

**AEC Technology Ltd**

**ENGINEERING  
CAPABILITY**



**PROJECT MANAGEMENT  
CONCEPTUAL AND FEASIBILITY STUDIES  
ENGINEERING DESIGN AND DRAUGHTING  
ADVANCED ANALYSIS  
INDEPENDENT VERIFICATION**

## **INTRODUCTION**

AEC Technology Ltd (AEC) is an independent engineering consultancy providing high quality project management and engineering services to the oil and gas industry.

AEC has considerable in-house experience. Our Principal Engineers are highly experienced individuals with reputations for quality and technical excellence gained through assignments with major oil companies, design consultants, diving companies, installation contractors, fabricators and offshore service companies.

## **OFFICE FACILITIES**

The office facilities at AEC have a courtyard style complex, occupying a pleasant setting overlooking the harbour. Located within half a mile of the city centre of Aberdeen, the UK's oil & gas capital, we can be found on the North side of Regent Quay.

The office suite is self-contained comprising reception area, engineering offices, spacious open-plan work area, large conference room, staff room, toilet and washroom facilities which add to the provision of a good quality working environment, spanning an area of approximately 1,500 sq.ft. Onsite car parking is also available.

The office is fully equipped with telephone, fax, e-mail and photocopying facilities.

Address: AEC Technology Ltd  
Regent House  
36 Regent Quay  
Aberdeen  
AB11 5BE

Telephone: +44 1224 285640  
Facsimile: +44 1224 285641  
E-mail: pdeboys@aectech.co.uk  
gburger@aectech.co.uk

## **QUALITY ASSURANCE**

AEC recognises the importance of Quality Assurance in engineering and operates a formal Quality Management System (QMS). The QMS has been independently assessed and approved to ISO 9001:2000. AEC is also a registered company with FPAL

## **COMPUTER FACILITIES**

The office is equipped with pentium personal computers, printers and plotting facilities.

All personal computers run Microsoft Windows 2000 operating system. Microsoft Office 2000 is used as the standard application for administration.

The Company utilises the innovative software package TEDDS for the automated preparation of professional engineering calculations and design reports. MATHCAD 2001i is also available for engineering calculations and advanced calculus.

AEC utilises a wide range of Finite Element software, including ASAS-H, FEMGV 6, ANSYS and FS-2000, for the analysis of structural frames, continuum structures and mechanical engineering components.

CEASAR II is utilised for pipe stress analysis and integrity assessment of piping systems and piping supports and FINGLOW II for pressure vessel analysis.

Computer Aided Draughting (CAD) is performed using software packages, AUTOCAD LT 2002 or AUTOCAD 2000.

All analysis and draughting is performed in-house.

## **EXPERIENCE**

AEC believes that the success of the Company depends on consistently delivering a quality product meeting the client's technical requirements, on time and at a competitive price. AEC employs highly qualified, competent and motivated staff who are committed to delivering such a service.

The management team at AEC, Philip Deboys and George Burger are both Chartered Engineers with a proven track record in industry.

Summary CVs of key personnel are available upon request.

## **SERVICES**

AEC aims to offer a comprehensive project management, structural and mechanical engineering service including the following:

### **Project Engineering and Management**

#### **Conceptual and Feasibility Studies**

#### **Platform Structural Design & Modifications**

- jacket structures and foundations
- retro-fit caissons and risers
- subsea strengthening and repairs
- topsides module design
- topsides modifications and strengthening
- flare booms and towers

#### **Subsea Structures and Pipelines**

- templates and protection structures
- valve skids
- pipeline tie-ins
- flow and stability analysis
- span assessment
- bundle design
- pipeline end manifolds (PLEMs)
- foundations

#### **Floating Facilities**

- topsides design and modifications
- vessel strengthening
- motions analysis

#### **Platform Decommissioning**

- assessment of options
- technical feasibility
- underwater cutting
- lifting and transportation
- onshore dismantling and disposal
- platform re-use
- safety and environmental assessments
- cost estimates

#### **Safety Studies**

- risk assessment and hazard identification
- safety cases
- blast, fire and dropped object protection
- failure mode event analysis (FMEA)

## **Advanced Analysis**

- finite element analysis
- dynamic and fatigue analysis
- non-linear analysis
- fracture mechanics
- stress skin structures
- stiffened plate analysis
- integrity assessment

## **Transportation & Installation**

- loadout, transportation & installation analysis
- grillage and seafastening design
- rigging and lift point design
- bumper and guide systems
- spool lifts and deployment

## **Lifting and Mechanical Handling**

- crane integrity and analysis
- rigging and installation schemes
- overhead craneage and runway beams
- equipment removals
- flare tip changout

## **Specialist Equipment**

- ROV deployment equipment
- umbilical and pipeline storage reels
- specialist winch design
- under-roller dolly base systems for reels
- umbilical and pipeline spooling equipment

## **Pressure Systems Design**

- piping design
- pipe stress analysis
- pressure vessel design

## **Independent Third Party Verification**

- compliance surveys
- structural integrity

## **Specifications and Procedures**

- fabrication, materials and equipment
- tender documents
- construction workpacks

## **Computer Aided Draughting**

## **Construction Management and Site Supervision**