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| **Health, Safety, Security, Environment And** **Quality Management** **System** |
| **[document number]** |
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Table Of Contents

[1. ABBREVIATIONS AND DEFINITIONS 10](#_Toc408794398)

[1.1. Abbreviations 10](#_Toc408794399)

[1.2. Definitions 11](#_Toc408794400)

[2. INTRODUCTION 13](#_Toc408794401)

[2.1. Level 1 13](#_Toc408794402)

[2.2. Level 2 13](#_Toc408794403)

[2.3. Level 3 13](#_Toc408794404)

[3. POLICY AND LEADERSHIP 14](#_Toc408794405)

[3.1. Intent 14](#_Toc408794406)

[3.2. Performance Standards 14](#_Toc408794407)

[3.2.1. Policy 14](#_Toc408794408)

[3.3. Key Performance Indicators 16](#_Toc408794409)

[3.4. Responsibilities 16](#_Toc408794410)

[3.5. Verification 16](#_Toc408794411)

[3.6. References 16](#_Toc408794412)

[4. ORGANISATION AND RESPONSIBILITIES 18](#_Toc408794413)

[4.1. Intent 18](#_Toc408794414)

[4.2. Performance Standards 18](#_Toc408794415)

[4.2.1. Organisation Charts 18](#_Toc408794416)

[4.2.2. Roles and Responsibilities 18](#_Toc408794417)

[4.2.3. Staffing Levels 20](#_Toc408794418)

[4.2.4. Supervision 20](#_Toc408794419)

[4.3. Key Performance Indicators 20](#_Toc408794420)

[4.4. Responsibilities 21](#_Toc408794421)

[4.5. Verification 22](#_Toc408794422)

[4.6. References 22](#_Toc408794423)

[5. EMPLOYEE INVOLVEMENT AND COMMUNICATION 22](#_Toc408794424)

[5.1. Intent 22](#_Toc408794425)

[5.2. Performance Standards 22](#_Toc408794426)

[5.2.1. Consultation with HSSEQ Representatives and Committees 22](#_Toc408794427)

[5.2.2. Participation 23](#_Toc408794428)

[5.2.3. Communication 24](#_Toc408794429)

[5.3. Key Performance Indicators 24](#_Toc408794430)

[5.4. Responsibilities 24](#_Toc408794431)

[5.4.1. Verification 25](#_Toc408794432)

[5.5. References 25](#_Toc408794433)

[6. RESOURCES 26](#_Toc408794434)

[6.1. Intent 26](#_Toc408794435)

[6.2. Performance Standards 26](#_Toc408794436)

[6.3. Key Performance Indicators 27](#_Toc408794437)

[6.4. Responsibilities 27](#_Toc408794438)

[6.5. Verification 27](#_Toc408794439)

[6.6. References 28](#_Toc408794440)

[7. HAZARD IDENTIFICATION AND RISK MANAGEMENT 28](#_Toc408794441)

[7.1. Intent 28](#_Toc408794442)

[7.2. Performance Standards 28](#_Toc408794443)

[7.2.1. HSSEQ Goals 28](#_Toc408794444)

[7.2.2. Timing 29](#_Toc408794445)

[7.2.3. Hazard Identification 30](#_Toc408794446)

[7.2.4. Hazard Register 32](#_Toc408794447)

[7.2.5. Hazard / Risk Assessment 32](#_Toc408794448)

[7.2.6. Risk Acceptance Criteria 34](#_Toc408794449)

[7.2.7. Hazard/Risk Management 35](#_Toc408794450)

[7.2.8. Competency 38](#_Toc408794451)

[7.2.9. Records 38](#_Toc408794452)

[7.2.10. Critical Items 38](#_Toc408794453)

[7.2.11. Communication of Risk to Employees 39](#_Toc408794454)

[7.2.12. Changes in Status of Risk Control Measures 39](#_Toc408794455)

[7.2.13. Reviews 39](#_Toc408794456)

[7.2.14. Personal Protective Equipment 40](#_Toc408794457)

[7.3. Key Performance Indicators 40](#_Toc408794458)

[7.4. Responsibilities 41](#_Toc408794459)

[7.5. Verification 42](#_Toc408794460)

[7.6. References 42](#_Toc408794461)

[8. OBJECTIVES, PLANS & PERFORMANCE STANDARDS 44](#_Toc408794462)

[8.1. Intent 44](#_Toc408794463)

[8.2. Performance Standards 44](#_Toc408794464)

[8.2.1. Objectives 44](#_Toc408794465)

[8.2.2. Planning 44](#_Toc408794466)

[8.2.3. Monitoring 45](#_Toc408794467)

[8.2.4. Communication 45](#_Toc408794468)

[8.3. Key Performance Indicators 45](#_Toc408794469)

[8.4. Responsibilities 45](#_Toc408794470)

[8.5. Verification 46](#_Toc408794471)

[8.6. References 46](#_Toc408794472)

[9. SOURCES OF INFORMATION 47](#_Toc408794473)

[9.1. Intent 47](#_Toc408794474)

[9.2. Performance Standards 47](#_Toc408794475)

[9.3. Key Performance Indicators 47](#_Toc408794476)

[9.4. Responsibilities 47](#_Toc408794477)

[9.5. Verification 47](#_Toc408794478)

[9.6. References 48](#_Toc408794479)

[10. MANAGEMENT SYSTEM DOCUMENTATION 49](#_Toc408794480)

[10.1. Intent 49](#_Toc408794481)

[10.2. Performance Standards 49](#_Toc408794482)

[10.2.1. Availability of documentation 49](#_Toc408794483)

[10.2.2. Document structure 49](#_Toc408794484)

[10.2.3. Change control 49](#_Toc408794485)

[10.2.4. Employee Familiarisation with the HSSEMS 50](#_Toc408794486)

[10.3. Key Performance Indicators 50](#_Toc408794487)

[10.4. Responsibilities 50](#_Toc408794488)

[10.5. Verification 50](#_Toc408794489)

[10.6. References 51](#_Toc408794490)

[11. DESIGN, CONSTRUCTION, AND COMMISSIONING 52](#_Toc408794491)

[11.1. Intent 52](#_Toc408794492)

[11.2. Performance Standards 52](#_Toc408794493)

[11.2.1. Design Planning 52](#_Toc408794494)

[11.2.2. Quality Assurance 54](#_Toc408794495)

[11.2.3. Hazard Identification and Risk Reduction 57](#_Toc408794496)

[11.2.4. Design Input 58](#_Toc408794497)

[11.2.5. Design Output 59](#_Toc408794498)

[11.2.6. Design Reviews 59](#_Toc408794499)

[11.2.7. Construction 61](#_Toc408794500)

[11.2.8. Commissioning 61](#_Toc408794501)

[11.2.9. Safety Case 62](#_Toc408794502)

[11.3. Key Performance Indicators 62](#_Toc408794503)

[11.4. Responsibilities 63](#_Toc408794504)

[11.5. Verification 64](#_Toc408794505)

[11.6. References 64](#_Toc408794506)

[12. MANAGEMENT OF CHANGE 65](#_Toc408794507)

[12.1. Intent 65](#_Toc408794508)

[12.2. Performance Standards 65](#_Toc408794509)

[12.2.1. Change Management 65](#_Toc408794510)

[12.2.2. Evaluation of Changes 66](#_Toc408794511)

[12.2.3. Implementation of Changes 66](#_Toc408794512)

[12.2.4. Document Control and Filing 67](#_Toc408794513)

[12.3. Key Performance Indicators type of quality records to be provided 68](#_Toc408794514)

[12.4. References 68](#_Toc408794515)

[13. PURCHASING & CONTROL OF MATERIALS & SERVICES 69](#_Toc408794516)

[13.1. Intent 69](#_Toc408794517)

[13.2. Performance Standards 69](#_Toc408794518)

[13.3. Key Performance Indicators 72](#_Toc408794519)

[13.4. Responsibilities 72](#_Toc408794520)

[13.5. Verification 73](#_Toc408794521)

[13.6. References 73](#_Toc408794522)

[14. SAFE OPERATIONAL PROCEDURES 75](#_Toc408794523)

[14.1. Intent 75](#_Toc408794524)

[14.2. Performance Standards 75](#_Toc408794525)

[14.2.1. Determination of Required Procedures 75](#_Toc408794526)

[14.2.2. Typical Procedures 76](#_Toc408794527)

[14.2.3. Permit To Work System 77](#_Toc408794528)

[14.2.4. Temporary Work Instructions 79](#_Toc408794529)

[14.2.5. Content of Procedures 80](#_Toc408794530)

[14.2.6. HSE Critical Procedures 80](#_Toc408794531)

[14.2.7. Key Performance Indicators 80](#_Toc408794532)

[14.3. Responsibilities 81](#_Toc408794533)

[14.4. Verification 81](#_Toc408794534)

[14.5. References 81](#_Toc408794535)

[15. MATERIALS HANDLING & STORAGE 83](#_Toc408794536)

[15.1. Intent 83](#_Toc408794537)

[15.2. Performance Standards 83](#_Toc408794538)

[15.2.1. Handling General 83](#_Toc408794539)

[15.2.2. Manual Handling 83](#_Toc408794540)

[15.2.3. Mechanical Handling Facilities 84](#_Toc408794541)

[15.2.4. Inspection, Testing, Marking and Certification 84](#_Toc408794542)

[15.2.5. Hazardous Materials 85](#_Toc408794543)

[15.2.6. Storage 86](#_Toc408794544)

[15.2.7. Packaging and Labelling 86](#_Toc408794545)

[15.2.8. Preservation 87](#_Toc408794546)

[15.2.9. Delivery 87](#_Toc408794547)

[15.3. Key Performance Indicators 87](#_Toc408794548)

[15.4. Responsibilities 88](#_Toc408794549)

[15.5. Verification 88](#_Toc408794550)

[15.6. References 89](#_Toc408794551)

[16. MAINTENANCE & REPAIR 90](#_Toc408794552)

[16.1. Intent 90](#_Toc408794553)

[16.2. Performance Standards 90](#_Toc408794554)

[16.2.1. Assessment of Critical Equipment 90](#_Toc408794555)

[16.2.2. Maintenance and Integrity Management System 91](#_Toc408794556)

[16.2.3. Maintenance Procedures 91](#_Toc408794557)

[16.2.4. Corrosion Management 92](#_Toc408794558)

[16.2.5. Modifications 92](#_Toc408794559)

[16.2.6. Inspection 92](#_Toc408794560)

[16.2.7. Training 92](#_Toc408794561)

[16.3. Key Performance Indicators 92](#_Toc408794562)

[16.4. Responsibilities 93](#_Toc408794563)

[16.5. Verification 93](#_Toc408794564)

[16.6. References 94](#_Toc408794565)

[17. EMPLOYEE SELECTION, COMPETENCY AND TRAINING 95](#_Toc408794566)

[17.1. Intent 95](#_Toc408794567)

[17.2. Performance Standards 95](#_Toc408794568)

[17.2.1. Determination of Competency Requirements 95](#_Toc408794569)

[17.2.2. Employee Selection 95](#_Toc408794570)

[17.2.3. Health Criteria and Examinations 95](#_Toc408794571)

[17.2.4. Competency Assessment 96](#_Toc408794572)

[17.2.5. Training 96](#_Toc408794573)

[17.3. Key Performance Indicators 97](#_Toc408794574)

[17.4. Responsibilities 97](#_Toc408794575)

[17.5. Verification 98](#_Toc408794576)

[17.6. References 99](#_Toc408794577)

[18. WORKPLACE ENVIRONMENT 99](#_Toc408794578)

[18.1. Intent 99](#_Toc408794579)

[18.2. Performance Standards 99](#_Toc408794580)

[18.3. Key Performance Indicators 103](#_Toc408794581)

[18.4. Responsibilities 103](#_Toc408794582)

[18.5. Verification 104](#_Toc408794583)

[18.6. References 104](#_Toc408794584)

[19. FIRST AID AND EMERGENCY RESPONSE 104](#_Toc408794585)

[19.1. Intent 104](#_Toc408794586)

[19.2. Performance Standards 104](#_Toc408794587)

[19.2.1. Emergency Response 105](#_Toc408794588)

[19.2.2. Emergency Response Training 107](#_Toc408794589)

[19.3. Key Performance Indicators 108](#_Toc408794590)

[19.4. Responsibilities 109](#_Toc408794591)

[19.5. Verification 110](#_Toc408794592)

[19.6. References 110](#_Toc408794593)

[20. INSPECTION, TESTING AND MONITORING 111](#_Toc408794594)

[20.1. Intent 111](#_Toc408794595)

[20.2. Performance Standards 111](#_Toc408794596)

[20.2.1. Inspection and Test Plans 111](#_Toc408794597)

[20.2.2. Inspection and Test Records 113](#_Toc408794598)

[20.2.3. Maintenance of Testing and Inspection Equipment 114](#_Toc408794599)

[20.2.4. Reporting 114](#_Toc408794600)

[20.2.5. Corrective Actions 114](#_Toc408794601)

[20.3. Key Performance Indicators 115](#_Toc408794602)

[20.4. Responsibilities 115](#_Toc408794603)

[20.5. Verification 116](#_Toc408794604)

[20.6. References 116](#_Toc408794605)

[21. HEALTH MONITORING SYSTEM 116](#_Toc408794606)

[21.1. Intent 116](#_Toc408794607)

[21.2. Performance Standards 116](#_Toc408794608)

[21.2.1. Pre-employment Assessments 117](#_Toc408794609)

[21.2.2. Health Monitoring 118](#_Toc408794610)

[21.2.3. Records 118](#_Toc408794611)

[21.2.4. Rehabilitation 119](#_Toc408794612)

[21.3. Key Performance Indicators 119](#_Toc408794613)

[21.4. Responsibilities 119](#_Toc408794614)

[21.5. Verification 120](#_Toc408794615)

[21.6. References 120](#_Toc408794616)

[22. INCIDENT / HAZARD INVESTIGATION AND REPORTING 121](#_Toc408794617)

[22.1. Intent 121](#_Toc408794618)

[22.2. Performance Standards 121](#_Toc408794619)

[22.2.1. Incident/hazard Reporting 121](#_Toc408794620)

[22.2.2. Incident/hazard Investigation 121](#_Toc408794621)

[22.2.3. Implementation of Corrective Actions 122](#_Toc408794622)

[22.2.4. Communication of Findings 122](#_Toc408794623)

[22.2.5. HSE Performance 123](#_Toc408794624)

[22.2.6. Training 123](#_Toc408794625)

[22.3. Key Performance Indicators 124](#_Toc408794626)

[22.4. Responsibilities 124](#_Toc408794627)

[22.5. Verification 125](#_Toc408794628)

[22.6. References 125](#_Toc408794629)

[23. HEALTH, SAFETY, ENVIRONMENTAL AND QUALITY INFORMATION AND REPORTS 126](#_Toc408794630)

[23.1. Intent 126](#_Toc408794631)

[23.2. Performance Standards 126](#_Toc408794632)

[23.2.1. Employee Health and Safety Records 126](#_Toc408794633)

[23.2.2. Health and Safety Documents/Data 126](#_Toc408794634)

[23.2.3. Health, Safety and Environmental Performance Assessments 126](#_Toc408794635)

[23.3. Key Performance Indicators 127](#_Toc408794636)

[23.4. Responsibilities 127](#_Toc408794637)

[23.5. Verification 127](#_Toc408794638)

[23.6. References 127](#_Toc408794639)

[24. AUDIT 128](#_Toc408794640)

[24.1. Intent 128](#_Toc408794641)

[24.2. Performance Standards 128](#_Toc408794642)

[24.2.1. Audit Programme 128](#_Toc408794643)

[24.2.2. Methodology 128](#_Toc408794644)

[24.2.3. Employee Involvement 129](#_Toc408794645)

[24.2.4. Audit Reports 130](#_Toc408794646)

[24.2.5. Corrective Action Management 130](#_Toc408794647)

[24.3. Key Performance Indicators 130](#_Toc408794648)

[24.4. Responsibilities 130](#_Toc408794649)

[24.5. Verification 131](#_Toc408794650)

[24.6. References 131](#_Toc408794651)

[25. REVIEW AND IMPROVEMENT 132](#_Toc408794652)

[25.1. Intent 132](#_Toc408794653)

[25.2. Performance Standards 132](#_Toc408794654)

[25.2.1. Review Programme 132](#_Toc408794655)

[25.2.2. Comparison Against Objectives 132](#_Toc408794656)

[25.2.3. Communication 133](#_Toc408794657)

[25.2.4. Continuous Improvement 133](#_Toc408794658)

[25.3. Key Performance Indicators 133](#_Toc408794659)

[25.4. Agreed Responsibilities 133](#_Toc408794660)

[25.5. Verification 133](#_Toc408794661)

[25.6. References 134](#_Toc408794662)

[26. SAFETY CASE 135](#_Toc408794663)

[26.1. Intent 135](#_Toc408794664)

[26.2. Performance Standards 135](#_Toc408794665)

[26.2.1. Preparation 135](#_Toc408794666)

[26.2.2. Submission 137](#_Toc408794667)

[26.2.3. Control 137](#_Toc408794668)

[26.2.4. Revision 138](#_Toc408794669)

[26.3. Key Performance Indicators 138](#_Toc408794670)

[26.4. Responsibilities 139](#_Toc408794671)

[26.5. Verification 139](#_Toc408794672)

[26.6. References 139](#_Toc408794673)

[27. QUALITY MANAGEMENT 141](#_Toc408794674)

[27.1. Intent 141](#_Toc408794675)

[27.2. Performance Standards 141](#_Toc408794676)

[27.2.1. Management Responsibility 141](#_Toc408794677)

[27.2.2. Quality System 141](#_Toc408794678)

[27.2.3. Contract Review 145](#_Toc408794679)

[27.2.4. Design Control 145](#_Toc408794680)

[27.2.5. Document and Data Control 145](#_Toc408794681)

[27.2.6. Purchasing 145](#_Toc408794682)

[27.2.7. Control of Third-party Supplied Product 145](#_Toc408794683)

[27.2.8. Product Identification and Traceability 145](#_Toc408794684)

[27.2.9. Process Control 146](#_Toc408794685)

[27.2.10. Inspection and Testing 146](#_Toc408794686)

[27.2.11. Control of Inspection, Measuring and Test Equipment 146](#_Toc408794687)

[27.2.12. Inspection and Test Status 147](#_Toc408794688)

[27.2.13. Control of Non-Conforming Product 147](#_Toc408794689)

[27.2.14. Corrective and Preventive Action 148](#_Toc408794690)

[27.2.15. Handling, Storage, Packaging, Preservation and Delivery 149](#_Toc408794691)

[27.2.16. Control of Quality Records 149](#_Toc408794692)

[27.2.17. Servicing 149](#_Toc408794693)

[27.2.18. Statistical Techniques 150](#_Toc408794694)

[27.3. Key Performance Indicators 150](#_Toc408794695)

[27.4. Responsibilities 150](#_Toc408794696)

[27.4.1. Chief Executive Officer Company Petroleum 150](#_Toc408794697)

[27.4.2. Project Manager/Facility Superintendent 150](#_Toc408794698)

[27.4.3. Chief Operating Officer 151](#_Toc408794699)

[27.5. Verification 151](#_Toc408794700)

[27.6. References 151](#_Toc408794701)

[28. Security 152](#_Toc408794702)

[28.1. Introduction 152](#_Toc408794703)

[28.2. Purpose 152](#_Toc408794704)

[28.3. Objective 152](#_Toc408794705)

[28.4. Scope 152](#_Toc408794706)

[28.5. Security Management 152](#_Toc408794707)

[28.6. Key Performance Indicators 152](#_Toc408794708)

[28.7. Responsibilities 152](#_Toc408794709)

[28.8. Verification 152](#_Toc408794710)

[28.9. Reference 152](#_Toc408794711)

[29. ENVIRONMENTAL PROTECTION 154](#_Toc408794712)

[29.1. Intent 154](#_Toc408794713)

[29.2. Performance Standards 154](#_Toc408794714)

[29.2.1. Environmental Protection Plan 154](#_Toc408794715)

[29.2.2. Objectives and Standards 155](#_Toc408794716)

[29.2.3. Description of Activities 155](#_Toc408794717)

[29.2.4. Description of Existing Environment 155](#_Toc408794718)

[29.2.5. Hazard Identification and Consequence Assessment 156](#_Toc408794719)

[29.2.6. Implementation Strategy 157](#_Toc408794720)

[29.2.7. Incidents, Reports, and Records 158](#_Toc408794721)

[29.2.8. Other Relevant Information 158](#_Toc408794722)

[29.2.9. Availability of Records 159](#_Toc408794723)

[29.3. Key Performance Indicators 159](#_Toc408794724)

[29.4. Responsibilities 159](#_Toc408794725)

[29.5. Verification 160](#_Toc408794726)

[29.6. References 160](#_Toc408794727)

# ABBREVIATIONS AND DEFINITIONS

## Abbreviations

|  |  |
| --- | --- |
| AIF  | all incident frequency  |
| ALARP  | as low as reasonably practicable  |
| CAART  | competency, accountability, responsibility, and training register  |
| CBA  | cost benefit analysis  |
| CI  | continuous improvement  |
| DA  | designated authority  |
| EPP  | environmental protection plan  |
| ER  | emergency response  |
| ERMP  | employee relations management plan  |
| ERP  | emergency response plan  |
| ESD  | emergency shut down  |
| FAIF  | first aid injury frequency  |
| FAT  | factory acceptance test  |
| FMEA  | failure modes and effects analysis  |
| FSA  | formal safety assessment  |
| HAZID  | hazard identification  |
| HAZOP  | hazard and operability  |
| HSSEQ  | health, safety, environmental and quality  |
| HSSEQMP  | health, safety, environmental and quality management plan  |
| HSSEQMS  | health, safety, environmental and quality management system  |
| HSSEQ  | health, safety, environmental and quality  |
| ICAF  | implied cost of averting a fatality  |
| IRPA  | individual’s risk per annum  |
| ITP  | inspection and test plan  |
| ITR  | inspection and test record  |
| JSA  | job safety analysis  |
| KPI  | key performance indicator  |
| LTIF  | lost time injury frequency  |
| MAE  | major accident event  |
| MBO  | management by objectives  |
| MMS  | maintenance management system  |
| MOPU  | mobile offshore production unit  |
| MSDS  | material safety data sheet  |
| MTIF  | medical treatment injury frequency  |
| EFAC  | Non-conformance report  |
| NDT  | Non-destructive testing  |
| Company | Company Petroleum (group) |
| OIM  | offshore installation manager  |
| P&ID  | piping and instrumentation diagram  |
| PEP  | project execution plan  |
| PLL  | potential loss of life  |
| POB  | personnel on board  |
| PPE  | personal protective equipment  |
| QA  | quality assurance  |
| QRA  | quantified risk assessment  |
| RIF  | reported incident frequency  |
| ROV  | remotely operated vehicle  |
| SAFE  | safety analysis function evaluation  |
| SWL  | safe working load  |
| UK  | United Kingdom  |
| UKO | United Kingdom offshore  |
| USA  | United States of America  |
| UV  | ultra-violet  |

