


CURRICULUM VITAE

NAME	Angel Octavio FRACCHIA	
DATE OF BIRTH	October 5 th , 1956	
NATIONALITY	Italian	
EDUCATION	Doctor's Degree in Mechanical Engineering, La Plata University, Argentina, 1980 Doctor's Degree in Electrical Engineering, La Plata University, Argentina, 1985	
LANGUAGE AND DEGREE OF PROFICIENCY	-Spanish and Italian mother tongues. -English: written: Excellent, read: Excellent, spoken: Excellent.	
MEMBERSHIP IN PROFESSIONAL SOCIETIES	-Former Member, National Institute of Argentinean standards, High Voltage and Transformers Committee -Former Member, Argentinean CIGRE Committee, SC15 insulating Materials	
More than 38 years with working experience in the following countries:	Argentina Algeria Bahrain Brazil Bulgaria Colombia China Egypt Finland Germany Greece Hong Kong Hungary Iran Italy Jordan Macedonia Malaysia Norway Pakistan Perú Portugal Saudi Arabia Serbia Slovenia Spain Sweden Switzerland Thailand Turkey United Kingdom United Arab Emirates United States of America	



EMPLOYMENT RECORD:

FROM 2008 TO DATE

EMPLOYER
POSITION HELD AND
DESCRIPTION OF DUTIES

HIGH VOLTAGE COMPONENTS COMPANY S.R.L. Milan, Italy
Founder and General Manager
Specialist for Diagnostics, Life Assessment and Failure Analysis in high voltage apparatus.
Specialist for power transformers design, design review and testing.

FROM 1996 TO 2008

EMPLOYER
POSITION HELD AND
DESCRIPTION OF DUTIES

CESI S.p.A. Milan, Italy
Specialist for Diagnostics, Life Assessment and Failure Analysis in high voltage apparatus.
Specialist for power transformers design and design review.

FROM 1990 TO 1995

EMPLOYER
POSITION HELD AND
DESCRIPTION OF DUTIES

CESI S.p.A. Milan, Italy
Senior Researcher
Development of diagnostic techniques for high voltage components

FROM 1988 TO 1989

EMPLOYER
POSITION HELD AND
DESCRIPTION OF DUTIES

AUTOPLAT SA (Argentina)
Project Engineer
Design of a city omnibus

FROM 1986 TO 1987

EMPLOYER
POSITION HELD AND
DESCRIPTION OF DUTIES

LA PLATA UNIVERSITY FOR THE ARGENTINEAN ENERGY DEPARTMENT PROJECT (Argentina)
Project Leader Engineering design of a High Voltage and High Power (Short Circuit) Laboratory

FROM 1986 TO 1990

EMPLOYER
POSITION HELD AND
DESCRIPTION OF DUTIES

LA PLATA UNIVERSITY
Teacher
At La Plata University in the course of Electrical Machines for electrical engineers as Professor Assistant with supervision of laboratory work, practical exercises and examination. Also, a responsible of electrical rotating machines tests (DC, synchronous and asynchronous machines) commissioned by the local industry

FROM 1980 TO 1985

EMPLOYER
POSITION HELD AND
DESCRIPTION OF DUTIES

LA PLATA UNIVERSITY (Argentina)
Junior Researcher
High voltage testing (laboratory and field tests) on different types of high voltage components.

FROM 1980 TO 1985

EMPLOYER
POSITION HELD AND
DESCRIPTION OF DUTIES

LA PLATA UNIVERSITY
Teacher
At the La Plata University in the course of Electrical Machines for electrical and electronics engineers as Graduated Assistant for experimental work at the laboratory and collaborator in the theoretic numeric exercises for the regular course



