Engineering, Environmental & Management Consultant

SKADO Ltd
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Engineering Environmental & Management Consultant

To whom it may concern

We are pleased to introduce to you **SKADO ENGINEERING, ENVIRONMENTAL & MANAGEMENT CONSULTANT COMPANY .**

SKADO is a multi-discipline engineering company, with a present staff of over **75** engineers, designers and draftsmen.

SKADO engineers have served industry in the Middle East since 1980, and have provided engineering services to many governmental businesses, ministries, private investors and companies (Public and Private Sector).

SKADO is an international company specialising in the solving of environmental issues SPECIFICALLY WATER AND AIR which are becoming more of a problem for most of public and private sectors.

The potential of **SKADO** is based on its associate consultants offering consultancy and design support for companies, contractors and public sector on a world-wide basis. **SKADO** can offer support and advice on water and waste treatment applications in the Gulf and Middle East as we have done in the past 25 years.

Please find attached **SKADO PREQUALIFICATION FILE** showing our wide experience in design , consultancy and project management, specially master plan for new cities and development projects, including all utilities of water and electricity etc..

We hope that you enlist **SKADO** as one of your approved consultants and we would appreciate to receive your enquiries for design and consultancy for any water related project where we are sure that you will receive excellent service from our professional team.

Yours faithfully

_____

Roger Dobell
Vice president

إلى من يهمه الأمر

يسرنا ان نقدم لكم نبذة عن شركة **سكادو** الاستشاري في الهندسة والبيئة والادارة.

سكادو هي شركة متعددة الاختصاصات بعناصرها الذين يفوق عددهم على 75 مهندس ومصمم ورسام.

لقد قدمت شركتنا خدماتها في مجال الاستشارات الهندسية منذ عام 1980 لجهات حكومية مختلفة حيث تولى مهندسونا دراسة التصاميم واجراء الدراسات الهندسية الي كل من القطاع العام والخاص.

سكادو هي شركة عالمية متخصصة في ايجاد الحلول للمشاكل البيئية وخاصة في معالجة المياه والهواء والتي اصبحت الشغل الشاغل لمعظم القطاعات الحكومية والخاصة.

وتأتي أهمية **سكادو** من وجود شراكات مع شركات استشارية عالمية اخرى والتي بدورها تقدم خدماتها الاستشارية على المستوى العالمي ولذا فإن شركة **سكادو** لديها كل الامكانات لدراسة التصاميم لمشاريع المياه وتنقية الهواء في دول الخليج ومنطقة الشرق الاوسط وذلك على مدى ربع قرن منذ انشائها.

ويسر **سكادو** ان تقدم في الملف المرفق بعضا من انجازاتها في الاستشارات الهندسية والادارية خاصة المخططات العامة للمدن والقرى السياحية التي تحتوي على جميع الخدمات من ماء وكهرباء ... إلخ بالاضافة الي معلومات عن الشركة ونبذة عن مؤهلات بعض العاملين فيها.

ونحن كلنا أمل في ان تحظى شركتنا بالموافقة لتسجيلها لدى مؤسستكم كاحدى الشركات المتخصصة والمعتمدة لديكم فيما يتعلق بالخدمات الاستشارية لدراسة التصاميم ومتابعة تنفيذ المشاريع الخاصة بالمياه والهواء او تقديم الخدمات الاستشارية في ادارة المشاريع من خلال فريق عمل متخصص وفعال.

مع تحياتي ..

_____

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نائب الرئيس

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Pre Qualification Document

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Pre-qualification Document

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Pre-qualification Document

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Engineering, Environmental
& Management Consultant

SKADO

General Information

GENERAL INFORMATION

Company Name	:	SKADO Ltd
Commercial Registration	:	4662901
Nature of Business	:	Engineering Management Consultant for Industrial Projects including Water / Chemical Process plants
Key Personnel	:	Eng. Safwan Kabbara – CEO / President Mr. Roger Dobell – Vice President Projects Mr. Michael Watt – Vice President Finance & Administration
Registered Office	:	40 Kimbolton Rd, Bedford, MK40 2NR

Head Office :

United Kingdom :

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KEY PERSONNEL

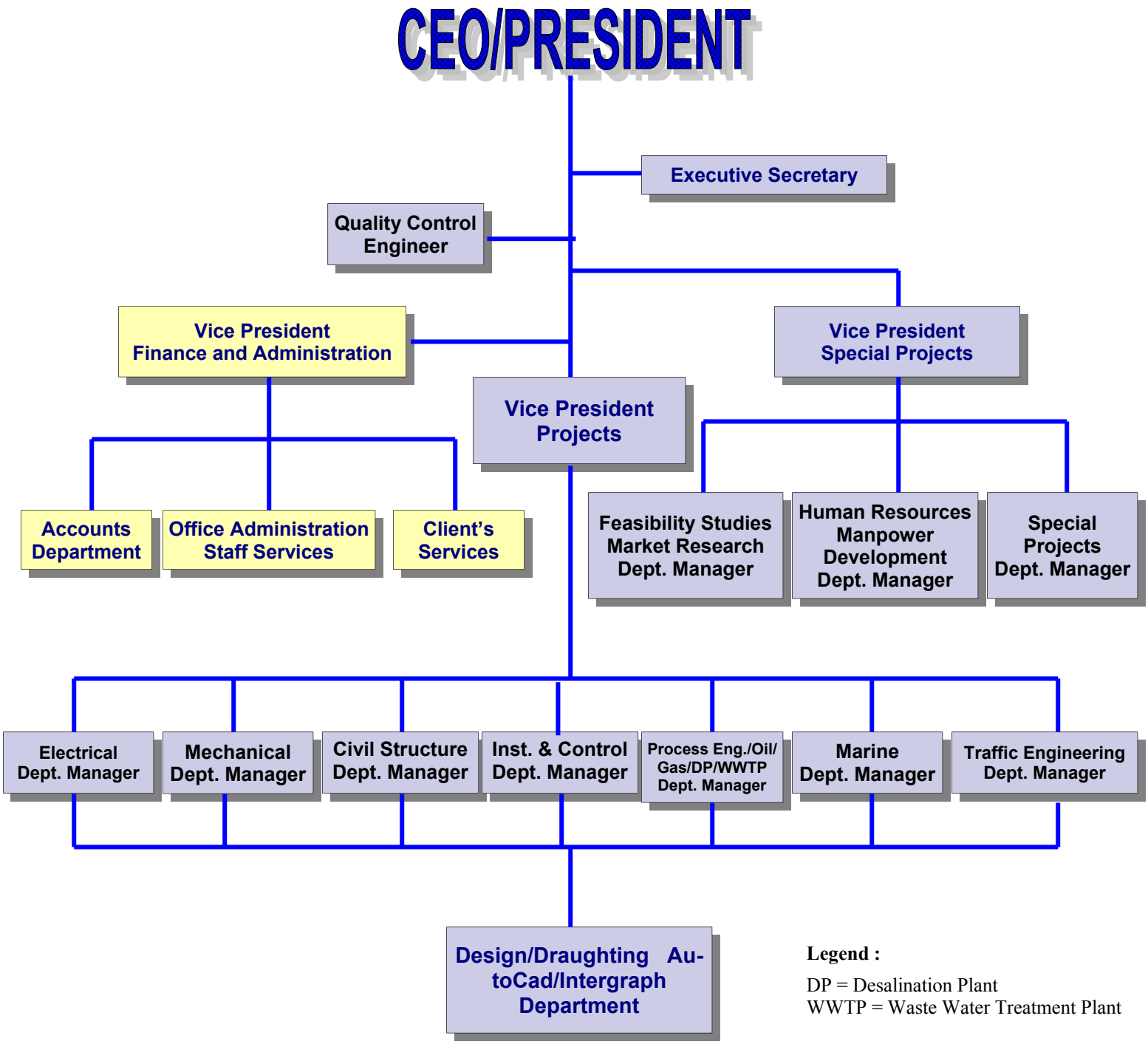
Position	Name
CEO / President	Mr. Safwan Kabbara MSc CEng CSci MIChemE/AIChemE
Vice President Finance & Administration	Mr. Michael J. Watt
Vice President Projects	Mr. Roger Dobell
Vice President Special Projects	Dr. David Umpleby
Engineering Manager	Mr. Alfie Hall
Mechanical Dept. Manager	Mr. Nazih El Assad
Process Eng. Dept. Manager	Mr. Lotfi Al Akhal
Marketing Manager	Mr. Ghassan Fakhoury
Business Development Manager	Mr. M. Bahaa
Transport Planning / Traffic Engineering / Urban Development Dept. Manager	Mr. Safouh Kabbara
Civil Structure Dept. Manager	Mr. Khalid M. Kamel
Electrical Dept. Manager	Mr. Ziad Jarwan
Quality Control Engineer	Mr. Abdulrahman Yousef
Project Manager	Mr. Mazen Hallab
Installation Manager	Mr. Tony Rawlings
Process Engineer	Mr. Mark Anderson
Installation Supervisor	Mr. Lorendo Dayacap

Engineering, Environmental
& Management Consultant

SKADO

Organization Chart

Engineering, Environmental & Management Consultant



Legend :

DP = Desalination Plant
WWTP = Waste Water Treatment Plant

SKADO Engineering Management Consultant Organization Chart

Engineering, Environmental & Management Consultant

SKADO

Company Profile

- General SKADO Introduction
- Activities Profile

1. GENERAL INTRODUCTION

SKADO STATEMENT & VISION

To be the leading consultant solutions company in the region through the deployment of innovative, state-of-the -art technology, providing first class customer services, rendered by a highly motivated engineering workforce, aiming at customer satisfaction and a commitment to market needs and aspirations.

THE COMPANY

SKADO is a multi-discipline engineering company, with a present staff of over 75 engineers, designers and drafts-men. Our civil/structural, process/mechanical, electrical, and instrumentation engineers, designers and drafters, as well as our environmental and construction management departments, are experienced in all aspects of industrial facility design and construction of municipal water and waste-treating facilities, desalination plants for sea and brackish water as well as surface water treatment, bulk materials handling and storage. Our company offers a broad range of engineering services including:-

- Preparation of Economic and Feasibility Studies
- Conceptual and Preliminary Design
- Construction Specifications and Contractor Bid Eval-uation
- Conceptual Engineering and Estimating
- Planning and Scheduling
- Preliminary and Detailed Design
- Equipment Specifications
- Equipment and Materials Procurement
- Environmental Assessment/Permitting
- Start-up Assistance
- Project and Construction Cost Estimating
- Construction Management
- Inspection/QA/QC
- Operator Training

SKADO is experienced in all aspects of design and construction management for the following facilities:-

- Desalination Plants
- Surface Water Treatment Plants
- Municipal Waste Water Treatment Plants
- Refineries and Petrochemical Plants
- Packaged and large scale Sewage Treatment Plants
- Packaged and large scale Desalination Treatment plants
- Pipeline Facilities for Potable, Sewer, Irrigation, Fire-fighting networks
- Pumping Stations
- Power/Electrical Generation Facilities
- Docks and Marine Terminals
- Material Handling Facilities
- Industrial Waste Treatment Facilities
- Plant Utility Systems
- Floating Production Systems
- Gas Processing Plants
- Cogeneration Facilities
- Compressor Stations
- Energy Management Systems
- Pollution Control and Abatement Systems
- Sludge Treatment
- Main & Drainage Pump Stations
  Industrial/Process Refrigeration/Cooling Systems

INSTRUMENTATION AND ELECTRICAL DEPARTMENTS

The Instrumentation and Electrical Departments, which we believe to be among the largest and most technically proficient groups, have specialized in solving the problems of our industrial clients, such as the oil and gas industry and utility companies from drilling and production through to refining and gas processing. We have been deeply involved in attending our client's "emergency codes" as well as continuing our awareness of the state-of-the-art in the industry.

Many of our engineers have experience, not only in instrumentation and electrical design, but also have a solid background in inspection, installation, testing, start-up services, and project management. Most of the senior engineers on our staff have acted as project managers, both in-house and for various clients interfacing with other engineering firms.

