

**A general statement of capability and skills for Quality Engineering**

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**Curran Consulting Engineers  
Quality Engineering**

***Understanding Technology***

***Curran Consulting Engineers Quality Engineering***

CCE Quality Engineering has significant skill and experience in the evaluation and assessment of plant and equipment. Our technical expertise embraces the essential disciplines of Mechanical Engineering, Metallurgy and Non Destructive Testing. This mix of expertise is unique and fundamental to our capability to support our clients in ensuring that their plants meet the service duties demanded in a harsh production environment.

Globalisation has exposed us to International markets that demand an understanding of local capability against the requirements of international clients. On the international front CCE has a unique integrated relationships worldwide and as such we are uniquely positioned to ensure that equipment purchased or supplied overseas is engineered to meet local requirements. We are also able to give confidence to manufacturers that equipment destined for export meets the international market expectations and specifications.

***Quality Management Services***

Our quality management services are geared specifically to the requirements of the severely demanding industrial and utility plant environment. Our clients depend on the availability of fast, reliable and accurate information.

We understand the need to keep plant operating optimally for as long as possible through the effective implementation of quality assurance programs and effective independent quality control inspection. Through our regular surveillance visits to manufacturers our clients are assured of receiving relevant feedback enabling corrective actions to be implemented with minimal effect on cost and schedules. The CCE quality assurance manual complies with the requirements of the SANS 10227:2007 and the relevant aspects of ISO 9001-2008.

***Identifying Risk***

***Government Approved Inspection Authority***

As a Government Approved Inspection Authority, CCE is well placed to monitor all of the statutory aspects of construction, repair and testing of pressurized systems. Our registration with the Department of Labour and the Department of Mineral and Energy permits us to offer services in terms of the OHS Act and the Minerals Act. As a member of the Association of Inspection Authorities we ensure that we are informed on the latest trends in the legislation and industry.

We are also accredited for statutory inspection and testing work in Swaziland.

Our skills include the complex area of Glass Lined Vessels.

We are experienced in all of the major international codes and specifications. Our technical library is maintained with all of the relevant codes and specifications essential to our current projects. In addition we maintain links with other libraries to ensure access to all the latest publications and literature.

***Design and Specification***

Independent design appraisal services ensure that the requirements of the client specifications are complied with. Early identification of problems limits costly modification / rectification procedures and associated project delays. Our design appraisal engineers also carry out project design and specification activities thus ensuring relevant modern principles are applied.

CAD drafting in AutoCad or Microstation allow us to meet the requirements of most clients.

We are also well placed to prepare and evaluate tender documentation.

***Project Management and Expediting***

The collective experience gained by CCE ensures that we are well qualified to provide a Turnkey Project Management service.

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Our knowledge of manufacturers and manufacturing processes allows us to effectively monitor project progress against delivery schedule commitments.

We are also well placed to evaluate claims for variation in cost and project delays. The use of software such as Microsoft Project allows us to plan and control most projects.

### **Failure Investigations**

We also know that the best plants can malfunction and fail. Our team of skilled Engineers, Metallurgists and Technicians are available to carry out on site investigations to determine the causes of failure and recommend corrective actions. Where necessary, we make use of specialized advanced metallurgical and engineering analysis techniques to assist in the understanding of failures and the quantification of risk. Our reports and staff are also used as Specialist Witnesses in the event of Litigation.

### **Risk Management and Risk Assessment**

Traditionally risk management in the corporate environment has been viewed as the responsibility of the financial controller to ensure that adequate insurance cover was in place.

Modern trends have broadened the scope of risk management to include the factors that could result in operational, financial or strategic losses.

Our understanding of commercial and technical pressures ensures that we are well placed to assist in the development of risk management programs.

The OSH Act recognises the value of a risk assessment program in the achievement and documentation of a safe working environment. Through HAZOP and similar studies we can develop risk profiles to ensure that appropriate design, safety and operational procedures are followed. We are also able to assist with emergency planning procedures and strategies. An effective Risk Management System must be auditable to demonstrate that Reasonable Care has been taken by Management to provide an environment where risk is As Low As Reasonably Practicable. This ALARP principle is one of the systems used by CCE to develop cost effective Risk Management Systems in the high-risk

industries such as Nuclear, Chemical and Petrochemical facilities.