List of PAPERS

- F. Chillè (FCSolutions, Milan, Italy), **A. Fracchia** (HVCC, Massalengo (LO), Italy), M. Andreini, F. Boattini, S. La Mendola (European Organization for Nuclear Research-CERN, CH-1211 Geneva 23, Switzerland) "Handling Oil insulated electrical components Explosion hazard", 5th Magdeburg Fire and Explosion Days.
- F. Chillè, **A. Fracchia**, "A probabilistic approach to Transformer Explosion risk analysis", May 2013. Venice ICOLD IECS9.
- **A. Fracchia**, "More accurate input data for FLACS analysis", February 2012. Trondheim Brannforum.
- **A. Fracchia**, E. Pilo de la Fuente, "Design Review of power transformers: rules for a useful task", 3 - 5 October 2010. Santiago de Compostela – Spain
- M. De Nigris, **A. O. Fracchia**, W. Koltunowicz, A. M. Marzorati, "Gestione del ciclo di vita di stazioni blindate", SWICON 2004- Bombay, novembre 2004, 2004
- M. De Nigris, **A. O. Fracchia**, W. Koltunowicz, F. Zagliani, "Diagnosis of the functional conditions of electrical components: methods, tools and recent experiences" , AEI annual conference; Capri 1999, 1999
- M. De Nigris, **A. O. Fracchia**, W. Koltunowicz, F. Zagliani, "Diagnosi dello stato funzionale di componenti elettrici di MT ed AT: metodologie, strumenti ed esperienze recenti" , Congr. Sponsor: AEI - Location: Milano - Year: 1999 - Congr. Title: Riunione generale 99, 1999
- **A. O. Fracchia**, G. Pirovano, A. Pigni, F. Tavano, R. Rendina - ENEL "Diagnostics of compression joints of conductors for HV overhead lines " , Congr. Sponsor: CIGRE - Location: Paris - Year: 1998 - Congr. Title: CIGRE 1998, 1998
- **A. O. Fracchia**, I. Visintainer, G. Furlan - ATM Milano "Analisi dello stato delle conoscenze scientifiche e del quadro di riferimento normativo relativo all'esposizione umana ai campi elettromagnetici." , Congr. Sponsor: AEI - Location: Baveno - Year: 1997 - Congr. Title: 97th Meeting of the Italian Electrotechnical Association , 1997
- **A. O. Fracchia**, G. Pirovano, A. Pigni, F. Tavano, "Theoretic and experimental study on the ageing of compression mid span joints and anchor clamps for HV electrical transmission lines " , 95th Meeting of the Italian Electrotechnical Association (AEI) - Bologna, 1994, 1994
- **A. O. Fracchia**, G. Pirovano, A. Pigni, F. Tavano, L. D'Ajello, A. Sena "Development of diagnostic techniques for compression mid span joints and anchor clamps installed on electrical transmission lines: analysis of the selectivity of the measuring methods and experimental results " , 95th Meeting of the Italian Electrotechnical Association (AEI) Bologna, 1994, 1994
- **A. O. Fracchia**, G. Pirovano, A. Pigni, F. Tavano, L. D'Ajello, A. Sena "Monconi delle fondazioni dei sostegni per linee elettriche aeree AT: tecniche di rilevazione e criteri di valutazione dei fenomeni corrosivi" , 95a Riunione Annuale AEI, Bologna (Italy), 1994
- **A. O. Fracchia**, G. Pirovano, A. Pigni, F. Tavano, L. D'Ajello, A. Sena "Sviluppo di tecniche diagnostiche per giunti e morse di amarro a compressione installate su linee elettriche AT: analisi della selettività delle metodologie di misura e risultati sperimentali" , Congr. Sponsor: AEI - Location: Bologna - Year: 1994 - Congr. Title: 95a Riunione Annuale AEI, 1994

- **A. O. Fracchia**, G. Pirovano, A. Pigni, F. Tavano, "Studio teorico e sperimentale dell'invecchiamento dei giunti e delle morse di amarro a compressione delle linee elettriche AT" , Congr. Sponsor: AEI - Location: Bologna

- Year: 1994 - Congr. Title: 95a Riunione Annuale AEI, 1994

- **A. O. Fracchia**, G. Pirovano, A. Pigni, F. Tavano, L. D'Ajello - ENEL (DPT-ROMA); A. Sena - ENEL (DDI-ROMA) "Conduttori, funi di guardia e isolatori installati su linee elettriche aeree AT: tecniche per la rilevazione di vari tipi di difetti." , Congr. Sponsor: AEI - Location: Bologna - Year: 1994 - Congr. Title: 95a Riunione Annuale AEI, 1994

- **A. O. Fracchia**, A. Pigni, "Performance of contaminated insulators under transient overvoltages . Survey of experimental data. " , CIGRE Guide by W.G. 33.07. 1992, 1992

Prize

Winner of ABB prize in the 95a AEI Annual General Meeting for the paper:

"Studio teorico e sperimentale dell'invecchiamento dei giunti e delle morse d'amarro a compressione delle linee elettriche AT".

A handwritten signature in blue ink, appearing to be the initials 'AF' or similar, with a horizontal line extending to the right.

DETAILED PROJECTS ASSIGNED:

Project	Design Review and FAT of three Power Transformers.
Location	China
Year	2019
Position	Power Transformer expert
Duties	Factory Acceptance Tests of 230 kV 40 MVA single phase Power Transformers
Project	Design Review of a Power Transformer.
Location	Portugal
Year	2019
Position	Power Transformer expert
Duties	Design Review of 230 kV 120 MVA Power Transformer
Project	Power Transformer Repair
Location	Perú
Year	2019
Position	Transformer Expert
Duties	Direction of the repair work in a power transformer
Project	Oil Analysis and Maintenance Software
Location	Perú
Year	2019
Position	Transformer Diagnosis Expert
Duties	Software supply and technology transfer in transformer dielectric oil diagnosis. Creation of a database for the transformers population.
Project	Transformer Factory Upgrade
Location	Egypt
Year	2019
Position	Transformer Expert
Duties	Feasibility analysis of the factory upgrade from 245 kV to 550 kV power transformers
Project	Failure Analysis of a Synchronous Motor
Location	Germany
Year	2019
Position	Electric Machines Expert
Duties	Failure analysis of 18 MW synchronous motor
Project	Power Transformer active part inspection
Location	Perú
Year	2019
Position	Transformer Expert
Duties	Active part inspection on a faulted transformer
Project	Synchronous Generator Factory Tests
Location	USA
Year	2018
Position	Electric Machines Testing Expert
Duties	Factory test son 240 MVA synchronous generator
Project	Power Transformers Procurement
Location	Perú
Year	2018
Position	Lecturer



Duties	“Semana del Capítulo de Ingeniería eléctrica, 01 al 04 octubre 2018” Exposition of the topic: Power Transformers Procurement Process, actual conditions.
Project	Power Transformers Maintenance Workshop
Location	Perú
Year	2018
Position	Lecturer
Duties	Workshop on power transformers maintenance, focused in insulating oil analysis and diagnosis
Project	Power Transformers Life Extension.
Location	Italy
Year	2018
Position	Power Transformer Diagnostic and Maintenance expert
Duties	For a population of 60 power transformers in 6 power plants, including 400 kV step up transformers and HV/MV transformers, it was established the residual life and the condition of the population to evaluate a possible life extension of 10 years. For the automation of the process, a database of the available oil analysis history population was created
Project	Power Transformers Diagnostic and Maintenance.
Location	Italy
Year	2018
Position	Power Transformer Diagnostic and Maintenance expert
Duties	For a 150 power transformers population in an industrial plant, including 400 kV step up transformers of 600 MW power station, HV/MV MV/MV and MV/LV transformers, it was established a maintenance program, including a diagnostic analysis tool based on DGA and oil analysis, to monitoring the condition of the population in terms of: <ul style="list-style-type: none"> a) Transformer condition assessment b) Insulating oil assessment c) Residual life For the automation of the process, a database of the available oil analysis history population was created
Project	Quality Assurance in a Power Transformer Procurement.
Location	Italy
Year	2018
Position	Power Transformers expert
Duties	The Quality Assurance in the Procurement of 240 MVA 400 kV step up power transformer included: <ul style="list-style-type: none"> a) Technical specification b) Design review c) Manufacturing inspections d) Acceptance tests inspection
Project	Stator bars failure analysis of large Power Station Generator
Location	Italy
Year	2017
Position	Generator diagnostics expert
Duties	Root cause study of stator bars insulation damage in a 320 MVA power station generator.

Project	Design Review of a Power Transformer.
Location	Perú
Year	2017
Position	Power Transformer expert
Duties	Design Review of 220 kV 110 MVA Power Transformer
Project	Power Transformer Failure Analysis.
Location	Perú
Year	2017
Position	Power Transformer expert
Duties	Failure Analysis of 220 kV 110 MVA Power Transformer
Project	Condition assessment of MV cables.
Location	Perú
Year	2017
Position	MV cables diagnostics expert
Duties	Condition assessment of two lines with MV cables feeders to one mine mill
Project	Design Review of four power transformers.
Location	China
Year	2017
Position	Transformer design expert
Duties	Design review of four HV (500 kV) power transformers
Project	Condition assessment of power transformers.
Location	Italy
Year	2017
Position	Transformer diagnostics expert
Duties	Condition assessment of two step-up 400 kV power transformers
Project	GIS diagnostics after installation
Location	Brazil
Year	2016
Position	GIS testing expert
Duties	Field PD diagnostic testing (acoustic method) of GIS after installation
Project	Failure analysis of a power transformer.
Location	Italy
Year	2016
Position	Transformer design expert
Duties	Failure analysis of a step-up 400 kV power transformer
Project	Design Review of power transformer.
Location	Germany
Year	2016
Position	Transformer design expert
Duties	HVDC 400 kV AC 500 kV DC power transformer design review
Project	Power Transformers design Software.
Location	Spain
Year	2015
Position	Transformer design expert
Duties	Customized Transformer Design Software developed for a transformer manufacturer