## Definitions

|  |  |
| --- | --- |
| As Low As Reasonably Practical (ALARP)  | A level of risk that is not intolerable, and cannot be reduced further without the expenditure of costs that are grossly disproportionate to the benefit gained.  |
| Control measures.  | Actions to reduce the chance of a hazardous event occurring, or to reduce the effect of the hazardous event if it was to occur.  |
| Customer  | The recipient of a ‘product’.  |
| Employee  | Any permanent, self-employed, or temporarily employed individual engaged by the company to carry out duties in connection with the company’s operations, including visiting personnel, inspectors, various officials, and other government personnel.  |
| Employee representative  | An employee member of a health and safety committee where established in the workplace, or a person elected to represent a group of employees on health and safety matters.  |
| Event  | Significant change from a condition’s normal state.  |
| Formal Safety Assessment  | A formal investigation of the nature, likelihood, and impact of hazardous events, and the means to prevent or minimise their occurrence or consequences to a level shown to be ‘As Low As Reasonably Practicable’. Such investigation would usually include reports detailing the reasoned arguments and judgements associated with the formal investigation.  |
| Good Oilfield Practice  | All those things that are generally accepted as good and safe in the carrying on of exploration for petroleum, or in operations for the recovery of petroleum as the case may be. (As defined in the n Commonwealth “Petroleum (Submerged Lands) Act 1967.)  |
| Hazard  | A physical situation that may result in: harm, including death or injury, to personnel damage to property environmental damage  |
| Hazard Register  | A document detailing the hazards identified during the various hazard identification techniques employed by the company.  |
| Incident  | An unplanned event where control is lost and there is, or could have been (near miss) an impairment to either personnel, property, or the environment.  |
| Individual risk  | The quantified frequency at which an individual may be expected to sustain a given level of harm from the realisation of specific events.  |
| Individual’s Risk Per Annum (IRPA)  | The quantified annual frequency at which an individual may be expected to sustain a given level of harm from the realisation of specific events.  |
| Major Accident Event (MAE)  | Any event connected with the company’s operations that could cause multiple fatalities, (either immediate or delayed) from the realisation of a hazardous event.  |
| Monitoring  | The checking for acceptable performance as tasks are completed.  |
| Performance Standards  | Standards established by the company that indicate who is responsible for carrying out an activity, what has to be done, when the activity has to be performed, and what outcomes are expected.  |
| Potential Loss of Life (PLL)  | The estimated number of fatalities, per year, that may be expected to occur on a site, evaluated by taking account of the number of persons exposed to a risk, and the magnitude of the Individual’s Risk.  |
| Probability  | The likelihood of a specific event occurring within a specific time frame.  |
| Product  | Result of activities or processes. These may include: a service provision of hardware processed materials (e.g. oil product) software development etc.  |
| Review  | Evaluation of the current status, and effectiveness, of specific issues.  |
| Risk  | The likelihood of a specified, undesired, event occurring within a specific period or in specified circumstances. It may be either a frequency (the number of specified events occurring in unit time) or a probability (the probability of a specified event following a prior event), depending on the circumstances or product of both.  |
| Risk Acceptance Criteria/Acceptance Standards  | Qualitative and quantitative criteria/standards selected by Company Petroleum that reflect contemporary societal values, what is reasonably practicable, and good oilfield practice.  |
| Risk management  | The ongoing management process of identifying hazards, evaluating the consequences and probabilities of these hazards, and then reducing the risk levels to as low as reasonably practicable.  |
| Risk reduction plan  | A plan to implement the risk reduction strategies identified in the formal safety assessment. The time frame to complete and the priorities should be provided.  |
| Safety case  | The presentation of a justification for the safety of an installation.  |
| Supplier  | The external, or internal, organisation responsible for supplying a product.  |
| Validation  | Evidence (test reports, certificates, etc) that equipment and /or systems are fit for purpose.  |

# INTRODUCTION

This document describes the overall health, safety, environmental and quality management system of the Field Operations (referred to herein as “Company”).

This system is used to control HSSEQ hazards and risk for all activities under the control of Company’s operations.

Company’s HSSEQ management systems comprises three levels as follows:

* Level 1 – Company corporate HSSEQ policy and related policies (i.e. Drugs & Alcohol)
* Level 2 – Company’s HSSEQMS document (this document), region policies and project / operations--specific HSSEQMPs.
* Level 3 –standards, generic procedures, project / operations-specific procedures, work instructions, etc

## Level 1

Level 1 is the Company Petroleum group Health, Safety, Security, Environment and Quality Policy and any other applicable group-level policies.

## Level 2

This level incorporates Company’s HSSEQMS document (this document), and all project / operations-specific HSSEQMPs.

This document describes the overall system and how it is integrated to provide comprehensive HSSEQ controls throughout Company’s operations.

It references the Level 1 policies and shows how the Company Petroleum system meets those requirements. This document also provides references to the applicable Level 3 documentation that are an integral part of the systems.

The document is divided into a number of sections, each of which constitutes a specific area of the system.

Each section details the following information applicable to the specific area covered:

* statement of intent
* performance standards
* KPIs
* responsibilities
* verification
* references

The project-specific HSSEQMPs describe how the HSSEQMS is to be applied to project or operations.

Each HSSEQMP is laid out in the same format as this HSSEQMS document, and each section of the HSSEQMP has the same information as described above, but includes project specific adaptation of the HSSEQMS.

## Level 3

This level includes all the detailed supporting documents to the Level 2 system. It comprises:

* Generic documentation (procedures and other documents that are common to all subsidiaries e.g. permit to work system, incident investigation and reporting, change control, JSA procedure, document control, standard forms, etc.)
* Project / operations-specific documentation, (documents that detail how the HSSEQMS applies specifically to a project or operations, e.g. emergency response plan, safe operating procedures, organization charts, etc.)

# POLICY AND LEADERSHIP

## Intent

To develop, implement and maintain health, safety, environmental and quality policies that are supported by high-level commitment that is at least equal to other business aims.

## Performance Standards

### Policy

#### Company Group HSSEQ Policy

An HSSEQ policy statement has been prepared by Company that clearly defines the requirement for strategies and objectives for the effective provision of and continuing improvement to, health, safety, environmental and quality systems throughout the company’s international operations.

This policy has been approved by Company’s chief executive officer to demonstrate the highest level of commitment to these documented goals.

#### Regional Policy Statements

The regional management boards of Company Petroleum have adopted the Company International. HSSEQ policy and are committed to their content and principles. Likewise, is some cases, the regional management boards have re-issued those policies to incorporate regional statutory requirements and cultural norms while holding to the corporate policy.

These policy statements will be reviewed by the regional management at least annually to ensure that they reflect current philosophy, statutory requirements and requirements. In addition, they shall be reviewed whenever:

* corporate policy and objectives are reviewed or updated
* revised legislation affecting the policy comes into force
* suggestion or feed-back is received regarding its content

#### Operation and Project-Specific Policy

Additional specific policy statements may be required to cover specific situations, local regulations, or client requirements.

Statements describing any specific policies shall be prepared and approved by the accountable line manager to demonstrate his/her commitment to their content.

#### Communication

Copies of policy statements shall be prominently displayed to ensure that all employees are aware of the organization’s policies.

As a minimum the policy statements shall be displayed:

* at each Company Petroleum office
* at each permanent work site under the control of Company Petroleum
* at each site, facility or marine vessel under the control of Company Petroleum

Locations for the display of the policy statements shall be selected with care to ensure that all employees may readily view at least one copy. Examples of suitable locations include:

* main entrance foyer
* meeting rooms
* adjacent to refreshment areas
* main access corridors

All applicable policy statements shall be explained to each new employee when joining the company or during their initial induction training as is considered appropriate.

#### Leadership

Clear and effective written and verbal communications are essential to achieving efficient and effective use of the workforce.

Some methods that enhance communications and demonstrate leadership commitment include:

* management by objectives programme
* continuous improvement
* Company intranet
* safety briefs
* audits
* personnel performance reviews
* meetings that incorporate HSSEQ on the agenda
* sponsored HSSEQ initiatives

To ensure a positive upward flow of information and to facilitate the development of safety suggestions from the workforce, safety suggestion forms are employed and an underlying principle of employee involvement maintained to encourage individual participation in the HSSEQ management process.

#### Organization Charts and Responsibility Statements (Delete because it is described more detail in 4.2 or include reference to the 4.2)

The Company Petroleum organization shows the line management accountability for HSSEQ issues.

This document, together with other referenced standards and procedures that comprise the HSSEQMS, contain details of the specific responsibilities that individual line managers and employees have regarding HSSEQ issues.

All responsibilities are recorded in the CAART matrix (register of competencies, authority, accountabilities, responsibilities and training requirements for each position). These responsibilities are also stated, in broad terms, within the position descriptions of each employee.

#### Accountability

Achievement against set objectives shall be regularly monitored and individual’s held accountable for their performance against set objectives and responsibilities. (Refer to Objectives, Plans, & Performance Standards, Section 9 for further information regarding objectives.)

#### Employee Involvement

Company’s line managers are required to set objectives (typically on an annual basis) for their direct reports. It is the responsibility of the line manager to ensure that employees are actively involved in meeting the intent of policy statement objectives and achieving their personal objectives. Refer to Employee Involvement & Communication Section 6 for further information regarding employee involvement.

## Key Performance Indicators

The following KPIs shall be used to determine compliance with this section of the HSSEQMS:

* evidence that Company Petroleum has adopted policy statements set by Company International
* evidence that policy statements are reviewed at the specified intervals
* evidence that, where required, facility-specific policy statements are documented and approved by the responsible line manager

## Responsibilities

#### Chief Executive – Company Petroleum

Is responsible for:

* ensuring that Company Petroleum policy statements are developed and documented that take into account the requirements of Company policy statements, together with any additional specific requirements and legislation applicable to n operations
* authorising the Company Petroleum policy statements to demonstrate commitment to their content.
* ensuring that policy statements are displayed as required
* reviewing the Company Petroleum policy statements at the required intervals to ensure they remain appropriate to ongoing operations
* ensuring that an annual audit is carried out of the HSSEQMS to verify compliance
* reviewing, and approving, the annual HSSEQMS, and project specific HSSEQMP audit reports and for ensuring that all recommendations for improvements to the plans, or their implementation, are reviewed and these improvements incorporated where considered appropriate.

#### Line Managers

Are responsible for:

* ensuring that employees under their direct supervision are made aware of the appropriate policy statements and their responsibilities with respect to them
* ensuring that all operations under their control are carried out in accordance with the intent and specific requirements of the applicable policy statements

## Verification

Verification of the requirements of this section shall be carried out in accordance with the audit schedule on an annual basis.

Compliance with the requirements of this section will be verified by:

* the existence of authorised HSSEQ policy statements
* evidence that Company’s policy statements are displayed at prominent locations
* evidence that each project’s HSSEQ policy statements have been reviewed annually by the Chief Executive of Company Petroleum
* the existence of an up-to-date CAART for each project and operating unit
* evidence that achievement against HSSEQ-related objectives has been monitored.
* Line managers understand the meaning of policy and can explain what they are

## References

|  |  |
| --- | --- |
| Document Number | Document Name |
| CAART | Competency, Authority, Accountability, Responsibility and Training Matrix (Delete because it is in 4.6) |
|  | Protection of investments (Part of security policy) Protection of information (Part of security policy)Protection of Intellectual Property (Part of security policy) |
|  | Company Group HSSEQ Policy or Regional HSSEQ Policy |

# ORGANISATION AND RESPONSIBILITIES

## Intent

To ensure that an effective organisational structure is developed to implement and maintain the health, safety, environmental, and quality policies.

## Performance Standards (Efficiency control of organisation *– my variant*) *Standard is specific word in this document, which means special documents that usual increased security level, ensuring competitiveness and quality and facilitate compliance with the requirements of technical regulations.*

### Organisation Charts

A management structure shall be developed such that each level of manager has clearly defined responsibilities and authorities for the implementation of the HSSEQMS.

This structure shall be documented on organisation charts that shall be kept up to date.

Organisation charts shall also be developed for each project showing the line management accountability for HSSEQ issues. The charts shall also show the lines of communication and reporting for a facility’s onshore support groups and links to relevant contractors and the operator’s organisation.

The organisation charts shall be controlled documents and copies shall be maintained in a project’s main filing system and onboard each facility. Copies of organisation charts shall be issued to all personnel and groups defined in the respective charts.

The Chief Executive Officer – Company Petroleum, shall approve all organisation charts defining line responsibilities associated with the HSSEQMS, and each project’s HSSEQMP.

All proposed changes to this HSSEQMS organisation structure or personnel assigned to a position on the chart shall be subjected to review and approval. These reviews shall be in accordance with the requirements of the change management systems.

### Roles and Responsibilities

Individual responsibilities for HSSEQ and for the implementation of project HSSEQMPs shall be assigned at all levels. Everyone has a responsibility for their own safety, that of their fellow workers, and to the environment. This principle shall be reflected in all HSSEQ policies.

Ultimate accountability for the operation of this HSSEQMS, and each project’s HSSEQMP remains with the Chief Executive Officer Company Petroleum. The Chief Executive Officer Company Petroleum is in turn, accountable to the Senior VP Operations and Business Development located in Houston, USA. The Chief Executive Officer Company Petroleum also has a responsibility to CompanyPL’s Clients to fulfil HSE-related contractual requirements.

The Chief Executive Officer Company Petroleum may delegate the responsibility for day-to-day implementation of a project’s HSSEQMP to the project’s facility superintendent during the operational phase.

In turn, the facility superintendent may delegate certain responsibilities to the various line managers.

While responsibilities may be delegated for the implementation of HSSEQ activities, accountability cannot be delegated.

Broad responsibilities shall be specified in position descriptions for each project’s operations team employees.

The project’s HSSEQMP shall, together with the other referenced standards and procedures contain details of specific responsibilities that individual line managers and employees have regarding HSSEQ issues.

Specific responsibilities exist for various personnel in the event of an emergency situation arising. These responsibilities shall be detailed in Emergency Response Plans. (Refer to First Aid and Emergency Response Section 20.)

To enable an individual’s overall HSSEQ responsibilities to be easily identified, all responsibilities shall be recorded in the CAART.

Responsibilities and accountabilities for HSSEQ may be raised by anyone at any time and shall be discussed with the relevant personnel, including the project’s facility superintendent and other Company safety specialists. The intent of such meetings is to ensure that personnel are fully aware of the responsibilities and accountabilities they hold, understand them and feel that they are appropriate to the position and the authorities they hold.

#### Position Descriptions

Position descriptions shall be developed, documented and maintained for all employees. These shall describe the general role and the responsibilities, accountabilities and authorities that each has under the HSSEQMS and their obligations for compliance with the various policy statements. It is essential that they be developed and approved before the position becomes operational.

Position descriptions shall detail the general role, responsibilities, accountabilities, and authorities associated with each position on the organisation charts. Obligations for compliance with the HSSEQ policy statements shall also be included.

All individuals shall be required to sign a copy of their position description as verification that they understand and accept their obligations. These signed copies shall be maintained on file with other employee records.

All senior manager position descriptions, e.g. project and facility managers, etc., associated with Company Petroleum shall be reviewed and approved by the Chief Executive Officer Company Petroleum.

Project team positions, for personnel other than senior managers, shall be reviewed and approved by the Project Manager. Operations team positions, for other than senior managers, shall be reviewed and approved by the facility superintendent.

Employees shall be made aware of their responsibilities as described on their position description. New employees shall be advised of these responsibilities when joining the company. Existing employees shall be made aware of the earliest opportunity.

Position descriptions and their associated responsibilities shall be reviewed annually as part of the employee performance appraisal procedure, with particular attention being paid to the assigned responsibilities and accountabilities. The date of these reviews shall be detailed in a project’s HSSEQMP. Intermediate reviews may take place under the following circumstances:

* organisational changes (including introduction of new, or deletion of existing positions)
* work scope changes

#### CAART (Competency, Accountability, Authority, Responsibility, and Training Matrix

All responsibilities, accountabilities and authorities (other than the broad descriptions detailed in position descriptions) shall be recorded in the CAART. This register records the following details as appropriate for each position associated with Company’s operation:

* required competency levels
* authorities
* those areas (typically KPIs) for which an individual is accountable
* responsibilities for the position that may be delegated by the person having accountability
* training requirements

Each employee assigned a position for which specific responsibilities are detailed in the register, shall be required to sign an acceptance-sheet in the register to verify their understanding and acceptance of these specific obligations.

This register provides a single common reference source to which all employees may refer regarding responsibilities for HSSEQ issues.

The CAART is a controlled document. Any changes to the document will be subject to document control procedures.

#### Identification of Critical Items

An evaluation shall be carried out to identify all critical items. (Refer to Hazard Identification and Risk Management Section 8 for further details.) This evaluation will identify those employees that have responsibility associated with a critical item. These specific responsibilities shall be defined, documented in the CAART.

#### Sub-Contractors

The roles and responsibilities of sub-contractors and the HSSEQ responsibilities of the Company representative responsible for the interface between Company and the sub-contractor shall be determined and clearly documented. Details of these responsibilities shall be attached to contract documentation and the contractor made aware of their obligations at the time of order enquiry.

### Staffing Levels

An evaluation shall be performed, at least annually, to determine the minimum staffing requirements to ensure that the HSSEQMS can be efficiently and effectively implemented.

Additional evaluations may be necessary to determine staffing requirements to implement facility specific HSSEQ needs.

These evaluations shall take into account reasonable working hours, shift patterns, and other appropriate health, safety and environment considerations.

These evaluations shall be documented and include details of any appropriate skill requirements.

### Supervision

The level of employee supervision provided at the work site shall consider the hazards present at the location and safeguards in place to deal with them.

Where appropriate, systems shall be provided to control personnel and visitors entering or leaving a work site.

## Key Performance Indicators

The following KPIs apply;

* appropriate health, safety, environmental and quality management structure in place and documented
* broad responsibilities defined in position descriptions for each level of the management structure and for any support personnel
* specific responsibilities defined for all personnel responsible for the management of critical activities
* all employees advised of their health, safety, environmental and quality roles, responsibilities, accountabilities and authorities
* verification of employees understanding of their roles, responsibilities and authorities
* roles and responsibilities reviewed and maintained as a minimum annually
* sufficient personnel with appropriate skills available during normal and emergency situations
* individual’s workload is considerate of health, safety, and quality implications
* levels of supervision are commensurate with and individual’s experience, training, and the hazards present
* systems for the control of personnel entering and leaving a site implemented

## Responsibilities

#### Chief Executive Officer – Company Petroleum

Is responsible for:

* ensuring that an effective management structure is in place to implement the HSSEQMS
* ensuring that organisation charts are documented, updated as appropriate, and maintained on file (other than those associated with a project or offshore operations)
* approving organisation charts (other than those associated with a project or offshore operations)
* reviewing and approving all senior management position descriptions
* ensuring that systems are in place to control the movement of personnel at hazardous work-sites

#### Line Managers

Are responsible for:

* ensuring that organisation charts are prepared, documented, and updated as appropriate
* ensuring that a review is carried out of all proposed changes affecting personnel having responsibilities for critical HSSEQ functions to determine the impact
* ensuring that a review is carried out to identify all HSSEQ critical items, for ensuring that responsibilities are defined and documented and that the responsible person is made aware of their responsibilities
* ensuring that a CAART is produced and for reviewing and approving it
* approving the assessment of minimum staffing levels
* reviewing position description to ensure they remain appropriate
* ensuring that roles and responsibilities of sub-contractors are determine and documented and that the sub-contractor is made aware of their responsibilities
* preparing the evaluation of minimum staffing requirements for areas under their control
* ensuring that the appropriate levels of supervision are provided at each work-site
* maintaining the signed copies of position descriptions are on file
* ensuring that all new employees are made aware of their HSSEQ responsibilities

#### All Employees

Are responsible for:

* reviewing their position description and signing it to verify their understanding and acceptance of its content
* reviewing the CAART and signing the acceptance sheet where they have specific responsibilities detailed within the document

## Verification

An audit shall be carried out, at least annually, to ensure compliance with this section. The audit periods shall be specified in an audit schedule.

Compliance will be verified by:

* the existence of up to date organisation charts showing line responsibility for HSSEQ matters
* the existence of approved and accepted position descriptions for each position within the organisation
* evidence that position descriptions have been reviewed in accordance with the audit schedule
* evidence that an assessment has been carried out to determine critical items
* the existence of an approved and up to date CAART
* evidence that all employees have been advised of their HSSEQ responsibilities
* the existence of minimum staffing level assessments
* the existence of appropriate controls at work-sites for personnel/visitor access and movement
* evidence that sub-contractor responsibilities have been determined, documented and the sib-contractors advised of their responsibilities

## References

|  |  |
| --- | --- |
| Document Number | Document Name |
|  | Employee Performance Appraisal Procedure  |
|  | Competency, Accountability, Authority, Responsibility and Training Matrix (CAART) |
|  | Company Petroleum Organisation Chart |

# EMPLOYEE INVOLVEMENT AND COMMUNICATION

## Intent

To develop and maintain mechanisms whereby employees can participate effectively in the following:

* management of HSSEQ
* control of workplace hazards
* development of a facility safety case

## Performance Standards

### Consultation with HSSEQ Representatives and Committees

At each work-site the employees shall be invited to elect a HSSEQ delegate or delegates.

This representative or committee would provide an interface for HSSEQ issues between the workforce and management.

Company’s management shall consult and involve the representative or committee in the following:

* issues associated with the HSSEQMS
* proposed changes to equipment, systems, or methods of operation of plant, etc. where these may have HSSEQ implications
* proposals for the continuous improvement of health, safety, environmental and quality protection, including the setting of HSSEQ objectives, promotions, training schemes, etc.

The management is responsible for keeping the HSSEQ representative or committee informed about HSSEQ issues, and for acting as the focal point for the HSSEQ representative, or committee, to raise HSSEQ issues.

The HSSEQ representative or committee is responsible for keeping the workforce informed about HSSEQ issues and for acting as a focal point for employees to raise HSSEQ issues for resolution with senior management.

Where committees hold meetings, the issues discussed and actions taken shall be recorded.

The minutes of each meeting shall be made available to all employees at the site.

Examples of how this may be achieved include:

* posting of minutes of meetings on notice boards
* posting of minutes on the company’s computer network
* distribution by e-mail to employees

Typical agenda items for the HSSEQ committee meetings may include:

* review of previous minutes
* work related items, i.e future work and associated hazards
* accidents/near misses that have occurred since the last meeting
* review of hazardous work practices observed
* review of the HSSEQMS
* discussion of HSSEQ audit findings since last meeting
* general concerns or discussions

Additional duties of the representative or committee include:

* workplace inspections
* assisting with an investigation in the event of an accident or near miss
* familiarisation with HSSEQ information
* reporting hazards or potential hazards to senior management
* consult and co-operate with the accountable line manager on all matters regarding the safety and health of persons in the workplace and the treatment of the environment
* liase with employees regarding HSSEQ issues

### Participation

Employees shall be encouraged to:

* review and provide constructive feedback on HSSEQ policies and procedures. The document’s author will consider all constructive issues raised.
* Participate in site investigation in the event of an accident or near miss
* participate in hazard identification activities and the management of hazards (Refer to Design, Construction, and Commissioning Section 12 for further information.)
* participate in workplace inspections and audits
* provide HSSEQ input into engineering designs and the preparation of safety cases and environmental plans where these are required

To ensure positive upward flow of information and to facilitate the development of HSSEQ awareness in the workforce, the provision of HSSEQ suggestion forms, or similar, shall be considered, and an open-door policy maintained to encourage participation in the HSSEQ management process. Any actions that arise from this information shall be reviewed, and if appropriate, recorded in the EFAC tracking system and monitored for implementation and closeout.

