

COMPANY PROFILE



Cathodic Protection Projects <> Cathodic Protection Monitoring <> Corrosion Health Survey

"The Complete Quality Resources & Solutions in Cathodic Protection"



AARAV

INTERNATIONAL

The Complete Quality Resources & Solutions in Cathodic Protection

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1.0 INTRODUCTION

1.1 ABOUT THE COMPANY

AARAV INTERNATIONAL introduces as a Cathodic Protection Engineering and related Materials & Equipment supply company. However, the background of the company goes back to early 90s. Mr. Pravin Parmar, Founder and the Head of Technical Division of **AARAV INTERNATIONAL**, had worked for different Cathodic Protection Companies as a Cathodic Protection Manager since 1998. These companies had completed several important Cathodic Protection design and installation projects on Turkey basis in India. Major customers are GAIL, IOCL, BPCL, HPCL, ONGC, GGCL, GSPL, ESSAR, HPL, RIL, CAIRN, SGL, MGL, VGL, HZL, IFFCO, SHELL, LNG PETRONET..... Mr. Pravin Parmar have completed a lots of cathodic protection design and installations Projects for thousands of kilometers water pipelines, natural gas main transportation and city distribution pipelines, petroleum pipelines, internal and external cathodic protection of petroleu A/G storage tanks, Mounded LPG storage Vessels, jetties and jetty piles & steel reinforced concrete structures.

AARAV INTERNATIONAL is primarily integrated to provide wide spectrum of comprehensive services in the field of Cathodic Protection of Underground Cross Country Pipelines, Underground Plant / fertilizer complex pipelines, Underground Mounded storage vessels, A/G storage tank and related Corrosion control activities. We offer complete assortment of material, Installation, testing, maintenance and total project management. We have highly dedicated qualified and richly experienced team of Cathodic Protection Engineers, field technicians and well trained installation personnel.

AARAV INTERNATIONAL is committed to providing the materials to our customers of the highest quality by utilizing the technical expertise and services to its customers on time and at competitive prices. Our technologies and techniques is grounded in the knowledge that corrosion prevention is an integral part of integrity management, helping improve the reliability and safety of customer operations, reducing costs, and giving a competitive advantage in an ever - changing industry.

The principal activities of the company can be split into four functions as follows:

- ❖ Cathodic Protection Design & Detailed Engineering
- ❖ Cathodic protection equipment and material supply
- ❖ Cathodic protection Monitoring, Maintenance & Troubleshooting
- ❖ Field Application including Corrosion Health Survey

1.2 OUR VISION

The company foresees is to be a centre of excellence and bringing an exemplar shift in the field of cathodic protection and undertaking various projects of bigger magnitudes.

1.3 OUR STRENGTH

The Strength of our well esteemed Organization lies with its translating technology innovations into strategic Impact through working in a team environment in which the experience of our people, innovative and practical technology, service, commitment, and clear communication are seamlessly interconnected to boost the performance and profitability.

1.4 OUR MISSION

AARAV INTERNATIONAL's basic mission is to improve the quality of the products and services continuously by the means of Total Quality Management.

AARAV INTERNATIONAL's purpose is to meet or exceed the requirements and expectations of the customers, to be more competitive in terms of quality and price by innovating or implementing new technologies and consequently decreasing production costs.

Another purpose of the company is continuously improving its quality Philosophy and to be respectful both for the human beings and environment by continuously training the staff at all levels.

1.5 OUR OBJECTIVE

To sustain skills by training and transferring technology.

To provide our clients with the latest technologies and service to achieve the most cost effective operational and manageable system.

We understand that the client requires projects to be delivered on time and to this end we pride ourselves in project deliverables, combining years of technical and project management experience with a commitment to service excellence.

1.6 CV OF KEY PERSONNEL

CV of Mr. Pravin Parmar, Head of Technical Division of **AARAV INTERNATIONAL** is enclosed.

2.0 CORROSION & CATHODIC PROTECTION SYSTEMS

Cathodic protection systems, often used in conjunction with an appropriate coating system, prevent corrosion by causing direct current to flow from discrete electrodes known as 'anodes' through the surrounding environment (sea water, sediment, soil etc) onto the structure to be protected. This direct current overcomes the naturally occurring current generated as a result of the corrosion process and renders the structure cathodic - hence the name 'cathodic protection'.