Project	Condition Based Maintenance of power transformer.
Location	Spain
Year	2015
Position	Transformer condition assessment expert
Duties	Definition of CBM models for power transformer condition assessment
Project	Design Review of power transformer.
Location	China
Year	2015
Position	Transformer design expert
Duties	Design review of three phase power transformer, 110 MVA 220/23 kV
Project	Design Review of power transformer.
Location	Portugal
Year	2015
Position	Transformer design expert
Duties	Design review of three phase/three loadable windings power transformer, 75 MVA 230/115/34.5 kV
Project	Failure analysis of a power transformer in CCP of Santo Domingo
Location	Dominican Republic
Year	2015
Position	Transformer design expert
Duties	Failure analysis of a power transformer explosion. Live testimony in the Dominican Republic Court of Justice.
Project	Power transformer testing
Location	Italy-Spain
Year	2014
Position	Transformer testing expert
Duties	Dynamic short circuit test on a power transformer
Project	Design Review of power transformer.
Location	Spain
Year	2013
Position	Transformer design expert
Duties	Design review of single phase power transformer, to be subjected to short circuit test.
Project	Power transformer testing
Location	Italy-Portugal
Year	2014
Position	Transformer testing expert
Duties	Dynamic short circuit test on a power transformer
Project	Design Review of a distribution transformer in a mining plant.
Location	Peru
Year	2013
Position	Transformer design expert
Duties	Design review of three phase distribution transformer, 2.3 MVA 23 kV
Project	Failure analysis of a distribution transformer in a mining plant
Location	Peru
Year	2014
Position	Transformer design expert
Duties	Failure analysis of a distribution transformer explosion

Project	Power transformer testing
Location	China
Year	2014
Position	Transformer testing expert
Duties	Dynamic short circuit test on a power AC/DC conversion transformer
Project	Power transformer internal arc energy
Location	Norway
Year	2014
Position	Transformer design expert
Duties	Failure scenarios for 150 MVA 300 kV power transformer internal arc
Project	Failure analysis of a distribution transformer for Italian court of justice - Judge for preliminary investigations
Location	Italy
Year	2014
Position	Transformer design expert charged by the Court
Duties	Failure analysis of a distribution transformer explosion
Project	Design Review of power transformer.
Location	China
Year	2013
Position	Transformer design expert
Duties	Design review of single phase power transformer, 150 MVA 500 kV
Project	Capacitor bank internal arc energy
Location	Norway
Year	2013
Position	High Voltage components expert
Duties	Failure scenarios for 12 kV capacitor bank internal arc
Project	Power transformer internal arc energy
Location	Norway
Year	2013
Position	Transformer design expert
Duties	Failure scenarios for 47.5 MVA 110 kV power transformer internal arc
Project	Power transformer internal arc energy
Location	Norway
Year	2013
Position	Transformer design expert
Duties	Failure scenarios for 160 MVA 300 kV power transformer internal arc
Project	Power transformer internal arc energy
Location	Norway
Year	2013
Position	Transformer design expert
Duties	Failure scenarios for 9.2 MVA 13.8 kV power transformer internal arc
Project	Design Review of power transformer.
Location	Portugal
Year	2013
Position	Transformer design expert
Duties	Design review of three phase power transformer, 37.5 MVA 230 kV

Project	Glaninger impedance
Location	Spain
Year	2012
Position	Testing expert
Duties	Design and manufacturing of a Glaninger impedance for impulse voltage testing of power transformers
Project	High Voltage divider
Location	Spain
Year	2012
Position	Testing expert
Duties	Design and manufacturing of a voltage divider for impulse voltage testing
Project	Power transformer internal arc energy
Location	Norway
Year	2012
Position	Transformer design expert
Duties	Failure scenarios for 50 MVA 110 kV power transformer internal arc
Project	Design Review of power transformer.
Location	Italy
Year	2012
Position	Transformer design expert
Duties	Design review of three phase power transformer, 55 MVA
Project	Design Review of power transformer.
Location	Portugal
Year	2012
Position	Transformer design expert
Duties	Design review of three phase power transformer, 240 MVA
Project	Design Review of power transformer.
Location	Spain
Year	2012
Position	Transformer design expert
Duties	Design review of three phase power transformer, 120 MVA
Project	Design Review of furnace power transformer.
Location	Finland
Year	2012
Position	Transformer design expert
Duties	Design review of three phase furnace power transformer, 22 MVA
Project	Failure analysis on MV dry type transformers.
Location	Turkey
Year	2012
Position	Transformer expert
Duties	Failure analysis of 5 MV transformers installed in a wind farm
Project	Design Review of power transformer.
Location	Colombia
Year	2012
Position	Transformer design expert
Duties	Design review of three phase power transformer, 25 MVA



Project **Power transformer internal arc energy**
 Location Portugal
 Year 2011
 Position Transformer design expert
 Duties Failure scenarios for 445 MVA 415 kV power transformer internal arc

Project **Failure analysis in a Power Station**
 Location Mexico
 Year 2011
 Position Failure analysis expert
 Duties Failure analysis of a power station Failure, involving explosion and fire of 3.3 kV switchgear, 18 MVA auxiliary transformer and 200 MVA, 400 kV step-up transformer.