### Communication

Employees shall be advised of HSSEQ issues. The various means of communication can include:

* HSSEQ alerts
* HSSEQ bulletins
* posting of audit findings on notice boards
* consultation with HSSEQ representatives
* verbal presentations
* HSSEQ meetings
* e-mail
* Company’s intranet site
* Client intranet/extranet sites (where applicable)
* formal memos, documents and procedures, e.g. position descriptions, hazard assessment reports, etc

Copies of all HSSEQ alerts, bulletins and HSSEQ-related minutes of meetings shall be maintained on file.

## Key Performance Indicators

The following KPIs shall apply:

* effective HSSEQ representation in place at each work-site or evidence that employees were invited to participate
* HSSEQ information distributed to employees and maintained on file for record purposes
* employee participation in all hazard identification and hazard management reviews

## Responsibilities

#### Line Managers

Are responsible for:

* inviting employees at each worksite to elect HSSEQ representatives
* ensuring that HSSEQ representatives participate in HSSEQ meetings
* ensuring that line managers are consulted by HSSEQ representatives on health, safety and environment issues through the non-conformance process
* consulting HSSEQ representatives on HSSEQ issues
* ensuring that employees are given the opportunity to participate in hazard identification and hazard management and to provide input into the engineering design and safety case preparation/maintenance

#### Regional HSSEQ Officer

Is responsible for:

* ensuring that all HSSEQ bulletins, notices, etc. are prominently displayed and copies maintained on file.

### Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* the existence of HSSEQ representatives from the workforce, or where there are none, evidence that employees were invited to elect representatives as required by local regulation
* copies of minutes of all HSSEQ meetings held on file
* evidence that management consults with HSSEQ representatives on HSSEQ issues
* evidence that HSSEQ notices, bulletins, etc. have been communicated to employees and copes maintained on file
* evidence that employees are encouraged to actively participate in the development and implementation of policies, procedures, etc
* evidence that employee participation in hazard identification, hazard management and the provision of HSSEQ input into engineering designs and safety cases

## References

|  |  |
| --- | --- |
| Document Number | Document Name |
| CAART | Competency, Authority, Accountability, Responsibility and Training Matrix  |
|  |  |
|  |  |

|  |  |  |
| --- | --- | --- |
| Document Reference  | Document Title  | Document Content  |
|   |   |   |

# RESOURCES

## Intent

To ensure that sufficient resources are made available to develop, implement and maintain the HSSEQMS.

## Performance Standards

Assessments shall be carried out during budget and planning reviews to determine the resources and skills necessary:

* for the development and maintenance of the HSSEQMS. Where necessary the services of external specialist advisors may be used.
* to effectively implement the HSSEQMS. Where personnel lack the required competency for their roles and responsibilities associated with the HSSEQMS then appropriate training will be provided.
* to audit the system to verify that it is effective and identify areas for improvement

These assessments shall be documented and used to develop implementation plan, giving due consideration to any projects being planned and their schedules.

The assessment of resources for HSSEQMS implementation shall consider the implications of:

* the need for facility-specific systems, procedures, etc
* incident investigation and reporting
* hazard identification and hazard management
* planned HSSEQ campaigns
* training programmes
* the provision of personal protective equipment
* emergency response team participation and facilities
* audits
* non-conformances identified
* formal health, safety, environmental and quality assessments
* the development, and ongoing maintenance, of safety cases
* input into the development, and ongoing maintenance of, environmental plans
* maintaining familiarity with legislation and the impact of changes to regulations
* HSSEQ representatives
* HSSEQ meetings
* the development and maintenance of HSSEQ information libraries
* contracted responsibilities to clients
* regulatory compliance
* HSSEQMS-related continuous improvement initiatives

The assessments shall be carried out by a resource assessment team. As appropriate, this team could comprise:

* Chief Executive Officer
* line managers
* regional HSSEQ officer

Additional, specialist, input may be sought from other sources including:

* other employees including HSSEQ representatives
* health, safety, environmental, and quality advisors
* medical practitioners
* occupational hygienists
* inspection and testing specialist

## Key Performance Indicators

The KPIs for this section include:

* realistic and practical funding and manpower budgets
* provision of competency-based assessment and training
* effective emergency response arrangements
* timely development and implementation of the HSSEQMS
* evidence of the continuous improvement of the HSSEQMS

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that annual resource assessments for CompanyPL are carried out
* ensuring that adequate resources are made available to develop, implement and maintain the HSSEQMS

#### Line Managers

Are responsible for:

* ensuring that annual resource assessments are carried out for each project/facility
* ensuring that adequate resources are made available to develop, implement, and maintain the project/facility HSSEQMPs
* determining any deficiencies in skills and competencies among the workforce, and for the determining the need for training
* carrying out and documenting the resource assessment.

#### Regional HSSEQ Officer

Is responsible for:

* providing or organising any training needed
* ensuring that all training requirements are listed on the training matrix

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedules.

Compliance with this section will be verified by:

* the existence of annual resource assessments
* evidence that adequate resources have been made available to ensure the effective development, implementation and maintenance of the HSSEQMS
* interviews with personnel

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|   |   |

# HAZARD IDENTIFICATION AND RISK MANAGEMENT

## Intent

To develop, implement and maintain procedures for the effective identification and management of hazards associated with health, safety and the environment using appropriate techniques.

## Performance Standards

### HSSEQ Goals

HSSEQ goals shall be set for each project/facility.

These goals shall be designed to focus effort during the design, construction and operational phases toward eliminating all significant risks to personnel and the environment where reasonably practicable.

These goals shall be adopted from the beginning of the design phase and be divided into three groups:

* safety goals
* environmental risk goals
* environmental impact goals

The HSSEQ goals shall apply to the entire life of the facility, but shall be regularly reviewed and updated if appropriate.

#### Safety Goals

Safety goals place emphasis on the elimination of hazards to personnel as follows:

* eliminate or minimise the hazard
* prevent realisation of the hazard
* prevent escalation of an accident event
* minimise exposure of personnel to hazards
* ensure personnel can reach a place of safety in any credible accident event

The last goal may be further divided into seven sub-goals, designed to identify and eliminate hazards during escape, use of temporary refuge, evacuation and rescue facilities. These seven sub goals are:

* all personnel, in any area of the facility, shall be promptly made aware that an incident has occurred and that they need to immediately escape to a place of temporary refuge, or to perform an immediate emergency evacuation
* sufficient alternative means of escape shall be provided to ensure that personnel can escape from any area of the facility to a place of temporary refuge in any credible accident event without undue risk of fatality
* a place, or places, of temporary refuge shall be provided, where appropriate. It shall remain habitable under all credible accident events for sufficient time as is required to enable personnel to muster, monitor and control the incident, communicate with all personnel and perform a controlled evacuation of the facility should it become necessary
* all facility personnel and external rescue services, shall be promptly made aware of any decision to abandon the facility
* sufficient alternative means of evacuation shall be provided to ensure that all personnel can evacuate from places of temporary refuge and evacuate the facility in a controlled manner, in all credible accident events, without undue risk of fatality
* alternative evacuation facilities shall be provided at convenient locations, where appropriate, to facilitate rapid uncontrolled evacuation of the facility as a contingency against unforeseen impairment of the normal TSR facilities
* adequate means of rescuing the entire POB, and promptly transport them to a place of safety, without undue risk of fatality, shall be provided

#### Environmental Risk Goals

These goals shall be designed to focus effort during the design, construction and operational phases to ensure that a facility does not cause damage to, or deterioration of, the environment.

The principle followed is that of elimination of hazards, wherever practicable and of reducing environmental risk to ALARP. The goals are:

* eliminate or minimise hazards to the environment
* prevent realisation of hazards to the environment
* prevent escalation of an environmental accident
* minimise exposure of the environment to hazards
* ensure emergency response measures are in place to minimise or eliminate impacts to the environment

#### Environmental Impact Goals

Environmental-impact goals follow the same principle as those of environmental risk with the priority being to eliminate any adverse impacts to the environment. These goals are:

* eliminate or minimise emissions and discharges to the environment
* eliminate or minimise changes to the project site and surrounds
* optimise timing and duration of activities to minimise, or eliminate, impacts to the environment
* reduce the severity of changes resulting from emissions and discharges to minimise impacts to the environment
* minimise, cumulative effects of site changes, emissions and discharges
* eliminate or minimise, exposure of the environment to impacts
* use of hazardous chemicals to be minimised, and least hazardous option to be selected wherever practicable.

#### Environmental Performance Objectives, Standards, and Criteria

Refer to Section 9.2.1

### Timing

Hazard identification, analysis and assessment shall, wherever practicable be carried out, and management plans implemented prior to the introduction of a hazard. This is to ensure that the actions have been taken to minimise risk before a phase of operation commences.

Examples include the review of:

* office or site hazards and implementing hazard management plans prior to the presence of employees at the workplace
* a facility’s hazards at the design stage, to ensure that any engineering solutions are incorporated into the design prior to the completion of construction, and to ensure that procedures etc. are in place prior to the commencement of any operations requiring them
* potentially hazardous tasks and the implementation of appropriate controls, before a task or project commences
* future activities, e.g. product offloading, installation of additional equipment, abandonment, etc. and the implementation of appropriate controls, before the activity commences

In addition to the above, hazard reviews shall be also undertaken under the following situations to determine any changes to the hazards previously identified:

* prior to a planned major change to a facility, operation, or HSSEQMS
* following a major incident
* as a result of industry experience that impacts Company’s operations
* prior to the introduction of any major new activities or simultaneous operations
* annual hazard review
* changes to operating parameters
* regulatory changes

### Hazard Identification

Hazard identification shall be carried out to identify all health, safety and environmental hazards associated with Company’s operations.

Various techniques shall be used as appropriate including:

* hazard identification reviews, (HAZID)
* job safety analysis (JSA)
* tool box meetings
* hazard and operability studies (HAZOP)
* ‘what if?’ analysis
* check lists
* human factor analysis

In addition to the above techniques, hazards may be identified as a result of:

* safety reviews
* audits
* incident investigations
* industry experience
* safety bulletins
* safety alerts
* operational experience

The techniques used shall be appropriate to the situation under consideration. The use of simple checklists may be sufficient in situations where only occupational hazards exist, while the design of modifications, or the operation of a facility, etc. will require the use of a number of techniques to ensure all hazards are identified.

The table below provides guidance on the selection for use of the available techniques.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Situation  | Hazid | Jsa | Tool Box | Hazop | What If? | Checklist | Human Factor |
| Office Hazards  |  |  |  |  |  | + |  |
| Fabrication Sites  | + | + | + |  |  | + |  |
| Day-To-Day Workplace Inspections  |  |  |  |  |  | + |  |
| Facility Design Phase  | + | + |  | + | + | + | + |
| Facility Commissioning Phase  |  | + |  |  |  | + |  |
| Facility Operational Phase  |  | + | + |  |  | + |  |
| Maintenance Activities  |  | + | + |  |  | + |  |
| Significant Modifications To A Facility  | + | + |  | + | + | + | + |
| Facility Abandonment  | + | + |  | + | + | + | + |

#### HAZOP Studies

HAZOP studies shall be carried out on the design of a facility’s process and utility sytems during the design phase. All hazards identified during these studies shall be incorporated into a hazard register.

#### Job Safety Analysis

Job safety analysis is an effective tool for the identification and control of hazards during operation and maintenance activities. Its use is not restricted to novel or non-routine operations. The selection criteria of jobs for analysis includes:

* non-routine tasks - in order to identify potential hazards that may not be readily apparent
* jobs where iEFACeased hazards are perceived to both personnel and the environment
* jobs having a poor accident record
* new or changed work practices, or where the use of new equipment is required
* jobs having a potential for the pollution of the environment

JSA may be used to evaluate any proposed work methods, or sequence of operations that are not documented in existing work instructions or maintenance procedures. The results of the JSA are then used to modify these activities to achieve a safe and efficient procedure for the work and to ensure that all necessary precautions are taken before the job commences.

The hierarchy of hazard/risk controls available for consideration during the JSA are as follows:

* eliminate the hazard
* re-engineer the work by changing the sequence of operations or using different tools
* impose administrative controls, by changing the work practice or adopting different procedures
* provide personal protective equipment

Where relevant, the results of a JSA are fed back into work instructions and procedures and these revised and reissued accordingly. The results of a JSA are also discussed at the toolbox talks that precede the work itself.

#### Toolbox Talks

Toolbox talks are an effective and informal means of communication between personnel engaged in new or ongoing tasks. Information may be communicated about the work in hand and other activities or operations on the facility that may impact the personnel involved.

They are an appropriate forum for discussion of JSA findings, review and discussion of the hazard register, imparting information about the progress of an ongoing task, reviewing the limitations of a work permit, etc.

Toolbox talks shall be conducted whenever maintenance tasks are undertaken or when shifts are changed before a task is completed. They shall also held at any other time deemed necessary to facilitate communication among maintenance or operations personnel.

The task supervisor shall conduct the toolbox talks. Guidance on their content and format is provided by a series of prompts given in the toolbox talk task supervisor’s prompt card.

#### Qualitative Risk Ranking

Qualitative risk ranking shall be undertaken during hazard identification studies to screen hazards for further assessment. The frequency and consequences of each hazard shall be assessed on the basis of engineering judgement by the project / operations team and in accordance with the risk matrix referenced at the end of this section.

Hazards that the team agree are low risk in accordance with the matrix, are not carried forward for further analysis within the hazard assessment process. They may still be subject to hazard management recommendations by the HAZID team, however. Hazards that are considered to result in an intermediate or high, risk are taken forward for further analysis and screening within the hazard assessment process.

### Hazard Register

A hazard register shall be developed for each worksite or project. The register shall record the following details:

* activity or system
* hazard
* hazard initiation factors
* credible consequences
* control measures to be applied
* references to hazard control procedures to be applied
* reference to associated hazard assessment documentation
* estimation of the likelihood that the hazard will materialise

The register forms a reference source for the life of the worksite/facility. The document is a valuable source of information when considering opportunities for continual improvement. Where appropriate, such as for a single discrete activity that is not part of a greater scope, a JSA will suffice as a register of hazards.

The register shall be updated throughout the life of a facility, whenever any additional hazards, or changes to existing hazards, are identified as a result of the various techniques described above that will be used to identify such hazards.

### Hazard / Risk Assessment

Risk assessment studies shall be carried out, as a minimum, wherever a fatality, serious injury / health effect to a person, serious damage to the environment or company assets is shown to be a credible consequence of a hazard.

In addition to this minimum requirement, risk assessment studies shall also be carried out for all projects and operations regardless of whether there is a requirement for a safety case to be prepared

An initial qualitative assessment shall be made of all hazards identified for the worksite to screen out those that are considered to have negligible impact from those requiring further detailed analysis.

Hazards remaining after the initial screening process will be subject to further analysis and the options for the reduction of the risk from each hazard are to be considered in the following order of preference:

* hazard elimination
* substitution of a less hazardous alternative solution
* control
* mitigation

Assessment shall be carried out to determine the likelihood of a hazard occurring and to estimate the risk to individuals, property and the environment. The estimated risk shall then be compared to the applicable risk acceptance criteria. These are described in Section 7.2.6.

Depending on this comparison, the following actions shall be taken:

|  |  |
| --- | --- |
|  Level of Risk  | Action Options  |
| Greater than maximum acceptance criteria  | Remove hazard or do not perform task Substitute an alternative solution with lower risk  |
| Greater than level at which risk is considered negligible but less than, or equal to, maximum acceptance criteria.  | Review hazard and apply appropriate controls to reduce the risk to As Low As Reasonably Practicable.  |
| Less than or equal to level at which risk is considered negligible  | No action required.  |

The particular studies that would be undertaken will depend on the project scope. The regional HSSEQ officer will be responsible for determining the scope of studies necessary.

Typical risk assessment studies are detailed in the following table:

|  |  |
| --- | --- |
| Study  | Scope  |
| Credible Fire & Explosion Study  | This study considers and estimates the following: * number and magnitude of flammable releases
* credible fire sizes and durations
* credible explosion overpressures
* heat radiation loads
* escalation mechanisms
* effect on structures
 |
| Gas and Smoke Ingress  | This study considers and estimates the following: * volumes, size and dispersion of paths of gas clouds
* volumes of smoke generated and its dispersion
* likely ingress routes of gas and smoke to areas of interest
 |
| Vulnerability Of Critical Emergency Systems  | This study considers and estimates the following: * determines those systems considered critical under emergency conditions
* assesses the time and conditions, for which they are required to operate
* evaluates the credible failure mechanisms
* evaluates the scenarios to which they are vulnerable and the likely time to failure
 |
| Escape, Evacuation and Rescue  | This study considers and estimates the following: * available escape and temporary refuge provisions
* available evacuation and rescue facilities
* evaluates the scenarios to which these are vulnerable
* assesses the availability of at least one escape route under all credible scenarios
* evaluates the suitability of the systems provided
 |
| Temporary Refuge Integrity  | This study considers and estimates the following: * assesses the time, and conditions, for which the TR is required to maintain its integrity
* evaluates the credible failure mechanisms
* evaluates the scenarios to which it is vulnerable and the likely time to failure
 |
| Non-Flammable Hazards  | This study considers and estimates the following: * credible consequences from all hazards that do not originate from the release of flammable materials, e.g. ship collision, dropped objects, environmental, transportation, towing, installation, diving, structural failure, etc.
* escalation mechanisms
 |
| Simultaneous Operations  | This study considers and estimates the following: * hazards resulting from simultaneous operations
* assesses the credible consequences
 |
| Start-up/Shut-down  | This study considers and estimates the following: * hazards associated with the starting up and shutting down, of plant
* assesses the credible consequences
 |
| QRA  | Qualitative Risk Assessment will be performed to identify the statistical potential of risks resulting in a major incident.  |
| ALARP  | This study evaluates each hazard and the options for its control, and mitigation, to ensure that the risk is ALARP.  |

In addition to the above studies, others may be undertaken to evaluate particular issues as they occur.

### Risk Acceptance Criteria

Company have adopted risk acceptance criteria that have been shown, by industry experience, to be both widely acceptable to peer organisations and to the general public, and practical in use. Although these criteria define the limits of acceptability, every effort will be made to reduce all risk to ALARP.

The criteria are associated with the risk to an individual. The risk is specified as the individuals risk per annum (IRPA), and is the sum of all risks to which the individual is exposed, excluding those outside the company’s working hours.

These criteria shall not be exceeded under any circumstances.

Additional criteria may be adopted for a particular project. An example of such criteria are those related to group risk. This considers the number of fatalities in any one major accident event and sets limits on the potential frequency of the event in inverse proportion to the number of personnel affected. These criteria represent societal aversion to multiple fatality incidents.

The criteria are detailed in the following table:

|  |
| --- |
| Risk Acceptance Criteria |
| Number of Fatalities | Annual Frequency |
| Maximum Tolerable | Acceptable if ALARP | Negligible |
| One | 1x10-3 | <1x10-3 to >1x10-6 | <1x10-6 |
| Groups up to 5 | 2x10-4 | <2x10-4 to >2x10-7 | <2x10-7 |
| Groups up to 10 | 1x10-4 | <1x10-4 to >1x10-7 | <1x10-7 |
| Groups up to 25 | 4x10-5 | <4x10-5 to >4x10-8 | <4x10-8 |

### Hazard/Risk Management

Hazard Control

Risk reduction shall be carried out during the initial project design and also for all major modifications, to ensure that the risks are ALARP. Options for risk reduction shall be identified by a multi-discipline work-group brain-storming the various options to determine the potential benefits, limitations and to assess reasonable cost estimates for each option. This process shall be documented and a copy maintained on file for audit purposes.

Once this assessment has been carried out, the likely reduction in risk that each option will achieve shall be determined and the options will be ranked in order of preference (refer to section 7.2.9.).

The options shown to be beneficial shall be incorporated into the design, or procedures, etc. in the order of their ranking. The actions shall be recorded in EFAC for monitoring purposes. The actions shall not be closed out in this tracking system until the action is completed.

Responsibilities for the various actions shall be allocated and also recorded in EFAC, together with the date the action was raised and the required completion date.

The preference for risk reduction options follows the following hierarchy:

* hazard elimination
* substitution of a less hazardous alternative solution
* control
* mitigation
* recovery

Examples of the above options include, but may not be limited to:

* removal, or prevention of the initiation mechanisms
* prevention, or minimisation of escalation mechanisms
* minimisation of exposure by insertion of barriers between incident source and the recipient of its effect, (recipients may be personnel, equipment, structure, environment, etc.)
* provision of control mechanisms, e.g. water spray systems, passive fire protection, fire/explosion barriers, ESD systems, etc.
* provision of alarm and escape mechanisms for personnel to enable them to reach a place of safety, e.g. alarm sounders, alarm lights, escape routes, Temporary Refuges, evacuation equipment, personal protective equipment
* provision of recovery mechanisms, e.g. oil spill recovery equipment

Details of various control measures implemented shall be documented. Examples of documents suitable include:

* manual of permitted operations
* process safety flow schemes

#### Event, Finding, Action, Change (EFAC) Register

This is a computerised system used to list all HSSEQ related actions as well as any other non-conformance. The system shall be used to track the status of each action until it has been closed out. The system records the following details for each action:

* unique reference number
* description of the action
* action assignee
* anticipated date of completion
* current status

The EFAC is administered at the corporate level. The responsible line manager is accountable for the management and closeout of actions under his control.

#### Process Safety Flow Schemes

Process safety flow schemes shall be developed for each project showing where safeguarding elements are situated in relation to the process. These elements include all those sensors, detectors, isolation and blowdown valves and other hardware that form a dedicated part of the fire and gas / ESD / blowdown system, i.e. that which is provided over and above the process control system.

#### Emergency Response

All hazards that have the potential to become major accident events shall be addressed in an emergency response procedure as well as being recorded in the hazard register. Risk control measures shall be described in the emergency response plan that minimise the risk to personnel under these extreme events (refer to First Aid and Emergency Response Section 20 for further information).

#### Routine Operations

Routine operations refers to one, two or more discrete operations that are to be undertaken at the same time on, or in connection with the operation of a facility. Examples include, but are not limited to:

* normal production operations conducted simultaneously with helicopter landing/take-off operations
* offloading operations carried out simultaneously with helicopter landing/take-off operations
* production operations conducted simultaneously with crane lifts, etc

An assessment shall be carried out to identify the anticipated simultaneous operations. Each of these shall then be evaluated to determine any additional hazards that may occur as a result of carrying out the operations at the same time.