There are two methods of applying cathodic protection. The first is the impressed current method, involving discrete, relatively inert anodes isolated from the structure and connected to a direct current power source. The second method involves the use of galvanic anodes, made from specially formulated alloys, which are directly attached to the structure to be protected. As these anodes are more electronegative than the structure, a galvanic cell is created, which generates the necessary protective current.

2.1 IMPRESSED CURRENT SYSTEMS

AARAV INTERNATIONAL's engineering expertise includes the design of complete impressed current protection systems and advice on the most appropriate materials and equipment. Detailed design and supply of complete systems can be undertaken on a turnkey basis or as a job specific materials supply/consultancy service.

Impressed current anodes can be produced in a wide and growing range of materials. For most environments there is no clear cut choice of material, however, the most commonly used anode types are silicon iron, mixed metal oxide, platinized titanium and graphite. **AARAV INTERNATIONAL** can supply systems using any of these materials or many others.

Typical applications for impressed current systems include buried structures such as pipelines, cable conduits, tanks, piling structures and foundations; non-buried structures such as jetties; water and sewage treatment plants, pipeline interiors, water tanks, condensers and heat exchangers.

2.2 GALVANIC ANODE SYSTEMS

AARAV INTERNATIONAL's engineering expertise includes the design of complete galvanic anode systems and advice on the most appropriate materials.

Of all the galvanic anode materials available to the corrosion engineer, magnesium anodes have the highest driving potential with respect to steel structures. For this reason, in higher resistivity electrolytes such as soil and fresh or brackish water, magnesium anodes are generally used in preference to zinc or aluminum alloys.

Magnesium galvanic anode systems are particularly suitable for external protection of buried pipelines, storage tanks, tank bases and immersed moorings, and for internal protection of storage tanks, condensers and treatment plant.

3.0 CATHODIC PROTECTION ENGINEERING SERVICES

AARAV INTERNATIONAL can provide turnkey basis Cathodic Protection Engineering Services. The services offered are given in a nutshell as given below:

3.1 Pre-Design Surveys

Initial Design Data and Parameters required for Designing of Cathodic Protection System is collected by Brief study on Pipeline History as well as by conducting Soil Resistivity Surveys, Soil Electro-Chemical Analysis, Current Drainage, Pipeline Wall thickness measurement, Type of Coating and its Conditions etc. Assuming certain Design Parameters and based on the initial parameters obtained from Survey a Proposed Design is prepared and its financial implementations are worked out.

Pre and post construction surveys can be made with Cathodic Protection specialist personals who are qualified to carry out a variety of site surveys / investigations which includes,

- ❖ Soil resistivity survey
- ❖ Soil/water Chemical analysis
- ❖ Holiday inspection of pipe coatings and cable insulation tests
- ❖ Potential and line current surveys
- ❖ Interaction testing on foreign structures
- ❖ Current drainage surveys
- ❖ Ground bed location

3.2 Design & Detailed Engineering of Cathodic Protection System

We have a NACE certified Engineers associated with Design and Development Applications. Based on the technical and commercial viabilities of cathodic protection in-house design facilities are available for all types of cathodic protection systems for Underground Cross Country Pipelines, Underground Plant / fertilizer complex pipelines, Underground Mounded storage vessels, A/G storage tank etc. The design packages usually consist of the following components:

- ❖ Design criteria
- ❖ Basis of design
- ❖ Calculations
- ❖ CP System Configuration

- ❖ CP System Component
- ❖ Proposed Bill of materials
- ❖ Materials specification
- ❖ Reference Material & Construction drawings
- ❖ Erection & Installation Procedures
- ❖ Testing & Commissioning Procedure
- ❖ Post Commissioning Survey Procedure

3.3 Supply of Cathodic Protection Materials

AARAV INTERNATIONAL supplies all the necessary cathodic protection equipments to be used in the cathodic protection projects by either manufacturing in it's structure or by sub-contracting companies or importing from the prime international manufacturer companies.

