



- Non-Destructive Testing
- Material Testing
- Metallurgical Studies
- Post Weld Heat Treatment
- Engineering Consulting

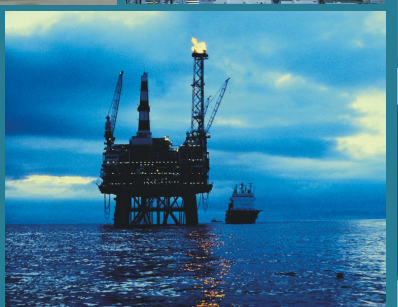
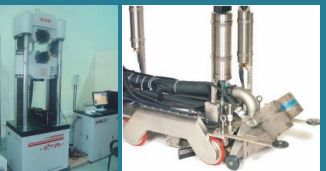
# Quality Assurance Services



**TCR ARABIA COMPANY LTD.**  
Limited Liability Company  
C.R. 2050059849

مجموعة المحدودة  
التجارية

Metallurgy Testing Laboratory, Failure Analysis, PWHT, Inspection and NDT  
No. 3 A - King Abdulaziz Sea Po. Road, Dammam - 31471 - SA  
Tel: 8475784 - 8475785 Fax: 8475768 E-Mail: sales@tcr-arabia.com Web: www.tcr-arabia.com



# Overview

TCR Arabia is a Quality Assurance, Materials Testing, Failure Analysis, NDT, RLA, RBI and Inspection Services headquartered in Dammam, Kingdom of Saudi Arabia with site offices in the western and central regions as well. TCR Arabia, is a formed a result of the joint venture between TCR Engineering Services of India and GAS Arabian Services of Saudi Arabia.

TCR Arabia includes approaches to allow for an increase in your plant availability and cost savings, ensure minimum duration of shutdowns, enable you to modify your inspection strategy and improve safety compliance issues.

In Saudi Arabia, TCR Arabia is approved and registered by all major companies in KSA including Saudi Aramco, SEC, SWCC, SABIC, SIPCHEM, APPC, PetroRabigh, Lubref and Tasnee. TCR Arabia has completed major projects on Advanced Ultrasonic Testing Services using ToFD method on Saudi Aramco project sites in Khurais and PetroRabigh. TCR Arabia has completed RLA Assessment of many boilers for SWCC and completed several failure analysis reports for Tasnee, APPC. TCR Arabia has completed a conventional NDT services project at the Haram Expansion site in Mecca.

Founded in 1973, TCR Engineering is a global leader in Metallurgical and NDT services with offices in USA, India, Kuwait, UAE, Malaysia and South Africa. Till date, TCR has worked with more than 2000+ quality driven clients (from all over the world) including reputed multinational companies including Reliance, Caterpillar, Halliburton, Chevron, ONGC, L&T, Equate, Petronas, Kuwait Oil Company, Hyundai, Weatherford, GE and many others. TCR's advantage comes from its international network and the strength and breadth of their business relationships.

TCR Arabia, based in Dammam, provides timely and accurate results reporting of materials properties through its dedicated destructive testing laboratory, strong NDT and plant shutdown management, stringent product inspections, in-depth engineering consulting

and contract research to ensure materials and products have assured quality and enhanced performance; giving customers a competitive advantage in the marketplace.

TCR Arabia believes that people are its biggest strength. With deep commitment to their tasks, and a quest to better their achievements, TCR Arabia's highly skilled teams are known to constantly endeavor to develop innovative and superior solutions for all its customers. The TCR Arabia team strength includes Metallurgists, API 510 /570 /653 Inspectors, ASNT Level III Experts, BGas Paint Inspectors, Multi-Skilled NDT Level II Technicians, CSWIP/AWS Certified Welding Inspectors and QA/QC Inspectors and Plant Reliability Engineers.

TCR Arabia provides the following range of services using its multi-disciplinary certified and experienced personnel team of professionals:

- Materials Testing Lab (Destructive Testing)**
- Contract Research and Development**
- Engineering Consulting and RBI/FFS**
- Root Cause Failure Analysis and RLA**
- Plant Shutdown Management**
- Conventional Non Destructive Testing Services**
- Advanced NDT Services**
- Heat Treatment**
- Products (NDT, Metallography, LIMS)**
- Technical Training Courses**



# Our Team

## INTEGRITY

Integrity is at the heart of everything we do. We are honest, ethical and upfront because trust is at the foundation of our relationships with our customers, our communities, our stakeholders and each other.

