

CURRICULUM VITAE

Name: MAHTAB ALI ZAFAR

Position: SENIOR INTEGRITY ENGINEER

Nationality: PAKISTANI

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Qualifications: Bachelor of Chemical Engineering from NFC Institute of Engineering and Technological Training Multan, Pakistan

Summary

Mahtab Ali Zafar has about 13+ years' experience which includes corrosion assessment, integrity assessment and remaining life calculation of onshore and offshore pipelines using industry codes and standards, risk based inspection, inspection techniques, ROV inspection review, free span analysis, emergency pipeline repair system, inspection and repair planning, design wall thickness of heater tubes/piping, pipeline pigging procedures and guidelines, pipeline integrity management system, cathodic protection, direct assessment of onshore/offshore pipelines, Jet-fuel hydrant system assessment, decommissioning of pipelines and critical equipment systems (HSECES). He also has experience in audit, review and application of integrity management system software.

He has worked closely with major Clients as seconded engineer to provide engineering and technical support on PIMS software to develop and implement Pipeline Integrity Management System, Pipeline Data Management and EPRS. The following are the key points on his experience:

- Experienced and result driven pipeline integrity engineer with successful track record of carrying out integrity/FFS/risk assessment studies of the onshore/offshore pipelines for ADNOC Offshore, ADNOC GP, Petronas, Dubai Petroleum, CPOC, OGC (Oman Gas Company), PTTEP, OXY Qatar.
- Have good experience in the application of integrity and risk management standards such as: API, DNV, ASME, BS, IGEM, PDAM, etc.
- Visited onshore and offshore sites in Middle East for visual inspection.
- Well familiar with all type of pipeline inspection i.e., in line inspection, NDT inspection, visual inspection, ROV inspection, CP survey and riser inspections.
- Hands on experience in preparation of technical and commercial proposal for various engineering and integrity-based project and a mentor for junior engineers on numerous projects.
- Worked as lead engineer (both technical bid preparation and project execution) that include FFS and risk assessment, corrosion assessment, RBI, life extension assessment, ICDA/ECDA integrity assessments and technical evaluation of the PIMS software.
- Assist Project Manager on various integrity projects to meet the Client requirements and expectation on all deliverables. Responsible to ensure the project is completed within the budget and allocated schedule.
- Worked as Lead Engineer on integrity assessment projects.
- Hands on experience in using the PIMS software's developed by different vendors, e.g., GE, DNVGL, PENSPEN.

PROFESSIONAL EXPERIENCE

OCT 2016 to Present

PENSPEN, ABU DHABI, UAE, SENIOR INTEGRITY ENGINEER

ADNOC Gas Processing, UAE - Integrity, Remnant Life and ALEM Study of Eight Pipelines

Senior Integrity Engineer: Project Lead and Client focal point for the integrity and life extension assessment of eight onshore gas pipelines.

ADNOC Gas Processing, UAE - Database Management and Baseline Integrity Assessment of Pipelines

Senior Integrity Engineer: Responsible to perform the baseline integrity assessment of 22 onshore gas pipelines following a series of recent inline inspections performed for the newly commissioned pipelines. The tasks performed are: data review, review of various inspection data, review of dig verification and repair data, corrosion analysis, defect assessment, risk assessment, repair planning and future inspection plan. The assessment was carried out in line with methodology described in industry standards such as ASME, API, PDAM etc. Performed quality checks on all the deliverables in the scope. Also, worked on data management scope to develop pipeline's handbook and historical summary report for the pipelines. The development of these documents was in accordance with the requirements stipulated by the AGP PIMS Manual.

CARIGALI-PTTEPI OPERATING COMPANY SDN. BHD. (CPOC), Malaysia, Provision of Asset Life Study (ALS) of Offshore Installations for Block B-17 & C-19 and Block B-17-01

Senior Integrity Engineer: Worked as pipeline lead on ALS project. Responsible to carry out Asset Life Study of offshore pipelines to make sure that all the technical content of deliverables are in line with project scope requirements. The tasks performed are: defect review, free span analysis, corrosion analysis, detailed defect assessment, risk assessment, cost estimation, integrity management plan and ALS report. The study is carried out based on the inline inspection and visual inspection (i.e. ROV, GVI etc.) data in line with methodology described in industry standards such as ASME, DNV, API, PDAM etc. Assist Project Manager to meet the CPOC requirements and expectation on all deliverables. Responsible to ensure the project is completed within the budget and schedule.