These are internationally recognized suppliers whose products are manufactured in accordance with the relevant standards and are subject to our Quality Assurance evaluation.

The most commonly used items from the following range are available from extensive stocks or with the best possible delivery time.

- ❖ Sacrificial Anodes
- ❖ Impressed Current Anodes
- ❖ Weather Proof Test Station
- ❖ Flame Proof Test Station
- ❖ Backfill Materials
- ❖ CP Cables
- ❖ Different Types of Reference Electrodes
- ❖ Transformer Rectifier Unit
- ❖ Anode Junction Box
- ❖ Cathode Junction Box
- ❖ Insulating Flange Kits
- ❖ Surge Diverter
- ❖ Zinc Grounding Cell
- ❖ Polarization Cell
- ❖ Thermit Cartridge
- ❖ Pin Brazing accessories
- ❖ Other Miscellaneous CP items

3.4 Installations of Cathodic Protection System

Standard Installation procedures and Quality Assurance Procedures are followed during execution of construction / erection phase as per Customer Approval. We have skilled technicians and field engineers to supervise for site installation activities.

- ❖ *Anode (Groundbed Horizontal/Vertical/Deepwell)*
- ❖ *Cable laying*
- ❖ *Transformer Rectifier Unit*
- ❖ *Test Station*
- ❖ *Permanent Reference Cell*
- ❖ *Grounding Cell*
- ❖ *Anode Junction Box*
- ❖ *Cathode Junction Box*
- ❖ *Cable to Pipe Connections*

3.5 Testing and Commissioning of CP System

CP System Pre commissioning exercises and methodology for Testing and Commissioning procedures are strictly followed to achieve the anticipated levels of system performance. Final testing & commissioning services are carried out by our Specialized Engineers.

We prepare final commissioning reports consisting of Test / Inspection Reports, System Performance parameters with its graphical representation and Preventive Maintenance Action plan with recommended list of spares required for maintenance of system.

3.6 Monitoring, Maintenance & Troubleshooting of CP System

Inspection of a cathodically protected system are necessary to ensure that protection of the structure is in accordance with applicable criteria, that all are noted by Engineer and if changes are noted, then action is taken to return the system to a protection conditions.

Hence we take up annual contracts for Monitoring System performance and carry out preventive as well as breakdown maintenance. We Repair and maintain Indigenous as well as imported Microprocessor and Electronic Automation Systems.

3.7 Post Commissioning Surveys

Post commissioning survey should be carried out after Line Polarization, for evaluation of coating condition, pipeline health condition & AC/DC interference survey to detect the presence of induced AC voltage in the U/G pipeline.

Special survey called as CP Post commissioning Survey are carried out to evaluate performance of CP system comprising corrosion protective coating and Cathodic Protection System for pipelines, survey that are generally carried out by **AARAV INTERNATIONAL** are

- ❖ Closed Interval Potential Logging (CIPL) Survey shall be carried to find out effectiveness of overall Cathodic protection system.
- ❖ Current Attenuation Test (CAT) & Direct Current Voltage Gradient (DCVG) survey shall be carried out to find out Condition of corrosion protective coating.
- ❖ Coating Conductance survey shall be carried out at all current Measuring test station.
- ❖ AC/DC interference survey should be carried out to detect the presence of the induced AC or DC voltage in the U/G pipeline.

4.0 SURVEY & TESTING EQUIPMENTS

AARAV INTERNATIONAL has all the necessary cathodic protection equipments to be used in the cathodic protection projects as listed below.

- ❖ Pipe and cable locator
- ❖ Soil resistivity meter
- ❖ Holiday detector
- ❖ Ultrasonic thickness meter
- ❖ CIPL survey equipment
- ❖ CAT survey equipment
- ❖ DCVG survey equipment
- ❖ High impedance multi meter
- ❖ Copper / copper sulphate reference electrode
- ❖ Silver / Silver chloride reference electrode
- ❖ Pin brazing Machine

5.0 QUALITY CONTROL & ASSURANCE

All supply materials and services undertaken by **AARAV INTERNATIONAL** are subjected to rigorous inspection procedures and monitoring in accordance with internal controls and those specified by the client.

