

Graeme Christopher Cuffy

Process Safety Engineer

Houston, Texas

Tel: 281-908-9260

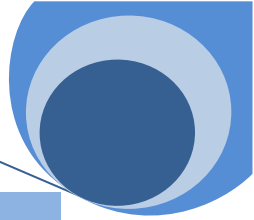
Email: graeme.cuffy@gmail.com

Career Summary

Over twelve years of experience in the field of process safety engineering focusing on hazard identification, and helping clients to achieve their process safety management objectives. Experienced in providing engineering and consulting services oil and gas, nuclear power, and polymer manufacturing.

Key Skills

- Expert leadership of Process Hazard Analysis (PHA) (HAZID, HAZOP, What If, LOPA) and PSSR.
- Leading the development of a strong process safety management culture by identifying gaps, developing improvement strategies and implementing effective solutions.
- Development and monitoring of key performance indicators and annual goals.
- Oversight of process safety records and registers.
- Interfacing effectively with leaders, operators, engineers and government agencies.
- Coordination of contractor and vendor activities.
- Development of effective process safety tools, metrics, processes and procedures.
- Developing and conducting process safety awareness training and coaching for employees and leaders.
- Applying innovative and strategic thinking to solve problems.
- Incident investigation and root cause analysis.
- Process safety communication for employees and leaders.
- Emergency Response.
- Technical report writing and presentations.



Education

Imperial College London – Royal School of Mines (2003 – 2004)

MSc Petroleum Engineering

The University of the West Indies (1997 – 2001)

BSc Civil Engineering (Upper Second Class Honors)

Achievements

- First prize winner of the Nuclear Institute’s Western Branch Speakers Competition 2009.
- Massy Wood Group Safety Soul Award 2011.
- Massy Wood Group “Reward and Recognition” for the Repsol Trinidad and Tobago offshore safety procedures project.

Employment History

Employer: McDermott International
Job Title: Principal Process Safety Engineer
Years: 2018

Employer: Genesis Oil and Gas Consultants
Job Title: Senior Process Safety Specialist
Years: 2014 – 2018

Employer: Massy Wood Group
Job Title: Senior Technical Safety Engineer
Years: 2011 – 2014

Employer: Atkins
Job Title: Technical Safety Engineer
Years: 2007 - 2010

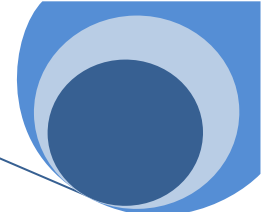
Selected Safety Case Experience

Employer: Massy Wood Group
Client: British Gas Trinidad and Tobago
Industry: Oil and Gas

Updated the operational safety case for the Hibiscus platform to account for the installation of a new accommodation module and compression unit. The update involved the following activities:

- Review of design documents to understand the design of the system, including the types of safety systems which were selected.
- Consultation with operations and maintenance personnel to determine whether the system was correctly integrated into the operations of the facility.
- Communication with senior management on the progress of the safety case.

Employer: Atkins



Client: EDF Energy
Industry: Nuclear Power

Updated the offload depressurized refueling safety case for the Hartlepool and Heysham 1 nuclear power stations. The update involved the following activities:

- Search the client's databases for the required technical information and review the information to determine suitability.
- Consult with engineering and operations personnel to close gaps in the technical information.
- Review the safety cases of other power stations to ensure consistency in format and content.
- Incorporate technical comments when received.

Employer: Atkins
Client: British Gas North America
Industry: Power Generation

Prepared the first operational safety cases for three combined cycle power stations. The preparation of the safety case involved the following activities:

- Participate in a Hazard and Operability study for each power station to identify hazards.
- Search the client's databases for the required technical information and review the information to determine suitability.
- Consult with engineering and operations personnel to close gaps in the technical information.
- Incorporate technical comments when received.

Employer: Atkins
Client: SBM Imodco
Industry: Oil and Gas

Prepared the Phase Four design safety case for the Frade FPSO. The preparation of the safety case involved the following activities:

- Search the project databases for the required technical information and review the information to determine suitability.
- Consult with engineering personnel to close gaps in the technical information.
- Review the close-out of Process Hazard Analysis actions.
- Incorporate technical comments when received.

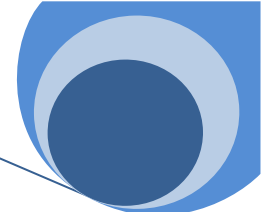
Selected Process Hazard Analysis Experience

Employer: Genesis Oil and Gas Consultants
Client: BP Trinidad and Tobago
Industry: Oil and Gas

Facilitated the HAZOP for a hydraulic power unit for the Juniper gas platform. Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZOP in accordance with the client's procedure.
- Preparation of the HAZOP report.
- Co-ordination of the close-out of actions arising from the analysis.

Employer: Genesis Oil and Gas Consultants



Client: China National Offshore Oil Corporation
Industry: Oil and Gas

Facilitated the HAZIDs for two tension leg production platforms. Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZIDs in accordance with the client's procedure.
- Preparation of the HAZID reports.
- Co-ordination of the close-out of actions arising from the analyses.

