Jacques Muirhead Harris

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Summary

I am currently the Environmental Operations Manager (SACNASP 400363/13, IRMSA 53533736, SAIOSH 55514187) for CIGroup Environmental Pty Ltd, with over 25 years' experience in business management processes. I obtained my experience working as a teacher at Linden High School, at a large international manufacturing facility, Saint-Gobain Abrasives (2360 people in RSA), an international consulting firm, WorleyParsons RSA (1500 in RSA), an African Consulting Firm, GCS Pty Ltd (100 Professionals) and currently at CIGroup South Africa.

Through my career I have managed large teams (30 people) and have been involved through all the processes of business. I have been intrinsically involved in setting up Key Performance Indicator (KPI's), and conducting Employment, Retrenchments, Disciplinarians and the CCMA processes. I have been part of the EXCOM and MANCOM of companies and was part of the Salary Negotiation Team with the Unions (NUMSA and SAEAWU) at Saint-Gobain.

My experience includes procurement activities in terms of procurement contracts, supplier quality assurance audits, BBEEE compliance, raw material storage and product life cycles and financial risk. I have developed ISO 9001, and ISO 14001 systems and managed the OSHAS 18001 systems. I was responsible for Enterprise Risk Management for Saint-Gobain, Project Risk facilitation for WorleyParsons, financial risk modeling for Quatern and responsible for bid and contract risk management for projects. My RND experience include the development of new products for manufacturing through our laboratory services, developing new applications for products, and optimising applications. Operations management in GCS and WorleyParsons included allocating time for procurement for projects, bidding and contract management, reporting and quality control, budgeting, time management, stakeholder engagement, Human resources and Scope management.

In Business Development I have marketed products and service in the Mines and Minerals, Power, Oil and Gas, Manufacturing, Government and Financial sectors in South Africa. I have been a manager for Large Account Management Clients (LAMC) with sales and project budgets of up to R30 million, which include companies such as Exxaro, SolarReserve, Government, Columbus Stainless Steel, Investec etc. My sustainability experience includes Carbon, Water and Ecological footprints and offsets and financial implications working towards the climate change objectives of companies.

As a teacher of mathematics and science, education and training has always been important in my working career. In Saint-Gobain I initiated a 2-year course that became the Centre of Excellence of Management studies for Saint Gobain.



Qualification

1992: BSc. Hons Chemistry 1991: HED. Chemistry and Maths 1990: BSc. Chemistry, Biochemistry

Courses and Certificates

1998: Handling Discipline 1998: Assertive Communication Skills 1998: Hands on Managing of IR 1998: Total Workplace Environment 1998: Successful Selling 1998: Training the Trainer 2001: Business / Technical Writing 2002: OSHAS 18001 Auditing Training 2002: Sales Training 2002: Level 2 - RND 2007: Competition Law 2009: Internal Risk Management 2009: Financial Risk Management 2009: Business Development Planning 2011: ISO 9001:2008 ISO lead auditor 2012: Serious about Zero Harm 2013: Risk facilitator training 2013: Global Reporting initiative **2014:** Sustainable Design and SEAL Coordinator 2017: Occupational Health and Safety 2019: Incident Investigator 2019: Risk Assessor

Skills

Statistical Control and Assurance Research and Development Sustainability Project Management Project Risk Management Enterprise Risk Management Financial Risk Assessment Financial Modelling ISO systems (9001, 14001, 45001, 17025, 31001) Quality Management Health and Safety **Environmental Management** Societal Management Energy, Carbon, and Water Footprint Closure and Rehabilitation

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Registrations

- SACNASP Registration, 400363/13, 2013;
- The Institute of Risk Management South Africa IRMSA 53533736
- SAIOSH Membership Number 55514187
- IOCSA, Chartered Consultant, A00107, 2017;
- Environmental Law Association, ELA, 2016/140/GP, 2015; and
- International Association for Impact Assessment South Africa, IAIA, 3985, 2015

Work Summary

2019 – Present: CIGroup Environmental Pty Ltd Operations Manager

Units: Health and Safety, Environmental Sustainability, Environmental Systems, Environmental Closure and rehabilitation, Risk and Quality.

2019 – 2019: CIGROUP Pty Ltd Environmental Operational Manager

Units: Health and Safety, Environmental Sustainability, Environmental Systems, Environmental Closure and rehabilitation, Risk and Quality.

