrication inspection and expediting services for (15) separate Power projects through a contract with Calpine Power Company at numerous fabrication facilities throughout Europe. The following projects are currently under construction:

- > The South Point Project located in Bullhead City AZ, is a 525 MW gas fired power plant.
- > The Magic Valley Project located in Edinburgh, TX, is a 687 MW gas fired power plant.
- > The Los Medanos Energy Center located in Pittsburg, CA, is a 493 MW gas fired power plant.
- > The Westbrook Project located in Westbrook, ME, is a 487 MW gas fired combine cycle power plant.
- > The Channel Energy Center located in Houston, TX, is a 516 MW gas fired cogeneration power plant at the CITGO refinery.
- > The Baytown Power Plant located in Baytown, TX, is a 704 MW gas fired cogeneration power plant at the Bayer Corporations chemical facility.
- > The Freestone Energy Center located in Freestone County, TX, is a 1002 MW gas fired power plant.
- > The Hillabee Energy Center located in Tallapoosa County, AL, is a 710 MW gas fired power plant.





Statement of Qualifications

References

United States Cont.



Client: General Electric

Project: Inland Empire Energy Center (GE 7H) 800MW

- Services:**
- > Plan Review and Inspection
 - > Construction inspections compliances services according to California Building Codes
 - > BVnet communication intranet



Wind Power

Client: EnXco – Solano County

Project: High Winds Project (162 MW)

- Services:**
- > Plan Review
 - > Construction inspections compliances services according to California Building Codes
 - > BVnet communication intranet



Client: PPM Energy – Solano County

Project: Shiloh windfarm 180MW

- Services:**
- > Construction inspections compliances services according to California Building Codes
 - > BVnet communication intranet



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