# BIODATA OF MR. V.T. KAIRAMKONDA

## PERSONAL DETAILS

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| Name | **V. T. Kairamkonda** |
| Nationality | Indian |
| Date of Birth | 22/07/1965 |
| Profession | Electrical Engineer |
| Specialisation | Control, Protection and Power Electronics Systems |
| Position in present Organisation | MD |
| Marital Status | Married-Two children |
| Permanent Address | A-1302, Adinath Towers, V.S.Marg, Opp. to ST depot, Borivali(E), Mumbai – 400066 |
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## KEY QUALIFICATIONS

- Specialisation in design, testing and commissioning of Control and Protection equipments/systems for sub-stations, power plants and industrial plants
- Specialisation in design, development and testing of Power Electronics Systems viz variable speed drives, UPS, Battery Chargers, High Current Rectifiers, High Frequency Inverters, Hardware Embedded systems, SMPS power supplies, Protective Relay Test Sets, Battery Monitoring Systems etc.
- Specialisation in Electrical System Studies using EDSA & ETAP softwares
- Specialisation in Software Program development in Java, C++, DSP, FPGA

## EDUCATIONAL AND PROFESSIONAL STATUS

- Diploma in Electrical Engg. from Board of Technical Exams., Bombay, 1983 (**Gold medalist**).
- Bachelor of Engineering (Electrical), University of Pune, India, 1986 (**Top rank holder**).
- Master of Engg. (Control Systems), University of Pune, India, 1988 (First Engg. College in **Asia**).
- Diploma in Import and Export Management from American Education Academy, Mumbai.
- P. Eng. from Professional Engineers, Ontario, Canada.

## PROFESSIONAL EXPERIENCE RECORD

**2007 to Date** **SAVY Technologies, Mumbai**

**Harmonic Calculations & Transient Stability Studies, Petrofac, Sharjah, UAE –**Executed Harmonic Calculations & Harmonic Filter Design for 2x18MW Synchronous Motor Drives, Kauther Project of PDO, Muscat + Transient Stability Studies for SAUDI ARAMCO's 4x177MVA, 115kV S/S Karan Project. Provided Training to Petrofac Staff.

**System Studies for HPCL, Mumbai Refinery –**Executed system studies project containing Relay Co-ordination Studies, Fault Calculations, Capacitor Sizing, Transient Stability Studies, Harmonic Analysis including actual Harmonic Measurements and revamping of Transformer Differential Protections.

**Transient Voltage Stability Studies, METITO, Sharjah, UAE –**Executed very difficult task of calculations with proof as per IEC standards for detailed calculations of Transient Stability Studies for ADMA-OPCO's Das Island project.

**4x100MW + 400kV S/S for Koteshwar Hydro Power Plant for THDC, Tehri, UK, India –**Executed complete Unit Protection System including sessions with clients and vendor (Siemens, Gurgaon, India).

**4x111MW + 420kV S/S for Vishalgad Pipalkoti Hydro Power Plant for THDC, Tehri, UK, India –**Executed specification preparation and bid evaluation for complete Protection System.

**Harmonic Calculations and Harmonic Filter Sizing for Dubai Investment Park, Dubai, UAE –** Executed Harmonic Calculations for a plant containing several AC Drives and UPS as per IEEE-519 standards and calculations of the sizing of the Harmonic Filters + preparation of specifications for the Filters.

**Relay Setting Calculations and scheme design for 3-Terminal Distance Protection for the 132kV T-Off Transmission Line for TRANSCO, Abudhabi, UAE –** Executed complete scheme design and relay setting calculations for T-Off connection for a 132kV Transmission Line between Qidfa-Fujairah. This is considered as one of the difficult scheme for distance relay setting calculations with involvement of Line Differential Relays.

**Excitation System Problem for 4.6MW Generator for HR-Johnsons, Pen Plant –**Solved the commissioning problem of Excitation System with modifications and settings for 6.6kV, 4.6MW Synchronous Generator.

**Protective Relay Test Set –**Development of Protective Relay Test Set for testing the power system protective relays of all kinds for Generator, Transformer, Line, Busbar, Breaker Failure Protection, Feeder, Synchro Check, Auto-Recloser, Transformer AVR, Frequency Protection, Metering devices etc. with lot many unique features.