2018 – 2019: GCS Pty Ltd Group SHERQ Manager Consulting

Units: Health and Safety, Environmental Sustainability, Environmental Systems, Environmental Closure and rehabilitation, Risk and Quality.

2014 - 2018: GCS Pty Ltd

d Group Environmental Manager

Units: Pre-Authorisations, Environmental Authotisation, Water Authorisation, Post-Authorisation, Environmental Control Management, Sustainability, Ecology, Health and Safety, Environmental Systems, Closure and Rehabilitations, Business Development

2011 – 2014: WorleyParsons RSA Environmental Manager

Units: Environmental and Water Authorisations, Closure and Rehabilitation, Risk Facilitation and Assessment, Financial Risk Modelling.

2009 – 2011: WorleyParsons Senior Project Manager

Environmental, Public and Private Partnership, Risk Management and Financial Risk Projects

2008 - 2009: Quatern Advisory Executive Energy

Unit Manager, Power, Risk Management and Financial Risk Projects

2003 - 2008: Saint-Gobain SHERQ and Sustainability Manager

SHERQ Unit Manager – ISO 9001; ISO 14001, OSHAS 18001, ISO 170125, Enterprise Risk Management; Sustainability GRI reporting for RSA

1999 - 2003: Saint-Gobain RND Manager

Research and Development on Products, Services and Client Development

1995 - 1999: Saint-Gobain Laboratory Manager

RND and Operations Laboratory and Quality Manager

1993 - 1995: Linden High School Teacher

ACHIEVEMENTS

In 1999 I developed a statistical quality control system that were used until the company closed doors in South Africa. In 2002 I started a Center of Excellence for Management training teaching a total of 125 entrants in becoming supervisors and managers. In 2004 I certified Saint-Gobain in ISO 9001 (SANS accredited) which were held until I left in 2008. In 2006 I obtained a Diamond award for one of 24 best SHERQ facilities from 420 facilities worldwide. I was asked to present the facility and achievements (1million hours without a lost time accident) in Manchester UK. I was the lead in the Risk Assessment Process for St Helena Airport and designed a Disaster Management Plan for an Oil refinery in Vladivostok Russia. Currently I am requested to do several presentations on various subjects for the industry.



Legislation Experience

MPRDA; NEMA; NEM:AQA; NEM:WA; NRM:BA; NWA; Occupational Health and Safety Act; Mine Health and Safety Act; MFMA; and PFMA

Business Travels

USA (3); UK (2); France (2); Australia (1); Mozambique (1); Namibia (1); Malawi; and Zambia

System Management Experience

Laboratory Management: ISO 17025 Quality: ISO 9001 Environment: ISO 14001 Health and Safety: ISO 45001 Enterprise Risk Management: ISO 31001 Sustainability: GRI Project Management: PMBOK Public and Private Partnerships: PPP

Computer Literacy

VBA – Good; MS Word – Advanced; MS Excel
Advanced; MS Access – Advanced; MS
Project – Advanced; MS Power point –
Advanced; Outlook – Good; Eviews – Good;
@Risk – advanced; Sketchup – Good; Edraw
– Good; and Proman - Advanced

Conference Presentations

2015 - Wits; Environmental Management Systems ISO14001 2015 - Masterclass: Closure liability of mines in South Africa 2016 – IAIA: Closure liability of mines in South Africa 2017 - 8th Annual Construction Risk Conf: **Environmental Risk** 2018 – GSSA: Climate Change 2018 - Closure Conf: Legislative requirements 2018 – Ground water Conf: Water legislation and Sustainability 2019 – ELA Conference: Closure Risks 2019 - Fasken Panel: Carbon Tax implications 2019 - Global prospectus 2-day workshop: Decommissioning, Closure and Rehabilitation 2020 – Global prospectus 1-day workshop: Decommissioning, Closure and Rehabilitation

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I believe that I have the qualification and experience in assisting your company in their future endeavors. I am a hard and dedicated worker loyal to the company I work for (can be seen in the years spent at previous companies). I am focused and precise on the financial and scheduled components of my activities, and work towards satisfying the needs of my clients. Clients are key to the success of any business.