2. LIST OF ACTIVITIES PROFILE

CIVIL

- Roads and Bridges
- Dams
- Railroads
- Architecture
- Interior Design
- Buildings
- Infrastructure & Civil Works
- Rural and Urban Development

INDUSTRIAL

- Economic/Feasibility Studies
- Site Selection Studies
- Underground Tank Surveys
- Soil Groundwater Studies
- Wastewater Treatment Systems
- Air Pollution Control Systems
- Solid/Hazardous Waste Treatment and/or Disposal Systems
- Resource Recovery Facilities
- Groundwater Monitoring Systems
- Power Stations
- Power Transmission and Distribution Systems
- Desalination Plants
- Oil Refineries
- Cement Industries
- Iron and Steel Plants
- Industrial Projects
- Processing Plants
- Harbor & Marinas Constructions
- Offshore Marine and Dredging Works
- Noise Control Systems
- Fuel/Water/Gas Pipelines

INSTRUMENTATION AND CONTROL

- Data systems

ELECTRICAL

- Telecommunication Systems/CATV Systems
- Lighting Systems

GENERAL SERVICES

- Software Systems Developer and Integrator
- Development of Tourist Cities
- Feasibility Studies
- Engineering Consultancy & Advisory
- Planning and Design
- Process Plant Design & Specification
- Detailed Engineering
- Marketing Research
- Evaluation
- Contract/Project Management
- Inspection/Trouble Shooting
- Training

ENGINEERING SERVICES

- Environmental Studies
- Process Plant Design Engineering using AutoCAD
- Project Feasibility Studies and Evaluation
- Process Technology and Selection
- Process Optimization
- Basic Engineering
- Detailed Engineering
- Advanced Process Control
- Overall Project Management
- Upgrading of Existing Facilities
- Technical Troubleshooting
- Cost Estimating and Proposal
- Procurement Services and Sub-contracting
- Equipment and Material Supply
- Training of Personnel
- Installation, Commissioning and Site Management.

Skado

Engineering, Environmental & Management Consultant

SKADO

Comprehensive Experience

3.1. AUTOMATION AND CONTROL SYSTEM EXPERIENCE

Automation and Control System Experience

SKADO has direct and significant application experience with current automation and control systems technologies including:-

- Distributed Control Systems (DCS)
- Programmable Logic Controllers (PLC)
- Supervisory Control And Data Acquisition (SCADA)
- Personal Computer Interfaces and Operator Stations
- Third Party PC Based Software Applications
- Programmable Single Loop Electronic Controllers
- Pneumatic and Hydraulic Control Systems
- Host Computer Applications
- Microprocessor Control
- Flow Computers
- Remote Telemetry and Communication Systems
- Process Data Loggers (triple redundant control systems)

Control applications with which we have experience include:-

- Continuous Process Controls
- Batch Process Control
- Compressor Surge Control
- Boiler Controls
- Diesel and Gas Engine Control
- Gas Turbine
- Steam Turbine
- Safety Shutdown Systems
- Gas Compressor Controls
- Pump Control
- LACT Controls
- Energy Management System Controls

Electrical System Experience

SKADO has direct and significant experience providing the following services to clients:-

- Review/Audit (Review of other engineering firms' designs)
- Conceptual Planning of Electric Power and Control Systems
- Electrical Power Plant Design
- Medium and High Voltage Transmission and Distribution
- Emergency Power Systems (Generators/UPS)
- Safety Systems
- Lighting
- Protective Relay Coordination Studies
- Fault Studies
- Load Flow Studies
- Transient Stability Analysis
- Lighting System Studies
  Inspections For Compliance:-
  NEC – National Electrical Code
  MMS – Minerals Management Service
  IEC - International Electric Code
- Inspections for Conformance to Specifications
- Equipment Acceptance Testing (both shop and field testing).
- Troubleshooting (offshore, gas, plants etc.)
- Emergency Shutdown System Field Testing
- Hazop Studies for different Industrial Plants

3.2. ELECTRICAL SERVICES

SKADO can offer the following services in Electrical Engineering:-

PRELIMINARY ENGINEERING

- Conceptual Design, Feasibility, Scope Development, Estimating and Scheduling
- Hazardous Analysis and Classification
- System Analysis (load flow, short circuit, motor starting, voltage drop studies)
- Single Line Diagram Development
- Specifications and Ordering of Long Lead Equipment
- Utility Rate/Interconnect Negotiations
- Relay and Protection/Coordination Study

DETAILED DESIGN

- Preparation of Detailed Installation (work shop) Drawings and Interconnect Documents
- Equipment Procurement and Expediting
- Construction and Equipment Specifications

CONSTRUCTION MANAGEMENT/START-UP ASSISTANCE

- Witness Testing of Major Equipment
- Full System Documentation for Operation and Maintenance
- Start-up Programs and Manuals
- Construction Supervision and Inspections
- Commissioning, Start-up and Troubleshooting
- Operator Training

3.3. ENGINEERING SERVICES

SKADO – A multi-discipline engineering firm
SKADO engineers have served industry in the United Kingdom and abroad since 1991 and have provided engineering services to the Middle East since 1995

The firm has participated in the permitting (Logistics Execution & Control), design, construction management, and start-up of numerous desalination & waste water treatment facilities in the Middle East and Europe. The projects have included desalination plants for potable and domestic use, waste water treatment facilities, secondary and tertiary treatment facilities, production skids, generator stations, pumping stations, pipelines and compressor stations.

SKADO has also assisted clients with construction through verification and approval of the designs of vendors, fabricators, constructors, and engineering contractors.

Our staff of over 75 engineers, architects, scientists, project and construction managers and support personnel provides the professional engineering services required to carry a project from inception to completion, including conceptual and preliminary design, feasibility studies, alternatives analysis, environmental studies, permitting, detailed design and specifications, bidding, construction cost estimates, construction management and start-up services.

As a result of our numerous years of service to our clients, we have accumulated significant specific experience in the following areas:-

1. Design of Production Facilities of Various Configurations

- Large Multi-Platform Desalination Plants for Sea Water
- Large Multi-Platform Desalination Plants for Brackish Water
- Municipal Waste Treatment Plants
- Industrial Waste Water Treatment Plants
- Facilities Using Fixed Steel and Concrete Structures
- Power Generation Plants
- Sludge Treatment Plants
- Sludge Driers
- Odour Control
- Flue Gas Desulphurization.

2. Innovative Production Facility Design Techniques

- Compact, Modular, Prefabricated Packages
- Space and Weight Minimization Analysis
- Life Cycle Analysis
- Full Compliance Produced Water Treatment/Disposal
- Down Hole Pumps, Gas Lift, Water Flood, CO_2/ Chemical Flood, Tertiary Recovery
- Electric Drivers on Shipping/Injection Pumps and Injection Gas Compressors
- Integrated Electric Power Generation for both Drilling and Production
- Variable Speed Electric Drives – both AC and DC Drives with Analogue Process Speed Control (Low Flare, Low Recycle)
- Emergency Generators

3. Programmable Electronic

- Distributed Control Systems (DCS)
- Programmable Logic Controllers (PLC)
- Supervisory Control And Data Acquisition System (SCADA)
- Communications/Data via Radio, Microwave, Fiber Optics

4. Computer Aided Design

- AutoCAD/Autorol/Intergraph CADD Systems (for drawing preparation)
- Process, BKAC, Vessel, Thermo (Material Mass & Heat Balance, Vessel Design, Heat Exchanger Sizing)
- Flow (Electric Load Flow, Short Circuit, Stability Analysis and Design)
- Project and Construction Management

5. Construction Planning Activities

- Procurement and Expediting of Major/Long Lead Equipment
- Critical Path Method (CPM) Analysis and Planning
- Analysis of Fabricator Capabilities and Preparation of Bid Lists
- Preparation of Safety Program and Monitoring of Compliance
- Acquisition of Permits
- Budgetary/Expenditures Reporting and Control Program

6. Bid Solicitation

- Bid Document Preparation
- Bid Analysis and Award Recommendation to Client
- Purchase Order and Construction Contract Preparation and Advice

7. Construction Phase Services

- Welding Inspection-Review of Welder, X-Ray and UT Testing
- Quality Control/Quality Assurance (QA/QC)
- Budgetary Monitoring and Reporting
- Shop Drawing Review and Approval
- Witness Testing of Equipment/Systems
- Safety Program Monitoring and Reporting
- Progress Monitoring and Reporting
- Project Documentation Maintenance and Control

In working with our clients to define criteria, design cost effective facilities and control construction, we have been able to assure timely, within-budget delivery of complex projects. The following pages list some of our major project.

We appreciate the opportunity to present SKADO's qualifications and anticipate the opportunity of assisting you in the successful completion of your future projects.

3.4. ENVIRONMENTAL SCIENCES AND ENGINEERING DEPARTMENT

In participation with our associated consultant the Environmental Sciences and Engineering Department consists of engineers, scientists and technical staff with educational backgrounds in environmental sciences, chemical engineering, geological engineering, geophysics, and industrial hygiene. The department staffs registered engineers, environmental assessors, geologists, and a certified Industrial Hygienist. In addition, we have civil engineering, environmental and industrial hygiene technologists and technicians and secretarial support.

The Environmental Sciences and Engineering Department and our associated consultant has assisted industrial and oil and gas clients for over 20 years providing services in site selection, environmental permitting, environmental studies and ongoing permit compliance programs. Areas of expertise include industrial hygiene, asbestos abatement programs, air emissions permitting, air quality dispersion modeling and monitoring and investigations, RCRA permitting, Corps of engineers/Wetland permitting, environmental site assessments for property transfer. Permitting programs undertaken for industrial clients range from small source single permits through to multimedia permits for large grass roots chemical manufacturing facilities. The Department's staff stays current with the rapidly changing environmental regulations enabling a state of the art approach to planning, undertaking and expediting complex permitting programs. Extensive computer modeling is required for most of these programs involving air dispersion, water and groundwater modeling and risk assessment approaches.

Facility audits and environmental site assessment projects are also a large part of the Department's workload. Audit programs for regulatory compliance are routinely undertaken for industrial clients and site assessments as a part of property transfers.

The following pages of this document provide further data on the specific projects undertaken by the company, list the credentials of the Department's staff and furnish further discussion on other programs.

3.5. INSTRUMENTATION/AUTOMATION SERVICES

SKADO can offer the following services in Instrumentation and Automation.:-

PRELIMINARY ENGINEERING

- Conceptual Design, Feasibility, Scope Development, Estimating and Scheduling
- Flow Diagram Development
- Hardware and Operating System Software Selection and Applications Review
- Selection of Control and Data Communications Strategies
- Preparation of Safety Documents

DETAILED DESIGN

- Detailed Instrument Specifications (including process calculations/sizing)
- System Design and Installation/Interconnect Drawing Preparation
- Control System Software Configuration, Programming and Debugging
- Construction Specifications

CONSTRUCTION MANAGEMENT/START-UP ASSISTANCE

- Equipment Procurement and Expediting
- Calibration, Start-up, Troubleshooting and Operator Training
- Construction Supervision and Inspections
- Full System Documentation for Hardware, Software, and O&M
- Maintenance and Start-up Procedures and Manuals
- Computer Aided Design (CAD) Services

3.5.1. INSTRUMENTATION AND AUTOMATION

INSTRUMENTATION AND AUTOMATION

The instrumentation group is experienced in all aspects of instrumentation and control for the following facilities:

- Refineries and Petrochemical Plants
- Desalination Plants
- Pipeline Facilities
- Material Handling Facilities
- Docks and Marine Terminals
- Sludge Treatment
- Industrial and Municipal Waste Treatment Facilities
- Plant Utility Systems such as steam generation, cooling water, compressed gases, firewater, etc.
- Power/Electrical Generation Facilities
- Pollution Control and Abatement Systems
- Water Treatment Plants
- Drainage Pump Stations
- Industrial and Process Refrigeration and Cooling Systems
- Energy Management Systems
- Industrial Water Treating Systems
- Oil Storage Facilities
- Waste Heat Recovery Units

INSTRUMENTATION AND CONTROL SYSTEM EXPERIENCE

Experience includes current control system and automation technologies including:

- Instrumentation System Design, Documentation and Commissioning
- Distributed Control System (DCS)
- Programmable Logic Controllers (PLC)
- Personal Computer Interfaces and Operator Stations
- Third Party PC based Software Applications
- Host Computer Applications
- Pneumatic and Hydraulic Controls and Instrumentation Systems Design
- Programmable Single Loop Electronic Controllers
- Flow Computers
- Remote Telemetry and Data Acquisition
- Process Data Loggers
- Triple Redundant Control Systems

Control applications have included:

- Continuous and Batch Process Controls
- Compressor Surge Control
- Boiler Controls
- Turbine Speed Controls
- Safety Shutdown Logic Systems
- Generator Controls
- Pump Controls
- Custody Transfer Controls

3.6. INDUSTRIAL WASTE WATER TREATMENT PLANTS

Industrial Waste Treatment Plants Experience

Many industrial plants owners in the world are now well aware of the environmental/ pollution control and rigid requirements that are being put forward by the local government for the protection of the environment; the water effluent of each industrial process plant has to be treated before it is disposed of in the river, sewer, and lagoons or nearby sea.