**Battery Monitoring Systems –**Development of Monitoring device for the monitoring of life expectancy of battery in Power Plant and sub-stations. This device provides the innovative concepts of modern technology. This device monitors the Voltage and Current and sends the data to Computer for processing and making analysis of the data acquired. This state of the art technology device has been invented with new algorithms in software processing with state of the art Electronic Hardware with embedded technology.

**High Frequency Inverter –**Development of High Frequency, High Power inverter with high reliability. This product is the first manufactured in Asia. This will be the first in World with new additions and modifications with state of the art technology.

**"Protection Specialist" Models –**Development of all kinds of ready to use models for Design and calculations for Protection Systems in Electrical Power Industry.

**May 2004 to Dec 2006** **Manta Test Systems, Mississauga, ON, CANADA**

**Software development for Automated Test Equipments –**Developed the complete software for testing equipments automatically with auto generation of reports in word and excel format.

**High Frequency Inverter –**Development of High Frequency, High Power inverter with high reliability. This innovative development was with new additions and modifications with state of the art technology.

**Nov 2001 to Apr 2004** **ABB Inc. Burlington, ON, CANADA**

**Refurbishment of HA VAR Controller for DOFASCO Inc. Hamilton, Canada -**Preparation of Single Line Diagrams, Schematic Diagrams, Configuration of Control & Protection device REF545, Protection relay setting calculations and fault calculations. Co-ordination for Technical analysis, material ordering and arranging/involving in meetings for drawing approvals etc. Assisted post commissioning fault analysis and solutions for technical problems. Also, provided training to the customer staff. Involvement for Interfacing with MicroSCADA system.

**66kV Emerald Switching Station for techcominco, Trail, Canada -**Preparations of Configurations for Control & Protection device REF543 comprising complex logic with state of art Fibre Optic Communications interfacing schemes associated with MicroSCADA system. The project consisted 17 bay switchgear and 27 nos. Control & Protection devices. Testing of the system in the factory. Used CAP505 software for configuration of relays. Prepared Complex logics using peer to peer communication for all 27 interconnected devices.

**3 X 100MW + 400kV GIS HydroElectric Power Plant for Chamera-II, India -**Preparation of Single Line Diagrams, Schematic Diagrams, Design Brief, Logic Diagrams. Technical discussions with customer and consultant (SNC-LAVALIN, Montreal, Canada). Testing of protection panels. Assistance for technical support etc. This project consists 400kV GIS and Power Plant. Association with DCS system and MicroSCADA system for necessary interfacing. Used CAP505 and CAP540 software for configuration of numerical relays. Fully responsible for Engineering, software programming and testing of Indactic65C FMS and Indactic42 SER. Used relays were REG316*4, REM543, GPU2000R, RAGEK, REL511, REL521, REL551, RET531, RED521, REB010, Synchrotact5.

**3 X 177MVA Battleriver Generating Station, ATCO Power, Alberta, Canada -**Engineering and Commissioning of Generator protection for 177MVA Generator, Generator Transformer and associated Unit Aux. Transformer etc. Also, for 4.16kV motor protection relays for the turbine/boiler motors in the plant. Protection relay setting calculations and fault calculations. Co-ordination for Technical analysis, material ordering and arranging/involving in meetings for drawing approvals etc. Assisted post commissioning fault analysis and solutions for technical problems. Used relays were REG216, SPAM150c, SPAU140c, SPAU110c.

**2 X 300MW Cheongsong Pumped Storage Power Plant for Korea Western Power Company -** Preparation of Single Line Diagrams, Schematic Diagrams, Design Brief, Logic Diagrams. Technical discussions with customer. Testing of protection panels. Assistance for technical support etc. This project consists 400kV GIS, Static Frequency Converter and Power Plant. Association with DCS system and MicroSCADA system for necessary interfacing. Used relays were REG316*4, REM543, GPU2000R, RAGEK, RET531, TPU2000R, RED521, Synchrotact5.

**Synchronizing Panel for Guadalupe-III Plant, Colombia -**Preparation of Single Line Diagrams, Schematic Diagrams, Design Brief, Logic Diagrams for Synchronizing panels. Technical discussions with customer.