## RESPECT

We know it is critical that we respect everyone at every level of our business. We champion diversity, embrace individuality and listen carefully when others speak.

## PERFORMANCE EXCELLENCE

We hold ourselves to a very high standard of performance. We prize innovative ideas and the teamwork it takes to make them realities. We never stop asking ourselves how we can make the customer experience better, and every day, we find an answer.

## ACCOUNTABILITY

We take responsibility for our actions as individuals, as team members, and as an organization. We work together, support one another and never let the customer — or our coworkers — down. Great companies are judged by what they do, not by what they say. To be the best, we're going to keep pushing ourselves in new and exciting directions. These values will guide our every action.



# Our Services

## Materials Testing Laboratory

Tensile Testing  
 Bend Testing  
 Hardness Testing  
 Impact Testing  
 Welder Qualification  
 Chemical Analysis Spectrometer  
 Intergranular Corrosion Tests  
 Salt Spray  
 Sour Gas Corrosion (HIC/SSC)  
 Metallography  
 Micro and Macro Examination  
 Microstructure Analysis (SEM/EDAX)

## Contract Research & Development

Heat Treatment Studies  
 2D to 3D Conversion  
 Finite Element Modeling  
 Computer Aided Engineering (CAE)  
 Piping Stress Analysis  
 Advise on Materials

## Engineering Consulting

Risk Based Inspection  
 Fitness For Service  
 Damage Mechanism Study  
 Third Party Inspection

## Root Cause Failure Analysis and RLA

Fatigue Failure  
 Corrosion Related Failure  
 Operations Failure  
 Remaining Life Assessment  
 RLA and Condition Assessment of Boilers

## Plant Shutdown Management

Manpower Supply  
 API 510 Pressure Vessel Inspectors  
 API 570 Piping Inspectors  
 API 653 Tank Inspectors  
 ASNT Level III Experts  
 BGas Paint Inspectors  
 Multi-Skilled NDT Level II Technicians  
 CSWIP/AWS Certified Welding Inspectors  
 QA/QC Inspectors and Engineers  
 NACE Cathodic & Coating Inspectors  
 Reliability Engineers

## Inspection and Testing Products

Modsonic – UT Flaw Detectors, Thickness  
 Oxford Instrument/Sanco - XRF and OES  
 MiC – Image Analysis Software and LIMS  
 TCR – HIC/SSC Lab Equipment and Glassware  
 Time – Portable Hardness

## Conventional NDT Services

Ultrasonic Flaw Examination  
 Ultrasonic Thickness Measurement  
 Magnetic Particle Testing  
 Liquid Penetrant Testing  
 Radiography Evaluation  
 Ferrite Measurement  
 Portable Hardness Measurement  
 Paint and Coating Thickness  
 Holiday Detection  
 Positive Material Identification

## Advanced NDT Services

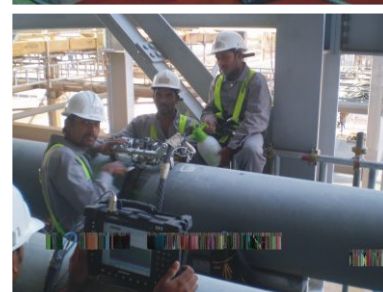
Time of Flight Diffraction (ToFD)  
 Phased Array  
 In-Situ Metallography  
 Eddy Current Testing  
 Corrosion Mapping  
 Helium Leak Testing  
 Thermography  
 Internal Rotary Tube Inspection (IRIS)\*  
 Alternating Current Field Measurement (ACFM)\*  
 Long Range Ultrasonic Testing (LRUT)\*  
 Robotic Crawler Video Inspection\*  
 OTIS - In Service Robotic Tank Inspection\*  
 HD 200 - In Service Robotic Tank Cleaning\*  
 Close Interval Potential Survey (CIPS)\*  
 Direct Current Voltage Gradient Survey (DCVG)\*