Project **Design Review of power transformer.**
 Location Portugal
 Year 2011
 Position Transformer design expert
 Duties Design review of single phase power transformers, 80 MVA


Project **Design Review of power transformer.**
 Location Portugal
 Year 2011
 Position Transformer design expert
 Duties Design review of three power transformers, 60-100-100 MVA

Project **Design Review of power transformer.**
 Location Spain
 Year 2011
 Position Transformer design expert
 Duties Design review of a power transformer, 130 kV 20 MVA

Project **Power transformer short circuit test**
 Location Holland
 Year 2011
 Position Transformer testing expert
 Duties Witnessing of the dynamic short circuit test in Kema laboratory.

Project **Technical specification of a furnace transformer**
 Location Spain
 Year 2011
 Position Transformer design expert
 Duties Technical specification issue

Project **Power transformer internal arc energy**
 Location Portugal
 Year 2010
 Position Transformer design expert
 Duties Failure scenarios for 278 MVA 240 kV power transformer internal arc

 **Project** **Power transformer internal arc energy**
 Location Australia
 Year 2010
 Position Transformer design expert
 Duties Failure scenarios for 132 kV power transformer internal arc

Project	Distribution transformers design
Location	Egypt
Year	2010
Position	Transformer design expert
Duties	New design for distribution transformers, 500 kVA, 1500 kVA, 3000 kVA, oil immersed.
Project	HV bushings testing.
Location	Germany
Year	2010
Position	High voltage test expert
Duties	Witnessing of 400 kV bushings testing
Project	Design Review of power transformer.
Location	Portugal
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 60 MVA
Project	Design Review of power transformer-Shell type.
Location	Spain
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 415-230/19-21 kV 550 MVA
Project	Power Transformer testing.
Location	Portugal
Year	2010
Position	Power transformer testing
Duties	Witnessing of transformer testing after short circuit test.
Project	Design Review of power transformer.
Location	Portugal
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 60 MVA
Project	Design Review of power transformer.
Location	Portugal
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 75 MVA
Project	Design Review of power transformer.
Location	Belgium
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 60 MVA
Project	Design Review of power transformer.
Location	Spain
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 220 kV 60 MVA



Project	Design Review of power transformer.
Location	Spain
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 60 MVA
Project	Failure Analysis of two 250 MVA Power Transformers
Location	Ethiopia
Year	2010
Position	Transformer failure analysis expert
Duties	Power transformer failure analysis
Project	Dynamic short circuit test of a Power Transformer designed by HVCC.
Location	Italy
Year	2009
Position	Transformer design expert
Duties	Power transformer test tested at CESI laboratory with positive result
Project	Power transformer design, manufacturing and testing, including dynamic short circuit test.
Location	Egypt
Year	2008-2009
Position	Transformer design expert
Duties	Power transformer design.
Project	Dynamic short circuit test of a Power Transformer designed by HVCC.
Location	Holland
Year	2009
Position	Transformer design expert
Duties	Power transformer test, tested at KEMA laboratory with positive result.
Project	Power transformer design, manufacturing and testing, including dynamic short circuit test.
Location	Spain
Year	2008-2009
Position	Transformer design expert
Duties	Power transformer design.
Project	High voltage testing equipment
Location	Spain
Year	2009
Position	High voltage test expert
Duties	Design of high voltage testing equipment for field test on a complete HV substation
Project	Training course on Power Transformers Design
Location	Spain
Year	2009
Position	Power transformers design expert
Duties	Training course on power transformers design techniques.
Project	Power Transformers Design software
Location	Spain
Year	2009
Position	Power transformers design expert
Duties	Software package for power transformers design.



Project	Partial discharge testing of Power Transformers
Location	Spain
Year	2009
Position	Power transformers testing expert
Duties	Design of a set of HV filters to allow PD measurements in the factory laboratory
Project	Training course on power transformers acceptance tests.
Location	Spain
Year	2008
Position	Power transformers testing expert
Duties	Training course on power transformers testing techniques
Project	Short circuit current calculations on power transformers.
Location	Spain
Year	2008
Position	Power transformers design expert
Duties	Calculation of short circuit currents in various power transformers.
Project	Design Review of power transformer.
Location	Spain
Year	2008
Position	Power transformers design expert
Duties	Design review of a power transformer, 66 kV 40 MVA
Project	Design Review of power transformer.
Location	Spain-Belgium
Year	2008
Position	Power transformers design expert
Duties	Design review of a power transformer, 132 kV 30 MVA
Project	Acceptance tests and design checks of four power transformers
Location	Portugal
Year	2008
Position	Transformer test and design expert
Duties	Witnessing of acceptance tests of four power transformers and design verification.
Project	Design Review of Power Transformer 1000 kV – AC
Location	China
Year	2007
Position	Expert
Duties	Design review of 1000/500 kV power transformers and 1000 kV shunt reactors
Project	Design Review of Power Transformer 800 kV – DC
Location	China
Year	2007
Position	Expert
Duties	Design review of 800 kV DC conversion power transformers and smoothing reactors