Corporate

- Business improvement and Marketing Strategy for Forza Racing for Quatern Advisory Services.
- Business risk management Assessment for Meridian Wine Merchats for Quatern Advisory Services.
- Project Manager to determine the appropriate Tariff for Kouga Municipality for Quatern Advisory Services.
- Business risk management plan for Goeboe Goeboe salt mine in the Northern Cape for Quatern Advisory Services.
- **Risk Facilitator and Risk Manager** for the Siemens Photovoltaic Plant for WorleyParsons.
- **Risk Facilitator and Risk Manager** for the St Helena Airport for WorleyParsons.
- Assisted the undisclosed client in conducting a full Environmental Due Diligence and Risk Assessment of purchasing an Anglo Mine
- Assisting Duetche Bank KfW with a due diligence on funding for Water treatnment works in Cape-Town CIgroup
- Legal Due Diligence on Natural Gas Regulations in South Africa for EPCM
- Legal Assessment for Natural Gas Regulations in Tanzania, Uganda and Rwanda for EPCM
- **Risk Assessment** for the disposal of ESKOM Fly Ash into the Vunene Open Void for Into Africa and Exploration

ISO systems and Accreditations

- Environmental, Health and Safety and Environmental certification and accreditation, Saint-Gobain Abrasives South Africa
- Quality control, assurance management and statistical control for products leaving the facility for Saint-Gobain Abrasives.
- Environmental, Health and Safety and Environmental implementation, Quatern, KV3, WorleyParsons and GCS in RSA
- Disaster Management, Environmental, Health and Safety Management Plan, Oil Refinery, Vladivostok, Russia
- Health and Safety, Carbon foot printing as lead auditor on all Cape Town Waste Water Treatment sites for NIRAS on behalf of the German development Band (KfW) as lender.
- ISO 9001 development/implementation for Cyntech
- ISO 9001 Audit for KMR
- ISO 9001 development/implementation for CIGroup
- ISO 14001 development/implementation for CIGroup
- ISO 17025 development/implementation for CIGroup
- ISO 45001 development/implementation for CIGroup

Public and Private Partnership

- Broadband Financial Risk Modelling for the Municipality of Cape Town (8 billion Rand Project)
- Project Manager: Eden District Municipality Landfill PPP and Risk Management Processes
- Director: Environmental and Waste Assessments for George Mukari Hospital Extension
- Team Member: City of Johannesburg Waste to Electricity Feasibility Study – Contributed to the Risk and BEE implications of the study
- Team Member: PPP Strategy and Policy for the City of Windhoek. Created access software for the purpose of running the system.
- Team Member: Mbombela Integrated Waste Management Plan with landfill site transport routes, pickers and additional facilities

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Mine Closure and Rehabilitation

- Ferroglobe Thaba Chueu Quartz Mine Decommissioning Closure, Rehabilitation and Closure Liability (GNR 1147)
- Eco Elemntum Blesboklaagte Greenfield Closure Strategy and Financial closure Liability
- Eco Elemntum Vlaklaagte Greenfields Closure Strategy and Financial Closure Liability
- Eco Elemntum Londani Decommissioning Closure, Rehabilitation and Closure Liability
- Eco Elementum GNR 1147 for Bankfontein Colliery, Lakeside Colliery, Leeuwfontein Colliery, Doornrug Colliery, Penumbra Colliery, and Vunene Colliery
- Eco Elemntum Dunbar Colliery GNR 1147 review
- WSP Vametco Closure Due Diligence Standard Bank
- Paladin Energy Kayelekera Uranium Mine in Malawi
- Exxaro NBC GNR 1147 Closure and Rehabilitation for 3 mines
- Kangra GNR1147 Closure and Rehabilitation process on all 18 mines
- Kangra Financial Liability Review
- Tharissa Mine closure, Decommisioning, Closure and Closure Liability
- Bokoni Anglo American Mine closure, Decommisioning, Closure and Closure Liability
- Dwarsrivier (Assore) Mine closure, Decommisioning, Closure and Closure Liability
- Gem Diamond (Botswana) Mine closure, Decommisioning, Closure and Closure Liability
- Ladomode Mine Closure Assessment
- Sibanye Gold Driefontein and Burnstone Rehabilitation Strategy and Implementation Action Plan
- Pilansburg Platinanum Mine Mine Closure Design, Rehabilitation and Financial Provision
- Director: Assmang Managnese Cato Ridge Works
 Conceptual Closure Plan.
- African Rainbow Minerals Limited (ARM) Dormant mines closure liability assessments. Drafted a legal opinion on old order mining rights and liabilities ito environmental legislation.