SKADO is playing a major role in the environment and pollution control where it has diversified its design and activities using physical, chemical and biological design treatment to include the industrial effluents treatment plant ensuring that effluent quality is meeting the required standards.

SKADO are able to design and specify equipment and make detailed engineering for different types of process treatment plants for water being discharged from several industrial processes.
Since this type of treatment may have a wide range of design options that depend on the type of raw effluent to be treated, *SKADO always opts* to amend its design using updated technologies. Listed below are some of the types of effluent that the company is ready to design and treat. However, we would prefer to carefully study each case thoroughly.

SKADO's comprehensive design of industrial wastes includes treatment plants for the following industries:-

- Pulp and Paper Industries
- Dairy Industries
- Tanneries and Taweries
- Textile Industries
- Slaughter Houses
- Ceramics Industry
- Fruit and Vegetable Processing
- Potato Processing
- Poultry Processing
- Fish Processing and Canning
- Metal Plating Industries
- Paint Industries
- Refineries Waste
- Sugar Industries

SKADO's unique design of such industrial waste treatment plants allow further the reuse of the water for agriculture, irrigation, industrial purposes, etc. hence, helping to reduce water cost by proper treatment and water re-circulation.

SKADO has the capabilities to design higher production size plants or complex industrial water treatment plants.

3.7. DESALINATION & WATER TREATMENT PLANTS

Sea /Brackish Water Desalination Experience

SKADO can design, and specify process equipment for different type of water treatment plants. The company is capable of designing treatment plants for different sources of water to produce potable or deionised high quality water suitable for the application/purpose that the plant was designed for.

Some of the processes being designed and used by SKADO is listed below:-

M.S.F. Multistage Flash Distillation for Seawater Desalination
M.E.D. Multi-Effect Distillation
M.V.C. Mechanical Vapour Compression for Seawater Desalination
T.C.D. Thermal Compression Distillation for Seawater Desalination
S.R.O. Seawater Desalination using Reverse Osmosis
B.R.O. Brackish Water Desalination using Reverse Osmosis
Ultra Ultrafiltration systems using Polyamide membranes
NANO Nano filtration using Polyamide membranes
WTP Surface Water Treatment using filtration systems
Demin Demineralizer / Deionization System

The comprehensive range of desalination processes being offered by SKADO always ensure that the client's requirements are met. We also advise them on the most economical reliable process that would be most suitable for their application. Capital and operational cost are considered a decisive factor in choosing the process where other factors would be the design parameters, raw water analysis, product quality required and availability of energy (power).

SKADO also offers the following:-

Design of Package, pre-fabricated (shop assembled), skid mounted water treatment plant

Design of Compact and transportable reverse osmosis plants for brackish water; these units have a production capacity of low salinity water from 10 m^3/day to 2,500 m^3/day

Design of Compact and transportable reverse osmosis plants for treatment of water with different salinity concentration. These units are mounted on trailer and include a generator. Production capacity from 5 m^3/day to 600 m^3/day for treatment of brackish water and from 5 m^3/day to 300 m^3/day for treatment of seawater.

Design of ION Exchange Treatment Plants. Compact and transportable ION exchange treatment plants for low quality raw water with the possibility of additional reverse osmosis treatment. A list of different systems that have been designed by our engineers is shown in Section 5.

3.8. TRAFFIC ENGINEERING & PLANNING

Traffic Engineering

SKADO has been in the professional practice of traffic engineering for more than a decade. Traffic engineering services have been provided for virtually every facet of the profession. This experience includes:-

- Traffic Planning,
- Operational Analysis
- Traffic Circulation and Parking Studies
- Traffic Safety Studies
- Signals System Design
- Freeway Management and Traffic Impact Assessment

Project activities have addressed a wide range of safety and capacity issues including:-

- Traffic Management Strategies
- Interchange and Intersection Designs
- High Occupancy Vehicle Lane (HOV) planning and design
- Reversible Lane Operations,
- Ramp Metering
- Intelligent Transportation Systems (ITS) applications

SKADO consulting services include the planning, design and supervision of ITS implementation activities. Our projects include Advanced Traffic Management System design efforts, early deployment planning, comprehensive economic and benefits assessments, the design of motorist and traveler information systems (both urban and rural applications) and intermodal/commercial operations assessments and the planning and design of Electronic Toll Collection (ETC) systems.

It is our focus on development of innovative, cost-effective solutions that address the transportation needs of the public as well as the agency's functional requirements. SKADO does not produce or manufacture hardware or software—thus we can provide an objective assessment of client needs and identify the appropriate applications and resources required with no financial interest with respect to the deliverable system. Our broad based transportation experience is especially suited to the integration of ITS activities with more conventional tools in order to provide a complete solution to transportation problems.

Transportation Planning

SKADO also specializes in transportation consulting and provides a comprehensive range of professional services in transportation planning and economics. The firm is particularly well equipped in its expertise in developing projections of future travel demand, the analysis of alternative transportation strategies to serve future needs and guide investment decisions, transportation policy analysis and technical assistance in the development and implementation of transportation improvement programs. Our services in transportation planning and economics include:-

- National Transport Planning
- Intermodal and Multimodal Planning
- Metropolitan Area Transportation Plans
- Transportation Modeling
- Transportation Corridor Studies
- Major Investment Studies
- Congestion Management Studies
- Intelligent Transportation Systems (ITS) Planning and Design
- Public Transportation/ Transit Systems
- Bikeway and Pedestrian System Planning

Parking Planning & Design

SKADO provides comprehensive professional services for the planning, design, inspection and rehabilitation of parking structures. These services include:-

- Existing and Future Parking Needs Assessments
- Parking Demand Modeling
- Financial Feasibility Studies
- Parking Garage Functional Planning
- Structural Engineering Design
- Construction Engineering and Inspection Services
- Parking Garage Condition Inspections and Rehabilitation Design
- Informational and Directional Signage Planning, Design, and Graphics Layout
- Facilities Operations Analysis

Our experience includes a broad range of parking projects for airports, colleges and universities, convention centers, entertainment facilities, hospitals and medical centers, municipal governments, office buildings, sports complexes, transportation centers and residential complexes.

3.9. INTRODUCTION TO PIPELINES

THE COMPANY

SKADO is a multi-discipline company established in 1991, with a present technical staff of over 75 engineers, designers and draftsmen. Our civil/structural, process/ mechanical, electrical, and instrumentation engineers, designers and drafters as well as our environmental and construction management departments are experienced in all aspects of industrial facility design and construction. Our company offers a broad range of engineering services including:-

- Conceptual Engineering and Estimating
- Planning and Scheduling
- Preliminary and Detailed Design
- Construction Specifications
- Equipment and Materials Procurement
- Environmental Assessment/Permitting
- Start-up Assistance
- Project and Construction Cost Estimating
- Construction Management
- Inspection/QA/QC
- Operator Training

SKADO is experienced in all aspects of design and construction management for the following facilities:-

- Offshore Production Platforms
- Refineries and Petrochemical Plants
- Onshore Oil and Gas Production Facilities
- Pipeline Facilities
- Pumping Stations
- Electrical Generation Facilities
- Docks and Marine Terminals
- Material Handling Facilities
- Desalination plants
- Surface Water Treatment Facilities
- Industrial Waste Treatment Facilities
- Plant Utility Systems
- Floating Production Systems
- Gas Processing Plants
- Compressor Stations
- Tank Farms and Terminals
- Energy Management Systems
- Water Treating Plants
- Pollution Control and Abatement Systems
- Drainage Pump Stations
- Industrial/Process Refrigeration/Cooling Systems

PIPELINE FACILITY DESIGN AND CONSTRUCTION MANAGEMENT EXPERIENCE

SKADO's range of design experience includes primary transmission pipelines, meter and regulation stations, compressor and pumping stations, terminals and storage facilities and associated peripheral facilities such as site selection and development, foundations, buildings, utilities, instrumentation/automation, electrical power distribution and environmental protection. SKADO maintains a complete, multi-discipline construction management capability to assist clients during the construction phase activities associated with pipeline facility.

Having planned, designed and managed the construction and start-up of numerous pipelines and associated facilities, SKADO has acquired extensive knowledge of and practical experience with the many unique design and operation and maintenance problems and solutions.

3.10. UTILITY INFRASRUCTURE PIPELINE NETWORK FACILITIES

SKADO's experience in utility network pipeline design is well established in the projects that were implemented in the cities, tourist villages and resorts, the utilities pipeline include but not limited to:-

- Potable Water Network
- Sewage Water Network
- Irrigation Water Network
- Fire Fighting Water Network
- Storm Water Network

PIPELINE FACILITY DESIGN AND CONSTRUCTION MANAGEMENT EXPERIENCE

- Route Studies and Feasibility Reports
- Environmental Studies/Permitting
- Surveying and Mapping
- Right-of-Way Acquisition
- Permit Acquisition
- Compressor Station Design
- Construction Management
- Inspection and Testing
- Pipeline Design Drawings
- Training/Safety
- Pipeline Sizing
- Materials Selection
- Pipe and Coating Manufacturing Inspection
- Cost Estimating
- Equipment Procurement
- Pumping Station Design
- Welding/NDT Inspection
- Operation and Maintenance

RELATED EXPERIENCE

SKADO's large in-house, multi-discipline staff supports our pipeline facilities design and construction management activities by maintaining complete capability to handle related areas frequently encountered such as:-

ENVIRONMENTAL

- Air/Water/Solid Permitting
- Design of Recovery Systems
- Site Studies and Evaluations
- Abatement Programs
- Field Studies Site Cleanup Services

PROCESS/MECHANICAL

- Mass – Energy Balance
- PSV Sizing
- Energy Conservation Analysis
- Heat Exchanger
- Pipe Stress Analysis
- Vessel Design

INSTRUMENT AND ELECTRICAL

- Distributed Control Systems (DCS)
- Programmable Logic Controllers (PLC)
- Supervisory Control/Data Acquisition (SCADA)
- Host Computer/Microprocessor Application (UPS)
- Telemetry/Communications
- Switchgear (Air, Vacuum, SF6)
- Substation Design
- Protective Relaying/Coordination
- Uninterruptible Power Systems (UPS)
- Fault Analysis/Flow Studies

CIVIL/STRUCTURAL/ARCHITECTURAL

- Modular/Heavy Lift Packages
- Buildings/Enclosures
- Fatigue Analysis
- Roads/Drainage/Utilities
- Seismic Analysis
- Noise minimization

CONSTRUCTION MANAGEMENT

- Procurement/Expediting
- QA/QC
- Welding/NDT Inspection
- Bid Solicitation/Analysis
- CPM Planning
- Shop Drawing Review/Approval

3.11. WASTE WATER TREATMENT PLANTS

Domestic Sewage / Waste Water Treatment Plants Experience

SKADO can design and specify equipment for different types of sewage/ waste process treatment plants treating different types of waste water sources to produce water suitable for agriculture, irrigation and industrial processes.