The result of this analysis is:

* a list of operations that are permitted to be carried out simultaneously, with details of any additional hazard controls that are required to be implemented
* a list of operations that cannot be carried out simultaneously, due to the level of increased risk

All simultaneous operations shall be described in the Manual of Permitted Operations and controlled by the permit to work system.

If a need arises to carry out simultaneous operations that have not been previously evaluated, then a review of the potential hazards shall be carried out prior to commencement of the task using JSA.

#### Manual of Permitted Operations [MPO]

A manual of permitted operations shall be developed that defines those operations that may be undertaken at a facility when certain control or response mechanisms are unavailable. Control or response mechanisms include all those systems, procedures and equipment that are required to function under emergency conditions to prevent, mitigate, or control the consequences from a particular hazard. For example, the non-availability of a firewater pump, which is an item of safety critical equipment, will result in a restricted set of operating parameters. The MPO shall also include any routine operations described above.

#### Simultaneous Operations

Simultaneous operations is the term used to describe operations carried out on a facility, at the same time as those on a separate facility, where the operation on one may impact the other. Examples include, but are not limited to:

* drilling or well related operations by a separate drill rig
* diving operations by a diving support vessel
* pipelaying operations by a pipelaying spread

To ensure that an appropriate evaluation is carried out of the potential risk from simultaneous operations, all contractors and operators of the other facilities, shall be required to provide the following details showing how their operations are to be controlled:

* HSSEQ management system
* details of planned operations
* procedures to be used to control the work
* emergency response plan and procedures

A hazard identification review shall be carried out with representatives from all relevant parties and the results used to develop a combined operations plan and any appropriate bridging documents.

Where risks are identified these will be quantified and reduced to ALARP.

#### Cost Benefit Analysis

Cost Benefit Analysis (CBA) shall be used to determine whether a hazard has been reduced to ALARP and provides a means of ranking the various options.

This analysis considers the various options for reducing and eliminating a hazard and assesses both the monetary cost associated with the implementation of the option and the reduction in risk achieved.

A calculation is then performed that produces a comparative cost per life saved for each option, over the life of the facility or worksite. This is the “implied cost to avert a fatality” or ICAF.

The CBA formula to be used is:

|  |  |
| --- | --- |
| ICAF = | capital expenditure + operating expenditure over facility life |
| number of lives saved per year x facility life |

ICAF figures are then compared to the table below, which is used as a preliminary screening tool to determine those options that are worth further consideration.

|  |  |
| --- | --- |
| Cost To Avert One FatalityUS$ | Assessment |
| 1,000  | Highly effective, always implement  |
| 10,000  | Effective, always implement  |
| 100,000  | Effective, implement unless risk is negligible  |
| 1,000,000  | Consider – effective if individual risk levels are high  |
| 10,000,000  | Consider at high individual risk levels or when there are other aspects  |
| >10,000,000  | Ineffective  |

After this initial screening, the options shown to be effective are ranked in the order of lowest ICAF to highest ICAF. The option with the lowest ICAF figure is then subjected to further consideration to evaluate any other factors that may influence the decision and if considered practicable is recommended for implementation.

The remaining options are then assessed once again to determine any additional risk reduction that may be achieved by their subsequent implementation and the cost-benefit calculations and comparison repeated.

### Competency

Persons with the appropriate experience and competency shall carry out risk assessment.

### Records

Records shall be maintained of the following:

* hazard Identification
* JSA’s carried out
* hazard register
* HSSEQ studies
* risk reduction options and assessment
* CBA
* ALARP assessment
* changes
* critical items register

### Critical Items

An assessment shall be carried out to determine the various items that are critical to the protection of lives, or the environment, by the prevention, control, or mitigation of hazardous events.

These critical items may include:

* individuals in positions where they are directly responsible for actions that could impact on the health and safety of employees, or the environment, e.g. members of the emergency response team, risk engineers, HSSEQ officers, maintenance personnel, line managers, etc.
* items of equipment, e.g. relief valves, well control systems, lifeboats, fire-walls, etc.
* systems; e.g. fire detection and protection systems, emergency shutdown, general alarm
* procedures; e.g. safe working procedures, permit to work procedures, etc.
* documents; e.g. maintenance manuals, emergency response manual, etc

It is important when carrying out this assessment that only items that have a direct influence of the prevention or control of an incident are classified as critical. If items are incorrectly classified as critical then this will impose an unnecessary burden on the subsequent control and management of critical items. Since the classification is subjective it is essential that it be carried out by individuals with appropriate experience. (Refer to Employee selection, competency, and training section 19 for details.)

A Maintenance and Integrity Management Manual shall be produced for each project / facility, listing all safety critical equipment on the facility. The plan shall specify the intervals at which testing should be conducted to ensure that the technical integrity defined during the design phase is maintained. The formal safety assessment for the facility is linked to the Maintenance and Integrity Management Manual; for example, the FSA uses the test intervals defined in the asset reference plan to determine the fractional dead time of fire and gas detection systems and hence their unavailability under emergency conditions.

### Communication of Risk to Employees

Employees shall be made aware of the company’s risk management systems and their individual responsibilities for reporting any new hazards and for complying with any risk control measures associated with their work activities.

Employees shall be advised of the estimated level of risk to which they are exposed at each work site.

Personnel shall also be kept informed of any additional hazards as they are identified or where hazards are no longer present.

The method by which this information is communicated will vary, depending on the size of the workforce, and the hazards present. The project manager/facility superintendent, in consultation with the regional HSSEQ officer, will determine the most appropriate means of informing the workforce.

Options include:

* formal presentation of hazards identified, hazard control measures introduced, and estimated levels of risk
* posting of details on a notice board (including Sharepoint)
* e-mail
* HSSEQ-related newsletter

Records shall be maintained of the information presented and personnel informed.

### Changes in Status of Risk Control Measures

Where it is necessary to change the status of risk control measures, the implications shall be assessed. All affected personnel shall be informed that the change is to take place and the implications explained.

Examples of changes in status include but are not limited to:

* removal of a fire pump for maintenance
* temporary isolation of a general alarm
* inhibits applied to fire, smoke or gas detectors during maintenance or testing activities

### Reviews

Refer to Section 25 Audit and section 26 Review and Improvement for details of audits associated with the HSSEQMS for further information.

#### Design Review

Design reviews shall be carried out during the detailed design phase and prior to completion of the construction phase, to confirm that all project HSSEQ goals, performance standards and design requirements have been met.

These reviews shall also confirm:

* requirements of previous reviews, HAZOP studies and any other HSSEQ recommendations have been incorporated
* all safety, and environmental protection, systems are in place and operational prior to start-up

The following are typical reviews that may be carried out during the design phase of a project:

* feasibility HSSEQ review
* technical HSSEQ review
* design audit
* pre-start-up audit

These reviews are incorporated in the Company Petroleum Development System (project development process). (Refer to section 12.2.6 Design Reviews for further information.)

#### System effectiveness

Regular reviews shall be carried out to ensure that the hazard and risk control measures have been and continue to be, implemented effectively. These reviews shall be documented, and maintained on file as evidence for audits.

#### Hazard review

Hazards shall be reviewed at various times throughout the lifecycle of a facility or workplace. In addition to the initial hazard review, subsequent re-evaluation shall take place to identify any new hazards that may have been introduced, or hazards that are no longer present.

These reviews shall be carried out by persons having appropriate experience and competence.

Examples of situations when additional reviews are necessary include but may not be limited to:

* planned major change by operator
* following a major incident, by operator or industry
* industry experience
* scheduled review (e.g. annual facility hazard review)

### Personal Protective Equipment

Personal protective equipment may be issued as part of the hazard / risk control measures.

It is the responsibility of all employees to wear the appropriate equipment when carrying out the various tasks and activities for which they are required.

The circumstances and locations where PPE shall be worn will be identified by the display of suitable signs at the workplace, or shall be detailed within procedures, permit to work system, maintenance procedures, task descriptions, etc.

## Key Performance Indicators

The following KPIs shall apply:

* hazard identification carried out for all workplaces and projects prior to the introduction of personnel
* hazard registers produced and maintained throughout the life of the workplace or project
* appropriate hazard and risk assessments performed and control measures identified
* the risk from hazards demonstrated to be ALARP
* all personnel advised of the hazards and control measures applicable to their area of work
* appropriate personnel advised if there is any change of state to control measures
* regular reviews carried out to ensure that the required control measures are being implemented and are effective
* regular hazard reviews carried out to ensure that any additional hazards are identified
* PPE requirements identified by signage, or detailed within procedures, etc.
* regular inspections carried out to ensure PPE is being worn
* assessment of critical items performed
* Non-conformance register implemented and actions monitored until closed-out

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that: appropriate hazard assessment, hazard consequence analysis, and risk control measures are carried out for each worksite and facility under the control of Company Petroleum
* ensuring that appropriate risk assessment studies are carried out in accordance with the requirements of the Company Petroleum HSSEQMS
* approving the risk acceptance criteria for Company Petroleum
* ensuring that regular reviews are carried out at each worksite and facility to establish the effectiveness of hazard and risk control measures
* ensuring that hazard reviews take place for each worksite and facility

#### Project Manager /Facility Superintendent

Are responsible for:

* ensuring that a hazard register is maintained for each worksite and facility under the control of Company
* ensuring that risk assessment is only carried out by persons with appropriate experience and competency
* ensuring that employees are made aware of the company’s risk management systems and their associated individual responsibilities
* ensuring that all necessary hazard identification, consequence analysis, risk assessment and risk control measures are implemented on a project under their control
* approving which risk control measures are to be implemented on the project
* ensuring that an assessment is carried out to determine the critical HSSEQ items associated with a project
* determining the most appropriate means of communicating risk information to employees, in consultation with the safety officer
* ensuring that requirements for the use of PPE are complied with
* ensuring that all affected personnel on a facility are advise if a change of status occurs to any risk control measure

#### Line Managers

Are responsible for ensuring that all hazard control measures are implemented for the work activities that they are responsible for.

* ensuring that all hazard control measures are implemented for the work activities that they are responsible for

#### Regional HSSEQ Officer

Is responsible for:

* communicating the risk information to employees in accordance with the requirements of section 8.2.12 above – Communication of risk to employees.

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section shall be verified by:

* documented evidence that hazard identification has been carried out for all workplaces and projects
* the existence of hazard registers
* the existence of hazard and risk assessments
* documented evidence that hazards can be demonstrated to be ALARP
* documented evidence that all personnel have been advised of the hazards and control measures applicable to their area of work
* documented evidence that appropriate personnel have been advised if a change of state to control measures occurred
* documented evidence that regular reviews have taken place to ensure control measures are being implemented and are effective
* documented evidence that regular hazard reviews have taken place
* the existence of signs or details in procedures showing requirements for PPE to be worn
* evidence that regular inspections have taken place to ensure PPE is being worn where required
* the existence of appropriate critical items registers
* evidence that non-conformances are recorded and actions tracked until closeout

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Job Safety Analysis Procedure  |
|  | JSA Worksheet  |
|  | Prompt Card Tool-box Meetings  |
|  | HAZID Procedure  |
|  | HAZOP Procedure  |
|  | Risk Assessment and Risk Management Matrix |
|  | Tool-box Talk Prompt Card  |
|  | Toolbox Talk Task Prompt Sheet  |
|  | Procedure for ‘What-if’ assessment  |
|  | Procedure for Failure Mode & Effect Analysis  |
|  | Human Factor Assessment Procedure  |
|  | Hazard Register Procedure  |
|  | Hazard Analysis Procedure  |
|  | Cost Benefit Analysis Procedure  |
|  | FSA Studies Methodology  |
|  | Procedure for ALARP studies  |
|  | Procedure for Critical Items Assessment  |
|  | Manual of Permitted Operations  |
|  | Process Flow Schemes  |
|  | Simultaneous and Combined Operations  |
|  | Permit to Work Procedure  |
|  | HSE Goals, Performance Standards and Design Requirements.  |
|  | Hazard Identification Report  |
|  | Hazard Register  |
|  | Coarse HAZOP Study  |
|  | Initial HAZOP Study  |
|  | Detailed HAZOP Study  |
|  | Fire Risk Analysis  |
|  | Smoke & Gas Ingress Analysis  |
|  | Emergency Systems Survivability & Availability Analysis  |
|  | Escape, Temporary Refuge, Evacuation and Rescue Analysis  |
|  | Ship Collision Analysis  |
|  | Dropped Object Analysis  |
|  | Quantitative Risk Analysis  |
|  | ALARP Analysis  |
|  | Safety Case  |
|  | Start-up HAZOP Study  |
|  | Facility Simultaneous Operations Drilling Bridging Document  |

# OBJECTIVES, PLANS & PERFORMANCE STANDARDS

## Intent

To establish, implement, maintain, monitor measurable and achievable health, safety, environmental, quality objectives, plans and performance standards consistent with Company and Company’s policies.

## Performance Standards

### Objectives

Company Petroleum operate a Management By Objectives (MBO) programme for setting business and HSSEQ goals. This system of setting measurable goals based on continuous improvement (CI) focuses on measuring “what was planned vs. what was accomplished.” Continuous review and improvement of all aspects of HSSEQ performance is a key element of this MBO process.

Objectives should aim to achieve continuous improvement in the effectiveness of the management of health, safety, environmental protection, and quality.

#### Region

Health, Safety, Environmental, and quality objectives are set annually and approved by the Chief Executive Officer Company Petroleum.

### Planning

#### HSSEQMP

A Health, Safety, Environmental, and Quality Management Plan shall be prepared for each project or operation. It shall address all actions associated with meeting the requirements of the Company Petroleum HSSEQMS (this document) and other project specific objectives.

#### Annual HSSEQ Objectives

The Chief Executive Officer Company Petroleum shall develop annual objectives during the operational phase of a project that are consistent with Company requirements.

 The annual objectives shall take into account:

* assigned priority of actions associated with meeting the annual HSSEQ objectives
* available resources

Objectives are either long term i.e. taking several years to complete, or short term, i.e. planned to be complete within a 12 month period.

Wherever practicable, objectives that are expected to take longer than 3 months to complete shall have intermediate targets to enable effective monitoring of their progress to take place.

Responsibilities and accountabilities shall be specified for meeting the set objectives.

The HSSEQMS will be updated where changes occur to the required performance standards, or where monitoring and audits identify that changes are necessary to achieve an effective system.

### Monitoring

Regular meetings shall be held to discuss and monitor progress against the target dates of the annual objectives.

Records shall be maintained of these meetings.

These records will be used for the annual assessments of each individual’s performance.

Wherever practicable, monitoring shall be carried out to assess the benefit obtained as a result of the set objective being incorporated. Examples of such improvements are:

* reduction in number of eye injuries reported
* improved quality of incident reporting
* reduced impact on the environment
* fewer breaches of permit system requirements
* reduced number of non-conformances identified by audits
* reduced number of annual lost time injuries

### Communication

The details of objectives, the plans for achieving them and the level of achievement reached shall be regularly communicated to all applicable employees, and other interested parties.

This may be achieved by:

* notices displayed on notice boards
* HSSEQ updates circulated by e-mail
* regular HSSEQ presentations by management to employees

## Key Performance Indicators

KPIs for this section include:

* annual objectives set prior to the start of each year
* HSSEQ plans developed that incorporate all objectives
* progress monitored against objective’s target dates
* objectives closed out in a timely manner where practicable

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that annual objectives are established in connection with Company’s activities
* approving the annual objectives
* ensuring that an annual HSSEQ management plan is developed to address all annual objectives, and for approving the plan
* ensuring that a quarterly meeting is held to monitor progress against the plan
* ensuring that annual objectives are established in connection with a facility’s operations
* approving the annual HSSEQ objectives for the facility
* ensuring that an annual facility specific HSSEQ management plan is developed to address all annual facility specific objectives, and for approving the plan
* ensuring that a quarterly meeting is held to monitor progress against each facility HSSEQ management plan
* providing a three month presentation to employees on progress against objectives

## Verification

Compliance with this section will be verified by:

* documented evidence that annual objectives have been set and prioritised
* the existence of HSSEQ plans that includes all objectives and which assigns responsibilities for their completion
* evidence that regular monitoring of performance against the set objectives is carried out
* evidence that employees are kept informed of the annual objectives and the progress of achievement against them

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|   | MBO Procedure  |
|   | MBO Objectives  |

# SOURCES OF INFORMATION

## Intent

To develop, implement and maintain procedures for the identification, collection, review and dissemination of information and standards relevant to the management of health, safety, environmental and quality objectives throughout the company’s operations.

## Performance Standards

The regional HSSEQ officer shall be responsible for the identification and collection of relevant HSSEQ information. This information will include but may not be limited to:

* legislation and amendments
* industry standards
* relevant equipment/product information
* hazardous material handling instructions
* safety bulletins
* codes of practice
* incident and hazard data
* safety alerts

The regional HSSEQ officer is responsible for ensuring that employees have access to, and are familiar with, the requirements of all relevant legislation or other HSSEQ information associated with their specific workplace or project. He/she is also responsible for ensuring that all other personnel at the workplace or on the project who may be affected by the information are advised.

## Key Performance Indicators

The following KPIs apply:

* all relevant HSSEQ information is made available for a project or workplace
* end-of-month incident frequency summary report to be distributed to all Company sites

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that a system is established for the collection of relevant HSSEQ information

#### Regional HSSEQ Officers

Is responsible for:

* the identification, and collection, of relevant HSSEQ information
* ensuring that all interested parties have access to, and are familiar with, the requirements of all relevant legislation, or other HSSEQ information associated with their specific workplace, or project

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section shall be verified by:

* evidence that all interested parties are advised of HSSEQ information that affects them in their work
* the existence of records maintaining applicable HSSEQ information, e.g. HSE alerts, HSE notices, etc.

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|   |   |

# MANAGEMENT SYSTEM DOCUMENTATION

## Intent

To develop and maintain an accessible and documented HSSEQMS that is effectively integrated with other company systems.

## Performance Standards

### Availability of documentation

The HSSEQMS, and its supporting procedures, standards, etc. are maintained in electronic format for ready access by employees.

This system enables employees to obtain “read only” access to the latest revisions of HSSEQMS documents. Hard copies of the documents may be printed off by any individual, but these immediately become uncontrolled copies. Whenever any individual requires access to a controlled copy, then they must access the electronic system.

### Document structure

Company’s HSSEQMS is structured on three levels. Level 1 comprises the Company HSSEQ policy that define, in broad terms, the ‘high level’ requirements applicable to all its international operations.

Supporting this Level 1 document, Company Petroleum has developed a Level 2 HSSEQMS (this document) that describes the company’s HSSEQMS and associated standard procedures, and the level 3 HSSEQ management plans, plan-specific procedures and supporting documentation that (i.e. standards, drawings, risk assessments, etc).

All procedures shall clearly identify the following:

* the intent of the procedure
* what has to be done
* how it has to be done
* who is responsible for doing it
* where it has to be done
* when it has to be done
* why it has to be done
* the performance standards that apply
* the acceptance criteria that will be used to judge acceptability
* the means by which compliance with the procedure is to be verified

Each project undertaken by Company Petroleum is required to produce an HSSEQ management plan.

This plan references those sections of the HSSEQMS that are applicable to the project, and describes any specific details of how the requirements are to be met by the project team. The plan also references all applicable level 3 documents, including any that have been specially developed for the project.

### Change control

A controlled version of Company’s HSSEQMS is maintained in electronic format. The document can only be updated at the corporate level.

Any changes that are proposed are subjected to the change control system. (Refer to section 12 Management of Change for further information.)

Employees may only access a “read only” version of the official latest issue of any HSSEQMS document via the computer network. Once a revised document is approved for use it replaces the previous issue on the network.

A history of all revisions is maintained in the document control system. The latest revision of the document is the default setting of the document control system.

### Employee Familiarisation with the HSSEMS

A formal presentation of the HSSEQMS shall be made to all employees. This presentation shall describe the overall objectives of the system, its structure, and employee’s high level responsibilities associated with its use.

Employees are then individually responsible for familiarising themselves with all appropriate sections.

Additional presentations will be made to each project team. These presentations are intended to provide an overview to the project’s HSSEQ plan and any project specific procedures or standards. It will also describe the ‘high level’ responsibilities that each employee has to comply with the system. Employees are then individually responsible for familiarising themselves with all appropriate sections.

Attendance at all presentations shall be recorded as evidence for verification purposes.

## Key Performance Indicators

The following KPIs are applicable to this section:

* latest approved copies of all HSSEQMS documents available on the network
* all employees have access to a computer from which they may access the HSSEQMS
* presentations carried out to all employees regarding the Company Petroleum HSSEQMS
* presentations carried out to all project team members regarding the project HSSEQ plan and any project specific HSSEQMS documents

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that a formal presentation is made to all employees to introduce them to the HSSEQMS

#### Regional HSSEQ Officers

Is responsible for:

* ensuring that a formal presentation is made to all project team members to introduce them to the project’s HSSEQMP and the existence of any project specific HSSEQMS documents

#### All Employees

Are responsible for:

* familiarising themselves with the relevant sections of the HSSEQMS, a project’s HSSEQMP, any procedures, and legislation that are applicable to their activities.

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* evidence that the copies of all HSSEQMS documents on the network are the latest approved versions
* evidence that all employees have attended a presentation on the HSSEQMS and any applicable project specific HSSEQ Plans and HSSEQMS documents
* availability of adequate computer facilities or alternative methods for all employees to obtain access to the HSSEQMS

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Document Control Procedure  |
|  | Change Management Procedure |

# DESIGN, CONSTRUCTION, AND COMMISSIONING

## Intent

To ensure that:

* all hazards are identified, and the risk reduced to as low as reasonably practicable;
* customer requirements are met and that the design is ‘fit for purpose’.

## Performance Standards

### Design Planning

#### Company Petroleum Development System (SPDS)

The SPDS identifies the five stages of a project’s life cycle. It inter-relates with the HSSEQMS by further defining the implementation of the HSSEQMS through the phases of a project, reviews, approvals and documentation requirements. Key aspects of the SPDS as they replace to safety and technical integrity are described in this section.

#### Identification of Design Requirements

It is essential that an understanding of the design requirements be obtained before the design activities commence.

These requirements include, but are not limited to:

* performance requirements
* design codes and standards to be applied
* deliverables required
* design schedule
* design and documentation review and approvals
* design verification and validation requirements

This information may be found in a variety of customer documents, including:

* contract
* basis of design/design brief
* interface documents associated with existing equipment or other suppliers
* contract clarification documentation

#### Project Management

All information that is needed to enable the design to progress must be identified as early as practicable. These design inputs shall be reviewed for adequacy and any incomplete, ambiguous, or conflicting requirements resolved. Such inputs may include Statutory and Regulatory requirements.

A Project Execution Plan shall be prepared that shall detail how the design process is to be controlled to ensure that the design will satisfy customer requirements.

These controls shall include activities relating to:

* initial design (if applicable)
* modifications to the facility design or construction (if applicable)
* changes to or addition of new equipment
* commissioning
* decommissioning
* abandonment

The plan shall include details such as:

* available resources, including personnel, premises, equipment, software, etc.
* project schedule
* target dates for deliverables
* organisation charts
* design review requirements
* design verification and validation arrangements

All organisation and technical interfaces shall be identified between the various design groups and the necessary documentation transmittal and review requirements determined and controlled. This flow of documentation shall be controlled by means of the documentation control procedures.