Project	Course of power transformers design
Location	Malaysia
Year	2007
Position	Project manager, Transformer Design Expert
Duties	Ten days course of power transformer design for technical staff of Malaysian manufacturer.
Project	Design of three power transformers and one distribution transformer.
Location	Malaysia
Year	2007-2008
Position	Project manager, Transformer Design Expert
Duties	Full design of three power transformers (7.5 MVA, 15 MVA and 30 MVA) and one distribution transformer (1500 kVA) to be tested with dynamic short circuit test, including calculation, ACAD drawings and manufacturing instructions. Control and inspection of manufacturing process.
Project	Design review, Quality Assurance and training course of power transformers.
Location	Malaysia
Year	2006-2007
Position	Project manager, Expert
Duties	Design review of four power transformers. Quality assurance of four prototypes construction to be full type and routine tested, including dynamic short circuit test. Ten days of training course for design and testing technicians, including laboratory exercise and final exam.
Project	Design review and Factory inspection
Location	Brazil-Colombia
Year	2006
Position	Expert
Duties	Design review of two power transformers, single phase 500 kV, 150 and 120 MVA and three 500 k V shunt reactors. Factory inspection of main manufacturing process on Quality Assurance of power transformer.
Project	Design review of Power Transformer
Location	Egypt
Year	2006
Position	Expert
Duties	Manufacturer's design review for 40 MVA power transformer to guarantee a good performance under short circuit test.
Project	Design Review of power transformers CESI - Politecnico di Milano
Location	Italy
Year	2005
Position	Expert
Duties	Definition of standard calculation procedures for design review of power transformers checks, in cooperation with Politecnico di Milano (Milan University), Prof. Mario Ubaldini.
Project	Development of Distribution's Condition-Based Maintenance Master Plan
Location	Malaysia
Year	2005-2006

Position Project Manager
Duties 1.- The review of the network characteristics, its available tools and methods for the planning and execution of the maintenance plans,
 2.- The identification of the most effective diagnostic indicators and methodologies for the condition assessment of electrical components in view of the implementation of a CBM approach
 3.- The evaluation of the potential benefits achievable with CBM
 For the Implementation phase it has be considered the availability on the market of software products which, suitably configured to the specific situation and implemented with the engineering modules derived from the experience in the life-cycle management of electrical components, can be used as the core of the required CMMS system. These Commercial packages will be chosen and proposed during the Master Plan phase.

Project **Failure analysis of 3 single phase 500 kV shunt reactors**
Location Brazil
Year 2005
Position Expert
Duties Failure analysis of three single phase 500 kV shunt reactors of HV transmission network in north of Brazil

Project **Failure analysis of two power transformers**
Location Jordan
Year 2005
Position Expert
Duties Failure analysis of two step-up power transformers of Aqaba power station

Project **Testing of HVDC power transformers**
Location China
Year 2005
Position Expert
Duties Inspection of manufacturing and testing of 28 HVCD 400 kV power transformers

Project **Failure analysis of 60 MVA power transformer**
Location Spain
Year 2005
Position Expert
Duties Failure analysis of 60 MVA two secondaries and delta tertiary power transformer of Simancas substation (Madrid, Spain)

Project **Quality Assurance for power transformers**
Location Spain-Turkey
Year 2005-2007
Position Project Manager
Duties Quality assurance of power transformers production, including 9 design reviews (one for type), manufacturing inspections and type and routine tests.

Project **Condition assessment of 30 power transformers**
Location Peru
Year 2005
Position Expert
Duties Condition assessment of 30 step-up power transformers of Mantaro power station



Project	On site testing for Life assessment on 9 power transformers
Location	IRAN
Year	2004
Position	Project Engineer
Duties	On site tests for life assessment on 9 power transformers (400 k V and 230 kV) at Ziaran substation (Iran)
Project	Condition assessment of 6 Rectifiers
Location	Bahrain
Year	2004
Position	Expert
Duties	Condition assessment on 6 Rectifiers of Aluminum Bahrain.
Project	Failure analysis of 120 MVA power transformer
Location	Spain
Year	2004
Position	Expert
Duties	Failure analysis of 120 MVA power transformer of Cerro de la Plata substation (Madrid)
Project	Technical consultancy for operation and maintenance of the electrical transmission network of Peru
Location	Peru
Year	2004
Position	Expert
Duties	Technical advice about the operation and maintenance polices of the power network
Project	China Northwest. Quality Assurance and Testing for 750 kV Power Transformers and Reactors.
Location	China
Year	2004-2005
Position	Expert
Duties	Inspection services for factory testing
Project	Testing and assistance during first running of 4 thermal plants
Location	Italy
Year	2003
Position	Team Leader
Duties	Field testing and technical assistance during the first running of 4 thermal units, 250 MW
Project	OLTC homologation at factory, Bulgaria
Location	Bulgaria
Year	2003
Position	Expert
Duties	Complete OLTC testing at factory, Bulgaria
Project	On-site diagnosis of 150 MVA Power Transformer
Location	Slovenia
Year	2003
Position	Expert
Duties	Complete on-site diagnosis testing of 150 MVA Power Transformer of ELES - Slovenia