Some of the processes being designed and used by the company for such treatment are listed below

- Extended Aeration Activated Sludge
- Contact Stabilisation
- Carousel Treatment Systems
- Diffused Air Flotation Systems
- Water Stabilisation Lagoons
- Rotating Biological Contactors
- Sequential Batch Reactor (S.B.R.)
- Tertiary Treatments and Water Reuse
- Odour Control Systems
- Waste Treatment using Thermal Energy
- Biological Aerated Filters

SKADO designed plants are being used in municipal and industrial applications. This comprehensive range of waste treatment experiences and activities offered by SKADO always ensures that the client's requirements are met.

SKADO also advise their clients on the most economical reliable system that would be most suitable for the purpose from capital and operational cost where the decisive factors would be the design parameters such as raw water analysis, product quality required, availability of land/space, power, etc…

SKADO offers the following:-

- Design of Compact and packaged sewage treatment plants (shop assembled) up to 100 m^3/day
- Design of Field erected packaged wastewater treatment plants up to 5,000 m^3/day
- Custom designed and large-scale wastewater treatment plants up to 500,000 m^3/day

A list of different systems that were designed by our engineers is shown in Section 5.

3.12. STATEMENT OF QUALIFICATIONS REFINARY/CHEMICAL PLANT EXPERIENCE

In participation with our associated consultant, presented herein is a brief statement of the qualifications of SKADO, to provide engineering and project management services for refinery and chemical plant facilities.

GENERAL QUALIFICATIONS

SKADO is an organization of professional engineers and architects furnishing professional services in a broad field of practice for over 15 years. Our services include the following general areas:

Consultation	Conceptual/Feasibility Studies
Economic Reports	Preliminary and Detailed Design
Evaluations and Appraisals	Project Management
Planning and Scheduling	Construction Management
Environmental Studies/ Permitting	Start-up Assistance

Principals of the firm include engineers and architects holding registrations from UK, USA and Europe with extensive experience in all phases of both professions including environmental, civil/structural, chemical, mechanical, electrical and instrumentation engineering and architecture. The firm's present staff of 75 professional engineers, scientists, architects, designers, draftsmen, and support personnel has had extensive experience in the design and construction of refinery and chemical plant facilities.

Our complete multi-discipline staff enables the firm to provide total in-house professional engineering services on projects ranging in size from brief surveys and reports through to major facility design and construction. On any given project, we can provide site selection, permitting, cost analysis, generation of design and bid/construction cost estimates, CPM scheduling and material specification and procurement.

During and following the design phase of the project, our staff can provide total support functions such as bid review, shop and vendor drawing review and approval, resident construction inspection, construction management, start-up assistance, troubleshooting and operational training and instruction.

PROJECT MANAGEMENT

The company is organized in a matrix format for project execution. Project managers are assigned to projects and drawn from the required disciplines to form the project teams. As jobs expand or decline, team members are moved in or out of the disciplines to serve the needs of the project. For large projects, however, we have in the past and will commit to form a project task force and locate them in a project office in our building under the direction and control of facility clients' project manager and staff.

STAFF

Our present technical staff consists of the following discipline groupings:-

- Project Managers
- Chemical Engineers
- Mechanical/Process Engineers
- Civil/Structural Engineers
- Electrical Engineers
- Instrumentation Engineers
- Environmental Engineers and Scientists
- Architects
- Construction Management Personnel
- Designers/Drafters
- Technicians/Technologists
- Administration and other support personnel

DESIGN CAPABILITY

Our engineering departments are comprised of engineers, designers and drafters who encompass a wide variety of experience in a large variety of industries, such as refinery, chemical and petrochemical plant work, desalination, municipal waste treatments, offshore and onshore oil and gas production, pipelines and docks and marine terminals. Their capabilities include the following:-

A. PROCESS DESIGN

1. Experience in complete design of new processes including:-

Selection of Feed Stocks	Development of Process Flow sheets
Material Balances	Design of Vessels and Internals
Selection of Equipment	Developing Full Scale Operations
Setting up Pilot Plants	
Analyzing Results of Same	

2. Experience in analysis and modification of existing processes to eliminate bottlenecks, improve operability, improve yields and reduce energy consumption

3. Experience in the latest technology in process distributed control including:-

Fisher Provox	Taylor	Foxboro
Honeywell	Bailey	Allen Bradley
Texas Instruments	Rosemount	

4. Access to and experience with the following process-oriented computer programs (a complete list of in-house computer software is included later in this scope of work document) :-

A- PROCESS, a powerful process design computer program development by SimSci, Inc.

B- THERMO, a program that predicts physical properties of pure and multi-component hydrocarbon liquids and gases at specified temperatures and pressures. The BWRS equations of state are used as a basis of the program

C- VESSEL, a program that sizes horizontal and vertical vessels for two-phase separation

D- PSV, a program that calculates the required orifice area for relief valves

E- HEXTRAN, a program that designs energy-efficient exchanger trains

F- LINESIZE, an in-house generated program to calculate pressure changes in liquid, gas and two phase flow systems. This program is coupled with another in-house program to produce line lists which handle the hydraulic and mechanical design aspects for piping

G- BJAC, a program that designs and sizes heat exchangers

B. MECHANICAL DESIGN

1. Experience in mechanical facilities design, from concept through final details, for the following:-

- Refineries, Chemical and Petrochemical Plants
- Onshore and Offshore Oil and Gas Production
- Pipeline Facilities
- Material-handling Facilities
- Docks and Marine Terminals
- Industrial and Municipal Waste Treatment Facilities
- Plant Utility Systems such as steam, cooling water, compressed gases, firewater, etc.
- Electrical Generation Facilities
- Pollution Control and Abatement Systems
- Machine Design associated with moveable locks and bridges
- Drainage Pump Station
- Industrial and Process HVAC and Plumbing Systems
- Energy Management Systems
- Industrial Water Treating Systems
- Power Generation and Cogeneration Facilities
- Desalination & Surface Water Treatment Facilities

2. The above design capability includes experience with the following:-

- Feasibility Site Selection Studies
- Preliminary Cost Estimates
- Development of Final Flow Diagrams
- Development of P & ID's
- Detailed Design of Tanks and Pressure Vessels
- Preparation of Construction
- Specifications
- Field Instruction and Start-up Assistance
- Conceptual Facilities Layouts
- Preliminary Cost Estimates
- Detailed Cost Estimates
- Specification of Equipment
- Development of Equipment Layouts
- Piping and Conveyor Installations
- Preparation of Purchase Orders

3. Experience in energy conservation projects including energy audits, systems analysis and implementation of conversation measures.

4. Computer Facilities includes TRIFLEX (piping, flexibility analysis) and various HVAC design and analysis programs, pipe network analysis programs, and in-house developed line sizing (including two-phase flow) and complex conveyor design programs.

5. Working knowledge of all commonly used codes and standards including API, ANSI, ASME, ASTM, TEMA, NACE, NFPA, OSHA, AWWA, Hydraulic Institute and others.

The above process and mechanical design capability, together with our project management, environmental, civil/ structural, electrical, instrumentation, and construction management capabilities have been successfully utilized to perform numerous large, multi-discipline refinery, chemical and petrochemical plant projects.

C. COMPUTER CAPABILITY

The company also utilizes over 75 IBM compatible personal computers for its day-to-day engineering and managing function. A complete list of the computer capability we have, both software and hardware, is included later in this Statement of Qualifications document.

Our current main CAD capability is based on AutoCAD Releases 14 and 2000 & 2004 with drafting extensions providing significant features to improve drafting productivity. We also have and utilize Autorol CAD and Intergraph CAD systems. We have produced numerous facilities design packages utilizing our CAD systems, including detailed piping using ADEV Pro-pipe software. We run AutoCAD and Intergraph CAD stations on high speed IBM compatible computers (including1500 MHZ & 2.0 GHZ computers). We presently operate 75 AutoCAD stations and 2 Intergraph stations.

3.13. TELECOMMUNICATIONS NETWORKS

SKADO's structure has been designed to face the significant challenges of globalization and to smooth the transition from the voice arena into the futuristic world of data communications, internet networking and e-business solutions.

SKADO has always been abreast of latest technology innovations, selected from the world's best products and offered the most appropriate solutions for Europe and the Middle Eastern Market.

By keeping pace with the development of the communications technologies, SKADO has been able to cater for the market's intricate needs in a vast range of communication technologies and innovative services.

Using its dedicated resources and expertise, SKADO can offer and execute any or all of the following activities to its customers:

NETWORK DESIGN & PLANNING

The first step in every telecom project is the design of the total network with all its components

SYSTEM ENGINEERING

System Engineering will verify and provide all necessary specifications for the designed solution of the intended telecom project

OPERATIONS

Customers may outsource the operation of their systems to SKADO

CONSULTANCY SERVICES

Highly professional engineers provide superb consultancy to our customers

PROJECT MANAGEMENT

Customer can rely on SKADO to manage his project and to meet the planned milestones

TURNKEY TELECOM PROJECTS

We are ready to handle a telecom project from A to Z, or what is called a turnkey service

CONVERGENCE SOLUTIONS

A unified network is the evolution of voice, data and multimedia communications. It is converged to share recourses, enhance network management and lower cost of ownership.

- Supervisory Control and Data Acquisition (SCADA)
- Converged Enterprise / Broadband IP Services Nodes

TELEPHONY SOLUTIONS

They bring a myriad of automation opportunities, ranging from touchtone (DTMF) or speech-enabled IVRs, to outbound diallers that remind or survey customers, and much more. Coupled with state-of-the-art technology such as VoIP, these solutions meet an extensive range of business requirements bringing ease of use, immense mobility and hence better productivity.

TELEPHONY SOLUTIONS

- Call Billing
- Calling Number Identification (CNI) Applications
- Contact Center & Interactive Voice Response (IVR)
- Digital Enhanced Cordless Telecom (DECT) Mobility & WVoIP
- Unified Messaging
- Voice Recording
- Voice Switching (Hybrid, Digital & Pure IP PABX's)

DATA NETWORK SOLUTIONS

Data networks are designed to meet and exceed the high-rising demands of today's rapidly growing businesses. Whether it is a gigabit desktop connectivity or a professional data center, SKADO has the right answer to your diversified requirements:-

- Data Center Infrastructure
- Local Area Network (LAN)
- Storage Networking Solutions
- Metropolitan / Wide Area Network (WAN)
- Wide Area Network (WAN) Optimization
- Application Switching & Content Distribution

SECURITY SOLUTIONS

Whether a small office or a large IP-backbone site, they provide disaster recovery/backup, regulatory compliance, elimination of content-based threats from e-mail and web traffic such as viruses, worms, intrusions, inappropriate web content; all in real time.

- Network Perimeter Protection
- Campus Network Security
- Data Center Security
- Secure Remote Access (IPSec / SSL VPN)
- Physical Access Control (Biometrics, Smart cards)
- Video Surveillance

WIRELESS SOLUTIONS

Achieving true mobility while maintaining secure connectivity. Voice over wireless LAN and conventional DECT systems are few of the numerous solutions available delivering fully-featured, carrier-grade telephony, data and multimedia services over multi-service packet wireless networks.

- Free Space Optic (FSO)
- Microwave
- Paging System
- Radio
- Very Small Aperture Terminal (VSAT)
- Wireless Mesh Network (WiMAX)
- Wireless Network (WiFi Networks & Hotspots)

AUDIO & VIDEO CONFERENCING SOLUTIONS

Hectic travelling has been tremendously reduced as the multimedia conferencing solutions are in place, converging broadband networks utilizing the modern IP infrastructure. Providing secure access to corporate headquarters, business meetings now take place within your office on your very own desktop tagged with all the necessary tools.

- Audio Conferencing
- Multimedia Streaming & Collaboration
- Video Conferencing

STRUCTURED CABLING & OSP SOLUTIONS

Whether it is high-speed outdoor physical connectivity or an indoor cabling infrastructure, sound expertise in the field of UTP CAT 6-e or fiber technology is furnished.

- Fiber Optic Cabling
- Local Area Network (LAN) Cabling
- Telephony Cabling
- Unified Cabling

GSM SOLUTIONS

Value-added solutions are offered providing voice and data roaming services with optimal routing, multiple SIM cards for one number, single SIM card for multiple numbers, outreach messaging, missed calls alerts, easy load convenience for prepaid SIMs, internet facility and roaming short codes:-

- GPRS Infrastructure
- GSM Core Packetization
- GSM Infrastructure
- GSM Network Optimization
- GSM Site Planning
- GSM Value Added Services
- SIM Applications & Services

NETWORK MANAGEMENT SOLUTIONS

With a comprehensive set of network visualization, discovery, fault and diagnostic capabilities, network managers can now identify problems before they impact the services proving as a fast and efficient way to manage and troubleshoot. NMS Solutions are essential for multi-cast video, IP Telephony, wired and wireless, voice and data converged networks and other business-critical applications.