PTTEP Thailand, Internal Corrosion Direct Assessment for SKPL23-08-WPPB-PEM and SKPL25-08-PEM-PLET

Senior Integrity Engineer: Reviewed Post-Assessment report for Direct Assessment of SKPL23-08-WPPB-PEM and SKPL25-08-PEM-PLET Pipelines. The two offshore pipelines were considered temporarily unpiggable due to temporary diversion of PEM piping. The objective of the study was to perform direct assessment that comprises of internal corrosion direct assessment (ICDA) and external corrosion direct assessment (ECDA) as per NACE SP0208-2008 and NACE SP0502-2010 guidelines.

Abu Dhabi Oil Co. - Japan (ADOC), Basic Integrity Assessment of Pipelines in Mubarratz Offshore Field

Senior Integrity Engineer: Responsible to perform screening assessment by reviewing the ILI data to identify if pipeline is suitable for basic or detailed integrity assessment. The methodology of screening and basic integrity assessment was prepared for 13 pipelines in accordance with industry best practice and codes. i.e. PDAM, ASME B31G, etc. A concise report was produced for each pipeline which comprises the screening results, defect assessment results to conforms industry guidance, assessment of next inline inspection based on internal corrosion remnant life and recommendations.

ATKINS, A member of the SNC-Lavalin Group, Jet-A1 Fuel Network Assets Condition Assessment

Senior Integrity Engineer: Responsible to perform visual inspection on each valve and actuators installed in fuel hydrant network at Dubai Airport (DXB). The scope includes the visual inspection and condition assessment of: valve chambers, valve assembly, actuator, pit boxes, hydrant valves, Low/High point valves. The inspection was conducted in accordance with guidelines provided in the industry standards and codes, i.e. API 6D, EI 1560, JIG standard 1530 etc.

Dubai Petroleum – Onshore Pipelines FFS & Life Extension Study

Senior Integrity Engineer: Responsible to perform fitness-for-service assessment for 13 buried onshore pipelines based on the latest inspection data to determine the predicted failure pressures and future integrity.

Life extension study was carried out in accordance with ISO 12747 to determine viable life extension until 2050. A fatigue life assessment was performed in accordance with BS 7608 to determine the fatigue strength of the corroded pipe, pipe sections under road crossings and defect free pipe based on the pressure cycling profile for each pipeline. Inspection management programs, repair plans and repair cost estimates were provided for timely maintenance and repairs for the safe operation of the pipelines until 2050.

OXY, Qatar- Integrity Assessment of Offshore Pipelines

Senior Integrity Engineer: Performed integrity assessment of two offshore multiphase pipelines, including a main oil line. Reviewed localised inspections (ILI and ROV) to streamline corrosion rates derived from ILI and to reduce the conservatism. Prepared the FFS reports for two pipelines.

Dubai Aviation Engineering Projects (DAEP), Jet A1 Fuel Network Integrity Assessment

Senior Integrity Engineer: Responsible to perform assessment of valves and actuators installed at Dubai Airport fuel hydrant system. To review the routine maintenance, inspection and test reports of valves conducted in accordance with industry standards, identify corrosion or degradation reported, review manufacturing specifications, assess valve and actuator obsolescence, review need for design improvements, and recommend the rectifications where required.

Oman Gas Company - Direct Assessment of Unpiggable Pipelines

Senior Integrity Engineer: Responsible to perform post assessment of unpiggable gas pipelines. The four pipelines were inspected by UT inspection as per the recommendation of NACE ICDA/ECDA. The UT findings of each pipeline were assessed using ASME Modified B31G methodology to evaluate the current and future condition of pipeline. The study includes corrosion rate assessment, remnant life assessment and assessment of re-inspection interval of each pipeline.

Dubai Petroleum- Integrity Management Services, Born Heater Reboiler – Wall Thickness Calculations

Senior Integrity Engineer: Performed calculation of design wall thickness of heater tubes in Born Heater Reboiler in accordance with API 530 standard. A technical note was issued for the calculated wall thickness of heater reboiler.

DNO – Iraq - Assessment of Inline Inspection Findings for 24-inch Gas Export Pipeline

Senior Integrity Engineer: Responsible to perform integrity assessment of 24-inch oil pipeline. DNO intend to convert the existing 24-inch oil pipeline to gas service to export and facilitate the gas injection. The purpose of this study is to review the 2019 inline inspection findings and evaluate the integrity of pipeline to ensure its safe operation for the new intended service.

The ILI findings of 24-inch pipeline were assessed using ASME Modified B31G methodology to evaluate the current and future condition of pipeline. The study includes current integrity assessment, corrosion rate assessment, remnant life assessment and verify the design pressure is suitable for the intended design life of the pipeline.