The project management may vary depending on the scope of the work. Where a significant amount of work is involved a dedicated project team with the required control systems shall be installed, while for smaller scopes may be controlled by the facility superintendent using the applicable facility management systems.

#### Project Execution Plan

The project execution plan is a project-specific document and is itself a part of the quality management system. The project execution plan shall include the key criteria for the project in the following format:

* an introduction that gives details of the scope of the project
* a detailed description of the project, including references to separate performance specifications and design briefs where necessary
* details of the overall project goals, including health, safety and environmental goals
* details of the quality assurance and quality control requirements, or reference to separate procedures and manuals where these are provided
* a methods statement, that provides details on how the work is to be performed
* a project management plan covering the scope of work. This plan includes details of the project policies and procedures, the project organisation and reporting structure, roles and responsibilities for all project personnel, interface management procedures
* details of the project control mechanisms, including budgetary and cost control systems, planning and scheduling, contracting strategy and procurements planning
* detailed plans for each phase of the project, including engineering, construction, testing and pre-commissioning, transportation and installation, commissioning and initial operation as appropriate

Reference shall be made within the project execution plan to the project’s HSSEQMP (Health, Safety, Environmental, and quality Management Plan) that provides further details of the manner in which health, safety, environmental, and quality issues will be managed at each stage of the work.

#### Health, Safety, Environmental and Quality Management Plan

The Health, Safety, Environmental and Quality Management Plan shall specify the manner in which health, safety, environmental and quality issues are to be managed. It shall include:

* an introduction, giving details of the scope of work, the function and purpose of the HSSEQMP itself
* details of HSSEQ goals and objectives
* details of legislation, codes, standards and safety regulations that are applicable
* details of the management policies and commitment to the HSSEQ principles
* details of controls applied to contractors and suppliers for the management of their HSSEQ matters and the extent to which these must be reviewed and approved
* responsibilities for health, safety, environmental, and quality management at each level of the project and the functional and reporting links between them
* training and competence requirements for personnel, including the general induction and specific training needs such as offshore safety and survival, platform induction, helicopter underwater escape, fire fighting, permit to work systems, emergency response, etc. and how the training of all personnel is managed and their training records controlled
* information on participation of crewmembers in HSSEQ meetings and other specific HSSEQ-related matters
* information on how HSSEQ matters are communicated and how employees and the offshore workforce can play an effective part in the identification of hazards
* details of the permit to work system, job safety analysis, toolbox talks, hazard reviews, etc. and how these are used to identify and minimise the risk to personnel
* general standards of site safety to be applied, including basic procedures and instructions for personal protective equipment, control of hazardous substances, over the side working, work at heights, noise and hearing protection, lifting and handling, scaffolding, etc
* details of accident, incident and near-miss reporting and incident investigation procedures to be followed during the project
* details of the audit program, scope and reporting requirements and the means by which follow-up action will be taken
* details of the methods used to measure the HSSEQ performance and the benchmarks against which it is to be assessed
* details of, or references to, the emergency response plans applicable

### Quality Assurance

Company is committed to quality in all phases of a project and the ongoing operation of a facility. The company operates a system of quality assurance. This system is described in this document. This system is structured under the principles of ISO9001. The structure of the QMS and the key elements that comprise it are outlined below:

#### Quality System Levels 1 & 2

The quality system is an integrated component of the HSSEQMS. This HSSEQMS describes how this system is to be applied. The quality policies and objectives are described, as are the quality requirements necessary for successful execution of the project. This is the primary document that sets the performance standards and addresses all the activities necessary to develop, implement, audit, maintain and improve the QMS.

#### Quality Operating Procedures and Work Instructions

Procedures form the third level of the HSSEQMS and define the detailed methodology for each element of the HSSEQ management system. They describe how the quality activities are implemented and set out who is responsible for ensuring that quality activities are implemented and are operating effectively. In accordance with the intent of ISO-15000, the quality procedures and work instructions define:

* management responsibilities
* operation of the quality system
* contract review
* design control
* document control
* purchasing control
* control of customer supplied product
* identification and traceability
* process control
* inspection and testing
* inspection, measurement and testing equipment
* non-conformance control and corrective action
* handling, storage packaging and delivery
* quality records
* internal quality audits
* training
* servicing

Work instructions provide detailed methodology where this is necessary to support the quality operating procedures. These documents are limited in scope and are applicable to particular tasks or operations. They may also be used where minor changes or clarifications are required to a specific quality operating procedure.

#### Project Execution Plan

The project execution plan is a project-specific document and is itself a part of the quality management system. It defines the project team and the key strategies and responsibilities necessary for successful execution of the project.

#### Project Quality Plan

A project quality plan, shall be produced for the design, construction, installation and commissioning phases of a project. It shall defines the quality requirements and the project execution practices that will be used. In particular, the project quality plan is used to define key intervention points in the process for inspection and testing of the work to ensure that quality performance requirements are met.

#### Project Procedures Manual

A project procedures manual shall be collated for the construction, commissioning, and operational phases of a project. It shall contain relevant quality operating procedures and work instructions, together with specific quality requirements unique to the project scope. Individual quality operating procedures or working instructions may be developed and these shall also be included in the project procedures manual. This is the main working document for the operation of the QMS.

#### Project Documents

A variety of other documents may be produced in preparation for and during the course of the project. These include, but are not limited to, contracts, specifications, scope of work, design basis, design briefs and drawings. All such documents fall under the overall control of the quality management system.

#### Project Quality Records

Quality records are developed during the course of the work and comprise:

* welding procedure qualification records
* inspection and testing records and reports
* certificates
* training records and other such documents that record the effective implementation of the quality management system.
* minutes of meetings
* audit reports

#### Control of Contractors in Design, Construction and Commissioning

The Purchasing and Procurement Procedure sets out the procedures to be followed and the responsibilities assigned for the selection and qualification of vendors and contractors.

Selected contractors are controlled, and their performance assessed, principally by the use of the quality management system, HSSEQMP and quality management procedures. Contractors working on a project, or facility are required to work under either:

* the project’s HSSEQMP
* their own management systems which must first be reviewed and approved for use by Company Petroleum as described in Section 14.2 Contractors and Support Services.

#### Design Codes, Standards and Specifications

The selection of design codes, standards and specifications for a project is carried out in accordance with the HSSEQMP and the procedures that support it; principally the Engineering Development and Design Procedure. To ensure that the codes and specifications selected are appropriate, the design process shall include:

* review of the original design requirements
* review of the proposed design codes, specifications and standards proposed for the project
* review of applicable statutory and legislative requirements

Design codes and standards shall be selected in accordance with the statutory requirements, current industry standards, good oilfield practice and the specific requirements of a project. At the completion of preliminary design, a review shall be held to ensure that the design intent has been achieved before moving forward into the final design stage.

The selection, development, and review of construction standards shall be performed the same way as in the design phase.

Selection of appropriate design codes and standards, specifications for design and construction is part of the scope of the verification and validation activities carried out as described in Section 12.2.6 Design Validation.

Changes to any design code, standard, specification or procedure during the construction phase shall be managed under the document control and filing procedure.

All changes affecting the design, construction or operation of a facility are assessed to identify any new or changed hazards in accordance with Section 8 Hazard Identification and Risk Management and Section 13 Management of Change. (Refer also to section 12.2.3 Hazard Identification and risk reduction for further information.)

#### Deviations

During the design process, the need for deviations from design specifications or codes may arise, including design change or relaxation requests and technical queries. These are controlled under the project document control and filing procedure, document number to ensure that they are uniquely identified and tracked. All proposals for change shall be directed to the appropriate personnel within the engineering or construction teams for review.

The systems for review of any changes and the responsibility for review and acceptance shall be conducted in accordance with the change management systems described in Section 13, Management of Change.

#### Purchase of Materials

Within the HSSEQMP there shall be procedures that provide the controls necessary for the purchase of materials, preparation of requisitions, preparation of purchase orders, control of changes to purchase orders and reporting.– general provisions (refer to the applicable procurement procedure).

HSSEQ considerations associated with the purchase of materials and equipment shall be managed by requirements detailed within the purchasing procedures. These ensure that materials and equipment are procured and developed, in accordance with the designated technical specifications for the project. (Refer also to section 14 Purchasing & Control of Materials & Services.)

### Hazard Identification and Risk Reduction

Hazard identification, hazard/risk assessment, and hazard/ risk management shall be carried out for each project to the level appropriate to the size and complexity of the project being undertaken. The scope shall include each phase of the project, unless specifically excluded by project requirements. (Refer to section 8, Hazard Identification and Risk Management.)

#### Incorporation of Risk Assessment Results into Activities or Designs

The agreed hazard and risk controls shall be recorded in the projects Non-Conformance action tracking system. (Refer to section 8 Hazard identification and risk management for further information.)

The tracking system shall be used to ensure that no items are overlooked when monitoring their incorporation into the project design, or associated activities.

#### Definition of responsibilities

Clear definition of responsibilities and scope is essential throughout all phases of a project. Each project shall produce organisation charts in accordance with the requirements of section 5.

Each project shall develop and maintain position descriptions and a CAART, in accordance with the requirements of section 5.

#### Competency of Personnel

Each project shall identify the required competencies of personnel for each position on the project team.

The required competencies shall be determined in accordance with the requirements of section 5.

An assessment of critical items shall be carried out, documented and shall be used in the development of competency requirements in accordance with the requirements of section 5.

#### Communication

The line manager (project manager) is responsible for ensuring that operations personnel are able to provide input into the design.

This shall be achieved as follows:

* issuing copies of documents that show design intentions, operational limitations, hazards, and hazard/risk control requirements to the project’s operations group personnel for their review and comment
* the presence of operations personnel at appropriate design meetings
* operations personnel involvement in HAZIDs, HAZOPs, design HSSEQ reviews
* transfer of responsibility for the maintaining the hazard register and Corrective Action tracking system from the design team to the operations team at the end of the construction phase

#### Review of Design Changes

All design changes shall be controlled by the management of change system. . (Refer to section 13 Management of Change for further details.)

### Design Input

A basis of design document for the project shall be approved by both the Company Petroleum project manager and a client representative.

The project manager shall also be responsible for ensuring that the design is carried out in accordance with the agreed basis of design and appropriate:

* design specifications
* codes of practice
* technical standards
* local regulatory requirements
* good oil-field practice
* Company’s HSSEQMS
* Project performance objectives, standards, and criteria

All designs and activities shall take into consideration human factor issues. These shall include, but may not be limited to:

* human tendency for over/under work, disinterest, boredom, lack of concentration
* need for clear, unambiguous instructions
* control of stress and fatigue by appropriate work schedules
* ergonomic layout, e.g. location of controls, ease of viewing display screens
* training requirements
* provision of warning and information signs
* availability of information
* employee experience and skill
* fitness levels of various employees
* access
* maximum/minimum operating temperatures of plant
* suitability of materials for human use
* controls should be easy to operate, and arranged to promote good posture
* tasks and controls should provide variation of movement to minimise the need for repetitive movements
* fault and emergency alarms to be designed to allow rapid and unambiguous identification of the problem
* need for mechanical lifting aids

### Design Output

#### Design Documentation

Project design documentation shall be maintained up to date with current project design requirements throughout the design phase, and copies of relevant documentation issued to operations personnel.

Certain design documents shall be amended to ‘as-built’ status at the end of the construction phase. The scope of the ‘as-built’ information shall be determined between the project’s design manager and the operations manager.

Examples of documents requiring update to ‘as-built’ status include, but are not limited to:

* P&IDs (process, and fire and gas)
* MFDs
* UFDs
* PFDs
* fire and gas protection and detection drawings
* safety equipment location drawings
* process safety flow schemes
* emergency escape route drawings
* SAFE charts
* electrical and instrument line diagrams

Other documents that shall be considered for update to ‘as-built’ status include, but are not limited to:

* data sheets
* electrical line diagrams
* electrical circuit diagrams
* instrument hook-up diagrams
* instrument indexes and registers, e.g. relief valve set points, etc
* equipment lists
* Cause & Effect charts
* structural design drawings

#### Health, Safety, Environmental and Quality Requirements

Where equipment has been provided, or is required to be operated in a specific sequence as determined by the need to control health, safety, environmental, or quality hazards or risks, then operating and maintenance procedures shall incorporate a statement that explains such requirements. Examples of such situations are:

* location of equipment exhaust outlets routed to a non-hazardous area to avoid the formation of an ignition source
* gaskets fitted to access covers of equipment to prevent ingress of gas
* requirement to allow hot flammable liquids to cool below their auto-ignition temperature before opening drain valves or breaking pipe connections for maintenance

### Design Reviews

Design reviews shall be carried out, and documented to ensure that the design meets:

* agreed HSSEQ design criteria
* HSSEQ performance standards
* Company Petroleum and project HSSEQ objectives

The reviews shall be carried out during the design, engineering, construction and operational phases of a project (as prescribed by the SPDS) addressing:

* feasibility HSSEQ review
* technical HSSEQ review
* design audit
* pre-start-up audit

It is essential that personnel from all affected disciplines are present at design reviews to ensure that diverse experience and skills are available.

All design changes identified as a result of the review shall be documented and controlled in accordance with the change management procedure to ensure that they are incorporated. (Refer to section 13 Change Management Procedure for further information.)

Audits on the design, construction, installation and commissioning process shall be conducted in accordance with the audit procedure. These audits ensure that:

* relevant quality assurance procedures are in place and functioning effectively
* areas needing improvements are identified
* vendors and contractors use a quality system that is acceptable to Company Petroleum and that this is functioning effectively

HSSEQ audits during the operational phase shall also be carried out in accordance with the audit procedure.

These audits shall ensure that relevant HSSEQ procedures are being used and are functioning effectively.

Quality, safety, and environmental audits shall be conducted during a project’s design, construction, installation and commissioning phases.

#### Design Validation

Design validation is required both within Company Petroleum and under many regulatory regimes. Validation is a means of providing the board and the regulators with assurance that the facility is fit for purpose. It involves a range of reviews and design checks by third parties and independent certification. The scope of validation is subject to agreement with senior management and regulators, varying according to the scope of the project.

Validation shall be carried out at the design, construction, installation, commissioning and operational phases.

Validation checks shall be carried out by an agreed third party to ensure that project documents, drawings, calculations, reports, etc. meet the requirements of the design basis document, client requirements, local legislation, applicable codes and standards, etc.

Validation shall be carried out by competent independent bodies for key aspects of a facility that could influence its overall integrity and the safety of personnel, in accordance with local regulations. Examples of such items include, but are not limited to:

* structural design
* equipment certification
* fire and gas detection and protection systems
* shutdown systems
* compliance with design specifications
* weld quality
* material selection
* validation that the facility has been constructed in accordance with the design
* validation that the facility has been installed in accordance with the design

Validation shall be carried out at the design, construction, installation and commissioning phases, and a validation plan shall be produced for each project.

### Construction

#### Hazard Identification and Risk Reduction

Hazard identification, hazard/risk assessment and hazard/ risk management shall be carried out in accordance with section 8, Hazard Identification and Risk Management, for the construction phase of each project.

Plans and procedures to control construction site hazards shall be developed in accordance with the requirements of section 8 Hazard Identification and Risk Management.

#### Design Verification

Verification checks shall be carried out during the construction phase to ensure that the equipment and systems meet the applicable design specifications.

### Commissioning

The commissioning plan shall be evaluated in conjunction with a review of the hazards associated with the commissioning phase and appropriate procedures and other requirements identified to ensure that the commissioning phase is carried out safely, and to minimise any environmental impact.

These items will include but may not be limited to:

* equipment/system start-up procedures
* start-up isolations/defeats
* emergency response arrangements
* provision of alarms
* personnel training requirements
* handover procedures between construction/commissioning groups and the operations group
* additional manning requirements and the impact on emergency and evacuation arrangements
* equipment preservation and maintenance requirements
* provision of temporary fire equipment

The requirement to develop these procedures shall be recorded in the EFAC tracking system so that their development progress can be monitored until completion.

The commissioning work packs shall identify the need for applicable procedures to ensure that all commissioning personnel are made aware of the requirements.

Commissioning procedures shall be developed by the operations group with input from the design team and equipment suppliers. Operations personnel shall be involved throughout the design phase to ensure that key start-up and maintenance features are incorporated into the design, for example, purge points and isolation spectacle blinds. Changes to the design to incorporate commissioning requirements shall be evaluated during the HAZOP process. Approved design changes shall be tracked by means of the document control system to ensure that they are incorporated into the construction drawings.

The operations group shall be responsible for preparing the start-up and maintenance procedures. These shall be circulated for review and agreed comments incorporated. The start-up procedures shall then be subject to a HAZOP or start-up review. Once construction has commenced, minor changes may be managed by field sketches and incorporated into the ‘as-built’ drawings. The start-up procedures shall be re-checked against as-built drawings and P & IDs.

Physical commissioning of a facility shall utilise checklists to check the installed systems. These checklists shall be included in the commissioning procedures. These checks ensure that:

* all features of the design drawings have been incorporated
* all installed equipment has been inspected and tested during the construction phase, in accordance with the inspection and test plan
* all field instruments, alarms and trips have been tested to confirm they are in accordance with design requirements
* hydrocarbon pipework has been tested for strength integrity and leak tested at working pressure, following completion of construction or reinstatement
* isolations are in place and secured

Before live hydrocarbons are introduced into process systems, additional safeguards shall be implemented that include, but may not be limited to ensuring that:

* all personnel involved in the commissioning process have received appropriate training in the operation of the equipment and that they have successfully achieved the appropriate levels of competency
* where appropriate, manufacturer’s technical representatives are included in the commissioning team, e.g., commissioning of turbo-machinery
* all health, safety, environmental protection, and quality recommendations have been closed out, (These include those raised in HAZID and HAZOP studies and those listed in the EFAC
* emergency procedures are implemented and that all personnel are informed when ‘start-up’ commences
* arrangements have been made for the handover of operating responsibilities and that any HSSEQ matters associated with simultaneous operations, or combined operations have been addressed

All relevant manufacturing, maintenance, operational and commissioning information and data shall be passed to the operations group.

### Safety Case

Where there is a requirement to prepare and/or submit a safety case for a facility, this shall be prepared and controlled in accordance with the guidelines of the HSSEQMS, local regulator and project requirements and guidelines.

## Key Performance Indicators

The following KPIs apply to this section:

* all design requirements obtained and understood prior to commencement of design
* design inputs reviewed for adequacy and completeness
* Project Execution Plan prepared
* project design documentation maintained up-to-date throughout the project
* all appropriate ‘as-built’ documents prepared
* hazards identified, assessed, and control measures determined for each phase of a project
* all hazard and risk control measures implemented prior to the commencement of the activity for which they are intended
* an EFAC in place and operating effectively from the start of the project
* all responsibilities clearly defined
* competency requirements defined
* assessment of critical items carried out
* operations group input into the design effective
* basis of design document prepared prior to commencement of detailed design
* design reviews carried out and documented at appropriate times
* design validation carried out at appropriate project phases
* commissioning procedures to incorporate HSSEQ requirements

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for ensuring that:

* organisation charts, position descriptions and a CAART are developed for a facility’s operational phase
* the required competencies for the project team are identified and recorded
* operations personnel are given the opportunity to provide input into the design
* all required ‘as-built’ documentation is provided to operations group at the end of commissioning
* the reasons for the provision of specific HSSEQ hazard controls are detailed in applicable operating and maintenance documentation
* a safety case is developed, and updated for each project where required.

#### Regional Safety Officer

Is responsible for:

* arranging for hazard identification, hazard consequence assessments and identification of appropriate hazard controls to be carried out as appropriate during the operational phase

#### Line Managers (Project Manager)

Are responsible for ensuring that:

* all design input requirement identified, reviewed, and confirmed as adequate
* a PEP is prepared
* all organisational and technical interfaces are identified
* a design basis document is developed for the project, and that the design meets its requirements
* project design documentation is maintained up-to-date
* all required design reviews are carried out and documented
* hazard identification is carried out for the construction phase of the work, and that appropriate controls are put in place
* all required design validation and verification checks are made
* commissioning hazards are evaluated and appropriate controls implemented

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section shall be verified by the following as applicable:

* evidence that all design inputs were evaluated for completeness
* evidence that all organisational and technical interfaces are identified
* evidence that hazard identification has taken place at each project phase
* evidence that hazards have been assessed and controls identified at each project phase
* existence of project position descriptions and CAART
* evidence that competency requirements have been assessed for all phases of the project
* evidence that an assessment of critical items has been carried out for the project
* evidence that HSSEQ information is effectively communicated between design, construction, installation, hook-up, commissioning and operation groups
* evidence that operations personnel have been involved in any required HAZIDs, HAZOPs, design reviews, etc
* evidence that all design changes have been controlled by the management of change procedure
* the existence of a basis of design document for each project
* evidence that appropriate attention has been paid to ‘human factor’ issues
* the existence of appropriate ‘as-built’ documentation
* evidence that HSSEQ issues have been incorporated into operating and maintenance procedures
* evidence that design reviews have been carried out at appropriate project phases
* evidence that design validation has been carried out by independent bodies
* evidence that design verification checks have been carried out
* evidence that HSSEQ requirements have been incorporated into commissioning procedures

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Company Petroleum Development System (SPDS) |
|  | Document Control and Filing Procedure  |
|  | Design Review Procedure  |

# MANAGEMENT OF CHANGE

## Intent

To ensure that changes and modifications are reviewed for hazards and their risk assessed prior to their implementation.

To ensure that all relevant information regarding changes are communicated to all relevant personnel.

All project documents are controlled to ensure that the appropriate information is available to all interested parties and that accidental use of outdated information is avoided.

## Performance Standards

### Change Management

A change management system shall be used to control changes to all items that influence the integrity of a facility, the health and safety of personnel as well as the safeguarding of the environment. Such changes include but are not limited to:

* design documentation
* HSSEQ documents
* plant
* equipment
* materials
* personnel in critical positions
* HSSEQ procedures
* organisational structure
* regulations, codes of practice, standards, etc
* task procedures
* changes to inspection regimes
* maintenance requirements
* maintenance and spare component philosophy
* operating philosophy
* duty allocations
* ownership

There are two procedures that apply:

* change management procedure, document number AUS100192
* document control and filing procedure document number AUS100169

#### Change Requests

A change request form shall be raised for all proposed changes.

The change request form shall be completed in accordance with the change management procedure and issued for review by all parties that may be affected by the proposed change.

Each change request shall be reviewed by the project manager/facility superintendent to determine if it has the potential to affect a HSE critical item. If an HSE critical item is affected by the change, then an evaluation shall be carried out to determine the impact on the risk levels. Approval to proceed with the change shall only be given if it can be demonstrated that the change will not result in an iEFACease in risk.

Each party affected by the change shall either provide written agreement with the change request or provide written details of any adverse impact that the proposed change will have on HSSEQ.

Once all parties are in agreement for the change to proceed, the change request form is approved for implementation by the Chief Executive Officer Company Petroleum or his delegate.

Change requests are prioritised according to impact. During the design and construction phases schedule and cost implications may take precedence (except where the change will result in an immediate reduction in risk to personnel, e.g. less hazardous work practice at a construction site.), while during the operational phase those considered to achieve the greatest HSSEQ benefit will take precedence.