- CSS7 Signaling
- Data Warehousing & Intelligent solution
- Froad Systems
- LAN / Campus Management System
- Revenue Assurance System
- Service Level Assurance System
- Telephone Management System
- VOIP Monitoring System
- WAN Management System

DIGITAL CROSS-CONNECT SOLUTIONS

The new next-generation SDH platforms raise metropolitan networking to a higher level of cost-effectiveness and bandwidth efficiency. They support a high number of optical and electrical interfaces with unrestricted bandwidth management capabilities. When configured for cross connect applications, they provide significant operational enhancements and cost reduction over legacy digital cross-connects.

- Data / Voice Multiplexer
- HDSL Terminal Unit
- SDH Fiber Optic Terminal Links

BACKUP POWER SOLUTIONS

Continuous supply of power is very essential for any Telecom or IT system. A proper backup power solution will secure the performance and reduce the down time of any system.

3.14. SKADO PRODUCTIVITY DEVELOPMENTS

SKADO Productivity Development

SKADO Productivity Development through preventive maintenance to reduce costs & to increase profits.

CHALLENGES OF PRODUCTIVITY

Efforts to expand and diversify industrial economy depend largely on productivity improvements. Productivity is basically the efficiency with which goods and services are produced by a nation, an industry or a company. Productivity means working smarter and doing things right the first time. It simply means effective management. The current state of the world economy makes productivity improvement vital for the survival of any organization. Therefore, productivity has become the foremost preoccupation of management consultants.

SKADO provides a wide range of management development and productivity improvement services. We do not offer pre-packaged solutions, rather, we view each problem from the stand point of the client organization, its resources capabilities and opportunities. Solutions are then tailored to fit the particular company needs.

SKADO believes that meaningful productivity gains result from performing an integrated set of seven key activities:-

- Data Collection
- Analysis and Diagnosis
- Management and Systems Development
- Problem Solving
- Action Planning
- Implementation
- Evaluation and Follow-up

3.15. SKADO ECONOMIC / FEASIBILITY STUDIES / MARKET RESEARCH

METHODOLOGY OF FEASIBILITY STUDY

When making any economic feasibility study for any project at the request of the client SKADO methodology of executing the work will mainly include the following sections.

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3.16. HUMAN CAPITAL MANAGEMENT AND ORGANIZATIONAL DEVELOPMENT.

SKADO is committed to help Human Resources create value and deliver results. It addresses complex human capital management and workforce problems.

Our comprehensive approach link strategy for up to date activities and tackle four areas:

1- People;
2- Systems;
3- Processes; and
4- Structures.

Our program starts by reviewing company's vision and mission, strategies and objectives. We then assess the current situation, develop and implement comprehensive solutions.

Our services include:

- Organizational assessment and design;
- Workforce Planning;
- Talent recruitment;
- Training and development;
- Performance management;
- Competency Management;
- Change management;
- HR applications

SKADO's Consultants work in partnership with client. Our recommended solutions are practical, based on new managerial trends and tailored to the company's needs.

Engineering, Environmental & Management Consultant

SKADO

Personnel Curriculum Vitae

Note:

Other personnel C.V's will be available upon request.

Engineering, Environmental
& Management Consultant

SKADO

Reference Projects

- Major Projects
- Reference Letters

Reference Projects

A. Desalination Plants / Water Treatment Plants

No.	Client / End User	Location	Process	Capacity (m^3/day)	Year
1	BEB	Germany	MVC	2 X 1.200	1990
2	Recycle—Oil	Belgium	MVC	1 x 120	1991
3	Liebherr	Germany	MVC	1 x 2.5	1991
4	Raw Delitzsch	Alemania	RO	350	1991
5	Energie Consulting	Germany	WTP	2 x 175	1991
6	Hotel Continental Plaza	Acapulco, Mexico	RO	800	1992
7	Hotel Plaza Las Glorias	Cabo San Lucas,	RO	400	1992
8	Hotel Condesa De Mar	Acapulco, Mexico	RO	900	1992
9	Hotel Las Glorias	Puerto Vallarta,	RO	500	1992
10	Hotel Plaza Las Glorias	Cozumel, Mexico	RO	300	1992
11	Hotel Pelicanos	Puerto Vallarta, Mexico	RO	300	1992
12	Hotel Villas Plaza	Cancun, Mexico	RO	500	1992
13	Hotel Villas Plaza	Cancun, Mexico	RO	300	1992
14	Hotel Villas Plaza	Puerto Vallarta, Mexico	RO	500	1992
15	Community	Germany	MVC	1 x 30	1992
16	Community	Germany	MVC	1 x 90	1992
17	NCDP	Hurghada, Egypt.	MVC	1 x 500	1993
18	Dr. Jose Mendez Raja	Cartagena	RO	5	1993
19	D. Andres Boix	Elche, Spain	RO	30	1993
20	D. Juan Jose Martin	Almeria	RO	25	1993
21	Cubiglas	Murcia, Spain	RO	5	1993
22	D. Andres Boix	Elche, Spain	RO	10	1994
23	Jardineria Huerto Del	Elche, Spain	RO	60	1994
24	Explotaciones Agricolas Duran	Mazarron, Spain	RO	1.65	1994
25	Sabil Water Factory	Akkar - Lebanon	WTP	150	1995
26	Hallab Factory	Tripoli - Lebanon	WTP	90	1995
27	XL Resturant	Beirut - Lebanon	Softener	25	1995
28	Commodore Laundry	Beirut - Lebanon	Softener	15	1995
29	TOC	Beirut - Lebanon	WTP	60	1996
30	Saudi Binladen Group	Rafha Power Plant	WTP	120	1996

A. Desalination Plants / Water Treatment Plant

No.	Client / End User	Location	Process	Capacity (m^3/day)	Year
31	ASAL Bottling Plant	Lebanon Akar	WTP	500	1996
32	NCo. for Mineral Water	Beirut, Lebanon	WTP	50	1996
33	Patisiri Hallab	Tripoli, Lebanon	Softeners	150	1996
34	AquaTech	Beirut, Lebanon	Softener	30	1996
35	SARCO	Beirut Hospital	R.O. & Softeners	500	1996
36	Beirut Governmental University Hospi tal (Main Hospital Building)	Beirut - Lebanon	Softener WTP	2560	1996/97
37	Beirut Governmental University Hospital (Auxilliary Building	Beirut - Lebanon	R.O & WTP	500	1996/97
38	Qardahi	Beirut Hospital - Lebanon	R.O. & Filters	2 x 250	1997
39	Rafik Harriri	Harriri Villa - Lebanon	Filters & Soften-ers	-----	1997
40	TOC	Beirut - Lebanon	R.O.	30	1997
41	STAR Co.	Housing Compound,Beirut	R.O.	150	1997
42	Zublin	Lebanese University - Lebanon	Cooling Towers + WTP +		1997
43	Saudi Binladin Group	PP7 Power Station, Riyadh Saudi Arabia	WTP	200	1997
44	Al Hanan Hospital	Tripoli - Lebanon	Softening Plant	95	1997
45	SAMACO	Obhur, Jeddah	SWRO	500	1998
46	Kludi	LUC - Lebanon	WTP	LOT	1998
47	Aqua Blue	Beirut - Lebanon	R.O	75	1998
48	Tarek Rafik	Ethiopia	Bottling Plant	150	1998
49	M.A. Amoudy	Obhur, Jeddah—Saudi Arabia.	SWRO Plant	20,000	1998
50	Arabian Gulf Co.	Khamis Mushait / Saudi Arabia	Chlorination Sys-tem	30,000	1999
51	Lycee Abdulkader	Beirut - Lebanon	R.O	30	1999
52	S. B. G. / Royal Commission	Yanbu—Saudi Arabia	SWRO Plant	50,000	1999
53	Carlo Gavazzi	Obhur Jeddah –K.S.A.	SWRO	2000	2000
54	Nitco	Jizan—Saudi Arabia	SWRO	2500	2000
55	Hallab Compound	Tripoli - Lebanon	WTP		2000
56	Lebanese Commuting Co. S.a.l	Beirut - Lebanon	WTP	54	2001
57	Karim Abi Allameh Villa	Beirut - Lebanon	Softening Plant	65	2001
58	Al Fahd - Ministry of Water & Electricity	Al Muzneb—Saudi Arabia	BRO Plant	12,000	2001
59	SARCO / CDR	Tayba - Lebanon	WTP	27,500	2001

A. Desalination Plants / Water Treatment Plants

No.	Client End User	Location	Process	Capacity (m^3/day)	Year
60	Sukkar Eng. Group	Beirut - Lebanon	Reverse Osmosis Plant	24	2002
61	Business Educational Colledge (ESA)	Beirut - Lebanon	WTP	60	2002
62	SBG / PCA	Hail—Saudi Arabia	BRO Plant	300	2002
63	Archirodon / Qatar Oil	Doha—Qatar	MED	200	2002
64	TecHNip	Um Al Quwaim	Filtration	10,000	2002
65	Sicep / Ministry of Water & Electricity	Ramah—Saudi Arabia	BRO Plant	24,000m3/day	2002
66	Dorr Oliver	Australia.	SWRO Plant	5,000m3/day	2003
67	Corodex / FEWA	Ghalilah - U.A.E.	SWRO Plant	13,650m3/day	2003
68	SETE	Rabigh—Saudi Arabia.	Reminorilization	6,000m3/day	2003
69	Corodex / FEWA	Al Zaurah—U.A.E.	SWRO Plant	13,650m3/day	2004
70	Corodex / FEWA	Qidfa—U.A.E.	SWRO Plant	13,650m3/day	2004
71	SETE	Algeria	SWRO Plant	10,000m3/day	2004
72	Lebanese University	Beirut - Lebanon	Softening Plant	20 Softeners	2003
73	Mechanical Engineering Office Four Points Hotel Beirut–Lebanon	Beirut - Lebanon	Reverse Osmo-sis plant	150 R.O Capacity 135 m^3 pool vol-ume	2003/04
74	Bemco	Syria	Reverse Osmosis Plant Swimming pool	350 R.O Capacity 120 m^3 pool vol-ume	2003/04
75	REKAZ Development Company	Al Khobar / Amwaj - Saudi Arabia.	WTP / RO	2,000 m3/day	2004
76	Sicep	North Buraidah - Saudi Arabia.	WTP / RO	50,000m3/day	2004
77	Sicep	Liala Al Aflaj	WTP / RO	25,000m3/day	2005
78	Al Ohadia	Al Nabhania	WTP / RO	40,000m3/day	2005
79	Al Ohadia	Al Shamasia	WTP / RO	15,000m3/day	2005
80	Al Ohadia	Oyoun Al Jawa	WTP	25,000m3/day	2005
81	Rajab & Silsila	Dawadmi	WTP	40,000m3/day	2005
82	Huta Hegerfield	King Abdullah Palace, Jeddah	RO Plant	8,500m3/day	2005
83	USAFE/CH2MHill	Moron Airbase Spain	BRO/GAC	2880m3/day	2005/2006
84	Huta Marine	Petro-Rabigh, Jeddah—K.S.A.	SWRO	20,000m3/day	2006

A. Desalination Plants / Water Treatment Plants

No.	Client End User	Location	Process	Capacity (m^3/day)	Year
85	SAUDI ARAMCO	KAUST Desalination Plant	SWRO	40,000m3/day	2007
86	SWCC	Flue Gas De-Sulpherization	Process Consultant		2007
87	MARAFIQ	Jubail & Yanbu Saudi Arabia	Desalination Plant / Supervision of Construction & Testing & Commissioning.	75,000m3/day	2008
88	Huta Marine	Emmar, Jeddah— K.S.A.	SWRO	20,000m3/day	2008