ADNOC Gas Processing - Pipeline Data Management Services 2018 - 2019

Senior Integrity Engineer: Secondment to Client office, Responsible to organize the pipeline data in accordance to the ADNOC GP new data storage structure and with respect to pipeline integrity requirements for 90 pipelines. Maintain and update the existing pipeline data handbook and summary reports for 61 pipelines with latest information. Establish new pipeline data handbook and summary reports for the 18 new pipelines which includes 12 NGV pipelines.

PC Myanmar Limited – Pipeline Geo-Hazard Risk Assessment and Location Class Study

Senior Integrity Engineer: Responsible for carry out geohazard risk assessment and a location class change study for the onshore section of the 24-inch gas pipeline. The study includes credible geohazards identification, desk review to determine susceptible locations for the credible geohazards, conduct site survey to confirm/validate/refine susceptible geohazard locations and to review location class changes, perform pipeline sectioning based on desk review, carry out a qualitative geohazard risk assessment and perform location class study considering the commercial/residential developments along the pipeline route and based on gathered data.

Dubai Supply Authority (DUSUP) - Risk Assessment of 13 Pipelines

Senior Integrity Engineer: Responsible to perform risk assessment of DUSUP gas pipelines in accordance with the recommendation in ASME B31.8S. To produce a structured pipelines risk assessment report which includes methodologies, conclusions and recommendation on the overall and individual pipeline risk level.

Risk assessment work was completed for 13 pipelines.

ADNOC Gas Processing - Pipeline Data Management Services 2017

Senior Integrity Engineer: Secondment to Client office, responsible to create enhanced pipeline data handbook, historical summary reports of: repair, corrosion growth, CIPS/DCVG/CP/Stray current inspection, operational history, above ground inspections, process data, product analyses and chemical injection.

Also, to produce operational data collection procedure and provision to store data in long-term.

PDMS 2017 work was executed for 62 pipelines.

Abu Dhabi Gas Industries (GASCO) - Pipeline Integrity Assessment and Integrity Management Services

Senior Integrity Engineer: Responsible for carry out basic integrity assessment of the 45 pipelines. Perform a data gap analysis for the 71 pipelines as required in the PIMS manual. Identification of data requirements for integrity assessment. Review, update and perform the pipeline risk assessments for 45 pipelines. Review, validation and organization of data for each pipeline. Prepare reports of technical integrity status (TIS) and data gap analysis.

JUNE 2015 – OCT 2016

SPECIALISED TECHNICAL SERVICES EST, ABU DHABI, UAE, SENIOR INTEGRITY ENGINEER

Petronas, Malaysia – Pipeline Fitness for Services (FFS) Assessment – 13 Pipelines

Senior Integrity Engineer: Responsible for preparation of FFS reports of oil

and gas pipelines in offshore field of Petronas Malaysia. Work include defect assessment, multiple ILI anomaly-comparison, review of ROV and visual inspection, remnant life calculation, corrosion rate assessment, free span assessment, dent assessment, buckling assessment, stability assessment, risk assessment, asset reference plan and repair recommendation.

DEC 2010 –APR 2015

PENSPEN INTEGRITY, ABU DHABI, UAE, PIPELINE INTEGRITY ENGINEER

Abu Dhabi Gas Industries (GASCO) – Pipeline Integrity Management System (PIMS) Support

Pipeline Integrity Engineer: Selected by the Client for secondment to provide engineering and technical support to develop and implement PIMS using GE integrity management system software PVI® V6.6 and reviewed integrity assessment report from 3rd party vendor.

ADMA-OPCO – IDBMS Support for Offshore Pipelines

Pipeline Integrity Engineer: On secondment, provide engineering and technical support to the Integrity Database Management System (IDBMS), and quality assurance of the IDBMS contractor's work to ensure the appropriate data has been entered into the system according to the contractual requirements. The data includes design data, alignment sheets, ILI inspections, visual and ROV inspection, CP data, repair & maintenance, integrity and risk assessment report. Also, to check the software (DNV-GL Synergi Pipeline) functionality to get the desired results from it. Also, Provide engineering and technical support to the CMS of offshore pipelines.

Dolphin Energy Limited – Emergency Pipeline Repair System (EPRS)

Pipeline Integrity Engineer: Development of comprehensive emergency pipeline repair system (EPRS) for its pipelines assets operated within the UAE in order to cover emergency repairs. Work includes pipeline asset register, identification of hazards and risk scenarios; development of pipeline defect evaluation procedure, repair selection procedure, EPRS strategy, list of spares and equipment's for emergency repair, and material requisitions for the spares and equipment's.