## Heat Treatment Services

Post Weld Heat Treatment  
 Oil Firing on Pressure Vessels

## Technical Training Courses

Mechanical Metallurgy Laboratory – Level I and II  
 Microstructure Characterization  
 Metallurgy for Plant Executives and NDT Inspectors  
 Metallurgy for Non Metallurgists  
 Understanding Corrosion Damage Mechanisms  
 Sour Gas Corrosion Testing – Level I and II  
 Fitness for Service Assessment Training  
 Understanding API 571 damage Mechanisms  
 Implementing RBI best practices in Plants  
 Failure and Root Cause Analysis : Guide  
 Introduction to NDT for Plant Executives  
 Ultrasonic Testing – Level I and II  
 Magnetic Particle Testing – Level I and II  
 Dye Penetrant Testing – Level I and II  
 Eddy Current Testing – Level I and II  
 Radiography Testing – Level II  
 Visual Testing – Level II  
 Thermography – Level I  
 Gas Tungsten Arc Welding for Qualified Welder  
 Shield Metal Arc Welding for Qualified Welder



# Our Talent

## Plant Shutdown Management with Talented Inspection and QA/QC Personnel



TCR Arabia can rapidly source and deploy a strong and talented NDT manpower for Petrochemical and Power industry in KSA on contract. In recent times, TCR Arabia has assisted SIPCHEM as well as SABIC plants such as IBN-Zahr in locating experienced manpower to assist in their shutdown.

TCR Arabia works with industry organizations, research and development facilities, and clients to develop new inspection equipment, applications and procedures. This ensures that we will always be able to offer our clients the best technology available for their needs. Using the most up to date technologies helps TCR Arabia minimize our client's down time and ensure they get the most comprehensive information possible on the condition of their equipment.

TCR Arabia's highly trained NDE professionals go through rigorous training and meet or exceed all industry requirements. In addition, TCR Arabia provides extensive in-house training and ensures all of our NDT professionals are current on all relevant industry codes and regulations. TCR Arabia has an ongoing commitment to continually bring new inspection solutions to our clients that will help provide them with better information to make decisions as well as help save them money with their integrity management programs.

With over 100 professional NDT technicians, our size and expertise make TCR the logical choice to meet your inspection requirements. Whether it is for daily inspection activities or large turn around projects, TCR provides clients with the industry's best integrity management solutions.

TCR's qualified personnel have worked on various projects in India and in the Gulf region in various disciplines of NDT such as Radiography, Ultrasonic, Welding, MPI, In-situ Metallography & Positive Material Identification. The inspection personnel have worked on design, fabrication, construction, inspection and erection of Pressure Vessels, Heat Exchangers, Towers, Stacks, Tanks, Plant Pressure Piping, Offshore Oil Wells and many advanced projects.

Skill Sets of NDT Personnel available for Shutdown projects with TCR Arabia include:

- API 510 Pressure Vessel Inspectors
- API 570 Piping Inspectors
- API 653 Tank Inspectors
- ASNT Level III Experts
- BGas Paint Inspectors
- Multi-Skilled NDT Level II Technicians
- CSWIP/AWS Certified Welding Inspectors
- QA/QC Inspectors and Engineers
- NACE Cathodic & Coating Inspectors
- NDT Level III in multiple subjects (with Welding Inspector Qualification)
- NDT Level II in UT with Auto UT, Phased Array and TOFD Experience
- NDT Level II with extensive experience on pressure vessels and Multi-Skilled Usage
- ASNT MSLT Leak Testing Level II
- ASNT Level II in Eddy Current (ET), IRIS
- ASNT UT Level II with TKY experience
- ASNT RT Level II and RTFI
- QA/QC Inspectors
- Rotating Equipment Inspectors
- Electrical Inspectors
- Ultrasonic Inspection (UT), Magnetic Particle Inspection (MPI), Radiography

Date : 1<sup>st</sup> July, 2008

To,  
Mr. Faisal K. Al-Dabal,  
TCR Arabia,  
Dammam, KSA.