Environmental Impact Assessment

- Estima Coal Mine (Mozambique) Power Plant EIA
- Director: Individual Environment, Waste, Water, Electrical and GIS assessments for Concentrated Solar Plants in Humansrus, Rooipunt, Arriesfontein.
- Director: Individual Environment, Water, Electrical and GIS assessments for **Photovoltaic Plants** in Southdrift, Humansrus, Rooipunt, Arriesfontein and Farm 198
- Director: Individual Environment, Waste, Water and GIS assessments for Anaerobic Plants in Starke, Bonnievale, Keibees and Butt Farming
- Director: Individual Environmental and Water Assessments for Biomass Gassification Plants in Ringkink, Lourensford and J&J Saw mills
- Director: Health and Safety, Environment, Water, Waste and GIS assessments for an Oil Tank farm in Saldanha Bay (Equator Principles)
- Director: Environmental and Waste Assessments for George Mukari Hospital Extension
- Environmental Management Plan for uMdloti Waste water Treatment works
- Director: **EIA** for Subenza substation.
- Project Manage: **EIA** for Witsand Desalination Plant.
- Project Manage: **EIA** for Elliotdale Rural Development.

Sustainability

- Project Director to determine the feasibility of changing gas into electricity using the Combined Heat and Power Technology for Heritage Hill Development (Project size R256 Million)
- Project Manager Mbombela Integrated Waste Management Plan, Municipal Service Plan, and Waste Recycling and Minimisation Plan.
- Gem Diamond (Botswana, Lesotho) Energy Balance, Carbon and Water footprint (3 years)
- Kangra Water management for rehabilitation for 18 mines.
- NIRAS Carbon and Water Footprint analysis and Climate Change Assessment on all wastewater facilities in Cape Town, Western Cape for CIGroup

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Health and Safety

- **Risk Assessment and the implementation** of COVID 19 pandemic Policies and Procedures upon returning to work for CIGroup
- **Risk Assessment** of COVID 19 pandemic Policies and Procedures upon returning to work for Tradekor
- **Risk Assessment** of COVID 19 pandemic Policies and Procedures upon returning to work for Russel Street Phychiatrists
- Director for the City of Johannesburg Orlando Station Upgrade (H&SCO)
- Director for Health and Safety Compliance for KwaZakhele Storm Water and Roads construction
- Director of Compliance Officer for Nelson Mandela Bay Stadium Health and Safety Audit
- Director for N2 Bridge Construction Health and Safety
- Director for Health and Safety Compliance Officer for Kwa Nomzamo sewage plant augmentation
- Director for Health and Safety Compliance Officer for Derdepoort 189&190 Township Establishment
- Director for Compliance Officer on Goedemoed Correctional Services Health and Safety
- Assisted companies to develop Mine Health and Safety Files for mines including Anglo American, African Rainbow Minerals, Exxaro, Kangra, Arcelor Mittal, and Samancor.
- Developed the Health and Safety Management system for Goeboe Goeboe salt mine.
- ISO 45001 development/implementation for Cyntech
- ISO 45001 Audit for KMR
- ISO 45001 development/implementation for CIGroup
- Victoria and Albert Dust explosion Risk Assessment and mitigation

Engineering

- Design, development and operations of a water treatment facility for Saint-Gobain Abrasives.
- Development and operations of a Field instrumentation unit to measure power consumption on Abrasives machines for Saint-Gobain Abrasives.
- Maintenance and operations of a ovens and furnaces at Isando operation for Saint-Gobain Abrasives.
- Bottling plant feasibility for Ensunc at Quatern advisory services.
- Thubelisha appointed Quatern to provide a Professional Engineering Audit of Services to verify and quantify installed services, at Delft Symphony, N2 Gateway project, Cape Town.
- Pre-feasibility study in generating electricity and heat using gas as a primary source of energy through Micro CHP's for Quatern Advisory Services
- Feasibility Assessment for the Visitor Centre for SKA at Carnavon in the Northern Cape SKA for Quatern advisory services.
- Assmang Manganese Cato Ridge Work Slag Investigation. Investigated the use of slag for stabiliser for pipeline
- Assessment of the contamination of ballast and surrounding areas for Transnet on South African railway network

<u>Social</u>

- Project Manager and team member: Study to determine the socioeconomic benefits of Roads on the economy of South Africa (RSA Department of Transport (R2mil project))
- Team Member: Chitima Social Impact Assessment and Resettlement Management Plan (ERG)
- Team Member: Belfast **Social Impact Assessment**, **Social and Labor Plan** and Management for Resettlement Implementation.
- Team member: **Social and Labor Plan** for Goeboe Goeboe salt mine.
- Team member: Social and Labor Plan for Chrominet
 Grrenfields project

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