### **Plant Remnant Life and Life Extension Programs**

CCE has a unique integrated approach for plant condition assessment, remnant life determination and life extension planning. This service is generally carried out with the purpose of supporting proposed capital expenditure programs by supplying relevant information to management to enable informed technical and economic decisions to be taken.

We are well versed in the procedures, techniques and processes essential to evaluate the condition of operating plant.

### **Plant As Built Verification**

During the lifetime of a plant there are frequently design changes and modifications that take place that are not fully documented. Plant records are lost or damaged.

We are able to carry out plant surveys against available drawings and specifications. Where required we would update drawings, data and records.

### **Cost Efficiency**

We strive to develop client relationships with the full confidence and knowledge that the ultimate cost benefits resulting from improvements in plant availability and performance could significantly exceed the value of the fees. Our local regional offices contribute significantly to a cost efficient service for multi location assignments.

### **Why choose CCE**

- Quality management and risk identification is our business.
- We are solution orientated in our approach to assignments.
- We can objectively assess contractor's proposals.
- We understand the technical and economic pressures facing management.
- Our service is cost efficient and is tailored to your specific requirements.

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- As part of an international consultancy, *CCE* has access to relevant international expertise.
- *CCE*'s service is unique in the combination of skills, experience and capability with a single point of responsibility for the task.

### Typical Services

In addition to the services outlined, *CCE* is able to provide a wide range of electrical and mechanical services.

#### Mechanical

- Technical and Economic feasibility Studies
- Vendor Capability Assessment
- Shutdown Planning and Management
- Metallurgical Investigations
- Plant Condition Assessments
- Plant Failure Investigations
- Remnant Life Surveys
- Plant "As Built" Verification Surveys
- Life Extension Programs
- Welding and Metallurgical advice
- Design and Specification
- CAD Drafting
- Tender Documentation Preparation and Evaluation
- Non Destructive Testing
- Heat Treatment
- Introductory pressurised equipment technology training courses
- Project Management and Expediting
- Project Quality Management
- Quality Surveillance

#### Health and Safety

- Statutory Inspection and Testing
- Plant Risk Assessments
- Risk Management Systems Development and Implementation

### Specialised Experience

*CCE* has developed an in depth knowledge of the following industries and equipment.

#### Mechanical

- Power Generation Facilities
- Fertilizer Manufacturing Plant
- Paper Mills
- Power Boilers and Auxiliaries
- Fire Tube Boilers
- Pressure Vessels and Pressurised Systems
- High pressure boiler feed water heaters

### Local offices

*CCE* has offices in Durban (*CCE* head office) and Volksrust. This ensures that we can manage multi location projects in a cost effective manner by reducing travelling cost and improving response time. All offices are internet enabled thus ensuring optimal communications.

### International

On the international front *CCE* has a unique integrated relationships worldwide and as such we are uniquely positioned to ensure that equipment purchased or supplied overseas is engineered to meet local requirements