Subject : Appreciation Letter  
Reference : Post Weld Heat Treatment Services - PP8 Project

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Vendor No: 505230  
Vendor Name: TCR ARABIA LLC  
Vendor No: 688802701  
Telephone: 034092701  
Fax: 034092701  
E-mail: MR. AREF KHALID AL-DABAL  
Address: MR. AREF KHALID AL-DABAL  
Subject: QUALIFICATION

Dear Supplier,

Based on our previous meeting, we are pleased to report that your company has been selected as vendor of Saudi Basic Industries Corporation (SABIC).  
Your collaboration means that you are eligible to receive requests for quotations or tenders for the design and materials and/or services. However, there is no guarantee that you will receive any such requests.

شركة رايف للتكرير والبتروكيماويات  
Rabigh Refining & Petrochemicals Co.

رأس المال المدفوع 500,000,000 ريال سعودي  
CR 4002002161  
PO Box 666  
Rabigh 21911  
Kingdom of Saudi Arabia  
Tel: + 966 2 425 8301  
Fax: + 966 2 425 8302

28 July 2007

Mr. Rohit Bafna  
Director - Global Sales  
TCR Engineering Services

Mr. Bafna,

PetroRabigh Logistics & Interface Division-Directorate Quality Team would like to thank TCR for its presentation/demonstration on the 24<sup>th</sup> June, 2007 at our facilities. We believe that the presentation/ demonstration provided an excellent forum for the attendees as it provided both the theoretical background and principles behind ToFD as well as the excellent functional demonstration of your equipment and technique.

The team's NDT Level III was particularly impressed with your equipment's ability to discern the additional 'features' he had designed into the material sample on which you performed your demonstration and has commented that he believes the technology could provide a great level of support to our contractors on the project.

We sincerely hope you and your firm is chosen to work on this project and we look forward to working with you.

Thanks and Kind Regards,

  
Carl Ash  
Process Engineer

Appreciation Letter

Sipchem Reliability & Inspection Department would like to appreciate TCR Arabia Company Limited for their contribution and the support extended during the first

  
فرع شركة ذا فيفت كونستركشن كومبني اوف سينو بيك  
Branch of The Fifth Construction Company of SINOPEC  
C.R.2051033310  
مركز 2051033310

To,  
TCR Arabia,  
Dammam, KSA

Date : 15<sup>th</sup> June, 2008

Attention : Mr. Syed Ameen Hassan  
Sales Supervisor.

Subject : ToFD Services in our Petrorabigh Project  
Reference : 1800-RB1-SUB-MEC-005

Dear Sir:

We would like to express our sincere appreciation to the TCR Arabia team for their contribution towards the completion of our Petrorabigh Project.  
The efforts & dedication shown by the TCR Arabia team was exceptional in



TEKFEN CONSTRUCTION AND INSTALLATION CO., INC.  
SAUDI ARABIA BRANCH

شركة تكفن للإنشاءات والتاسيسات - فرع المملكة العربية السعودية  
P.O. Box 2575 Al-Khobar 31952 - Saudi Arabia - Phone : (966.3) 882 9694 - Fax : (966.3) 882 9695  
ص.ب 2575 الخبر 31952 - المملكة العربية السعودية - هاتف : (966.3) 882 9694 - فاكس : (966.3) 882 9695

To, Mr. Aref K. Al-Dabal Managing Director TCR Arabia Dammam, KSA	From, Omer Ulgen Project Manager TEKFEN, Khurais Project Khurais, KSA
Date: 24 <sup>th</sup> December, 2008	Pages: 01 Fax : 03-8352701
Subject: ToFD, PMI & PWHT Services in Khurais Project	

Appreciation Letter

Mr. Aref Al-Dabal:

For the untiring & committed efforts displayed by the TCR Arabia team in our project in Khurais by offering Automated Ultrasonic Testing using ToFD, Positive Material Identification Services and Post Weld Heat Treatment services, we commend and appreciate the professionalism of TCR Arabia team and to our complete satisfaction.

We sincerely hope your firm is chosen to work on this project and we look forward to availing your services for all our upcoming projects.

Thank you for the hard work and commitment shown in our project.

# Our Customers



## TCR Arabia Company Ltd. Arabia [www.tcr-arabia.com](http://www.tcr-arabia.com)

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Kingdom of Saudi Arabia

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Fax : +91-22-27612044  
Cell : +91-93233 97295  
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