BP Iraq – Emergency Pipeline Repair System (EPRS)

Pipeline Integrity Engineer: Development of emergency pipeline repair system for the water injection system pipelines in North Rumaila Oil Field, Basra Iraq. Work includes pipeline asset register, identification of hazards and risk scenarios, identification of defects require emergency repair, repair selection procedure, EPRS strategy, repair scope of work, list of spares and equipment's for emergency repair, and material requisitions for the spares and equipment's.

BP IRAQ – Design Life for the Replacement Sections

Pipeline Integrity Engineer: Assessment of potential life of the replaced pipeline sections in the Rumaila Oil Field water injection pipeline system in Basra, Iraq.

ADMA OPCO – Decommissioning of Aged Subsea Pipelines

Pipeline Integrity Engineer: Decommissioning study of 40 subsea corroded pipelines which includes writing decommissioning procedures based ADNOC Codes of Practice and BP Standard Practices, data gathering, site survey of wellhead towers, identifying feasibility options for pipeline cleaning and pigging strategy in accordance with industry best practice and preparing work packs for decommissioning of pipelines. Visited offshore site to collect relevant data and to evaluate the cleaning feasibility of decommissioned pipelines.

Oman Gas Company – Integrity Assessment of Old OGC Pipelines and Pipeline Integrity Management

Pipeline Integrity Engineer: Detailed integrity assessment old two 30-year

Mahtab Continued

old onshore high-pressure gas transmission pipelines in Oman. Work includes pipeline route survey; audit of the location classification against ASME B31.8; assessment of inline inspection data using the guidance in PDAM; leak/rupture prediction calculations; prediction of corrosion rate; remnant life assessment; identification of high-consequence areas; risk-based integrity assessment; and inspection and repair planning analysis.

Zakum Development Company (ZADCO) – Basic Integrity Assessment and Remnant Life Assessment.

Pipeline Integrity Engineer: Basic assessment, assessment of corrosion rate and remnant life calculation to check whether these subsea pipelines require a basic or detailed integrity assessment. Safe working pressure calculations carried out using guidance in PDAM..

Zakum Development Company (ZADCO) – Two-Year Blanket Contract for Pipeline Integrity Assessment

Pipeline Integrity Engineer: Detailed integrity assessments of crude oil, water and gas pipelines, offshore Abu Dhabi. Work included assessment of inline inspection data using the guidance in PDAM (Pipeline Defect Assessment Manual); estimating internal corrosion rates using statistical analysis; and remnant life assessment

Abu Dhabi Oil Company (ADOC), Japan Oil Company Limited – 14-inch Remnant Life Assessment Study

Pipeline Integrity Engineer: Corrosion rate and remnant life study of subsea crude oil pipeline. Work included use of industry recognised corrosion model, probabilistic analysis of inline inspection data and calculation of probabilistic remnant life.

Nov 2008 – Nov 2010

Attock Cement Pakistan Limited, Pakistan, Assistant Manager

Got the Assistant Manager grade as a Shift Engineer after successful training conducted by the organization. Performed duties as shift in-charge, monitored plant operation in central control room (CCR), Observed alarm and alarm history of critical equipment systems (HSECES). Performed calculations to increase the production and optimization of Clinker production Unit 2 which was designed by Hefei Cement Research and the Design Institute China. Prepared Energy Balance and Material Balance for Clinker production Unit 1 and 2.

Other work involved pre-design work for the waste heat recovery system.

TRAININGS

October 2012	Corrosion and Materials	Istanbul, Turkey
October 2012	Cathodic Protection and Pipeline Coatings	Istanbul, Turkey
June 2012	Pipeline Defect Assessment Course	Abu Dhabi, UAE
February 2012	Offshore Survival Training Course	Abu Dhabi, UAE
January 2012	Understanding of Pipeline Integrity Management System	Abu Dhabi, UAE
April 2011	Pipescan MFL Scanning Training	Dubai, UAE
March 2011	IOSH Training on working Safety	Istanbul, Turkey
February 2011	Training Course on NDT	Istanbul, Turkey
February 2011	Pipeline Quantitative Risk Assessment Course	Abu Dhabi, UAE

Mahtab Continued

SOFTWARES SKILLS

Has experience in:

- Synergi Pipeline software, PIMS software of DVN GL.
- Pvi 6.6 software, PIMS software of GE PII.
- THEIA, integrity assessment software of PENSPEN
- MAXIMO
- Corrosion rate calculation by different methods on excel sheets, e.g. MDRLP, Weibull distribution etc.
- PlusOne
- Microsoft Office