**General -**Technical support to Customer and marketing department. Assistance for tendering.

**Dec 1997 –Sept 2001** **ABB Transmission & Distribution Ltd, ABU DHABI, UAE**

**132/11kV, 4X40MVA, SCMS Substations at E8 & Madinat Khalifa, Abu Dhabi -**Commissioning Leader & Protection Engineer for commissioning of complete Control & Protection system which includes ABB make variety of latest trend relays, Numerical Line & Transformer protection relays, Directional Wave relay, Directional Earth Fault relays, Autoreclosure, Fault Locator, 132kV GIS, 11kV GIS, 40MVA Transformers, 11kV Reactors, DC System, SCMS(Substation Control & Monitoring System), FMS, Busbar & BF Protection Panels. Also, responsible for relevant commissioning activities such as documentation, drawing modifications, discussions etc. Also, associated with Installation & Testing of Telecommunication equipments viz. KTI links, FOX U links and NSD70C for E8, ADPS & W2, Madinat Khaleefa, Taweelah, Umm Al-Nar S/S. Also, provided professional site training to Customer Personnel. Also, completed distance relay modification works at W2 & ADPS 132kV S/S, Extension works at 132kV S/S's viz. E15, W13, W24, Mussafah, Salt & Chlorine , Umm Al - Nar, Taweelah and ADPS.

**May 1996 – Nov 1997 EWBANK PREECE CONSULTING ENGINEERS, ABU DHABI, UAE**

**Reinforcement of 33kV Network in Abu Dhabi for WED -** Resident Engineer for design review, inspection activities and site supervision for 04 nos. 33/11kV, 3x20MVA new substations and mod. works for old substations.
- Project feasibility studies, design of Electrical system for Power Plants, Transmission & Distribution systems of various voltage levels and capacities for utility and Oil & Gas industry.
- Computer study of Electrical systems and recommendations using CYME Software.
- Preparation of Specification, Vendor Drawing Review, Inspection activities for MV substations for Distribution Systems. Design and sizing calculations for equipments.

**Sept 1994 – Apr 1996 ASEA BROWN BOVERI SAE-SADELMI, ABU DHABI, UAE**

**6 x 175MVA Power and Desalination Plant at Al-Taweelah B, Abu Dhabi for WED-** Senior Commissioning Engineer for commissioning of complete protection system which includes ABB make variety of latest trend relays, Numerical Diesel Generator protection relays, Excitation and Governor control system for DG, 380/132kV - 275MVA, 132/11kV - 80MVA transformers, Automatic Quick Transfer panels and Smoke Detector panels. Commissioning of complete 11kV switchgear system including auxiliary transformers and motors. Also, responsible for site modifications to suit system requirements, calculations of relay settings and preparation of reports for system problems, their analysis and recommendations .

**Sept 1993 -Aug 1994 TOSHIBA CORPORATION, ABU DHABI, UAE**

**400kV GIS at Al-Dahma, Al Ain for WED -** Deputy site incharge for supervision of installation and erection activities, preparation for energisation of sub-station, assistance for testing and commissioning of Control and Protection equipment, PLCC equipments and 48V DC battery chargers.Also,provided assistance for final completion of 220kV Al-Hayer substation in Al-Ain area for WED.

**Nov 1988 -Aug 1993 TATA CONSULTING ENGINEERS, MUMBAI, INDIA**

Projects undertaken as Senior Assistant Engineer includes:

**POWER PLANT/SUBSTATION PROJECTS:**

***Foreign Projects on Deputation***

**(A) Following jobs were offered by HITACHI LTD., JAPAN**

**400kV GIS at Taweelah, Abu Dhabi for WED -** This substation consists 18 bays and responsible for testing and commissioning of Control and Protection equipments of ABB, Hitachi and Toshiba make.

**380kV GIS at Ghunan & Qurayyah in Al-Khobar area for SCECO (E), Saudi Arabia** - Testing and commissioning of Control and Protection equipments of ABB, GEC and Hitachi make.

**230kV GIS at Ghunan, Dhahran & Faras in Al-Khobar area for SCECO(E), Saudi Arabia** - Testing and commissioning of PLCC equipments and protection signalling equipments of ABB make.

**(B) SCADA project for Tabouk Electricity Company, Tabouk, Saudi Arabia -** Design engineering services includes for 6 nos. 132kV GIS and 2 nos. power plants. The SCADA system was supplied by Leeds and Northrup, USA and job offered by Al-Jazirah Engineers and Consultants, Jeddah, Saudi Arabia.