Project	On site testing specification for Power Transformers
Location	Venezuela
Year	2003
Position	Specialist
Duties	Complete on site testing specifications according to international standards of power transformers
Project	Life assessment on power transformers
Location	Iran
Year	2002
Position	Specialist
Duties	On site tests for life assessment on 9 power transformers (400 k V and 230 kV) at Tehran Pars substation (Iran)
Project	Project for reconstruction and privatization of "ELEKTROSTOPANSTVO NA MAKEDONIJA"
Location	Macedonia
Year	2002
Position	Expert
Duties	Determination of economic assets for the privatization of thermal and hydro plants in Macedonia
Project	Failure analysis on MV dry type power transformers
Location	United Arab Emirates
Year	2002
Position	Specialist
Duties	Failure analysis on many MV dry type power transformers installed in Dubai public distribution network
Project	On-site testing of step-up Power Transformer at di Mers El Hadjadj Power Station, Orano (Algeria)
Location	Algeria
Year	2002
Position	Project Leader
Duties	On-site testing, comprising PD test of step-up Power Transformer.
Project	Design review of a 50 MVA rectifier - Bahrain
Location	Italy
Year	2002
Position	Expert
Duties	Design review of a 50 MVA rectifier
Project	Failure analysis on GIS Project
Location	Malaysia
Year	2002
Position	Expert
Duties	Failure analysis of 300 kV GIS
Project	No load losses analysis on 100 MVA Power Transformer
Location	Iran
Year	2002
Position	Expert
Duties	No load losses analysis on 100 MVA Power Transformer

Project	Failure analysis and transient overvoltages measurements on a Power Transformer at a refinery
Location	Greece
Year	2002
Position	Expert
Duties	Failure analysis with on-site visual inspection of Power Transformer and overvoltages measurements at a refinery (Greece)
Project	Inrush current on 100 MVA Power Transformer
Location	Hong Kong
Year	2002
Position	Expert
Duties	Inrush current measurements on a 100 MVA Power Transformer
Project	Design review of Power Transformer
Location	Hungary
Year	2001
Position	Expert
Duties	Design review of 50 MVA Power Transformer manufactured in Hungary
Project	Failure analysis and testing after repair of a 50 MVA Power Transformer.
Location	Pakistan
Year	2001
Position	Expert
Duties	Failure analysis with visual inspection during dismantling and complete tests of a 50 MVA Power Transformer
Project	PD measurements on 7 step-up power transformers
Location	Spain
Year	2001
Position	Expert
Duties	Factory PD tests of 7 step-up 100 MVA single phase power transformers
Project	On-site PD measurement on a 50 MVA rectifier
Location	Bahrain
Year	2001
Position	Expert
Duties	PD measurements on a 50 MVA rectifier at Alba Bahrain factory
Project	Software for power transformers diagnostic
Location	Italy
Year	2000
Position	Expert
Duties	Development of dedicated software for power transformers diagnostics, based on DGA and other diagnostic indicators
Project	Failure analysis of 150 MVA Power Transformer
Location	Jordan
Year	2000-2001
Position	Expert
Duties	Failure analysis with on-site visual inspection of a 150 MVA Power Transformer at Aqaba Power Station (Jordan)



Project	Failure analysis of three Power Transformers at Quetta Power Plant (Pakistan)
Location	Pakistan
Year	2000-2001
Position	Expert
Duties	Failure analysis of three step-up power transformers at Quetta Power Station
Project	Installation review of the cable network of a refinery
Location	Saudi Arabia
Year	1999
Position	Expert Engineer
Duties	To carry out the installation review of the cable network of a major industrial plant, pointing out, by means of a multi-criteria approach, the areas where refurbishment and modification area necessary to improve the plant reliability and to enhance the safety.
Project	GIS testing after erection
Location	Malaysia
Year	1998-2002
Position	Expert
Duties	On site Partial Discharge measurements (acoustic method) and High voltage testing of Gas Insulated Switchgears after erection (before commissioning)
Project	Application of life extension procedures for power plant and distribution network electrical components
Location	Italy
Year	1998-2000
Position	Expert Engineer
Duties	To apply procedures to assess the possibility of extending the service life of electrical components for different voltage levels.
Project	Diagnostic on power transformers based on DGA
Location	Italy, Pakistan, Iran, Jordan
Year	1998-2002
Position	Expert
Duties	Power transformers diagnostics based on Dissolved Gas Analysis, Furans and Physical parameters
Project	Condition assessment of power transformers
Location	Italy
Year	1998-2002
Position	Expert Engineer
Duties	To carry out, the condition assessment of power transformers, for several utilities and industrial users.
Project	Condition assessment of medium voltage power cables
Location	Italy
Year	1998-2002
Position	Expert Engineer
Duties	To carry out the condition assessment of medium voltage power cables, in several power generation plants (fossil and hydro plants), distribution companies, and industrial users.