It is essential that the cumulative effect of a number of minor changes be considered when assessing proposed changes.

### Evaluation of Changes

As a minimum the following aspects shall be considered when reviewing and approving proposed changes:

* Impact to safety critical items
* introduced, or deleted hazards
* increase or reduction in risk
* effectiveness of existing hazard/risk controls
* impact on available resources
* additional or amended training requirements
* impact on construction, installation, commissioning, operation, maintenance, decommissioning
* inspection and test requirements
* quality control
* changes to existing procedures
* extent of changes to existing documentation
* impact on safety case
* effect on the environmental plan
* availability of equipment and materials
* schedule and cost impact
* compliance with regulations, codes of practice, standards, etc
* emergency response
* environmental impact, e.g. gaseous, liquid, or solid discharges; storage and disposal of waste; etc
* environmental influences
* organisational impacts
* manual/mechanical handling requirements
* cumulative effect of small changes
* parties to be advised if change approved

### Implementation of Changes

Dependent of the complexity of an agreed change, its implementation may require the following:

* schedule for implementation
* acceptance criteria for closeout of the change
* plan for additional training

All changes shall be monitored until closed out.

All affected parties will be advised when a change has been authorised and when it has been closed out.

### Document Control and Filing

The Document Control and Filing Procedure shall be used to control documents and drawings that require amendment as a result of approved changes.

Critical HSSEQ documentation are designated as controlled documents and shall be subjected to additional controls in accordance with the document control and filing procedure. (Refer to section 11 Management System Documentation for additional information.)

Examples of critical HSSEQ documentation include, but are not limited to:

* contract documentation
* HSSEQMP
* design documents
* drawings
* review reports
* inspection and test records
* procedures
* temporary work instructions
* Safety Case and Formal Safety Assessments
* audit reports
* incident reports
* training records

The document control procedure specifies how the following aspects of documents and drawings are controlled:

* current revisions
* approval of content and authorisation for use of documents
* document distribution
* periodic review of and adding comments to documentation and drawings
* identification of revision content
* control and withdrawal of obsolete and superseded documents, drawings and data to avoid unintentional misuse
* maintaining records of documentation and drawings on file
* availability of electronic documents in the event of power or equipment failure
* identification of controlled and uncontrolled copies of documents and drawings
* responsibilities and authorities for documentation control
* size of document/drawing copies and text sizes to ensure information can be easily read

In the context of these requirements the term ‘documentation’ may include:

* ‘hard’ paper documents subcontractor/supplier evaluations
* electronic data, including that stored on a centralised server, computer hard disks, diskettes, CD-ROM, video, audio tapes, digital photographs, etc. process control records

The documents may be from both internal and external sources inspection and testing reports

#### Documentation Changes training records

Documents and drawings may undergo a number of amendments before they are approved. Up until the time they are approved, only the document control and filing procedure is applicable. After they have been approved, all subsequent changes shall be subjected to the change management procedure.

HSSEQ documentation shall be controlled in accordance with the Document Control and Filing Procedure. When determining these requirements, consideration shall be given to:

## Key Performance Indicators type of quality records to be provided

The KPIs applicable to this section are: storage location of records, including the potential for deterioration and loss

* all applicable proposed changes detailed on a change request form who should have access rights
* all change requests have been reviewed, and accepted by all affected parties and authorised prior to implementation ease of retrieval
* records maintained of all change requests for future reference and audit purposes legibility
* the existence of change request records
* the existence of up to date document control records
* evidence that the document control procedure is adhered to
* evidence that all obsolete and superseded documentation has been withdrawn from all recipients

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Change Management Procedure  |
|  | Document Control and Filing Procedure  |

# PURCHASING & CONTROL OF MATERIALS & SERVICES

## Intent

To develop, implement and maintain systems for the control of purchased services and materials to ensure hazards are minimised and ‘customer’ requirements are met.

## Performance Standards

Compliance with the provision of the Procurement Procedure

#### Purchase Data

Purchasing documents shall clearly describe the product or service required, including, as applicable:

* model number, part number, type, class, grade, catalogue reference, or other precise identification wherever this is available
* the title, document number, revision, etc. of specifications, drawings, and other documentation
* process requirements.
* performance specification
* inspection instructions and requirements, including customer inspection if applicable
* review and approval requirements
* acceptance criteria, including verification and validation requirements.
* quality control requirements

#### Materials and Equipment

Purchase specifications and purchase orders shall include a section that details the HSSEQ requirements applicable to the specific order.

The project manager/facility superintendent’s approval of all requisitions is evidence that the HSSEQ section is both accurate and complete.

No equipment or materials shall be purchased without prior consultation with the workforce where potential hazards have been identified with their use.

Inspection and testing of equipment and materials shall be carried out as appropriate to ensure that HSSEQ requirements are met.

Design and operational engineers, if requested by the project manager/facility superintendent shall review materials and equipment purchased to determine if any operating, maintenance, or HSSEQ arrangements or procedures require amendment.

#### Contractors and Support Services

Wherever practicable, contractors shall be selected from an Company Petroleum approved vendor list.

If an audit of a vendor has not taken place within 2 years prior to placing an order, an audit shall be conducted prior to the order being confirmed.

Contractors shall be classified in three categories:

* category A
* category B
* category C

Before an order/contract is placed with any sub-contractor it is essential that it is determined that:

* the organisation is reliable
* can supply the product or service required
* have the necessary resources, both manpower and equipment
* are able to deliver at the required time

#### Category A

Category A contracts are those having one or more of the following characteristics:

* high profile within the community or company
* potential for significant risk to personnel, the environment, or the company
* long term duration, or of significant monetary, or strategic, value
* carried out in a hazardous working environment

Examples of Category A contracts include, but are not limited to:

* shipyard work
* marine vessel activities
* helicopter operations
* provision of catering services
* diving
* facility installation
* provision of hygiene services, e.g. cleaning of kitchens, toilet facilities, etc.
* security services
* commissioning of hazardous plant and equipment
* scaffold erection

These contracts require significant assessment to ensure that the contractor has, and implements, a comprehensive HSSEQ management system.

All category A contracts shall undergo pre-qualification. This pre-qualification process requires the completion of an HSSEQ questionnaire by the contractor. These questionnaires shall be subject to audit before contract award. (Refer to vendor/subcontractor qualification procedure for details of the questionnaire.)

At the tender submission stage, each tenderer shall be requested to submit, for review and acceptance by Company Petroleum, the following details in addition to their commercial and technical proposal:

* their HSSEQ management systems and plans for the services to be provided
* historical HSSEQ performance data
* sufficient details of experience and qualifications for all personnel in critical positions to enable Company Petroleum to assess their competence

Contractors may work under their own HSE management system where Company Petroleum considers their system acceptable. In cases where the contractor’s own system is not acceptable, they shall be required to work under Company’s HSSEQMS, and applicable project HSSEQMP, using the ‘contractor’s employee’ reference under the CAART as a guide to their requirements.

Where it is proposed that a contractor may work under their own HSE management system, a bridging document may be required that identifies all interfaces between the contractor’s system and Company’s system depending on the nature of the work being performed. The appropriate responsibilities and actions required for these interfaces shall be detailed in a bridging document.

Where Company Petroleum consider that the personnel proposed by the contractor have insufficient experience or qualifications, then the contractor shall be given the option to substitute the individual with an acceptable replacement, or to provide training to develop the individual’s competence to the required level.

When the order is placed, and prior to any work commencing, clear reporting lines shall be established between contractor representatives and Company Petroleum personnel. (Refer to Appendix 2 – Organisation Charts for further information.)

Contractor’s shall be required to:

* submit to Company Petroleum, for approval, material safety data sheets (MSDS) for all chemicals they wish to use, before introducing them to any worksite or facility under the control of Company Petroleum
* ensure that all equipment and tools they supply are fit for purpose and is maintained in a safe condition and inspected regularly
* report any accident, incident, or near miss event immediately to Company’s project manager/facility superintendent, or worksite representative as applicable.

The contractor’s performance shall be monitored throughout the duration of the contract to ensure that:

* contractor personnel display the required levels of competence
* comply with the contract’s HSSEQ requirements
* comply with all regulations

#### Category B

Category B contracts are those having one or more of the following characteristics:

* short term contract
* minimal involvement or contact with Company Petroleum personnel
* minimal risk to personnel the environment or Company Petroleum
* work carried out in a low hazard environment

Examples of category B contracts include, but are not limited to:

* equipment servicing contracts
* some transportation contracts (excludes helicopter operations, or supply vessel contracts)
* provision of testing and inspection services at Company Petroleum sites or facilities
* commissioning or testing of non-hazardous plant and equipment
* shop fabrication, e.g. pipe spools, vessels, structural supports, etc

These contracts only require sufficient assessment to verify that the contractor has an acceptable HSSEQ management system.

#### Category C

Category C contracts are those requiring only minimal assessment of the contractor’s HSSEQ management systems.

Examples of such contracts include, but are not limited to:

* purchase of ‘off the shelf’ components
* design and engineering services where the design will be reviewed and approved by Company Petroleum
* offsite inspection services
* provision of general freight services

#### Training

Company Petroleum shall provide appropriate induction training to contractor personnel to ensure that they are familiar with the appropriate sections of the HSSEQMS and project HSSEQMP. This may include, but will not be limited to:

* pre-flight helicopter safety briefings
* general facility induction
* emergency response, escape and evacuation provisions
* job safety analysis and toolbox talks
* permit to work and isolation procedures
* maintenance and operating requirements
* incident reporting
* hazard identification and reporting
* waste management

Contractors working offshore on an Company Petroleum facility shall be required to participate in any emergency drills. Additionally, contractor personnel shall be required to demonstrate currency with all statutory training requirements.

#### Provision of PPE

All contractors shall be responsible for the provision of appropriate PPE for their employees.

## Key Performance Indicators

The following KPIs apply to this section:

* approved vendors list maintained
* pre-qualification questionnaires completed by all category A contractors;
* audits carried out on all HSSEQ critical contractors
* purchasing documentation clearly describes all requirements
* HSSEQ systems and plans reviewed and accepted for all HSSEQ critical contractors
* monitoring of contractor HSSEQ performance carried out throughout the duration of the contract
* induction training of Company’s HSSEQ requirements carried out for all contractor personnel
* contractor evaluation carried out for all contractors providing services to Company Petroleum

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that an effective purchasing and procurement system is developed, implemented and maintained
* ensuring that an Company Petroleum approved vendors list is developed and maintained
* ensuring that all purchasing on the project is carried out in accordance with the requirements of the HSSEQMS, HSSEQMP and the appropriate procedures
* ensuring that all category A contracts undergo pre-qualification, including the completion of an HSSEQ questionnaire and subsequent audits and are controlled in accordance with the HSSEQMS and associated procedures

#### Project Manager/Facility Superintendent

Is responsible for:

* approval of all requisitions as evidence that the HSSEQ section is both accurate and complete.
* ensuring that no equipment or materials are purchased without prior consultation with the workforce or their HSSEQ representative where potential hazards have been identified with their use
* ensuring that all contractors comply with the requirements of the HSSEQMS and HSSEQMP
* confirming that all category B contractors have an acceptable HSSEQ management system
* ensuring that induction training is provided to all contractor personnel with respect to Company’s HSSEQMS and HSSEQMP

#### Procurement Staff

Is responsible for:

* ensuring that no purchase orders are issued without the approval signature of the project manager/facility superintendent indicating that they contain all appropriate HSSEQ requirements

#### Design and Operations Engineers

Are responsible for:

* reviewing all equipment purchased to determine any amendments required to operating, maintenance, or HSSEQ documentation

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section shall be verified by:

* the existence of an approved vendors list
* evidence that the project manager/facility superintendent has approved all requisitions as evidence that the HSSEQ section is both accurate and complete.
* documented evidence that all contractors providing services undergo a post contract contractor evaluation
* the existence of completed questionnaires for all category A contractors;
* the existence of audit reports for all category A contractors
* evidence that all category A contractors HSSEQ management systems have been reviewed and accepted by Company Petroleum
* evidence that reviews have been carried out of all category B contractor’s HSSEQ management systems
* evidence that contractor’s performance has been monitored throughout the contract’s duration and their compliance with all HSSEQ requirements verified
* evidence that all contractor personnel have received induction training by Company Petroleum

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Procurement Procedure  |
|  | Vendor/Subcontractor Qualification Procedure  |

# SAFE OPERATIONAL PROCEDURES

## Intent

To develop, implement and maintain operational procedures to effectively manage hazards.

## Performance Standards

### Determination of Required Procedures

Safe operational procedures shall be developed, and implemented for both routine and non-routine activities.

The procedures fall into two categories:

* generic
* project specific

#### Generic

Generic procedures shall be used in their existing form and are suitable for use across all Company Petroleum operations.

#### Project Specific

These procedures are developed where the task or activity, either in its entirety, or in specific details, is peculiar to a project. They may be developed from scratch or adapted from a generic procedure.

#### Evaluation

An evaluation shall be carried out, prior to commencement of operations, to determine those procedures that are required for the facility. Annual reviews shall also be carried out throughout the duration of the facility’s life to determine the need for amendment to existing procedures, or development of additional procedures.

All processes, activities and tasks anticipated throughout all phases of a project’s life, shall be evaluated. Each shall be assessed to determine if they have a direct, or indirect, impact on the health and safety of personnel, the environment, or project assets.

The scope shall include, but may not be limited to:

* exploration activities
* drilling operations
* design
* construction
* installation
* hook-up and commissioning
* production
* marine operations
* service operations, including helicopter operations, supply boat operations, product offtake tanker operations
* facility modifications
* decommissioning
* abandonment
* transportation and stowage
* training
* maintenance
* purchasing/contracts

All procedures shall be developed and approved for use before they are required to be implemented.

The procedures shall be developed, in consultation with the personnel involved and affected by the particular operation.

### Typical Procedures

The following list provides guidance to the types of procedures that may be required. Additional procedures may require development if a need is identified.

#### Generic

* working at height
* working over the side of a facility
* confined space entry
* pressure testing
* permit to work, including: Issue and authorisation of permits, distribution and display, close out, limits on numbers of active permits, etc.
* isolation procedure
* hazard identification and risk management
* job safety analysis
* change in operating status
* activity restrictions when key HSSEQ systems are unavailable
* hazard reporting
* incident reporting
* document control
* training
* assessment of critical items
* change control
* personnel conduct and performance
* control of contractors
* control of hazardous substances
* use of scaffolds and ladders
* mechanical handling
* manual handling
* use of personal protective equipment

#### Project Specific

* simultaneous operations
* permitted operations
* planned maintenance activities
* breakdown and emergency maintenance activities
* well operations
* shift/swing handover procedures
* emergency response
* inspection and testing
* environmental controls
* equipment calibration
* plant start-up and shut-down

### Permit To Work System

#### General

A manual of permitted operations (including SIMOPS) – document shall be developed for each facility. This shall detail those operations that are permitted when other operations/activities are underway and shall also provide details of any limitations.

A permit to work system shall be developed together with documented permit to work procedures that shall be used to control all working activities that are potentially hazardous, on a facility or worksite,. The system shall provide a means of communication between the facility management, supervisors, operators and those who carry out the hazardous work.

The system shall incorporate the following essential features:

* clear identification of the functions and personnel who authorise the work to be carried out and the limits to their authority
* clearly documented and auditable details regarding the conditions and limitations, associated with authorising a task to commence and in particular the precautions that must be in place for safety and environmental protection
* a means of control that ensures it is safe to commence the task and to reinstate equipment to its normal operating function
* identification of the personnel responsible for specifying the necessary precautions for the work
* requirements for training and instruction of personnel in the use of permits
* monitoring and auditing requirements to ensure that the system works as intended

In addition to the permit to work procedure, the permit to work system is supported by the following detailed procedures and working instructions:

* Manual Of Permitted Operations (including SIMOPS)
* Personnel Basket Transfer
* Confined Space/Vessel Entry Certificate
* electrical Isolation Certificate
* Hot Work Permit
* Cold Work Permit
* Ionising Radiation
* Mechanical Isolation Certificate
* Process Isolation Certificate
* Safety Isolation Certificate
* Gas Test Certificate
* Isolation Of Equipment

The two main work permits, hot work and cold work, are supported by additional supplementary permits and certificates as required.

The scope of these permits are described below.

#### Hot Work Permits

These cover all work that may potentially give rise to a source of ignition and are therefore required for:

* welding, flame cutting, abrasive cutting, grinding, grit-blasting, use of explosive fixing tools, hot portable equipment and any other working processes or equipment involving heat, flame or sparks
* all work in areas classified as ‘hazardous’ that involves the use of internal combustion engines, unless the equipment has been certified as suitable for use in such areas
* all work on electrical systems and equipment in areas classified as hazardous
* all work on electrical systems and equipment in non-hazardous areas where there is a potential for gas migration in the event of a release
* all work on intrinsically safe electrical equipment
* all work involving the use of mains or battery-powered electrical tools in any area where there is the potential for gas migration in the event of a release, unless these tools are certified as suitable for use in an area classified as hazardous’
* radiography

The number of hot work permits authorised for implementation is decided by the facility superintendent. The permitted number is dependent on the locations of the activities to be carried out and the potential for interaction between two or more activities, on the available resources, and the ability to ensure that adequate controls are in place and adequate supervision available, at all times.

#### Cold Work Permits

These permits are required for all potentially hazardous working activities (excluding those for which a hot work permit is required). Such activities typically include, but are not limited to:

* handling of substances potentially hazardous to health, such the use of treatment chemical or paint mixing and application
* high pressure water jetting
* removal of any safety rails, ladders, opening of normally-closed hatches, lifting of deck gratings, etc.
* cleaning operations involving the use of degreasing agents, chemicals, solvents or detergents
* hydrostatic or pneumatic pressure testing of any equipment or system
* erection and dismantling of scaffolding or staging
* diving

#### Complementary Permits and Certificates

Complementary permits or certificates are issued to cover specific jobs, such as:

* entry into confined spaces
* radiography
* transfer of personnel by personnel basket
* diving activities
* mechanical, electrical, process, or safety system isolations
* gas test

#### Confined Space Entry

Confined space entry permits are mandatory for any work in enclosed spaces or where access is limited, such as vessels, tanks, etc. A confined space is any space in which an accumulation of flammable or harmful gases, vapours or dust, or in which a deficiency of oxygen may occur. The confined space entry procedure is applied to the control and issue of permits.

#### Radiography

The use of ionising radiation on a facility is controlled by the issue of a permit for radiography under the Ionising radiation procedure.

#### Process/Mechanical/Electrical Isolation

Process isolation is performed by means of valves, removable spools and spectacle blinds and by the use of tags to ensure that the isolation is clearly visible. Valves used for isolations will be locked or the handles disconnected to ensure that they cannot be moved. Where the work requires a large number of isolations, a separate spading list or isolation procedure may be prepared.

Mechanical isolation is performed by means of blinds, breaking of lines, etc. and is carried out under a separate permit to work. Again, all isolations are tagged to ensure they are clearly visible.

Electrical Isolations are required whenever the work detailed on the main permit requires work on any electrical equipment. Electrical isolations are carried out by locking out the relevant circuit breakers on main circuits and removal of fuses on lighting and small power circuits. All isolations are tagged at the switchboard and distribution board as appropriate.

Safety Isolations are required whenever the work detailed on the main permit requires the isolation of a safety, protective device, such as the inhibiting of alarms, or automatic shutdown devices. Safety isolations will not be carried out without alternative arrangements being made, such as the use of a fire-watch.

#### Basket Transfer

A permit is required whenever it is proposed to transfer personnel by basket. Details are given in the personnel transfer basket procedure.

#### Diving

Any diving from or associated with a facility must first be authorized by means of a cold work permit and is subject to the requirements for simultaneous operations.

### Temporary Work Instructions

There is often a need to issue a temporary work instruction. The need for these may, for example, be identified as a result of job safety analysis, toolbox talks, HAZIDs or HAZOP studies.

Temporary work instructions will typically be issued for specific tasks that are unlikely to be repeated, or which are associated with temporary situations.

A facility superintendent or site manager may authorise a temporary work instruction to be raised at any time to cover an unusual operation, where it is deemed to be in the interest of personnel or facility safety.

As temporary work instructions are produced to cover operations that are outside normal activities it is essential that great care be exercised in their preparation. (Refer to the procedure entitled Preparation of Procedures and Temporary Work Instructions.)

Temporary work instructions will detail the following, as considered appropriate to the task:

* details of the work to be done
* sequence of tasks
* equipment to be used
* possible contaminants
* hazards at each stage of the job
* precautions to be taken
* chemicals to be used
* relevant drawings or detail sketches
* abnormal operating conditions which may prevail
* specific emergency procedures relating to the task

### Content of Procedures

Procedures shall be developed in a standard format. The following details will be included in all procedures, as applicable:

* title of procedure
* revision history
* purpose
* scope
* performance standard, which will include:
* task methodology
* need for personal protective equipment
* limitations on application, e.g. non permitted concurred activities
* additional controls required, e.g. cordoning off area
* KPIs
* responsibilities
* verification
* references
* appendix

Safe operating procedures shall incorporate any requirements identified as a result of hazard identifications, or safety studies, etc.

All changes to safe operating procedures shall be controlled by the change management system. (Refer to section 13 Management of Change for further information.)

### HSE Critical Procedures

An assessment shall be carried out to identify critical HSSEQ procedures and temporary work instructions.

Each project shall either compile a set of manuals containing project procedures, or shall make an electronic copy of them readily available on line. These shall be maintained up to date.

All changes to safe operating procedures will be controlled by the change management system. (Refer to section 13 Management of Change for further information.)

### Key Performance Indicators

The KPIs for this section are:

* comprehensive evaluation of procedures required for a project carried out at the commencement of the detailed design phase
* procedures developed and approved prior to being required for use
* HSSEQ critical procedures identified

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that appropriate safe operational procedures are developed, implemented, and maintained for each project

#### Production Superintendent

Is responsible for:

* ensuring that appropriate project specific safe operational procedures are identified, developed, implemented and maintained
* ensuring either that a set of manuals containing copies of project procedures is developed, or an electronic version of all procedures are readily available on line.
* ensuring that an assessment is carried out to identify the critical procedures
* determining the need for temporary work instructions, and for ensuring that these are developed and implemented
* the day-to-day operation of the permit to work system on the facility

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* evidence that each project team have evaluated the procedures required for all phases of the project’s life
* evidence that all required procedures were developed and approved, prior to being required for use
* the existence of project procedure manuals in hard-copy form
* evidence that an evaluation has been carried out to identify the HSSEQ critical procedures
* evidence that the permit to work system operates effectively
* the existence of permit to work records
* evidence that training of the relevant users of the procedures has been undertaken prior to starting work

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Personnel Transfer Basket  |
|  | Confined Space Entry  |
|  | Safe Operational Procedure – Confined Space/Vessel Entry Certificate  |
|  | Safe Operational Procedure – Permit to work  |
|  | Hot Work Permit  |
|  | Cold Work Permit  |
|  | Isolation Of Equipment  |
|  | Electrical Isolation Certificate  |
|  | Mechanical Isolation Certificate  |
|  | Process Isolation Certificate  |
|  | Safety Isolation Certificate  |
|  | Gas Test Certificate  |
|  | Job Safety Analysis Procedure  |
|  | Toolbox Talk Task Prompt Card  |
|  | Management Of Well Activities  |
|  | Incident Reporting And Investigation  |
|  | Incident Reporting And Investigation Procedure  |
|  | Document Control & Filing Procedure  |
|  | Manual Of Permitted Operations (Including SIMOPS)  |
|  | Simultaneous Operations Drilling Bridging Document  |
|  | H2S Precautions Procedure  |
|  | Start-up  |
|  | Shutdown  |
|  | Production  |
|  | Diving/Underwater Procedure  |
|  | Logistics (Marine & Aviation) Interface Procedures  |
|  | Helicopter Ops. Affecting the Facility  |
|  | Marine Supply Ops. Affecting the Facility  |
|  | Crane Operations  |
|  | Lifting Equipment Management System  |

# MATERIALS HANDLING & STORAGE

## Intent

To establish, implement and maintain a system for the handling and storage of materials and equipment, that reduces risks to health, safety and the environment in addition to preventing damage, or deterioration, to the materials and equipment.