A. Desalination Plants / Off Shore MED Fresh Water Generator

We participated with experience and know how on the successful design, construction, erection and commissioning of several off shore fresh water generators for desalination plants which are running to the full satisfaction of the customers. The following are some of those over the last 5 years:-

No.	Client / End User	Location	Process	Capacity (m^3/day)	Year
1.	Meyer Shipyard, Germany	Radiance of the Seas	MED Steam or hot water Heated	2 unit each 460m^3/day	1999
2.	Shipyard, Saint Nazire, France	Queen Mary II	MED Steam or hot water Heated	3 unit each 650m^3/day	2000
3.	Meyer Shipyard, Germany	Brilliance of the Seas	MED Steam or hot water Heated	2 unit each 700m^3/day	2001
4.	Meyer Shipyard, Germany	Norwegian Star	MED Steam or hot water Heated	3 unit each 750m^3/day	2002
5.	Meyer Shipyard, Germany	Norwegian Dawn	MED Steam or hot water Heated	3 unit each 750m^3/day	2003

B. Waste/Sewage Water Treatment Plant

No.	Client	Location	Process	Capacity (m^3/day)	Year
1	King Fahad Air Base	Taif—Saudi Arabia	STP	4 x 2000	1990
2	WSD Abha	Abha, ASSIR Region—Saudi Arabia	STP	22000	1995
3	Arabian Gulf/WSD	Bisha Region—Saudi Arabia	STP	6000	1996
4	WSD Abha	Khamis Mushait—Saudi Arabia.	STP	11000	1996
5	Oasis Housing	Tripoli, Lebanon	STP	100	1996
6	WSD Abha	Abha, ASSIR Region—Saudi Arabia.	Tertiary	22500	1996
7	Alwaha Commercial Center	Balamand—Lebanon	STP	150	1996
8	STAR Co.	Housing Compound, Beirut	STP	150	1997
9	Tarnima	Mersal Village Jeddah—Saudi Arabia	STP	300	1997
10	Al Amoudi	Amoudy Compound—Saudi Arabia.	STP	450	1998
11	SAMACO	Al Buhairat City, Obhur—Saudi Arabia.	STP	2 x 100	1998
12	Saudi Archirodon	Shoaiba Labour Camp—Saudi Arabia.	STP	300	1999
13	ABB Sadelmi	Shoaiba Labour Camp—Saudi Arabia.	STP	100	1999
14	Saudi Condreco	Royal Commission, Jubail—Saudi Arabia.	Tertiary Filters	60,000	1999
15	Zuhair Zahran	Basateen villas Jeddah—Saudi Arabia.	Package STP.	500	2000
16	Sanabel Village	Tripoli—Lebanon	STP	168	2000
17	Assaf Building	Beirut	STP	72	2001
18	Bab Almina Resturant	Jubail—Saudi Arabia	STP	5	2002
19	SICEP / Ministry of Water & Electricity	Mahail—STP—Saudi Arabia	STP	72,000	2002
20	Concord / Ras Al Khaimah	Ras Al Khaimah—U.A.E.	STP	20,000	2003
21	Bin Jarallah / Ministry of Water & Electricity	Makkah—Saudi Arabia	STP	250,000	2003
22	REKAZ Development Company	Al Khobar / Amwaj—Saudi Arabia.	STP	1,500	2004
23	Al Muftah / Qatar Petroleum	Halul—Qatar.	STP	300	2004
24	Huta / Ministry of Water & Electricity	Al Khomra	STP	250,000	2004
25	SICEP / Ministry of Water & Electricity	Mahail — Saudi Arabia	Mahail Tertiary Plant	72,000	2005

C. Industrial Waste Treatment Plant

No.	Client	Location	Process	Capacity (m^3/day)	Year
1	Redwan Int.	Baghdad—Iraq.	WWTP/Dosing Plant	5,000	1995
2	State Company for Spinning & Weaving	Tripoli—Libya	WWTP Spinning & Weaving	5,000	1996
3	Al Redwan Holding Co.	Farsi Plaza Project	STP	150	1996
4	Saudi Fal Co.	Diving Club, Obhur	STP	60 /Biotech	1996
5	Arabia Contracting	Monofia Spinning and Weaving Plant, Egypt	WWTP	600	1997
6	Arabia Contracting	Daewoo Plant, Egypt	WWTP	500	1998
7	Arabia Contracting	MISR/Iran Spinning and Weaving Plant, Egypt	WWTP	350	1998
8	Mosul Yeast	Mosul—Iraq.	Sugar Waste	8,400	2001
9	Basrah Refinery	Basra—Iraq.	Refinery / Oil / Water	24,000	2001
10	Silver Factory	Beirut—Lebanon	Silver Waste	1,000	2003
11	SICEP / SWCC	Jubail—Saudi Arabia	Debris Separation	100,000	2003
12	Leeds International Plastic Film Recycle	Lebanon	WWTP	960m3/day	2003/2004
13	SETE Technical Services	Al Khafji A.O.C	Oil Water Separation	20,000	2004
14	SETE Technical Services	Al Khafji A.O.C	CPI/ hydocyclone	4,000 g/min	2004
15	Ohadia / Ministry of Water & Electricity.	Al Hasa—Saudi Arabia	Industrial Waste	8,000	2004
16	Ohadia / Ministry of Water & Electricity.	Qasim—Saudi Arabia	Industrial Waste	8,500	2004
17	Al Janoub Tanning Factory	Khamis Musheit—Saudi Arabia	WWTP	5,000	2005
42	KUWAIT LUBE OIL COMPANY	Kuwait	Industrial WasteWater Treatment Plant	100m3/day	2009
43	TANKER WASTE PRIMARY TREATMENT	Jeddah—K.S.A.	Tanker Waste Primary Treatment	80,000m3/day	2010

D. Chemical Dosing System / Potabilization System

No.	Client	Location	Process	Capacity (m^3/day)	Year
1	Plant SAX 2674-77	Waste Disposal Centre District Wesel	1 x Circular Silo with Sliding Frame Discharger 1 x Solids pump (2 Cyl) 1 x Pipeline DN 200 / PN 64	10,000	1995
2	Plant SAX 2740-43	Sewage sludge disposal plant in Bitterfeld- Wolfen	1 x Rectangular Silo with Push Floor Discharger 1 x Solid pump (2 Cyl) 1 x Circular Silo with Sliding Frame Discharger	8,000	1996
3	Plant SAX 2780-81	Preussag Stahl AG / Salzgitter	1xRectangular Silo with Push Floor Discharger 1xSolid pump (2 Cyl) 1xPipeline DN 200 / PN 40	10,000	1996
4	Plant SAX 2770-72	Waßmannsdorf 1	1 x Rectangular Silos with Push Floor Dischargers 2 x Circular Silos with Sliding Frame Dischargers	8,000	1996
5	WSD Abha	Abha STP	Chlorination System	-----	1996
6	DEBBASS	Beirut Airport	Chlorination System	-----	1997
7	Arabian Cement / Tetra	Rabigh	Remineralization Plant	5,000	1997
8	Plant SAX 2845-53	Fechner 2000 in Lünen	2 x Rectangular Silos with Push Floor Dischargers 3 x Circular Silos with Sliding Frame Dischargers	15,000	1997
9	Yanbu Cement / Weir Westgarth	Yanbu	Potabilization Plant	5,000	1998
10	Plant SAX 3026-33	Glasgow-Shieldhall, Daldowie and Dal-muir	4 x Circular Silos with Sliding Frame Dischargers	10,000	1998
11	Plant SAX 2971-74 and 2984-86	Nieuwgraaf	2 x Circular Silos with Sliding Frame Dischargers	5,000	1998
12	Plant SAX 2971-74 and 2984-86	Oijen	2 x Rectangular Silos with Push Floor Dischargers	8,000	1998
13	Water and Electricity Dept. Tripoli	Libya	Potabilization Plant	10,000	1999
14	Potabilization Plant	Libya	MSF	10,000	1999
15	Arabian Gulf Co.	Khamis Mushait	Chlorination System	30,000	1999

D. Chemical Dosing System / Potabilization System

No.	Client	Location	Process	Capacity (m^3/day)	Year
16	Societe Nationals Dexportation and distri bution of Water	Tunisia	Chemical Dosing System	1,000	2000
17	Arabia Contracting	Egypt	Chemical Dosing System	3,500	2000
18	Tripoli Refinery	Badawi Lebanon	Remineralization Plant	2,5000	2000
19	Bona Tunisia	Tunisia	Chemical Dosing System	1,000	2000
20	Arabian Cement / Tetra	Egypt	Chemical Dosing System	3,500	2000
21	Baroudi Est.	Badawi Lebanon	Chemical Dosing System	5,000	2002
22	Remineralization Plant	Zahrani Lebanon	MED	5,000	2002
23	Chemical Dosing System	Zahrani Lebanon	WTP	5,000	2002
24	Weir Westgarth	Badawi Lebanon	Chemical Dosing System	5,000	2002
25	Tripoli Refinery	Zahrani Lebanon	Chemical Dosing System	5,000	2002
26	Corodex	UAE	Potabilization Plant	2,500	2002
27	Al Muftah Contracting	Qatar	Potabilization Plant	1,000	2003
28	KJO / SETE Technical Services	Al Khafji	Potabilization Chemical System	6,000 m3/day	2004
29	HUTA—PETRO RABIGH	PETRO—RABIGH, K.S.A.	Chemical Dosing System	20,000	2007
30	SETE—HASCO	Jeddah HASCO	Chemical Dosing System	3,000	2007
31	SICEP	Wadi Bin Hasbhal	Alum/Polymer Dosing Sys-tem	15,000	2007
32	SETE—KAUST	KAUST—Rabigh	Chemical Dosing System	40,000	2008

E. Miscellaneous Projects

No.	Client	Location	Process	Capacity (m^3/day)	Year
1	Al Afandi	Buhairat City, Jeddah — Saudi Arabia	Utility/ Infrastructure/ Network / Potable / Sewer / Irrigation / Fire Fighting.		1991
2	Al Afandi	Buhairat City, Jeddah— Saudi Arabia	Power Plant	53 MW	1996
3	DEBBASS	Beirut Airport	U.V. Sterilizer		1997
4	Remineralization Plant	Rabigh—Saudi Arabia	MED	5,000	1997
5	Grand Serial	Beirut Solidere—Lebanon	Filteration & Ultra violet Sterillization	192	1997
6	Ascwa Building	Beirut Solidere—Lebanon	Filteration & Ultra violet Sterrillization	86	1997
7	Faqra Villa Prime Minister Residence	Faqra —Lebanon	Softening Drinking water filteration &	650	1997
8	ARABASCO	King Abdulaziz international airport . Jeddah.	VIP terminal & company administration headquarters	Detailed Engineering	1997
9	ARABASCO	King Abdulaziz international airport . Jeddah.	hangar and all support shops, stores and offices	Detailed Engineering	1997
10	Sheik Abdulelah M. Kaki .	Jeddah—Saudi Arabia	Palace	Detailed Engineering	1997
11	Arabian Gulf Co.	Abha STP Extension	Sludge Treatment	800	1998
12	Arabian Gulf Co.	Khamis STP Extension	Oxidation Ditches	22,500	1998
13	Qoraitem Villa Prime Minister Residence.	Beirut —Lebanon	Filtration and U.V.sterillization system	130	1998
14	Sheik Gayath M. Kaki	Jeddah—Saudi Arabia	Palace	Detailed Engineering	1998
15	Sheik Yousif AL-Kheraijie	Jeddah—Saudi Arabia	Mosque	Detailed Engineering	1998
16	Aircraft Accessories and Component Company	Jeddah—Saudi Arabia	Expansion for the present facilities		1998
17	Lebanese University	Beirut —Lebanon	Cooling Tower	6813	1999
18	Sanabel Village	Tripoli —Lebanon	Fountain		1999
19	Mr. Mohammed Al Salem	Jeddah—Saudi Arabia	Villa	Detailed Engineering	1999
20	Mr. Ahmed Basunbol	Jeddah—Saudi Arabia	Mosque	Detailed Engineering	1999
21	Zahran (O & M)	West Pumping Station Khamis	Pumps	100,000	2000