Employer: Massy Wood Group
Client: Repsol Trinidad and Tobago
Industry: Oil and Gas

Facilitated HAZOPs for all of the platforms which make up Repsol's Samaan field (Samaan AC, Samaan B and Samaan C). Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZOPs in accordance with the client's procedure.
- Preparation of the HAZOP reports.
- Participating in follow-up discussions with client about the findings of the analyses.

Employer: Massy Wood Group
Client: Repsol Trinidad and Tobago
Industry: Oil and Gas

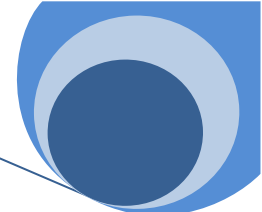
Facilitated HAZOPs for all of the platforms which make up Repsol's Teak field (Teak A, Teak B and Teak C). Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZOPs in accordance with the client's procedure.
- Preparation of the HAZOP reports.
- Participating in follow-up discussions with client about the findings of the analyses.

Employer: Massy Wood Group
Client: Repsol Trinidad and Tobago
Industry: Oil and Gas

Facilitated HAZOPs for all of the platforms which make up Repsol's Poui field (Poui A and Poui B). Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZOPs in accordance with the client's procedure.
- Preparation of the HAZOP reports.
- Participating in follow-up discussions with client about the findings of the analyses.



Employer: Massy Wood Group
Client: British Gas Trinidad and Tobago
Industry: Oil and Gas

Facilitated the HAZID for the Dolphin gas platform drilling campaign. Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZIDs in accordance with the client's procedure.
- Preparation of the HAZID reports.
- Co-ordination of the close-out of actions arising from the analyses.

Employer: Massy Wood Group
Client: National Gas Company of Trinidad and Tobago
Industry: Oil and Gas

Facilitated the HAZOP for a new gas metering facility. Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZOP in accordance with the client's procedure.
- Preparation of the HAZOP report.

Employer: Massy Wood Group
Client: BP Trinidad and Tobago
Industry: Oil and Gas

Facilitated the HAZOP and LOPA for the Amherstia platform. Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZOP and LOPA in accordance with the client's procedure.
- Preparation of the HAZOP and LOPA reports.

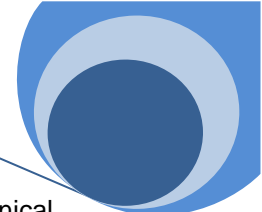
Employer: Massy Wood Group
Client: BP Trinidad and Tobago
Industry: Oil and Gas

Facilitated the HAZOP and LOPA for the Mahogany platform. Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZOP and LOPA in accordance with the client's procedure.
- Preparation of the HAZOP and LOPA reports.

Employer: Massy Wood Group
Client: BP Trinidad and Tobago
Industry: Oil and Gas

Facilitated the HAZOP for the flushing and leak testing of a degasser vessel on the Cassia B platform. Responsibilities:



- Preparation of the terms of reference document which establishes the required technical information, the methodology to be used for the analysis, the scope of the analysis and the composition of the technical team.
- Leading the HAZOPs in accordance with the client's procedure.
- Preparation of the HAZOP reports.

Employer: Massy Wood Group
Client: Repsol Trinidad and Tobago
Industry: Oil and Gas

Facilitated the PSSR for a new condensate pump. Responsibilities:

- Preparation of the terms of reference document which establishes the required technical information, the methodology and checklists to be used for the review, the scope of the analysis and the composition of the technical team.
- Leading the PSSR in accordance with best industry practice.
- Preparation of the PSSR report.

Fire Hazard Analysis Experience

Employer: Massy Wood Group
Client: Repsol Trinidad and Tobago
Industry: Oil and Gas

Conducted a fire hazard analysis for the platforms which make up the Samaan oil field. Responsibilities:

- Review platform process safety information to identify fire scenarios.
- Analysis of each fire scenario using CIRRUS software.
- Prioritization of fire hazards.
- Preparation of final report, including recommendations for protections and mitigations.

Employer: Massy Wood Group
Client: Repsol Trinidad and Tobago
Industry: Oil and Gas

Conducted a fire hazard analysis for the Teak E platform to support the definition of fire protection measures and evacuation routes. Responsibilities:

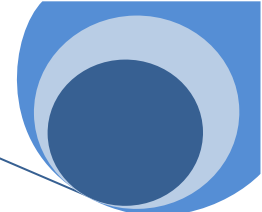
- Review platform process safety information to identify fire scenarios.
- Analysis of each fire scenario using CIRRUS software.
- Prioritization of fire hazards.
- Preparation of final report, including recommendations for protections and mitigations.

Functional Safety Experience

Employer: Genesis Oil and Gas Consultants
Client: Chevron Phillips Chemicals
Industry: Polymer Manufacturing

Part of a functional safety team which developed verification and calibration procedures for instrumentation which were designated as Independent Protection Layers. Responsibilities:

- Preparing procedures for equipment including: pressure transmitters, temperature transmitters and various types of analyzers.
- Interfacing with client SIS engineers and operations personnel.