## Performance Standards

### Handling General

There are a number of areas that shall be considered when handling equipment and materials. Where appropriate, procedures shall include requirements associated with, but not limited to:

* stacking of materials, e.g. by crane or forklift, where incorrect procedures can lead to damage, e.g. exceeding recommended stack heights can result in crushing of some items.
* handling of certain materials that are at risk of corrosion from finger-marks, where it may be necessary to wear gloves during all handling, e.g. printed circuits, halogen globes, copper, bronze or brass items.
* flushing of liquid containers to avoid contamination
* handling of food in a way to avoid contamination or degradation
* handling of electronic equipment where they are at risk from electrostatic discharges
* use of spreader beams, lifting cages, pallets, etc to lift equipment/materials that could otherwise be bent, crushed, or dropped.
* use of ‘tag’ lines to restrain loads from swinging into other objects during the lifting operation

### Manual Handling

There are a number of factors that contribute to the likelihood of injury, or damage during manual handling of loads. These include, but are not limited to:

* weight of load to be lifted
* posture during lift
* shape of load
* availability of adequate hand-holds
* balance of load during lifting operation
* available space
* access and egress facilities
* visibility
* presence of slippery surfaces, e.g. wet loads
* content, i.e. hazardous chemicals

All manual handling shall be carried out in accordance with document number HOLD, Manual Handling.

Additional manual handling restrictions will be applied where these are required by local regulation, or project requirements.

It is recognised that there is a human tendency to lift heavier loads than recommended and to do so using poor posture.

The importance of adhering to the procedure and the need for good posture during the lift shall be stressed during inductions and will be reinforced on a regular basis during HSSEQ meetings, toolbox meetings and inspections. In addition to these verbal warnings, HSSEQ information such as posters, HSSEQ notices, etc. will also be used to reiterate the hazard.

An assessment shall be made when planning a manual lift, of the factors that could lead to injury, or damage. Where this assessment indicates that there is possibility of injury, or damage, then risk reduction measures shall be considered including the use of mechanical lifting aids.

### Mechanical Handling Facilities

Mechanical handling shall be carried out in accordance with the mechanical handling procedure. This procedure details the controls to be applied during all lifting operations.

Lifting devices such as cranes, winches, hoists, fork lifts and wheeled trolleys shall not be used unless they comply with the appropriate codes and standards.

Pad eyes and monorails shall be marked to identify the maximum safe working load.

Appropriate ‘spreader beams’, or other applicable lifting aids shall be used where applicable to prevent damage to equipment or materials being lifted.

### Inspection, Testing, Marking and Certification

#### Register of Lifting Devices

Registers shall be developed and maintained within a project’s computerised maintenance management system of all lifting equipment available at a worksite or facility. One register shall detail all Company Petroleum lifting equipment and separate registers shall detail all contractor lifting equipment at the site or facility. It is the contractor’s responsibility to maintain a register of their equipment.

The term lifting equipment includes:

* slings of steel wire rope, braided wire rope, fibre rope, chain or any other construction
* hooks, rings, shackles, swivels, hammer locks, eyebolts and other accessory gear
* cargo baskets, trays, crates, nets, tubs, grabs and other containers for holding equipment, materials, etc.
* winches, chain blocks and other hoisting appliances
* mechanical equipment used in loading or unloading equipment, materials, etc.

Registers shall contain detailed information for each item of lifting gear. This information includes but is not limited to:

* unique identification number
* description of item
* proof load certification number
* proof load date
* tare, net and gross weight (where applicable)
* NDT test number
* NDT test date
* safe working load
* SWL test certification number
* SWL test date

Any item available at the worksite that is not registered shall be quarantined until either successfully tested and registered or is disposed of.

#### Inspection

All items of lifting gear shall be inspected at the intervals shown the maintenance management system and the results recorded in the register.

The user shall also inspect a proposed item of lifting equipment prior to use following a period of non-use (as detailed in the mechanical handling procedure) and immediately after any accident.

Any item found to have defects that exceed the maximum allowed by the procedure shall be returned to the line manager who is responsible for its disposal and removal from the register.

Fibre rope slings shall be disposed of by the user after use in accordance with the mechanical handling procedure.

#### Marking

Each item shall be marked with a permanent tag providing details of its unique identification number. Shackles will not be tagged but will be subject to visual inspection and discarded if any defects are identified. Shackles will be colour coded following inspection as a means of indicating they are available for use.

Contractor’s equipment shall be clearly marked to identify it from any Company Petroleum equipment or that of other contractors at the worksite.

Marking shall be in accordance with the mechanical handling procedure.

Contractors shall not use any lifting equipment at an Company Petroleum facility or controlled worksite until it is approved by Company Petroleum. The contractor shall provide sufficient information, e.g. load test certificates, etc. as may be required by Company Petroleum to enable them to approve the item.

#### Training

Training shall be provided in the following areas, as necessary to ensure that personnel have the required levels of competency:

* Techniques for safe lifting and carrying
* Operation of mechanical lifting equipment
* Crane operation
* Fork lift operation (where appropriate)
* Inspection and use of lifting gear

### Hazardous Materials

The purchase, handling, storage, use, and disposal of hazardous materials at all facilities or worksites shall be carried out in accordance with the Chemical / Hazardous Material Handling Procedure. This procedure also details the requirements of relevant legislation, or international codes and standards.

Prior to the delivery of any hazardous materials to a facility or worksite, the following information shall be obtained, appropriate arrangements made, and the personnel to be involved in the handling of the item advised of the appropriate precautions to be taken:

* material safety data sheets obtained, and reviewed to determine the appropriate precautions for its handling and storage
* worksite operators advised of handling and storage requirements
* labelling requirements
* disposal requirements identified

Details of handling and storage requirements shall be faxed to the facility or worksite. A confirmation fax shall be obtained from the facility/worksite that the necessary handling requirements, e.g. PPE, together with appropriate storage and disposal facilities are understood and available at the facility/worksite before the hazardous material is dispatched to the facility/worksite.

Copies of current MSDSs for all hazardous materials stored or used at each facility/worksite or facility shall be maintained on file at the facility/worksite.

Worksite/facility specific registers shall be maintained of all hazardous materials to be used, together with the storage locations, storage requirements and maximum inventories of each chemical. The storage locations and maximum inventories used in the hazardous assessment studies for the worksite or facility shall not be exceeded without a reassessment of the associated hazard and risk being carried out.

### Storage

Where appropriate designated storage areas shall be defined for the storage of all hazardous, perishable, and easily damaged foodstuffs, equipment, and materials.

The condition of these products shall be checked at appropriate intervals to provide early detection of deterioration.

When selecting these storage areas, consideration shall include, but may not be limited to, the following:

* dry storage of food
* cold storage of food
* segregation of corrosive substances from other materials
* storage of magnetic media in a non-magnetic environment
* spillage containment
* fire fighting facilities
* maximum stacking height
* light
* temperature
* humidity
* vibration
* ‘use-by’ dates for food
* security

### Packaging and Labelling

Where it is necessary, appropriate packaging materials shall be used to protect goods in transit.

Where appropriate goods shall be provided with clear, unambiguous labelling. Examples include:

* hazardous substances
* fragile components
* goods that are required to be kept ‘right way up’ at all times
* goods that must be kept dry
* stacking limitations
* use-by dates

### Preservation

In some instances goods are required to be stored for extended periods prior to use. Under these circumstances it is essential that appropriate preservation procedures are developed if deterioration is to be avoided.

In general the requirements of section 16.2.5 provide adequate preservation for most items. Where an exception exists, then appropriate preservation procedures and requirements shall be developed. Examples include:

* draining and pickling of pipework
* application of a protective oil film over items that may corrode
* disconnection of electrical supplies
* provision of humidity control heaters, etc.

Each project shall identify the needs for preservation of equipment and produce the appropriate procedures.

### Delivery

Where it is necessary to deliver goods to various locations, then the responsible person shall ensure that all requirements of legislation, or regulations are understood. Examples include:

* the transportation of hazardous goods by road
* disposal limitations
* oversize loads
* insurance
* etc.

## Key Performance Indicators

The following KPIs apply to this section:

* handling procedures address the appropriate requirements for protection against damage and deterioration of materials, goods and equipment
* assessments of manual lifts carried out in advance and documented
* manual handling procedure developed prior to a requirement for its implementation
* all lifting devices recorded on the register of lifting devices
* contractors control their own lifting devices in accordance with the requirements of Company’s mechanical handling procedure
* registers of all lifting devices maintained and current
* no lifting devices in use unless they are listed on the registers
* all lifting devices inspected in accordance with requirements
* all lifting devices provided with permanent marking as required
* all lifting equipment operators trained to required levels of competence
* no hazardous materials received on site without MSDS being available
* all materials stored in accordance with requirements
* maximum inventories and storage locations of hazardous materials comply with those used for hazard assessment
* all goods for dispatch are appropriately packaged and labelled
* items being stored for extended times are provided with appropriate preservation

## Responsibilities

#### Facility Superintendent/Project Manager

Is responsible for:

* ensuring that an assessment is carried out prior to any significant manual lift to determine the hazards and need for mechanical lifting aids
* ensuring that the procedures for the safe handling of hazardous substances and manual and mechanical handling are implemented effectively at the facility/worksite
* ensuring that all items are provided with appropriate preservation when extended storage is required
* ensuring that all goods are stored in accordance with requirements to prevent damage or deterioration
* ensuring that all goods for dispatch are appropriately packaged and labelled

#### Regional HSSEQ officer

Is responsible for:

* ensuring that personnel are made aware of manual handling hazards
* ensuring that MSDSs are available and the appropriate safety precautions available, before any hazardous material is shipped to the facility
* ensuring that all personnel involved in the handling, or use of hazardous materials understand the hazards and the appropriate precautions required

#### Riggers and Crane Operators

Are responsible for:

* ensuring that all Company Petroleum lifting equipment is recorded on a register of lifting devices
* ensuring that all contractor lifting equipment is recorded on individual contractor registers of lifting devices
* ensuring that all mechanical lifts are carried out in accordance with the appropriate procedures
* ensuring that no lifting device is used unless it complies with appropriate codes and standards
* ensuring that all items of lifting gear are inspected at the required intervals
* ensuring that all items of lifting gear are marked with a permanent tag
* quarantining and disposal of any lifting gear that is not listed on the register, or has been damaged

## Verification

Compliance with this section will be verified by:

* documented evidence that assessments of manual lifts have been carried out
* the existence of procedures for manual handling, mechanical handling and control of hazardous materials and evidence that these have been implemented effectively
* the existence of registers of lifting devices
* evidence that all lifting devices in use are included on the appropriate register
* evidence that all operators of lifting equipment are trained to the required standards
* evidence that personnel have received training in manual handling techniques
* evidence that current MSDSs are available for all hazardous materials stored or in use at the worksite
* evidence that all goods are stored in accordance with requirements
* evidence that inventories and storage locations comply with those used for hazard assessment
* evidence that appropriate preservation has been applied to goods in extended storage
* evidence that items being dispatched are provided with appropriate packaging and labelling.

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Chemical / Hazardous Material Handling Procedure.  |
|  | Crane Operations  |
|  | Lifting Equipment Management System  |

# MAINTENANCE & REPAIR

## Intent

To develop, implement and maintain an effective system for the maintenance of equipment necessary for the safe operation of a facility and to maintain the availability of production equipment.

## Performance Standards

Company’s maintenance plans and procedures shall be structured to:

* ensure a consistent, cost effective and efficient system of maintenance management across all its operations
* provide optimum levels of inspection and maintenance to ensure that equipment and facilities remain ‘fit for purpose’ over the life of the project

A Technical Integrity and Maintenance Management System (MMS) shall be used to schedule and record the maintenance work required on a facility or at a worksite. The system shall be used to manage the maintenance schedule, available resources, costs, and provide a record facility.

The system shall apply to equipment serviced and maintained by operations personnel on a facility and any equipment serviced, or maintained, by contractors or third parties.

All materials, new equipment and spare parts shall conform to the applicable engineering drawings, specifications, codes, standards, quality assurance, certification and traceability requirements.

Design information shall be provided and maintained for the use of maintenance personnel that shall include as a minimum;

* basis of design
* design codes, standards and technical specifications
* operating parameters
* drawings and diagrams
* relevant manufacturers’ data books, operating and maintenance manuals

Maintenance, inspection and test records shall be prepared and controlled.

Where it is necessary to maintain safety systems or equipment, then appropriate contingency plans shall be instigated to ensure that the safety integrity of the facility is not impaired.

Personnel on a facility shall be advised of the nature and anticipated duration, of the maintenance tasks in hand. Personnel shall be advised of any safety contingency plans, or special precautions that will apply during the period.

Refer to section 15 Safe Operational Procedures for details regarding isolation procedures, e.g. mechanical, electrical, process and safety systems.

Refer to section 8 Hazard Identification and Risk Management for details of how hazard identification is to be carried out for maintenance activities. Hazards shall be evaluated for all unplanned maintenance, or repair activities to assess the impact of utilising components that may not match the original parts due to unavailability.

### Assessment of Critical Equipment

An assessment (Refer to section 8.2.12 Critical Items) shall be carried out to determine equipment that is considered to be critical for:

* HSSEQ
* maintaining operational requirements

Equipment shall be categorised into one of the five following groups:

* C1 - HSSEQ critical (systems / equipment that are provided for the protection, control or mitigation of hazards to the health and safety of personnel and the environment)
* C-2 - technical integrity (systems / equipment that are provided for the prevention, control or mitigation of hazards to equipment or the facility including systems / equipment who’s failure results in an unacceptable risk to the health and safety of personnel or the environment)
* C-3 - process integrity (systems / equipment that are required to maintain continued production where failure results in a reduction of overall capability of the facility to achieve the production targets
* C-4 - non-essential (all other systems or equipment where failure will not impact the health and safety of personnel, environment, facility integrity or production)

### Maintenance and Integrity Management System

A maintenance plan shall be developed, implemented, and maintained for each facility and worksite under the control of Company Petroleum.

The plan shall describe the following:

* maintenance philosophy
* how maintenance frequencies are determined and comply with the assumptions made in the facility’s safety case
* how priorities are allocated to maintenance tasks
* required resources
* reference how HSSEQ critical items are identified and how the maintenance of these items is controlled
* the contingency arrangements that apply when safety or environmental protection equipment is unavailable due to maintenance
* inspection regimes
* the maintenance management system
* the process by which maintenance frequencies may be modified
* arrangements for the control of spares, e.g. purchase, inspection, determination of minimum spares
* the records to be maintained, including specific equipment records of repairs, modifications, etc.
* how equipment that requires registration with external authorities is identified and registration maintained
* applicable maintenance procedures
* the system for controlling equipment supplier maintenance manuals
* the use of JSA’s in determining hazards associated with maintenance work
* audit schedules for the maintenance system and the reviews that will take place to determine areas for system improvement
* demonstrate that the maintenance programme will be consistent with maintenance and inspection assumptions made during the formal safety assessment and safety case preparation

### Maintenance Procedures

Maintenance procedures shall give due consideration to minimising environmental impact from discharges and by the selection and use of chemicals that have the least environmental impact wherever a choice is readily available.

The following procedures, collectively describe Company’s Technical Integrity and Maintenance Management System:

* long term maintenance
* intermediate special surveys
* routine maintenance and inspection
* safety critical maintenance & Inspection

These are supplemented by facility specific procedures that typically include:

* maintenance & integrity management system philosophy
* notifiable planned facility shutdown periods
* spares philosophy including spares management plan

### Corrosion Management

For each major facility (i.e. tanker or platform) a corrosion management plan shall be developed, the purpose of which is to The maintenance and integrity management system shall provide for the management of the risks and effects of corrosion of all critical systems, the purpose of which is to:

* assess the actual condition of new and existing equipment and facilities
* determine the risk from corrosion
* identify critical items that require attention
* develop an effective corrosion control and monitoring programme
* minimise the risk of corrosion during the operational phase of the facility

### Modifications

All modifications carried out to an existing facility shall be evaluated to assess the impact on the maintenance programme. (Refer to section 13 Management of Change.)

### Inspection

Inspections shall be carried out of the equipment and systems on a facility, in accordance with the inspection programme detailed in the maintenance plan.

The findings of each inspection shall be documented and the details recorded in the MMS. The information shall be used to make improvements to the maintenance programme on the basis of operational experience.

### Training

All personnel involved in maintenance activities shall be trained as necessary to achieve the required levels of competence. (Refer to section 18 Employee selection, competency and training for further information.)

## Key Performance Indicators

The following KPIs apply to this section:

* maintenance plan developed for each facility and worksite
* Maintenance Management System (MMS) in place before commencement of operations
* assessment of critical equipment carried out, documented and used as input to the MMS
* equipment shall be maintained based on procedures contained in vendor equipment manuals. Where procedures do not exist in the vendor equipment manuals they shall be developed in accordance with the HSSEQMS
* corrosion management incorporated into the MMS
* assessments carried out and impact on the maintenance management system determined for all proposed modifications to a facility
* inspection regime in place and operating effectively
* maintenance personnel trained to required level of competency

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that a computerised maintenance management system is developed that is suitable for all Company Petroleum operations
* ensuring adequate resources are available to effectively implement and maintain the maintenance system
* ensuring that a maintenance plan is developed, implemented and maintained for each facility
* approving the maintenance plan
* ensuring that all appropriate maintenance procedures are developed prior to a requirement for their use
* ensuring that a corrosion management plan is developed for each facility
* ensuring that an evaluation is carried out of all proposed modifications to a facility to assess impact on the maintenance programme
* ensuring that all appropriate training for maintenance activities is carried out

#### Technicians

Are responsible for:

* carrying out maintenance on a facility’s equipment in accordance with the maintenance plan and MMS
* carrying out inspections of a facility equipment in accordance with the inspection programme and recording the details in the MMS

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* evidence that a MMS is operational and effective for each facility
* evidence that an assessment of critical equipment has been carried out and used to develop the maintenance programme
* the existence of a maintenance plan
* evidence that all maintenance procedures were developed and approved for implementation prior to being required for use
* the existence of a corrosion management program within the MMS
* evidence that all modifications to a facility were evaluated to determine any changes necessary to the maintenance programme
* evidence that all maintenance personnel have received training to the required level of competence
* evidence that equipment failures are appropriately investigated and the maintenance plan and inspection frequencies, amended where appropriate

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Maintenance & Integrity Management System Philosophy  |
|  | Spares Philosophy Incl. Spares Management Plan  |
|  | Equipment & Instruments Database  |
|  | Inspection & Preventative Maintenance Programme & Procedures  |
|  | Long Term Maintenance  |
|  | Intermediate Special Surveys  |
|  | Routine Maintenance & Inspection  |
|  | Safety Critical Maintenance & Inspection  |
|  | Notified Planned Shutdown Periods  |
|  | Safety Critical Maintenance & Inspection  |
|  | Notified Planned Shutdown Periods  |

# EMPLOYEE SELECTION, COMPETENCY AND TRAINING

## Intent

To develop, implement and maintain a system that ensures the ongoing competence of personnel.

## Performance Standards

### Determination of Competency Requirements

An assessment shall be carried out at the commencement of a project, and updated at regular intervals thereafter, to determine the resources and skills necessary throughout the project’s duration.

A position description shall be developed for each position identified in the organisation charts.

Each position description shall detail the following:

* role
* responsibilities
* formal qualifications required
* experience requirements
* competency standards
* management skills
* personal abilities and aptitudes
* health considerations
* physical and psychological capacities required
* All HSSEQ responsibilities and accountabilities are recorded in the CAART. (Refer to section 5.2.2 Register of Responsibilities for further details.)

### Employee Selection

The safety, and quality, of any operation and the effect on the surrounding environment is directly influenced by the competency of the personnel performing the task. Human error is found to be a significant factor in most accidents or incidents.

Where practicable, all personnel shall be required to have previous experience at the same level of responsibility in a similar role.

All employees in a supervisory position offshore shall have applicable qualifications and have had previous offshore experience.

The minimum required qualifications and experience for the position shall be detailed on the associated position description. (Refer to section 5.2.2 Position Descriptions for details.)

Where personnel are employed that do not have appropriate qualifications or experience for their intended role, then that individual shall be required to receive appropriate training in those areas where a short-fall exists.

Applicants claiming competencies in areas requiring certification will have these documents sighted.

The methodology for the selection of personnel is documented in the employee selection, competency, and training document.

### Health Criteria and Examinations

All permanent employees shall undergo a pre-employment medical at the company’s expense.

All personnel permanently employed offshore shall be classified as medically fit to work offshore in accordance with the UK Offshore Operator’s Association (UKOCompany) “Guidelines for Medical Aspects of Fitness for Offshore Work” – a Guide for Examining Physicians”.

Medical records shall be maintained for all employees. Access to these records shall only be available to authorised persons.

All employees who need to go offshore for more than twelve days in any one year shall be given a follow-up medical, at the company’s expense, at the following intervals:

* Age 39 and below 2 year intervals
* Age 40 and above 1 year intervals

### Competency Assessment

Annual performance reviews shall be carried out for all personnel to confirm that an individual’s competency is being demonstrated.

Supervision shall be provided to ensure the development and maintenance of required competencies. This is particularly important for any employee new to a particular job, or those undergoing training for a job.

### Training

It is the responsibility of the Chief Executive Officer Company Petroleum to ensure that adequate resources are made available for training purposes.

#### Induction

All new employees, existing employees transferring to a work site/facility, visitors, casual employees, and contractor personnel shall be given an induction course tailored to suit the specific worksite or facility. Records shall be maintained of attendance at induction courses.

 The induction shall include as appropriate, but may not be limited to, the following information:

* site/facility orientation
* project/work scope overview
* location of medical, first aid, toilet, catering, facilities
* working hours, times of fixed breaks
* hazards present
* health, safety, and environmental responsibilities
* location of fire, safety, and evacuation equipment
* details of emergency alarms
* emergency response procedure
* location of escape routes
* location of muster points, temporary refuges
* location of emergency telephones
* location of any restricted areas
* incident and hazard reporting requirements
* permit to work systems (as appropriate)
* safe operational and other applicable procedures
* housekeeping requirements
* waste management requirements
* drug/alcohol policies
* smoking restrictions
* personal protective equipment requirements

#### Training Courses

An HSSEQ-training matrix shall be maintained for all relevant personnel that will detail the nature, frequency and type of training required.