The quality checks are carried out on behalf of the client where third party inspection is waived and in compliance with customer specifications.

Typical design codes and standards followed currently includes the following

National Association of Corrosion Engineers (NACE)

Recommended Practices (RP)

British Standards

DNV

CP 1021

ASTM

AARAV INTERNATIONAL also issues, where required, test and conformity certificates from the nodal agencies for all products, design and services provided.

When requested, **AARAV INTERNATIONAL** can produce a quality plan tailored to the customer's particular requirements and criteria.

6.0 CONTACT DETAILS

6.1 REGISTERED OFFICE ADDRESS

AARAV INTERNATIONAL

214, 2ND FLOOR, NILAX CITADEL,
BEHIND ZAVER NAGAR,
WARASIYA RING ROAD,
VADODARA-390022
GUJARAT (INDIA)

Phone : + 91 99740 38353 / 96016 51353

E-mail : aarav_international1212@yahoo.com
pravin_6623@yahoo.com

6.2 PROJECT OFFICE ADDRESS

AARAV INTERNATIONAL

FF-1, NIL NANDAN APPARTMENT,
OPPOSITE SADHU VASVANI VIDYA MANDIR,
NEW VIP ROAD,
VADODARA-390022
GUJARAT (INDIA)

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pravin_6623@yahoo.com

CURRICULUM VITAE

PRAVIN PARMAR



Accomplished **Electrical Engineer** with proven experience in Cathodic Protection System for oil and gas industry. Proven experience in Basic Survey, Design & Detailed Engineering, Erection, Installation, Testing & Commissioning, Post Commissioning survey (i.e CIPL, CAT , DCVG, AC/DC INTERFERENCE & MITIGATION etc) and Maintenance & Monitoring of Cathodic Protection System for cross country U/G pipeline, Interplant U/G piping for Fertilizers, Petrochemicals and Refinery Complexes, LPG mounded storage Bullets, A/G storage tanks & On shore / Off shore Jetty etc.

PERSONNEL STRENGTH:

- ❖ *Reliable, Trouble Shooter, an ability to perform and give result even in the most unfavorable circumstances.*
- ❖ *Teamwork and leadership quality.*
- ❖ *Will to put extra efforts and work tirelessly long hours to achieve organization goal.*
- ❖ *Strong communication skills.*
- ❖ *Able to work independently as well as a team.*
- ❖ *Sound knowledge in Technical Documentation.*

EDUCATIONAL QUALIFICATION:

- ❖ *Electrical Engineering from Maharaja Sayajirao University, Baroda Gujarat*

PROFESSIONAL QUALIFICATION:

- ❖ *Accredited with NACE USA CP Level-II (63522) – Certificate enclosed*
- ❖ *Accredited with NACE India Training Program – Certificate enclosed*
- ❖ *NACE International Membership No.: 640251*

1. M/s. AARAV INTERNATIONAL.

M/s. AARAV INTERNATIONAL, implementing Cathodic Protection System including designing, installation, Testing and commissioning and Health Monitoring surveys for cross country U/G pipeline, Interplant U/G piping for Fertilizers, Petrochemicals and Refinery Complexes, LPG mounded storage Bullets, A/G storage tanks etc.

Designation: **Founder / Head Technical Division**

From: **September 2016**

PROFESSIONAL EXPERIENCE (Continued)

2. M/s. CONSULTECH, BARODA.

Proven leadership capabilities coordinating and managing Cathodic Protection Section in M/s. CONSULTECH for 18 Years. Skilled in staff technical supervision and problems solving; excellent interpersonal skills and excellent communication.

M/s. Consultech as leading turnkey contractors and manufacturers undertaking projects for implementing Cathodic Protection Systems for Oil & Gas Industry since 1995 onwards.

M/s. Consultech, having requisite resources and expertise in the field of Modern & Latest Cathodic Protection System design and manufacturing. M/s. Consultech, has vast experience in the field of implementing Cathodic Protection System including designing, installation, Testing and commissioning for cross country U/G pipeline, Interplant U/G piping for Fertilizers, Petrochemicals and Refinery Complexes, LPG mounded storage Bullets, A/G storage tanks & On shore / Off shore Jetty etc.