Safety Training Experience

Employer: Genesis Oil and Gas Consultants

Client: N/A

Industry: Oil and Gas

Conducted internal training for company staff on a variety of safety topics. These included:

- Hazard and Operability studies
- Safety cases
- Security vulnerability assessments
- Crude oil transport via rail

Employer: Massy Wood Group

Client: Repsol Trinidad and Tobago

Industry: Oil and Gas

Conducted training for Repsol's offshore personnel, relating to occupational safety procedures developed by Massy Wood Group. Responsibilities:

- Preparation of training materials, including practical exercises
- Leading the training sessions

Employer: Massy Wood Group

Client: N/A

Industry: Oil and Gas

Conducted process safety awareness training for company staff at office and field locations to raise awareness about the importance of process safety. This was part of a wider campaign to improve safety throughout the company's operations. Responsibilities:

- Preparation of training materials
- Advising senior management of process safety concerns raised by staff.

Incident Investigation Experience

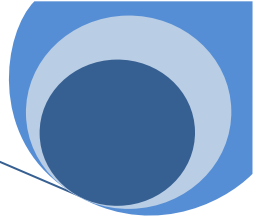
Employer: Massy Wood Group

Client: BP Trinidad and Tobago

Industry: Oil and Gas

A minor gas release occurred when Massy Wood Group technicians were performing maintenance work on an isolated vessel. Responsibilities during the investigation:

- Interview technicians to get first-hand accounts of the incident.
- Visit the site to determine the physical state of the equipment.
- Review the emergency response procedures that were followed after the incident occurred.
- Prepare the investigation report for company management.



Employer: Massy Wood Group
Client: Repsol Trinidad and Tobago
Industry: Oil and Gas

Repsol was experiencing persistent problems with the produced water system on one of its platforms. The company held a two day session to determine the root causes of the problem. Responsibilities:

- Facilitate the root cause analysis using the 'Five Whys' methodology.
- Record the results of the analysis using fishbone diagrams.

Development of Process Safety Tools

Employer: Massy Wood Group
Client: N/A
Industry: Oil and Gas

Developed a process safety study checklist called the Design and Safety Assessment which was to be used at the start of an engineering project phase. The purpose of the checklist was to systematically identify the process safety engineering studies that would be needed based on the project's scope. Justifications were given for any studies that were deemed not necessary. The checklist provided assurance to the company and the client that hazards would be comprehensively identified and mitigated during the project.

Leadership Experience

Employer: Atkins
Client: EDF Energy
Industry: Nuclear Power

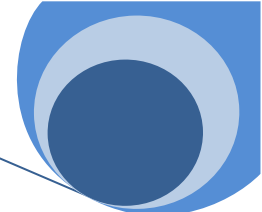
Project manager for the improvement and standardization of fuel criticality safety management procedures for eight nuclear power stations. Responsibilities:

- Management of project costs and schedule
- Preparation of draft management processes
- Inter-station project coordination
- Preparation of regular progress reports

Employer: Genesis Oil and Gas Consultants
Client: China National Offshore Oil Corporation
Industry: Oil and Gas

Lead process safety engineer of a team providing safety input for the design of a pair of tension leg platforms. Responsibilities:

- Management of project costs and schedule
- Sourcing information for the project team
- Raising concerns with project leadership
- Interfacing with client representatives.
- Preparation of regular progress reports



Employer: Massy Wood Group
Client: N/A
Industry: Oil and Gas

Mentoring of graduate process and mechanical engineers as part of improving process safety awareness within the company: Responsibilities:

- Development of a learning plan
- Involving the graduate engineer in process safety activities, including scribing for PHAs, technical report writing, consequence analysis and close-out of safety actions
- Conducting a performance review at the end of the period which was documented and provided to management.

Safety Procedure Experience

Employer: Genesis Oil and Gas Consultants
Client: N/A
Industry: Oil and Gas

Developed company procedures for the following areas:

- Hazard and operability studies
- Hazard identification studies
- Safety cases

Employer: Massy Wood Group
Client: N/A
Industry: Oil and Gas

Developed company procedures for the following areas:

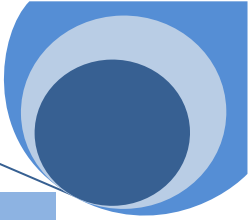
- Design and safety assessment
- Hazard and operability studies
- Hazard identification studies
- Inherently safer design

Software Experience

- Microsoft Office – Word, Excel, PowerPoint, Visio (intermediate)
- PHA Pro (intermediate)
- DNV PHAST (intermediate)
- bp CIRRUS (intermediate)

Training

- DNV PHAST (2007)
- EDF Energy safety case preparation and checking (2009)
- bp HAZOP Basics (2012)
- bp HAZOP Advanced (2012)
- bp LOPA Basics (2012)
- Process Hazard Analysis Leadership (2012)
- Massy Wood Group Leadership (2013)



Institution Memberships

Member of the American Society of Safety Professionals

Published Work

Cumulative Quantitative Risk Assessment of an Oil and Gas Industrial Site:
A Case Study, Srinivas Sambasivam, Graeme Cuffy, Ian Lines and Nilesh Popat, October 2008