**For more information contact:**

**Phillip Curran – Mechanical Engineer**

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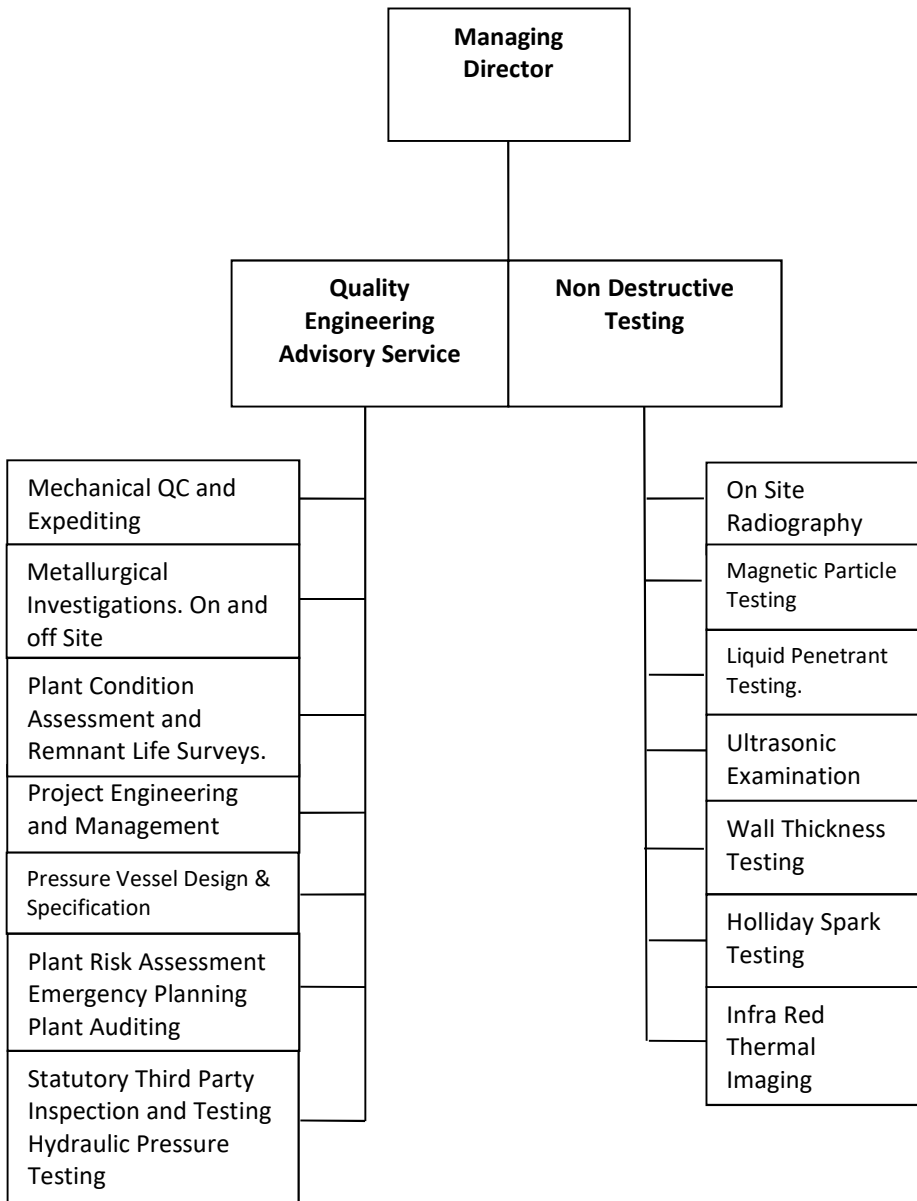
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**BUSINESS STRUCTURE**



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### CCE SKILLS INVENTORY

#### Legend

ASST -	Assistant
CP SG -	Registered Competent Person Steam Generators
CP V -	Registered Competent Person Vessels
ET -	Eddy Current
EXP -	Experience
HSE -	Health, Safety and Environmental
HT -	Heat Treatment
IPE -	Inspector of Pressurized Equipment
IWIC -	International Welding Inspector Comprehensive
MD -	Managing Director
MT -	Magnetic Particle Testing
NDT -	Non-destructive Testing
PT -	Dye penetrant testing
QA -	Quality Assurance
QE -	Quality Engineering
RT -	Radiography
S -	Studies & Advisory Services
SAIW -	South African Institute of Welding
T -	Telecommunications
Tr -	Trainee
UT -	Ultrasonic Testing

SURNAME	INITIAL	EDUCATION	Div	Mech Eng	Elect Eng	Elect Insp	CP V	CP B	IPE	IWIC	EXP	Level II	HSE & QA
Shklaz	D	BSc Pr Eng	QE	X							X	X	
Bartholomew	G	BSc Pr Eng	QE	X							X	X	
Georgiadis	M	BSc Pr Eng	X								X	X	
Curran	PGJ	Gov Cert Eng (Mech)	QE	X			X	X	X	X	X	X	
Wright	P	Matric	QE									Tr	
Pearse	G	Matric	QE						X		X	X	
Conradie	H	Matric	QE				X	X	X		X	X	
Myburgh	C	Matric	QE						X	X	X	X	
Henley	A	Matric	QE						X		X	X	
Curran	A	SHEQ Certification	QE								X		X

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SURNAME	INITIAL	EDUCATION	Div	RT	MT	PT	UT	SAIW	CP	IPE	EXP	ET	HT
Joseph	DB	Matric	NDT		2	2	1				X		
Wright	p	Matric	NDT		2	2	1				X		