*Designation: **Manager-Projects***

*From: **January 1998 to August 2016***

ROLES & RESPONSIBILITIES:

The roles and responsibilities for executed projects at offsite are as bellows.

- ❖ Tendering activities like sending enquires, getting quotations, making project estimation of cathodic protection related projects. Also upload the online tender on E-tender portal of various client i.e GAIL, IOCL etc.*
- ❖ Prepared CP designs, specifying anode type, quantity, and location; rectifier location, test station locations and other design features on prepared drawings.*
- ❖ Co-ordinate with site team in installation and commissioning of, TR-Unit, Anodebed (shallow vertical, shallow horizontal, Deep well), for TCP and ICCP, in Corrosion monitoring and corrosion survey*
- ❖ Analyzed & generated commissioning Report, PSP, data to achieve to correct result to find out design data, and pipeline health.*
- ❖ Inspecting received materials from vendors as per technical standard specifications.*
- ❖ Preparation of bar chart for the execution of the project.*
- ❖ Preparing and implementing, execution, inspection & testing plan.*
- ❖ Materials and documents Co-ordination to concern site spreads & Review of site progress on day to day basis.*

PROFESSIONAL EXPERIENCE (Continued)

- ❖ *Reviews cathodic protection design highlight problems and suggest improvement for existing and new projects including scope of work and finalize bid documents for new cathodic protection projects.*
- ❖ *Commissioning and start up operation.*
- ❖ *As built drawings and documentation preparation.*

The roles and responsibilities for executed projects at on site are as bellows.

- ❖ *Pre design survey (including topographical, soil resistivity, current drainage, etc), and Design data collection right up to Design, Material specification & Procurement*
- ❖ *Installation, supervision, testing, interference mitigation, Pre-commissioning, commissioning for Impressed Current as well as Sacrificial Cathodic Protection systems and report preparation.*
- ❖ *Monitoring, Trouble shooting & maintenance of cathodic protection facilities like Transformer rectifiers, Anode Junction Box, Cathode Junction Box, Transformer Rectifier Unit, Anode Ground Bed, Test Station, Grounding Cell, Polarization cell, Surge Diverter, Sacrificial Anodes, etc.*
- ❖ *Survey like On-Off, DCVG, CIPS, Pipeline health & PSP, Trouble shooting, etc. for Impressed Current as well as Sacrificial Cathodic Protection systems.*
- ❖ *Monthly, Quarterly, Half yearly and Yearly routine monitoring and ON/OFF reading, data log readings of various pipelines, Tanks and mounded bullets.*
- ❖ *Submitting monitoring reports, CP System performance report.*

SUMMARY OF MAJOR CP PROJECTS EXECUTED:

The summaries of major CP projects I have handled are listed here, in chronological order.

➤ CATHODIC PROTECTION SYSTEM FOR CROSS CONTRY PIPELINE PROJECTS.

GAIL (INDIA) LIMITED, NEW DELHI

- ❖ *Permanent Cathodic Protection System for 500 Kms long BAWANA To NANGAL Gas Cross Country Pipeline Project. Where GAIL (India) Limited is the owner & Mecon Limited., - New Delhi are the Consultants for the Project.*
- ❖ *Temporary & Permanent Cathodic Protection System for 100 Kms long CHAINSA To JHAJJAR Gas Cross Country Pipeline Project. Where JP Kenny PTY Ltd., - New Delhi are the Consultants for the Project.*
- ❖ *Temporary & Permanent Cathodic Protection System for 180 Kms long VIJAYPUR To KOTA Gas Cross Country Pipeline Project. Where Veco Canada Ltd., - Mumbai are the Consultants for the Project.*

PROFESSIONAL EXPERIENCE (Continued)

- ❖ Temporary & Permanent Cathodic Protection System for 18" NB x 210 Kms long TATIPAKA To KONDAPALLI Gas Cross Country Pipeline Project. Where Engineers India Ltd., - New Delhi are the Consultants for the Project.

HINDUSTAN ZINC LIMITED, UDAIPUR.

- ❖ Temporary & Permanent Cathodic Protection System for 24" Dia x 60 KMS long Rampura - Agucha Raw Water Pipeline Project. Where Engineers India Ltd., - New Delhi are the Consultants for the Project.