**(C) 132kV GIS for MPWH, Riyadh, Saudi Arabia** - Design Engineering Services for Control and Protection equipments. This job offered by Adwan Trading and Contracting Company, Riyadh, Saudi Arabia.

***Indian Projects***

**245kV GIS at Salsette for TATA Electric Company, Bombay -** Preparation of interconnection schedules and testing of ABB make protection equipments.

**220kV Dharavi S/S for TATA Electric Company, Bombay -** Design and modifications of switchgear protection equipments to improve the system.

**132kV S/S at Nepanagar Paper Mills, Nepanagar (MP)** - Testing and commissioning of Control and Protection equipment.

**220kV S/S for ESSAR Steel, Hazira (Gujrat) -** Preparation of specification including SLD, bill of quantity, technical data sheets and layout drawings.

**500MW UNIT-6 for TATA Electric Company, Trombay, Bombay -** Design engineering services for MV switchgear equipments.

**SYSTEM STUDIES PROJECTS:-**(Worked 0n In-House Developed software)

**System Studies for Hindustan Petroleum Corporation Ltd., Bombay -** Study, Analysis and Recommendations on relay co-ordination studies for phase and earth fault, short circuit studies, load flow studies and under frequency load shedding studies. The network consists 150 buses of 132kV, 33kV, 6.6kV and 415V and 300 feeders.

**System Studies for Bharat Petroleum Corporation Ltd., Bombay and National Fertilizers Ltd., Panipat** - Study, Analysis and Recommendations on relay coordination studies for phase and earth fault and short circuit studies.

**System studies for Madhya Pradesh Electricity Board, Jabalpur (MP) -** Study, Analysis and Recommendations on load flow and under frequency load shedding studies. The network consists 300 buses of 400kV, 220kV and 132kV which is one of the largest system in India.

**INDUSTRIAL PROJECTS:-**

**Maruti Udyog Ltd., Gurgaon (Haryana) -** Preparation of Specification (including SLD, bill of quantity, technical data sheets, layout drawing), bid evaluation and Detailed Engineering for MV and LV switchgear equipments and related equipments for various car manufacturing shops. This project was in collaboration with Suzuki, Japan.

**DC drives for Napanagar Paper Mills, Nepanagar (MP)** - Preparation of specification, bid evaluation & detailed engineering for complete process of newspaper production. Also, solved various electronic problems of variable speed drives separately.

**DC drives for 28" reversing Mill for Rathi Alloys and Steel, Alwar (Rajasthan) -** Detailed engineering, inspection and expediting of complete process of steel production. Also, responsible for detailed engineering and inspection of Allen Bradley (India) make Programmable Logic Controllers.

**UPS System for OPTEL Telecommunications Ltd., Bhopal (MP) -** Preparation of design concept, specification, bid evaluation and detailed engineering for 3 x 400KVA UPS systems including 1000KVA DG Set.

**AC drives for Gujrat Guardian Ltd., Ankleshwar** - Testing and commissioning of Siemens, India and Reliance Electric Company, USA make AC drives. This was a float glass project in collaboration with Guardian Industries, USA. Also, responsible for supervision of DCS.

**Caprolactum Project for Modi Group** - Preparation of feasibility reports for electrical systems which includes hazardous and non-hazardous areas.

**Biax Packaging Ltd. -** Preparation of specification and inspection which comprises variety of drives.

**POWER ELECTRONICS PROJECTS:-**

**Jul 1986 -Oct 1988 ADVANI-OERLIKON LTD., PUNE (R&D - Power Electronics Division)**

**Electrodip Painting Rectifier for Kinetic Honda Ltd., Pithampur (MP)** - Design and testing of 0-300V/0-300A, 12 pulse DC converter system including Rectifier Transformers, interphase transformer, DC choke and remote operated control desk.

**Variable Speed AC Drives** - Development of 7.5HP VSI type, PWM technique using Gate Turn Off Thyristors (GTO) as power device.

Modification and development of CSI type variable speed AC drives using converter grade Thyristors.

**15 degree extended delta transformer for Bhabha Atomic Research Centre, Bombay** - Design and testing of dry type, H-class insulation transformer.

Design of battery chargers, rectifier transformers and Low voltage - High current DC converter systems for various industrial projects.