E. Miscellaneous Projects

No.	Client	Location	Process	Capacity (m^3/day)	Year
22	Zahran (O & M)	East Pumping Station Khamis		40,000	2000
23	Tripoli Refinery	Badawi Lebanon	Remineralization Plant	25,000	2000
24	Sanabel Village	Tripoli —Lebanon	Swimming Pool	180 m^3 Volume	2000
25	Amoudy	Jeddah—Saudi Arabia	SWRO	Feasibility Study	2000
26	Mr. Mohamed Aytta	Jeddah—Saudi Arabia	Villa	Detailed Engineering	2000
27	Mrs. Etedal Yousid Nasif	Jeddah—Saudi Arabia	Palace	Detailed Engineering	2000
28	Sheik Abdulaziz Rajab	Jeddah—Saudi Arbia	Palace	Detailed Engineering	2000
29	Hallab Compound	Tripoli —Lebanon	Swimming Pool	150m^3 Volume	2001
30	Business Educational Colledge (ESA)	Beirut —Lebanon	Pool Periodical Pre-ventive Maintenance	150 m^3 Volume	2001
31	Ministry of Water & Electricity	West Khamis—Saudi Arabia	Power Plant	1 MW	2001
32	Philips	Riyadh—Saudi Arabia	Head Quarter for Philips in Riyad Multi stories office building and show room	Detailed Engineering	2001
33	Mr. Ali Al-Safar	Jeddah—Saudi Arabia	Villa	Detailed Engineering	2001
34	Sheik Mohamed Abdulah Abu Sanad	Makkah—Saudi Arabia	Palace	Detailed Engineering	2001
35	Sheikh Kasim Al Aji Villa Al Zumami Co.	Al Shouf Alie —Lebanon	Swimming Pool	150 m^3 Volume	2002
36	Baroudi Establishment	Zahrani - Lebanon	Remineralization Plant	5,000	2002
37	United Business Company	Beirut —Lebanon	Softener, Drinking water, sterillization, swimming pool, Ja-cuzi, Sauna Steam Room	Detailed Engineering	2002

E. Miscellaneous Projects

No.	Client	Location	Process	Capacity (m^3/day)	Year
38	Princess Jawhara Bin Faisel Bin Fahad Villa. Al Orjawan Bldg.	Beirut —Lebanon	Swimming Pool, Steam Room Sauna	Commission Maintenance and Operation	2002
39	Ministry of Water & Electricity	Abha—Saudi Arabia	Sludge Driers	10 T/d	2002
40	Paragon	Jeddah—Saudi Arabia	Feasibility Study for Sodium Bicarbonate	—	2002
41	Ministry of Water & Electricity	East Khamis—Saudi Arabia	Power Plant	0.8 MW	2002
42	Mr. Abdulah Alamoud	Jeddah—Saudi Arabia	Apartment Building	Detailed Engineering	2002
43	Mr. Majdee M. Mushtah	Naser City - Egypt.	Apartment Building	Detailed Engineering	2002
44	Star Chemical	Beirut—Lebanon	Feasibility Study—Detergent		2003
45	Bin Jarallah	Makkah—Saudi Arabia	Sludge Treatment / Driers	73 Ton/d	2003
46	Sheik Mohamed Abdulah Abu Sanad	Makkah—Saudi Arabia	Apartment Building	Detailed Engineering	2003
47	Mr. Ibrahim Jumaa	Jeddah—Saudi Arabia	Palace	Detailed Engineering	2003
48	Huta / Ministry of Water & Electricity	Al Khomra STP—Saudi Arabia	Sludge Driers	60 Ton/d	2004
49	Rikaz Development	AMWAJ City—Half Moon Bay Al Khobar—Saudi Arabia.	Utility/ Infrastructure/ Network / Potable / Sewer / Irrigation / Fire Fighting.		2005
50	Al Ohadieh Co.	Al Hasa—Saudi Arabia	Water Pipeline & Pumping Station	Detailed Engineering	2005
51	SICEP	Dawasir—Saudi Arabia	Water Pipeline & Pumping Station	Detailed Engineering	2005
52	SICEP	Al Baha—Saudi Arabia	Water Pipeline & Pumping Station	Detailed Engineering	2005
53	Huta Hegerfeld		Water Pipeline & Pumping Station	Detailed Engineering	2005

Engineering, Environmental
& Management Consultant

SKADO

Reference Letters

THE INSTITUTION OF CHEMICAL ENGINEERS

THIS IS TO CERTIFY

that

Sofwan Abdulhamid Kabbara

was elected a Corporate Member

in the class of

MEMBERS

on this 30th *day of* January 2001.

PRESIDENT

HON. REGISTRAR

Issued at 12, Gayfere Street, Westminster, London.

IChemE

the SCIENCE council

Awards this certificate to

Safwan-Abdulhamid Kabbara

in recognition of the award of the designation

Chartered Scientist

Signed this day 1 June 2004

Registration number CHE/107/000254

President

Honorary Registrar
Institution of Chemical Engineers

CHARTERED CHEMICAL ENGINEER

Chief Executive
The Science Council

This certificate, which remains the property of the Science Council to whom it must be returned on request through the issuing Licensed Body.

engineering council

Established for the promotion and development
of the knowledge and best practice of engineering

This is to certify that

Safwan-Abdulhamid Kabbara

in membership of

Institution of Chemical Engineers

has been registered by The Council and is hereby authorised
to use the style or title of

Chartered Engineer

Chairman

Director General

Date of issue 27 February 2001

Registration No. 528631
This certificate is the property of the Council
Returnable on request or de-registration

the SCIENCE council

THE SCIENCE COUNCIL

Model Codes of Conduct

The Science Council has adopted the following Code of Professional Conduct as a model for Licensed Member Code of Conduct:

Chartered Scientists will:

-Exercise their professional skills and judgement to the best of their ability and discharge their professional responsibilities with integrity, serving as an example to others.

-Have regard at all times to the public interest.

-Do all in their power to ensure that their professional activities do not where avoidable put the health and safety of others at risk.

-When called upon to give a professional opinion, do so with objectivity and reliability.

-Never engage in corrupt practice.

-To undertake appropriate Continuing Professional Development (CPD) and be able to demonstrate this to others.

-Further the interests of and maintain the dignity and welfare of their Licensed Body and profession.

Chartered Scientists are subjected to the Code of Conduct issued by the Licensed Body through which they are registered which will include the above.

مجموعة بن لادن السعودية
SAUDI BINLADIN GROUP

إدارة التخطيط الإستراتيجي
CORPORATE PLANNING DEPT.

March 22, 2001

Certificate

To whom it may concern

This is to advise and confirm that Saudi Binladin Group (SBG) has utilized the services of Engineer Safwan A. Kabbara in the capacity of our technical consultant advisor to check and verify the process design and equipment specifications of contract No. PIC-B-1167, which incorporates Reverse Osmosis Sea water desalination plant capacity 50,400 m^3/day, complete with Pre and Post treatment as well as low and medium voltage switchgears and transformers and DCS Control system.Details of which is :

Project title	Contract No. PIC-B-1167 Procurement and construction of Sea water Desalination plant Capacity - 50,400 m3/day Equivalent - 2,100 m3/hr
Client	Royal Commission for Jubail and Yanbu Directorate General for Yanbu Project

Mr. Safwan Kabbara Technical knowledge and experience was very helpful and an asset to the group as it supported us to prepare good technical proposal for the project where we are the lowest bidder and waiting for contract award.

We have no hesitation to recommend the services of Mr. Kabbara to any other company working in the field of desalination, waste water treatment.

Regards;

Eng. Tahsin Jarrah

Strategic Planning Director
SAUDI BINLADIN GROUP (SBG)

مجموعة بن لادن السعودية SAUDI BINLADIN GROUP
التخطيط الإستراتيجي CORPORATE PLANNING

كوندريكو السعودية المحدودة
للحفر والهندسة والانشاء
SAUDI CONDRECO LTD.
DREDGING, ENGINEERING & CONSTRUCTION
المركز الرئيسي : جدة
سجل تجاري ٤٠٣٠٠٢٣٧٨٨
COMMERCIAL REGISTRATION NO. 4030023788
HEAD OFFICE : JEDDAH

بالتزامل مع
IN ASSOCIATION WITH

المقاولون العامون
almaban
GENERAL CONTRACTORS
المركز الرئيسي : جدة
سجل تجاري ٤٠٣٠٠٠٧٣٥٣
COMMERCIAL REGISTRATION NO. 40
HEAD OFFICE : JEDDAH

Date : 17 March, 2001

CERTIFICATE

TO WHOM IT MAY CONCERN

Project title : **Contract No. 073-C14**
Procurement & Construction of Upgrade of Reverse Osmosis Units and Support Facilities

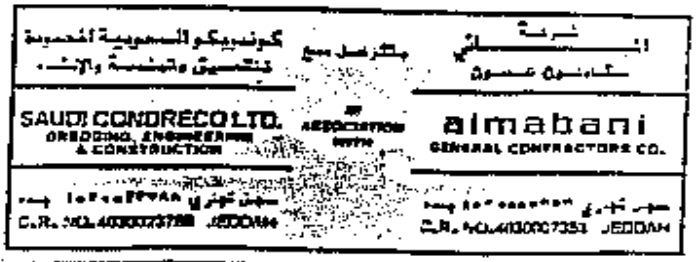
Client : **Royal Commission for Jubail & Yanbu,**
Directorate General for Jubail Project

This is to confirm that ALMACON has utilized the services of Tech Universal, represented by Mr. Safwan Kabbara in the capacity of our Technical Consultant Advisor to check and verify the process design and equipment specifications of our Contract No. 073-C14 which incorporates Three Brackish Desalination Plants using the process of Reverse Osmosis where capacity of each plant is 7,580 m^3/day.

Mr. Kabbara was very helpful and supportive to us during the evaluation of the process and equipment specifications which included a pre and post treatment.

We will continue using the services of Tech Universal/Mr. Safwan Kabbara on our future projects whenever the need arise and we have no hesitation to recommend the Company Tech Universal to another Main Contractors for the Design, Supply of Desalination Plants/Water/Waste Water Treatment Plants.

AMIR IBRAHIM
Project Manager



OPERATION - MAINTENANCE - WATER TREATMENT & DESALINATION PRO

Monday, February 26, 2001

To M/s. Tech Universal
The Lodge
Trinity Gardens
Bromham Road, Bedford
MK 40 2 BP England
UK
Tel No. 44 1 234 26775
Fax No. 44 1 234 272459

Attn Mr. Safwan Kabbara

Re : 2500m3/day sea water (SRO) Plant at King Fahd Air Base Jizan

Reference is made to your request by telephone.

We briefly confirm and advise that Tech Universal UK has designed and supplied 2500 m3/day sea water Desalination plant for above project.

The plant consisted of –

i. Filter feed pumps
ii. Chemical dosing pre-treatment (acid,FeCl3, Chlorination Dechlorination)
iii. Sand filters
iv. R.O. Unit
v. Chemical post treatment (PH correction, chlorination)
vi. Inter connecting pipework

The plant has been tested and commissioned on January 2000 where production quality and quantity were in accordance with design parameters.

Thank you for your support and help on executing this project.

Best Regards

Dr. Gallo
Managing Director

كونتريكو السعودية المحدودة
SAUDI CONDRECO LTD.
DREDGING, ENGINEERING & CONSTRUCTION
المركز الرئيسي : جـــده
سجل تجاري ٤٠٣٠٠٢٣٧٨٨
COMMERCIAL REGISTRATION NO. 4030023788
HEAD OFFICE : JEDDAH

بالتزامل مع
IN ASSOCIATION WITH

almaba
GENERAL CONTRACTOR
المركز الرئيسي : جـــده
COMMERCIAL REGISTRATION NO.
HEAD OFFICE : JEDDAH

Date : 21 January, 2001

Ref. : RC/083-C10/MAS/986

Tech Universal U.K. Ltd.
The Lodge. Trinity Gardens
Bromham Road
Bedford
U.K.
Tel : 00 44 1234 267 755
Fax : 00 44 1234 272 459

Attn. : Mr. Mike Watt
Director of Sales and Marketing

Subj. : Contract No. 083-C10
Modifications to Existing Industrial Waste Water Treatment Plant No.8 and Pump Stations 15 and 16
PRESSURE VESSELS. CAPACITY 60.000 M^3/DAY

Gentlemen:

At your request, this is to advise and confirm that the Horizontal Pressure Vessels for the Tertiary Treatment, Capacity 60,000 m^3/day of the above Project that was designed and supplied by your Company is operating in good working conditions.