NIRMA LIMITED, ALINDRA

- ❖ Temporary & Permanent Cathodic Protection System for 12" in NB X 2Nos X 9.2 Kms long IOCL DUMAD TO NIRMA Alindra Pipeline Project. Where L&T CHIYODA, BARODA are the consultants for the project.

GUJARAT GAS COMPANY LIMITED, SURAT

- ❖ Temporary & Permanent Cathodic Protection System for 12", 10" Dia 21.5Kms long Kim to Karnaj City Gas distribution pipeline Project.
- ❖ Temporary & Permanent Cathodic Protection System for Olpad & Jhagadia LDZ pipeline Project.
- ❖ Contract for Supply, Installation, Testing & Commissioning of Permanent Cathodic Protection System for Natural Gas Pipeline in and around Surat, Ankleshwar, Bharuch & Vapi Region and Wherever GGCL existing and Planned Pipeline Network.

NATIONAL THERMAL POWER CORPORATION

- ❖ Cathodic Protection System for NTPC Pipeline Project at various sites. i.e for NTPC-Jhajjar, NSPCIL-Bhillai, DVC-Durgapur, NTPC Kudgi & DVC-Koderma.

➤ CATHODIC PROTECTION SYSTEM FOR UNDERGROUND PLANT PIPING.

INDIAN OIL CORPORATION LIMITED, PARADIP REFINERY

- ❖ Cathodic Protection System for U/G Plant Piping using Sacrificial & Impressed current Cathodic Protection System for area 507A & 507B at Paradip Refinery Project. Where IOCL is the owner & Foster Wheeler - Gurgaon are the Consultants for the Project.
- ❖ Cathodic Protection System for U/G Plant Piping using Sacrificial & Impressed current Cathodic Protection System for BOOT-3 at Paradip Refinery Project. Where M/s. IOTEP is the owner for the Project.

PROFESSIONAL EXPERIENCE (Continued)

- ❖ *Cathodic Protection System for U/G Plant Piping using Sacrificial & Impressed current Cathodic Protection System for Paradip Refinery Project. Where M/s. FABTECH is the Main contractor for the Project.*
- ❖ *Cathodic Protection System for U/G Sea water Piping using Impressed current Cathodic Protection System for Praxair Plant at Paradip Refinery Project. Where M/s. UHDE is the Main contractor for the Project.*

GAIL (INDIA) LIMITED

- ❖ *Restoration, Revamping of Existing Impressed Current Cathodic Protection System of U/G Plant Piping of the GAIL, Pata Petrochemical Plant-I. Where GAIL is the owner & EIL are the Consultants for the Project.*
- ❖ *Supply, Installation, Testing & Commissioning of Cathodic Protection System for U/G Plant Piping Firewater & Cooling water, & Buried Vessel at GAIL Gandhar Gas Processing Unit.*

HALDIA PETROCHEMICAL LIMITED, Haldia

- ❖ *Impressed Current Cathodic Protection System for Complete Integrated Offsite and Naptha Cracker Plant Cathodic Protection, including Pipelines and Tank Bottoms, where EIL, New Delhi are the consultants for the Project.*

BHARAT PETROLEUM CORPORATION LIMITED, MAHUL.

- ❖ *Permanent Impressed current cathodic protection system using continuous anode system is to be implemented for protecting Buried Pipelines for 12"NBX84M, 24"NBX3M, 20"NBX45M, 28"NBX3M, 30"NBX3M, 34"NBX190M, 40"NBX184M, 50"NBX240M & 56"NBX350M long Sea water Cooling Pipeline Supply & Received – Where Bridge & Roof are the Contractor for the Project*

INDIAN FARMERS & FERTILIZERS COOPERATIVE LIMITED, BAREILLY, AONLA.

