

Company Profile



When others behold the present, we collaborate with you to envision the potentials of the morrow.



NXA helps optimising workplace design, for operability and workers' safety and health.

We are a consultant firm that provides project and business solutions to Clients who develop, operate, and maintain physical assets in the energy, infrastructure and resources sectors.

In NXA, we have a specialized team who draws up a comprehensive list of risks associated with operations to help the Clients identify process safety and human factors 'red flags' at design stages, before an actual occurrence takes place. NXA conducts process safety reviews on various aspects of risk and safety, and human factors engineering activities to optimise human performance at work.

It is a disciplined framework for managing the integrity of operating system and processes that handle hazardous substances and we are specialises in designing measures that aimed at preventing or minimizing lose from hazardous activities.

~13

years of working
experience

~150

green and
brownfield projects
involvement

~60

services offered



MISSION

NXA aims to provide quality technical safety and human factors expertise to the energy industry during design stages, complying to project specifications, within budget and timeframe.

VISION

We empower projects' design team by integrating our experiences, knowledge and expertise in technical safety and human factors to the design of any workplace.

VALUES

Excellence, Collaboration, and Innovation.

We value working together with clients, fostering creativity and knowledge sharing to optimise workplace design.



Our Services

Process Safety & Loss Prevention

- **HSE Design and Operational Safety Case**
- Control of Industrial Major Hazard (CIMAH)
- Demonstration of Safe Operation (DOSO)
- Hazard and Effects Management Process (HEMP):
 - Hazards and Effects Register (HER)
 - Bow-Tie
 - As Low As Reasonably Practicable (ALARP)
 - Critical Activities Catalogue (CAC)
 - Remedial Action Plan (RAP)
- **Formal Safety Assessment (FSA):**
 - Fire and Explosion Risk Assessment (FERA) – 2D and 3D
 - Quantitative Risk Assessment (QRA)
 - Escape, Evacuation and Rescue Assessment (EERA)
 - Emergency Survivability System Assessment (ESSA)
 - Temporary Refuge Impairment Analysis (TRIA)
 - Non-Hydrocarbon Hazards Analysis (NHHA)
 - Dropped Object Study (DOS)
 - Building Risk Assessment (BRA) including Facility Siting
 - Safety Critical Elements & Performance Standards (SCE & PS) – Design and Operation
- **Loss Prevention:**
 - Fire Water Demand and Hydraulic Analysis (including Surge Analysis)
 - Hazardous Area Classification (Drawings and Schedules)
 - Safety Layouts and Drawings
 - Safety Equipment Datasheets and Specifications
- HSE Philosophies
- Emergency Response Plan (ERP)
- **Process Safety Workshop**
 - Hazard and Operability (HAZOP) Study
 - Hazard Identification (HAZID) Study
 - Safety Integrity Level (SIL/IPF) Classification & Verification
 - Electrical Safety and Operability (ELSOR/SAFOP/EHAZOP)
 - Health Risk Assessment (HRA)
 - Constructability Review
- Process Safety Audits
- **Fire Safety Audits**

PROJECT ENGINEERING SUPPORT

- Feasibility Studies
- Field Development Plans (FDP)
- Concept Select
- Front End Engineering Design (FEED)
- Detailed Design

Specialize Studies

- Flow Assurance (Transient/ Steady State)
- Process Simulation (Dynamic/ Steady State)
- Acoustic / Flow Induced Vibration Study (AIV/ FIV)
- Noise Mapping
- Fire and Gas Mapping
- Flare/ Vent (Radiation/ Dispersion Analysis)
- Fire and Explosion Modelling (2D and 3D)
- Computational Fluid Dynamics (CFD)
- Corrosion and Material Selection Studies (including CMP, CDBM)
- Reliability, Availability and Maintainability (RAM) Studies

Training

- Oil & Gas Training Courses
- Project Management Training Courses
- Soft Skills Training Courses
- Leadership Training Courses
- Human Resource Training Courses
- Contract Management Training Courses
- Procurement Training Courses



Human Factors Engineering

Human error is frequently identified as a threat with the potential to lead to major accident events (MAE)₁. Therefore, understanding human physical and mental capacities, capabilities and limitations is crucial to overcome opportunities for human error. Application of that understanding to the design of tools, equipment, tasks, workplaces, procedures, hardware, software, and the working environment is known as **Human Factors Engineering (HFE)**. HFE implementation in any project ensure work systems design to positively influence how people behave and perform the task safely and reliably.

1: NOPSEMA, A424182



Our HFE services includes the following:

- HFE Implementation Plan, HFE Plan, HFE Strategy
- HFE Project Terms of Reference
- HFE Awareness Training to Project Team, Design Team, Construction Team
- HFE Screening
- HFE 2D Drawings / 3D Model Verification for Topside Modules, Technical Building, Living Quarters (LQ) and Central Control Room (CCR)
- Valves Criticality Analysis
- Safety Critical Task Analysis
- HFE for Vendor Packages (3D Model Verification, 2D Drawings Review, Design Specification Checklist)
- HFE Construction Independent Verification (Site Visit at Fabrication Yard)
- HFE Design Specification Development and Addendum to Client's Internal HFE Design Specification (Project Specific)
- HFE Input for Manual Handling Study

Our Specialists

The powerhouse behind NXA's engineering excellence – **Ir. Ts. Nazmi Kamarudin** is a seasoned Technical/Process Safety Engineer with a passion for innovation and a track record of success. Ir. Ts. Nazmi is the driving force behind our mission to redefine the standards of technical excellence in the industry.

With a career spanning over 13 years, Ir. Ts. Nazmi has led the design and development of technical reports as Technical Safety Lead and safety workshops' facilitator and have supported some of the world's leading operators in the Oil & Gas, Environment, Mineral, Metals, and Chemical sectors. From PETRONAS, ExxonMobil E&P, Repsol, EnQuest, SHELL, Dragon Oil, PetroVietnam, Qatar Petroleum etc. his expertise has left an indelible mark on projects of all scales and complexities.

Ir. Ts. Nazmi's passion for engineering extends beyond the drawing board. As a **Professional Engineer (PEng)** registered with the Board of Engineers Malaysia (BEM), a **Chartered Chemical Engineer** under the Institution of Chemical Engineers, United Kingdom (IChemE), and a Professional Technologist (P.Tech.) registered with the Malaysia Board of Technologists (MBOT), he brings a wealth of expertise and accreditation to every project he touches.



Graduated with a master's degree in Human Factors / Ergonomics from Loughborough University, United Kingdom, **Aiza Ahmad** has more than 16 years working experiences. She is a PETRONAS-approved HFE Specialist and SHELL-approved HFE Authorized Person. She has worked in more than 90 green and brownfields oil and gas projects covering HFE activities from FEED to Execution stages.

Aiza is well versed in various international HFE guidelines (ASTM, ABS, ISO and OGP) and several major clients' internal HFE documents (PETRONAS Technical Standards, ExxonMobil MPDS, Shell DEPs, Chevron's SID and SapuraOMV GS). She was directly involved in developing the HFE Guidelines for SapuraOMV GS when she was part of the HFE Consultant Team for SapuraOMV.

Also qualified as an Ergonomist, Aiza has managed and delivered successfully more than 100 ergonomic projects with various companies in the field of Occupational Ergonomics. She has been involved either as assessor, supporting member or trainer in projects mainly related to Office and Plant Ergonomics Assessments, Work Assessments for SOCSO Compensation Claim, Ergonomics Awareness Training and Body Symptoms Surveys. She is currently a **chartered Human Factors Specialist / Ergonomist** awarded by the CIEHF, United Kingdom.





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