Project
Development of tools and methods for the condition assessment of electrical components
 Location Italy
 Year 1997-2000
 Position Expert Engineer
 Duties To set up methods, procedures and tools for the condition assessment of power components, with particular reference to the setting up of data collection questionnaires, visual inspection checklists and instrumental checks procedures for the assessment of the conditions of components in service.

Project
Failure analysis investigations of power transformers
 Location Italy, Argentina, Pakistan, Greece, Spain
 Year 1997-2002
 Position Expert Engineer
 Duties To carry out the failure analysis of power transformers for several users in the world (utilities and industrial users).

Project
Design review of power transformer
 Location Italy, Argentina, Saudi Arabia, Brazil, Pakistan
 Year 1996-2002
 Position Expert Engineer
 Duties To carry out, in collaboration with other experts (Eng. Coppadoro, Prof. Bossi, Harold Moore et al) from the manufacturers and utilities, the review, the design of large step-up or specialist transformers, normally in the frame of the failure analysis of the machines considered.

Project
Testing and Research Activity
 Location Italy
 Year 1990-1997
 Position Testing and Research engineer at Cesi laboratories
 Duties HV testing of equipment in MV, HV and EHV range, as:

- Power transformers
- Switchgears and Controlgears
- Circuit breakers
- Disconnectors (Isolators) and Earthing switches
- Cables
- Capacitors
- HV lines accessories
- Insulators



Project **High Voltage-High Power Laboratory Project**
Location Argentina-Italy
Year 1986-2000
Position Project leader
Duties Design of the general layout and building dimensions.
Design of the EHV hall, equipped with a 3.6 MV impulse generator and 2 x 500 kV test transformer cascade.
Design of the HV hall, equipped with a 1.6 MV impulse generator and a 500 kV test transformer.
Design of the pollution chamber with a special bushing for 500 kV.
Design of Auxiliary Laboratories with a Faraday Cage, surge arrester test area, insulators test area, organic materials test area, etc.
Technical specifications for bid enquire for the main equipment: impulse generators, test transformers, voltage divider, measurement components, etc. and preliminary offers analysis.

On 1986, five months of stage at CESI with CESI experts assistance for the laboratory project.

Technical visits to European companies and laboratories as:
ASEA-HAEFELY plant, Basel (Switzerland)
CERAVER S.A. plant, Saint Yourre (France)
NUOVA INDUSTRIE ELETTRICHE DI LEGNANO s.p.a., Legnano (Italy)
PASSONI E VILLA s.p.a, Milano (Italy)
ABB-ADDA COSTRUZIONI ELETTROMECCANICHE s.p.a., Lodi (Italy)
SOCIETA` CAVI PIRELLI s.p.a., Milano (Italy)
HIGH VOLTAGE LABORATORY OF BAZET, Bazet (France)
LES RENARDIERES LABORATORY, Moret sur Loing (France)
ENEL - SUVERETO 1000 kV PROJECT, Suvereto (Italy)

Project **Solid insulation materials testing**
Location Argentina
Year 1984
Position Testing engineer
Duties Design and construction of a test facility for testing solid and liquid insulation materials

Project **Artificial rain tests**
Location Argentina
Year 1983
Position Testing engineer
Duties Design and construction of an artificial rain equipment for standard HV tests

Project **Temperature cycles test for solid insulations**
Location Argentina
Year 1982
Position Testing engineer
Duties Design of a system for performs extreme temperature cycles tests



Project

Location

Year

Position

Duties

Testing activities

Argentina

1980-1985

Testing engineer

PD measurements on electrical components, as current and voltage transformers, power transformers, cables, capacitors, etc.

Capacitance and loss factor by means of Shering bridge.

Expert on power transformers impulse test with more than 300 machines tested.

Temperature rise test of power transformers.

RIV measurements on EHV apparatus (525 kV) for lines and substations.

HV testing (impulse and AC tests) of equipment in MV, HV and EHV range, as:

- Power transformers
- Switchgears and Controlgears
- Circuit breakers
- Disconnectors (Isolators) and Earthing switches
- Cables
- Capacitors
- HV lines accessories
- Insulators
- Other minor components