- ❖ *Impressed Current Cathodic Protection System for Upgradation of Aonla I and Aonla II Cathodic Protection System. Where Engineers India Ltd., - New Delhi are the Consultants for the Project.*

RELIANCE INDUSTRIES LIMITED, JAMNAGAR

- ❖ *Impressed Current Cathodic Protection System for underground Plant pipeline / Vessel / Tank of Unit 270 / 291 Units of AROMATICS plant at Jamnagar.*

PROFESSIONAL EXPERIENCE (Continued)

NIRMA LIMITED, ALINDRA (LAB Detergent Complex)

- ❖ *Impressed Current Cathodic Protection System for Nirma Alindra LAB Detergent Complex plant piping . Where UDHE INDIA LIMITED, MUMBAI are the consultants for the project.*

➤ CATHODIC PROTECTION SYSTEM FOR A/G STORAGE TANK & MOUNDED BULLETS.

INDIAN OIL CORPORATION LIMITED

- ❖ *Cathodic Protection System for A/G storage tank & Mounded storage Bullet using Impressed current Cathodic Protection System for BOOT-3 at Paradip Refinery Project. Where M/s. IOTEP is the owner for the Project.*
- ❖ *Cathodic Protection System for Mounded storage Bullet using Impressed current Cathodic Protection System for Paradip Refinery Project. Where M/s. FABTECH is the Main contractor for the Project.*
- ❖ *Impressed Current Cathodic Protection of 03 Nos. x 42M Mounded bullets at Kondapalli MMO anode string . State of Art Online Remote Corrosion Monitoring System consisting of CPU with Optic Fibre, interface, battery backup, GPS Module and dedicated operating software.*
- ❖ *Cathodic Protection of 80M long X 7M dia X 5 Nos. LPG Mounded Storage Bullets at IOCL Dumad Terminal with Remote Monitoring System Interface.*
- ❖ *Cathodic Protection System for Mounded storage bullet at IOCL 9 location Project for IOCL-Sekmai, IOCL-Paradip, IOCL-Silchar, IOCL-Tirunavali, IOCL-Guwahati, IOCL-Bishalgarh, IOCL-Raipur, IOCL-Mysore & IOCL-Dimapur. Where M/s. FABTECH is the Main contractor for the Project.*
- ❖ *Cathodic Protection System for Mounded storage bullet at IOCL Bangalore & Haridwar Project where M/s. SHARP TANK is the Main contractor for the Project.*
- ❖ *Cathodic Protection System for Mounded storage bullet at CPCL, Chennai & IOCL-Kochi Project where M/s. IOT-AEC is the Main contractor & PDIL is PMC for the Project.*
- ❖ *Cathodic Protection of 80M long X 7M dia X 5 Nos. LPG Mounded Storage Bullets at IOCL Dumad Terminal with Remote Monitoring System Interface.*

BHARAT PETROLEUM CORPORATION LIMITED

- ❖ *Impressed Current Cathodic Protection of 08 Nos. x 79ML x 6 M Dia. mounded bullets at Mahul Refinery using Long line anodeflex. State of Art Online Remote Corrosion Monitoring System consisting of CPU with Optic Fibre, interface, battery backup, GPS Module and dedicated operating software.*

PROFESSIONAL EXPERIENCE (Continued)

- ❖ *Impressed Current Cathodic Protection of 03 Nos. x 37M Mounded bullets at Cherallapalli using MMO anode string.*

NIRMA LIMITED, ALINDRA (LAB Detergent Complex)

- ❖ *Impress Current Cathodic Protection System for A/G Storage tank 18Nos x 12-32M Dia for Detergent & LAB Plant.*

HALDIA PETROCHEMICALS LIMITED, HALDIA

- ❖ *Impressed Current Cathodic Protection System for Complete Integrated Offsite and Naptha Cracker Plant Cathodic Protection, including Pipelines and Tank Bottoms, where EIL, New Delhi are the consultants for the Project.*
- ❖ *Impressed Current Cathodic Protection System for A/G Storage tank 5Nos x 76M Dia for Haldia Refinery Project.*

RELIANCE INDUSTRIES LIMITED, JAMNAGAR

- ❖ *Impressed Current Cathodic Protection System for protection Tank Bottom Plate of Unit 270 / 291 Units of AROMATICS plant at Jamnagar.*

HINDUSTAN PETROLEUM CORPORATION LIMITED

- ❖ *Impressed Current Cathodic Protection of 03 Nos. x 42M Mounded bullets at Indore using MMO anode string.*
- ❖ *Cathodic Protection System for Mounded storage bullet at HPCL Dharwad where M/s. SHARP TANK is the Main contractor for the Project.*

➤ CATHODIC PROTECTION SYSTEM FOR INTAKE WATER SYSTEM.