## COMPUTER / SOFTWARE FAMILIARITY

**Unix System** for use of Interactive Power System Analysis and Simulation (IPAS) package for Load flow, Short circuit, U/F Load shedding, Relay Co-ordination studies, **CYME** Electrical Softwares, **ETAP**, **EDSA**, RAGTIME5, SEE4000, Corel Draw, CAP505, CAP531, CAP540, WINCOM, WINEVE, Maple, Mathcad, Matlab, MS-Office, MS-Project, MS-ACCESS, FOX, AUTOCAD, MCSE literate, Visual Basic, C++, Java, DSP, FPGA.

## INERNATIONAL STANDARDS FAMILIARITY

IS, IEC, BS, IEEE GUIDELINES, API, CS, UL STANDARDS

## PERFORMANCE AWARDS

Best work performance awards consecutively 4 years from TATA Consulting Engineers & Asea Brown Boveri

## LANGUAGE CAPABILITY

English, Hindi, Marathi, Telugu (Mother Tongue)

## TECHNICAL PAPER PUBLICATION

**IEEE** has published following article in 1992 in New York, USA
Title: "Frequency Trend and Discrete Under Frequency Relaying Practices in India for Utility and Captive Power Applications"

## PROTECTIVE RELAYS/SYSTEMS FAMILIARITY

**Overcurrent Relays** - ABB make SPAJ110C, SPAJ140C, IKC 913 & GEC - KC Series & MCAG, Siemens make 7SJ610
**Overcurrent Release** - ABB make PR1/P
**Recidual Current Relays** - ABB make RCQ
**Voltage Relays** - ABB make SPAU 330c & GEC make MVAG
**Busbar Protection Relays** - ABB make INX-5 ,RADHA, RED521 & REYROLLE make DAD
**Circuit Breaker Failure Protection Relays** - ABB make SX91, REB010
**High Impedance Differential Relays** - ABB - SPAE 010, SU91a, RADHA & REYROLLE - DAD
**Biased Differential Relays** - ABB make RET316, RET531, SPAD330, DTN 920 & REYROLLE make DUOBIAS, Siemens make 7UT612, 7UT613
**Motor Protection Relays** - ABB make SPAM 150C & SPEM 010
**Cable Differential Protection Relays** - REYROLLE make SOLKOR-RF, Siemens make 7SD61
**Automatic Voltage Regulating Relays** - GEC make MVGC01 & REYROLLE make SUPERTAPP
**Generator Protection Relays** - ABB make Numerical Type REG316, REG216, REM543, GPU2000R, RAGEK, Siemens make Numerical Type 7UM622
**Synchronising Relays** - ABB make SYNCHROTACT5
**Synchrocheck Relays** - ABB make SPAU140C & REYROLLE make TC32
**Excitation Control System** - ABB Stromberg make GX300PR
**Governor Control System** - Woodward make 2301A
**Distance Relays** - ABB make LZ96 & REL316, REL511, REL521, GEC make SHNB Micromho,OPTIMHO & Toshiba make MXL1E, SEL make SEL321
**Directional Wave Relays** – ABB make LR91 including directional earth fault relay type RE93
**Fault Monitoring System (FMS)** - ABB make Indactic-65C
**Events Sequence Recorder (SER)** - ABB make Indactic-42C
**Power Line Carrier Communication Equipments** - ABB make ETI21, KTI21
**Protection Signalling Equipments** - ABB make NSD61, NSD42, NSD70C, NSD70D

## INTERNATIONAL MANUFACTURING FACTORY VISITS

- ABB CalorEmag-Schaltanlagen, Ratingen, Germany for 33kV Gas Insulated Swithgear.
- SIEMENS, Frankfurt, Germany for 33kV Gas Insulated Switchgear.
- ABB Transformers, Leipzig-Halle, Germany for Distribution Transformers.
- AEG-TRO, Berlin, Germany for Distribution Transformers.
- Peebles Transformers, Edinburgh, UK for Distribution Transformers.
- REYROLLE -PROTECTION Ltd.,New Castle, UK for Protection & Control Panels.
- Charnvel Ltd., Nottingham, UK for 415V Switchboards.

## PROFESSIONAL TRAINING

(1) Attended Training course on Testing and Commissioning of Numerical Line Protection Type REL316*4 & Numerical Transformer Protection Type RET316*4 at ABB CalorEmag Schaltanlagen, Hanau, Germany and Switzerland.
(2) Attended Training course on Relay Settings / Co-ordination studies and Application Engg. at GEC, UK.