Thank you for your help and support to complete the Project within the Contract period.

Best regards,

ADEL MONSEF
Project Manager

CARLO GAVAZZI YAM CO. Ltd.
Abu Dhabi Branch

قفازي يم.المحدودة
ف ابوظبي

Monday, February 26, 2001

To M/s. Tech Universal
The Lodge
Trinity Gardens
Bromham Road, Bedford
MK 40 2 BP England
UK
Tel No. 44 1 234 26775
Fax No. 44 1 234 272459

Attn Mr. Safwan Kabbara

Re : Seawater Desalination Plant 2000 m3/day at
Prince Turki Bin Mohammed Palace Obhur (Ref CGY 2000/100)

Reference is made to our teleconversation yesterday where you have requested a Reference letter from our company concerning the Seawater plant supplied by you.

This is to confirm that the Seawater Desalination plant capacity 2000 m3/day that was designed and supplied by Tech Universal (UK) where installation was carried out by us.

The plant has been put into operation in September 2000 and has been working satisfactory since that date

We hope that this letter serves the purpose you require.

Best Regards

Robin Derek
Business Development Manager

Saudi Industrial Constructions & Engineering Projects Ltd.
C.R. 1010048630 – Capital 2000000 Riyals Fully Paid – C.C. No. 24503

SICEP

Ref:..... Date:.....

Date: 20th February 2004

To: **M/s. Al Mustashar for Engineering**
Skado
P.O. Box 50896
Jeddah 21533
Saudi Arabia.

Attn: **Mr. L. Al Akhal**

Subject: **North Bureidah WTP**
Capacity – 50,000m^3/day.

Reference our agreement for design of the above treatment plant.

We are sorry to inform you that we did not have the chance to win the tender as we came 3rd lowest.

On this occasion, we would like to thank you for your efforts and design and consultancy work provided to us on this project.

Muhannad Al Azzawi
C.E.O.

Saudi Industrial Constructions & Engineering Projects Ltd.
C.R. 1010048630 – Capital 2000000 Riyals Fully Paid – C.C. No. 24503

SICEP

Ref:..... Date:.....

Date: 25th March 2005

To: **M/s. Al Mustashar for Engineering**
Skado
P.O. Box 50896
Jeddah 21533
Saudi Arabia.

Attn: **Mr. Safwan Kabbara**

Subject: **Laila - Aflaj WTP**
Capacity – 25,000m³/day.

We acknowledge receipt of your design package for the above project. However, due to our existing workload, we decided not to bid for this project.

We would like to congratulate you on the optimum design you have made, but unfortunately we were not able to use the same in the bidding due to existing workloads.

Muhannad Al Azzawi
C.E.O.

AL-OHADIEH CO.
For Contracting
Trading & Industries Ltd.
Capital : 1,850,000 S.R.
C.R. 1010076961

الشركة الأحدية
للمقاولات
والتجارة والصناعة المحدودة
رأس المال : ١,٨٥٠,٠٠٠
س.ت : ١٠١٠٠٧٦٩٦١

Date: 26th June 2005

TO WHOM IT MAY CONCERN

Project: Supply water for eastern Villages – Hasa, K.S.A.

As per the request of SKADO
We hereby advise that, SKADO Ltd UK. was our consultant for engineering design of our water pipeline and pumping station project .

The project consisted of ductile iron pipes diameter of 500 mm and total length of 35 KM.

SKADO ltd has produced construction drawing for the pipe hydraulic profile and the valve chamber as well as the pumping station.

This certificate is given without any Liability to Ohadieh.

Engr. Khalid Hussein
Project Manager

AL-OHADIEH CO.
For Contracting
Trading & Industries Ltd.
Capital : 1,850,000 S.R.
C.R. 1010076961

الشركة الأحدية
للمقاولات
والتجارة والصناعة المحدودة
رأس المال : ١,٨٥٠,٠٠٠
س.ت : ١٠١٠٠٧٦٩٦١

To: **M/s. Al Mustashar for Engineering**
Skado
P.O. Box 50896
Jeddah 21533
Saudi Arabia.

Attn: **Mr. Safwan Kabbara**

Date: 25th July, 2005

Subject: **SANABIS STP – 56,296 m^3/day**

Reference your contract agreement with us for the design and supply of detailed engineering drawing for the above sewage treatment plant.

We would like to thank you for the professional work conducted during the period of tendering of this project and wish you all the best.

Khaled Hussein
Project Manager

الشركة الأحدية للمقاولات والتجارة والصناعة المحدودة
الرياض / س.ت ١٠١٠٠٧٦٩٦١

AL-OHADIEH CO.
For Contracting
Trading & Industries Ltd.
Capital : 1,850,000 S.R.
C.R. 1010076961

الشركة الأحدية
للمقاولات
والتجارة والصناعة المحدودة
رأس المال : ١,٨٥٠,٠٠٠
س.ت : ١٠١٠٠٧٦٩٦١

To: **M/s. Al Mustashar for Engineering**
Skado
P.O. Box 50896
Jeddah 21533
Saudi Arabia.

Attn: **Mr. Safwan Kabbara**
Managing director

Date: 10th August 2005

Subject: - **Al Nabahniyah WTP – 40,000 m^3/day**
- **Al Shamasiyah WTP – 45,000 m^3/day**
- **Oyoun Al Jawa WTP - 25, 000 m^3/day.**

Based on your process design and drawings, we have made the cost of the project and submitted our tender and we came second lowest and the client is now negotiating with us where we would like your continuous assistance in all technical issues related to the above three projects.

Please confirm your availability in the next two weeks.

Khaled Hussein
Project Manager

الشركة الأحدية
للمقاولات والتجارة والصناعة المحدودة
الرياض / س.ت ١٠١٠٠٧٦٩٦١

AL-OHADIEH CO.
For Contracting
Trading & Industries Ltd.
Capital : 1,850,000 S.R.
C.R. 1010076961

الشركة الأحدية
للمقاولات
والتجارة والصناعة المحدودة
رأس المال : ١,٨٥٠,٠٠٠
س.ت : ١٠١٠٠٧٦٩٦١

To: **M/s. Al Mustashar for Engineering**
Skado
P.O. Box 50896
Jeddah 21533
Saudi Arabia.

Attn: **Mr. Safwan Kabbara**
Managing Director

Date: 28th August 2005

Subject: **QASSIM – 25,000 m^3/day**

Based on your process design and drawings, we have made the cost of the project and submitted our tender and we came second lowest and the client is now negotiating with us where we would like your continuous assistance in all technical issues related to the above project.
We do value your technical support for this project and hope the best for future projects

Khaled Hussein
Project Manager

الرياض - هاتف ٢٧٩٠١١١ / ٢٧٩١٣٢٧ (٠١) - فاكس ٢٧٩١١٠٠ (٠١) - ص.ب ٩٦٢٥ الرمز البريدي ١١٤٢٣ - الخبر - هاتف ٨٩٣٨٧٥٤ / ٨٩٣٨٧٥٥ (٠٣) فاكس ٨٩٣٨٧٥٣(٠٣) - ص.ب ٢٠٥١٣ الرمز البريدي ٣١٩٥٢
Riyadh - Tel. (01) 2790111 / 2791327 - Fax (01) 2791100 - P.O.Box 9625 Code 11423 - Al-Khobar - Tel (03) 8938754 / 8938755 - Fax (03)8938753 - P.O.Box 20513 Code 31952

Saudi Industrial Constructions & Engineering Projects Ltd.
C.R. 1010048630 - C.C. No. 24503

SICEP

Ref: .....

Date : 1/31/06

To Whom It May Concern:

This is to certify that SKADO Ltd. was our Consultant for design and detailed engineering for our water transmission pipeline project. The project design and execution included:

- Ductile Iron pipeline dia range 200mm to 800mm
- Ductile Iron pipeline length up to 50Km.
- 3 Pumping Station
  Each station is Comprising of 3 pumps
  Capacity of 24,300m^3/hr. each pump

The project was executed by Sicep based on detailed engineering design carried out by SKADO.

This certificate is given for the purpose it serves without any responsibility to Sicep.

SICEP

P.O. BOX 22553 RIYADH 11416 TEL.: +966 1 4160111 FAX: +966 1 4160222 KINGDOM OF SAUDI ARABIA
e-mail: info@sicep.com

Saudi Industrial Constructions & Engineering Projects Ltd.
C.R. 1010048630 - C.C. No. 24503

SICEP

Ref: .....

Date : 1/31/06

To Whom It May Concern:

This is to certify that SKADO Ltd. was our Consultant for design and detailed engineering for our water transmission pipeline project .The project design and execution included:

- Ductile Iron pipeline dia range 200mm to 500mm
- Ductile Iron pipeline length up to 30Km.
- 3 Pumping Station
  Each station is Comprising of 3 pumps
  Capacity of 15500 m^3/hr. each pump

The project was executed by Sicep based on detailed engineering design carried out by SKADO.

This certificate is given for the purpose it serves without any responsibility to Sicep.

SICEP

P.O. BOX 22553 RIYADH 11416 TEL.: +966 1 4160111 FAX: +966 1 4160222 KINGDOM OF SAUDI ARABIA
e-mail: info@sicep.com

HUTA-HEGERFELD
SAUDIA LTD.

هوتا هيجرفيلد
السعودية المحدودة

Jeddah, 28/03/2006

To Whom It May Concern:

We hereby advise that SKADO Ltd. UK has provided engineering and consultancy for pipeline and pump station projects of Huta-Hegerfeld. SKADO have produced Hydraulic profiles of the pipelines as well as preliminary design for the pumping station.

This letter is given as per the request of SKADO Ltd. UK without any obligation to Huta-Hegerfeld Saudia Ltd.

Huta-Hegerfeld Saudia Ltd.

Ref.: ENGG/09.0747
Date: 27 July 2009

شركة هوتا للأعمال البحرية المحدودة
HUTA Marine Works Ltd

To: Tech Universal UK / SKADO Ltd.
P.O. Box 50896
Jeddah 21533
Saudi Arabia.
Tel: +966-2-661 4554 (3 Lines)
Fax: +966-2-661 4541

Attn: Mr. Safwan Kabbara
Managing Director

As per your request, we confirm that our company has contracted your services for Design & Engineering of the following projects:

A - Project Name: Durrat Al Khobar

Sewage Treatment Plant, Capacity 1500m^3/day
Brackish Desalination Plant, Capacity 2000m^3/day

B - Project Name: Petro Rabigh

SWRO Desalination Plant, capacity 20,000m^3/day

C - Project Name: Emaar Rabigh

SWRO Desalination Plant, capacity 10,000m^3/day

We thank you for the services rendered to our company for above projects which was helpful in completing our projects within the frame period.

Best regards,

Michael Wuebbens

ALFATAH
WATER AND POWER

شركة الفتح لأعمال المياه والكهرباء

Monday, August 10, 2009

Eng.Safwan Kabbara
Managing Director
SKADO
Jeddah, Saudi Arabia

Tel + 2 6614554 Ex.555
Fax + 2 6614541

Dear Eng.Safwan,

As you were contracted to verify our Plant process design and material specifications at our RO project in Jubail, Saudi Arabia (70,000 m3/day capacity), Skado Engineering personnel experience was helpful and supportive in identifying areas in the plant process design and material selection that require improvement, where we were able to do optimum value engineering based on Skado recommendation.

We appreciate the technical knowledge and experience of Skado engineers particularly Eng. Safwan Kabbara and Eng.Roger Dobell and thank you for your professional contributions and conduct.

Best Regards

General Manager

CR no. 4030164588
P.O. Box 3757
Jeddah, 21481
Saudi Arabia
Phone: +966(2) 6516666
Fax: +966 (2) 6512908

Engineering, Environmental & Management Consultant

SKADO

SKADO Catalogue