NUCLEAR POWER CORPORATION LIMITED

- ❖ *Cathodic Protection System for Intake Water Structures for NPCIL TAPP3 & TAPP4, Tarapur Power 500MW x 2 Project. Where L&T ENC Chennai is the Main Contractor of the project.*



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February 3, 2016

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Near Police Colony - Warasiya Ring Road
Vadodara, Gujarat 390022
INDIA

Dear Pravin:

Congratulations! You have completed the certification process and have been approved as a **CP Technician**. Your certificate and wallet card are enclosed reflecting **63522** as your certification number. Also enclosed is a press release that you may wish to send to your local newspaper or company newsletter.

As a certified **NACE CP Technician**, your name and certification will appear on the NACE website certificate database. This directory is a primary reference tool for owners, contractors, companies, and government agencies who are seeking certified personnel for a specific project. It is also a source of employment potential, whether on a full-time or contractual basis. Please call +1 281 228 6211 or fax +1 281 228 6311 if you **DO NOT** wish to appear on the database.

Periodic recertification is a requirement for maintaining your certification status. Recertification is required every three years for all levels of certification. The enclosed forms will help you record your work experience and professional development activities in preparation for your first recertification. Please notify us of any address changes to ensure you receive the reminder notice prior to your certification expiration date. You are required to recertify on or before **02-28-2019**.

The recertification renewal fee is \$240 for NACE members and \$450 for non-members. The renewal fee is charged for only one certification category- even if multiple certifications are held (*does not include the Coatings Inspector Program*).

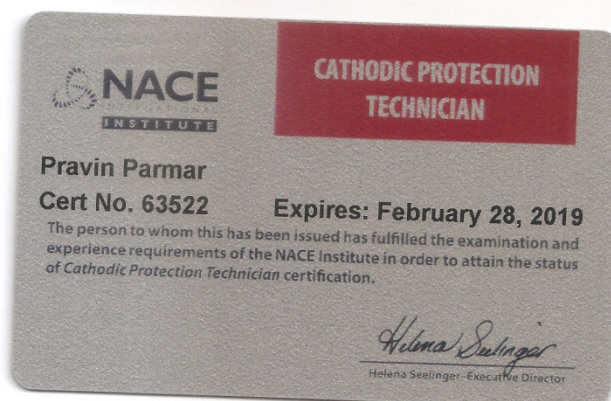
Thank you very much for your participation in the NACE Professional Recognition Program. If we can be of further assistance, please do not hesitate to contact us.

Sincerely,

Roianne Rust
Certification Coordinator

Enclosures:

Certificate
Press Release
NACE Institute Flyer
Recertification Logs





Certificate of Achievement

The NACE International Institute Recognizes

Pravin Parmar

As a Certified

CP2 - Cathodic Protection Technician

CERTIFICATION NUMBER 63522

Helen Swinger

Executive Director
NACE International Institute

Awarded
February 2016

640251

9th NIIS Training Course on Cathodic Protection
7 - 9 July 2005, at Mumbai



QUALIFICATION CERTIFICATE

Certified that Pravin Parmar, Consultech
qualified in the Three Day Course on Cathodic Protection, organised under Career
Development Programme of NACE International India Section during 07-09 July 2005.

The course covered Basics of Corrosion & Corrosion Prevention, Electrochemical
Corrosion, Design aspects & features of Cathodic Protection, Coating & Cathodic
Protection, Design of anode ground beds, Structure to Electrolyte Potential & stray
current interference, Anode materials & Performance testing with demonstration, Power
equipments for C P Systems, Special tests and measurements surveys, C P Limitations &
Economics and Case Studies including discussions & tutorials.


M K Kaul
Chairman, Career Development




R P Nagar
Vice Chairman & Course Co-ordinator



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Cathodic Protection Projects <> Cathodic Protection Monitoring <> Corrosion Health Survey

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