The content of training courses shall be periodically reviewed, in conjunction with employees, to ensure that they remain relevant and in compliance with statutory requirements.

Training requirements shall be reassessed if significant organisational, technical, procedural, or task changes occur.

Training records shall be maintained and available for all personnel.

Specific training related to HSSEQ critical procedures shall be provided for all affected employees.

All training required by regulation shall be carried out.

## Key Performance Indicators

The following KPIs apply to this section:

* position descriptions prepared for all required positions
* employees selected in accordance with procedures
* employee medicals carried out at two year intervals
* competency assessments demonstrate that training is effective
* adequate training resources made available
* all personnel given appropriate induction
* training matrix maintained up to date
* all training required by regulation carried out

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* carrying out annual performance reviews of line managers
* approving all annual performance reviews
* ensuring adequate resources are available for required training
* ensuring that annual performance reviews are carried out for all line managers

#### Project Manager/Facility Superintendent

Is responsible for:

* ensuring that wherever practicable, employees have the required skills and previous experience
* ensuring that the selection of personnel is carried out in accordance with the applicable procedure
* ensuring that annual performance reviews are carried out for all employees under his/her control
* ensuring that only appropriately qualified and competent personnel are assigned to a task
* monitoring the competence of personnel on the project/facility and for ensuring that all newly appointed, or transferred personnel are supervised until their competence is confirmed as appropriate for their role

#### Administration Manager

Is responsible for:

* ensuring all personnel employed by Company Petroleum meet the required medical criteria
* maintaining medical records of all employees and ensuring that only personnel authorised by the Chief Executive Officer Company Petroleum have access to such records

#### Regional HSSEQ officer

Is responsible for:

* carrying out appropriate checks into applicant’s claimed competencies and qualifications
* maintaining training records
* providing induction training to all office based personnel
* ensuring safety training matrices are developed for all worksites and facilities
* ensuring that appropriate training courses are developed and regularly reviewed with employees
* providing induction training at the facility

#### Technicians

Are responsible for:

* ensuring that only competent personnel are assigned maintenance tasks

#### All employees

Are responsible for:

* advising their line manager if they have been assigned tasks for which they consider they do not have the appropriate qualifications, skills, experience, or competence, or do not conform to their job description

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section shall be verified by:

* evidence that an assessment was carried at project commencement to determine resources and skills necessary and that further assessments are carried out at periods not exceeding 12 months.
* the existence of signed position descriptions for all employees
* evidence that employee selection has been carried out in accordance with the appropriate procedure
* evidence that employee’s competency certification documents have been sighted
* the existence of training records for all employees
* the existence of medical records for all employees
* evidence that annual performance reviews have been carried out for all personnel
* evidence that the training resources are adequate to achieve the training programme requirements
* evidence that all employees have received appropriate induction training
* evidence that training courses are regularly reviewed for applicability

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|   | Personnel selection procedure  |
|  | Induction Procedure  |
|   | Competency Assessment Procedure  |
|   | Competency Assessment Task Sheets  |
|  | Strategy  |
|  | Position Descriptions  |
|  | Onshore Support Team  |
|  | Remuneration & Benefits  |
|  | Industrial Relations Strategy  |
|  | Employee Relations Organisation  |
|  | Independent Industrial Advice  |
|  | Administration Procedures  |
|  | Recruitment Procedure  |
|  | Sources Of Personnel – Company Employees  |
|  | Contract Personnel Procedure  |
|  | Recruitment Procedure  |
|  | Industry Obligation Management Procedure  |
|  | Management of Unions  |
|  | Employment Issue and Grievance Resolution Procedure  |
|  | Employee Performance & Appraisal Procedure  |
|  | Counselling, Discipline & Termination Procedure  |
|  | Facilities & Amenities  |
|  | Induction Procedure  |
|  | Reports  |
|  | Training  |
|  | Safety Critical Training Matrix  |

# WORKPLACE ENVIRONMENT

## Intent

To develop, implement, and maintain systems to ensure and promote a safe working environment and one that minimises any environmental impact.

## Performance Standards

A review shall be carried out of each major facility and workplace of the amenities available and the workplace environment. The workplace should comply with local regulations and applicable codes and standards. The results of this review shall be documented and used to identify areas where improvements are necessary. All areas for improvement shall be logged onto the EFAC action tracking system and monitored until closed out.

Weekly worksite inspections shall be carried out to ensure that the conditions do not deteriorate.

This assessment shall address, as a minimum:

* atmospheric contamination
* housekeeping
* lighting and ventilation
* noise and vibration
* signs
* personal protective equipment
* temperature extremes
* hygiene
* radiation
* working hours
* basic amenities

#### Atmospheric Contamination

All sources and types of atmospheric contamination shall be identified and recorded. If there is the potential for levels of contamination to exceed safe exposure levels, then a health-monitoring programme shall be operated. Safe exposure levels shall be assessed in accordance with local regulations.

Wherever practicable measures shall be taken to minimise atmospheric contamination from sources under the control of Company Petroleum. Where sources are outside the control of Company Petroleum, appropriate barriers or PPE shall be provided.

#### Housekeeping

It is every employee’s responsibility to maintain high standards of housekeeping in the workplace.

Where the weekly inspections identify that housekeeping standards are not being achieved, specific remedial action is to be taken.

#### Lighting and Ventilation

Lighting and ventilation levels shall be regularly checked during the weekly inspections to ensure that they are appropriate to the location and nature of work being performed.

Where work is to be carried out in confined spaces or areas of restricted access, then the employees in the area shall be provided with torches, or other suitable emergency lighting.

#### Noise and Vibration

During the detailed design of a facility, an assessment shall be carried out to determine areas of high noise and vibration levels. These shall be reduced to as low as reasonably practicable by the introduction of suitable controls. Where it is necessary to temporarily remove these controls, such as may be necessary for maintenance purposes, then alternative means of protection shall be provided. At no time will personnel be exposed to levels that exceed legislative requirements.

All modifications to a facility shall be reviewed to determine the need for noise or vibration controls.

Controls shall be chosen in the following order of preference:

* elimination
* substitution for a less noisy or vibration generating option
* relocation to a more suitable location
* installation of barriers, e.g. acoustic enclosures
* restriction of access by personnel
* provision of PPE

Noise and vibration levels shall be reassessed should changes occur.

#### Signs

Suitable signs shall be provided as appropriate to advise personnel of the location of the various items of equipment provided. Examples of such sign requirements include, but may not be limited to the following:

* emergency equipment
* portable fire fighting equipment
* first aid facilities
* escape routes
* muster points
* temporary refuge
* evacuation routes
* evacuation equipment
* manual callpoints

Examples of addition signs that shall be provided include but are not limited to the following:

* access restrictions
* requirements for the use of PPE, e.g. breathing apparatus, ear defenders, etc.
* high voltage equipment
* status of isolations

Signs shall be high visibility. Icons shall be used in preference to text where widely recognised options exist.

Text shall be in the English language with the text repeated in a second language where the mixture of employees makes this necessary.

#### Personal Protective Equipment

Company Petroleum shall provide basic PPE to all employees working offshore or at a construction site. Contractors are responsible for the provision of similar items for their employees.

This shall include:

* coveralls
* hard-hat
* safety glasses
* safety boots
* gloves
* ear plugs or ear defenders

Additional items of PPE shall be made available where a requirement is identified as a result of hazard and risk control measures.

#### Temperature Extremes

Where there is a potential for personnel to be exposed to high temperatures at the work-site, various control measures shall be introduced as deemed appropriate. These may include, but shall not be limited to:

* erection of shields
* provision of drinking water
* frequent rest periods in a sheltered location
* protective clothing
* installation of thermal insulation materials to hot-surfaces
* shutting down of equipment and allowing it to cool before commencing work

#### Hygiene

All workplaces under the control of Company Petroleum shall maintain a high standard of hygiene. Particular attention shall be paid to accommodation areas, catering, toilet, and first aid/medical facilities.

Procedures shall also be developed that control the transport, storage, and preparation of food substances.

The standard shall, as a minimum, meet the requirements of local regulation.

Audits and inspections shall be regularly carried out to ensure the required standards are being met. Inspections will be carried out weekly. Audits shall be in accordance with the audit schedule.

#### Radiation

Where there is a hazard from radiation, controls shall be implemented to minimise the exposure of personnel. Such control measures may include, but may not be limited to:

* erection of radiation proof barriers
* increasing the separation distance between source and work areas by the relocation of equipment requiring access
* removal of source, either permanently or temporarily
* reduction of source radiation by selection of an alternative material or process
* limiting exposure time
* monitoring exposure levels
* provision of warning signs

All work carried out where there is a hazard from radiation, shall be controlled by means of the permit to work system.

#### Working Hours

Working hours shall be reviewed, and work content varied to minimise fatigue, stress, boredom, etc. or exposure to hazardous conditions such as high temperatures, radiation, etc.

#### Basic Amenities

All amenities shall be designed and provided in accordance with appropriate legislation, standards, and codes of practice. These include, but may not be limited to:

* potable water
* provision of sufficient working space
* surfaces and floors
* mess areas
* leisure areas
* gyms
* changing rooms, toilets, showers, etc.
* cabin and general accommodation space

## Key Performance Indicators

The KPIs applicable to this section are:

* workplace review carried out and findings documented for each facility or worksite
* regular inspections carried out and adverse findings corrected
* compliance with local regulations, and applicable codes, and standards

## Responsibilities

#### Project Manager/Facility Superintendent

Is responsible for:

* ensuring that a documented review is carried out at each worksite and facility of the amenities and environment
* ensuring that atmospheric and other environmental contamination is minimised at each worksite and facility
* ensuring that noise and vibration assessments are carried out, and their effects minimised
* ensuring that adequate signs are made available for each worksite and facility
* ensuring that adequate PPE is made available for all employees at Company’s worksites and facilities
* ensuring that all contractors provide appropriate minimum standards of PPE for their employees required to work at an Company Petroleum controlled worksite or facility
* ensuring that basic amenities are provided, and maintained, at each worksite in accordance with appropriate local legislation, standards, and codes of practice
* establishing appropriate working hours at each worksite and facility
* ensuring that the facilities provided to minimise exposure from atmospheric contamination, noise, vibration, excessive heat, etc. are maintained, or alternative protection provided where it becomes necessary to temporarily remove such facilities, e.g. as a result of maintenance, etc
* ensuring that adequate lighting and ventilation is provided at the workplace
* ensuring that torches are made available for use in confined spaces
* ensuring that appropriate control measures are determined and implemented for areas where extremes of temperature exist
* ensuring that appropriate controls are identified and implemented where a hazard from radiation exists
* ensuring that tasks are planned taking into account the potential for fatigue, etc

#### Regional HSSEQ Officer

Is responsible for:

* developing appropriate health monitoring programmes where these are required
* determining the required type and location of HSSEQ related signs at each workplace and facility
* determining what type and quantities of PPE are required and the locations where they shall be worn by personnel at each Company Petroleum worksite and facility
* carrying out audits, and inspections, to ensure that high levels of hygiene are maintained at each worksite and facility
* carrying out, and documenting worksite inspections

#### All Employees

Are responsible for:

* maintaining high standards of housekeeping at the workplace

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section shall be verified by:

* evidence that a workplace review has been carried out and documented
* evidence that improvements identified have been incorporated into the EFAC Action tracking system and closed out in a timely manner
* evidence that weekly inspections are carried out and all areas identified for improvement incorporated into the EFAC Action tracking system and closed out in a timely manner
* a demonstration that the requirements of local regulations and applicable codes and standards have been identified and met

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|   |   |

# FIRST AID AND EMERGENCY RESPONSE

## Intent

To develop, implement and maintain effective first aid and emergency response arrangements.

## Performance Standards

The results of the various hazard identification reviews, and the associated hazard/risk assessments shall be used to identify the types of incident that may occur at the worksite, or facility, and to plan the first aid facilities needed.

An inventory shall be prepared that lists the first aid items required to suit the credible incidents for the workplace. The services of a pharmacist shall be obtained to assist in the preparation of the inventory.

For each workplace or facility an assessment shall be carried out to determine the number of personnel required to be trained to an appropriate level of first aid competence. This assessment shall take into account the swings of personnel on a facility and shift working, so as to ensure first aid assistance is available at all times.

Where work is carried out at remote locations, then the review shall identify the need for any additional facilities or levels of training that are appropriate and arrangements for its provision shall be made.

Medical items may only be distributed to patients by an individual having the appropriate medical training.

Secure storage facilities shall be provided for all medicines and controlled drugs. These arrangements shall include facilities for drugs such as morphine in lifeboat first aid kits.

A dispensary register shall be maintained in each first aid room. This register shall be used to record details of all medicines and medical stores dispensed, lost, stolen, or disposed of other than those that are ‘controlled’.

A controlled drugs register shall be maintained at all locations where any drugs are held that are required to be controlled.

A medical treatment register shall be maintained in each first aid room. Information in this register is ‘CONFIDENTIAL’ and the register shall be kept in a secure place.

The first aid room and all associated medical equipment and first aid kits shall be regularly inspected.

Arrangements shall be made for medical support from external bodies as appropriate to the worksite location and medical emergency. Examples include:

* physicians
* hospitals
* ambulance, etc.

The arrangements made may include but not be limited to:

* availability of advice by telephone
* out of normal hours attendance at general practitioners
* maintaining a list of emergency contact numbers

Procedures shall be established for the evacuation of personnel from a worksite or facility for medical or casualty emergencies.

### Emergency Response

Sufficient resources and numbers of trained and competent personnel shall be available at all times to respond to an emergency at any worksite or facility.

All employees and emergency team members shall be advised of the actions they are required to take in the event of an emergency.

All emergency equipment shall be inspected weekly and shall be tested and maintained in accordance with the maintenance plan, to ensure that it is available when required.

#### Emergency Response Plan

An Emergency Response Plan (ERP) shall be prepared for each facility or worksite under the control of Company Petroleum.

The plan shall be a controlled document and shall be controlled in accordance with the document control system.. All changes to the plan shall be controlled in accordance with the change management system.

Copies of the ERP will be held as specified in the plan

This plan shall detail the full range of credible emergency conditions that may affect the facility/worksite, and the actions to be taken in each case. Examples of these include, but are not limited to:

* blowouts. - these include drilling, completion, workover and production blowouts and the associated well control emergency situations during drilling and workover activities leading up to blowout. Links are developed as required with the jack-up rig operator in the form of a bridging document
* hydrocarbon releases. - these include gas and liquid releases that have the potential to become ignited
* oil spills - large unconfined releases that spill over the platform deck or from a damaged export riser. Detailed response to oil spills shall be described in the facilities - oil spill/pollution contingency plan
* fire and explosion. - events include hydrocarbon gas jet and oil pool fires, explosions, generator fires, diesel fuel fires, galley and accommodation fires
* chemical releases
* personnel injury and serious illness, including accidental injury on a facility/worksite or sudden illness such as heart attack requiring immediate evacuation and specialist treatment
* man overboard
* cyclone precautions. - detailed requirements for cyclone monitoring and planned abandonment of a facility shall be set out in the facilities cyclone procedure
* helicopter crash, or helicopter overdue, at a facility
* supply and support vessel emergency - support vessel emergencies may include crew injury or illness, man overboard, fire, etc
* ship collision with a facility - including supply and support vessels, FSO, offtake tankers, passing merchant ships
* other potential emergencies - these include unauthorized occupancy or wilful damage
* FSO emergencies. - the principle actions on a facility are to shut down the crude oil export pumps to avoid escalation of any fire or pollution event, but actions are specified for other emergency situations, such as man overboard
* CALM buoy emergencies - These include: injuries; breaches of a flexible loading hose or the underbuoy hose for which the production is shut down; and the support necessary in the event of injury to maintenance personnel visiting the buoy.
* pipeline emergencies - these include breaches due to damage or failure and the necessary action to shut down a facility and minimise environmental impact
* offtake tanker emergencies - all offtake tanker emergencies are listed and appropriate actions specified for the facility, including the necessary liaison and communications with emergency services

The plan shall specify the arrangements and reporting relationships for command, control and communications including all interfaces with the emergency services specialist response groups, statutory authorities, facility operator, and Company Petroleum departments.

Details shall be provided of the emergency communication facilities available.

It shall specify the roles and responsibilities of all personnel involved in the emergency, including the response teams, offshore support teams, visitors, contractors and employees.

Details shall be provided of the means of advising all parties involved in the control of an emergency that an incident has occurred.

It shall describe the arrangements for resolving conflicting demands on resources where these are shared between several operators/organisations, e.g. helicopters during pre-cyclone evacuation.

Bridging documents shall be prepared whenever there is a need to link the emergency response arrangements of Company Petroleum with those of a third party. The ERP itself provides a bridge between the ERPs of Company Petroleum and the operator of a facility.

Equipment and resources available to effectively respond to an emergency and the personnel responsible for its use shall be specified.

The plan shall address the contingency arrangements in place to account for situations where emergency equipment is damaged or unavailable, e.g. lifeboats.

Details of the following shall also be included:

* emergency drill programmes
* exercises
* training requirements to ensure the competence of response teams, the effectiveness of communications and the adequacy of emergency planning
* references to the procedures for
* accounting for all personnel in the event of an emergency
* search, rescue, and recovery of personnel
* emergency communications
* maintenance and issue of specialist tools, emergency and safety equipment
* counselling of personnel exposed to psychological trauma during an incident

The ERPs shall be developed with input from:

* the workforce
* information from hazard identification and formal safety assessments

ERPs shall be updated as necessary to incorporate lessons learned from training and exercises.

The plan shall include organisation charts that show the structure of the emergency teams, and lists containing contact numbers to all members of the teams and external support bodies.

Audits shall be conducted at periodic intervals to determine the effectiveness of the ERP and the state of preparedness of the response teams to both onshore and offshore emergencies.

### Emergency Response Training

All offshore personnel shall be required to attend training in offshore survival, fire fighting and helicopter underwater escape prior to working on a facility. Emergency response training and exercises shall be conducted both onshore and offshore and in conjunction with all facilities in the field. All such exercises and drills shall be recorded and the results used to make improvements to procedures, systems and equipment as necessary.

Specific training exercises include:

#### Muster Drills

These shall be conducted on at least a fortnightly basis, so that all permanent personnel participate in at least one such drill during their tour of duty on a facility. Visitors and contractors on the platform shall be advised of the intention to conduct such drills during their visit and shall be instructed on the action to be taken as part of their induction on board.

Personnel shall be alerted by the sounding of the general alarm and further advised by announcements over the public address system that the exercise is a drill. During the drill, personnel shall make their way to the muster station in accordance with the mustering instructions and a role call held. In association with these regular drills, the designated fire fighting and rescue teams on board a facility shall periodically practice emergency response exercises. Emergency equipment shall be checked, the duty firewater pump run up and the lifeboat engines and communications systems checked and operated. The overall purpose of the exercise is to:

* ensure that all personnel are aware of the immediate action to be taken in an emergency
* test and verify the condition and preparedness all emergency systems and equipment
* provide ongoing training to all permanent platform personnel in the use of fire fighting and safety equipment, so that they are able to respond efficiently to an emergency on board

#### Man Overboard

Man overboard drills shall be conducted periodically, as determined by the facility superintendent, possibly in conjunction with a normal muster drill. The drill shall involve simulating a man-overboard incident, launching the designated recovery lifeboat, rescue and retrieval of the lifeboat. The overall purpose of the exercise is to:

* test the internal communication systems and procedures, ensuring that the man overboard is kept in sight
* test the external communication systems and procedures, liasing with other facilities in the field, e.g. FSO and external services as necessary
* test the lifeboat launch and recovery systems and provide ongoing training in recovery techniques to the designated lifeboat coxswains and crew.

#### Emergency Management Exercises

These are tabletop exercises involving the full field facilities and the emergency response team onshore. A simulated emergency is determined and a real-time exercise conducted to test the communications and response actions and the overall ability of the onshore and offshore, teams to effectively manage and recover from the emergency. These exercises involve an element of role-playing for which the assistance of external consultants, third parties and emergency organisations is provided as necessary.

Emergency management exercises shall be held at least annually and may typically include:

* collision, fire or explosion on the facility, FSO or an offtake tanker
* oil spill into the sea from the facility, FSO or offtake tanker.

Emergency management exercises shall be conducted in accordance with the Emergency Response Plan.

Emergency management exercises shall be reported and the effectiveness of the procedures assessed. Recommendations for changes or improvements to the procedures shall be handled under the change management procedures as described in Section 13 Management of change.

## Key Performance Indicators

The following KPIs apply to this section:

* credible first aid incidents evaluated and appropriate first aid and medical facilities identified and in place prior to the commencement of activities at the worksite
* appropriate numbers of personnel trained to the required standard in first aid and available at the work place before the worksite or facility is manned. Numbers sufficient to ensure that first aid support is available for the whole time the workplace is manned
* arrangements made for additional facilities as deemed necessary, to provide adequate cover at remote locations before the site is manned
* dispensary, controlled drugs and medical treatment registers in place immediately the workplace is manned
* arrangements for external medical support in place prior to manning of workplace
* ERP prepare and approved before worksite is manned

## Responsibilities

#### Project Manager/Facility Superintendent

Is responsible for:

* ensuring that appropriate first aid and emergency response arrangements are developed, implemented, and maintained at each worksite and facility:
* ensuring that adequate resources and training are made available for the provision of appropriate first aid, medical and emergency response facilities
* ensuring that arrangements for medical support by external bodies are made where appropriate
* co-ordinating emergency response actions offshore and leading the emergency management team
* preparation of the ERP
* appointing the emergency management team and ensuring their roles and responsibilities are adequately defined
* ensuring that feedback from training exercises and drills are incorporated into the ERP and appropriate procedures, under the control of the management of change procedure
* the co-ordination of the emergency response on the facility
* ensuring that drills and exercises are conducted in accordance with the ERP and schedule of exercise/drills
* ensuring that an assessment is carried out for remote work locations to identify the need for additional first aid/medical and emergency response facilities

#### Regional HSSEQ Officer

Is responsible for:

* ensuring that appropriate medical administration procedures are developed and implemented at the facility
* ensuring that inventories of first aid and medical items are maintained
* ensuring that registers for dispensary, controlled drugs and medical treatment are maintained at the facility
* determining and implementing any appropriate first aid, medical, or emergency response training needed
* ensuring that inventories of first aid and medical items are maintained
* ensuring that registers for dispensary, controlled drugs, and medical treatment are maintained at each applicable worksite/facility
* the development of the emergency response plan for each worksite/facility
* determining and implementing any appropriate first aid, medical or emergency response training needed

#### Facility Personnel

Are responsible for:

* participating in emergency response training and exercises
* ensuring that they are aware of the actions they are required to take in an emergency

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* the existence of appropriate first aid facilities at each workplace
* the existence of an appropriate inventory of medical supplies
* evidence that first aid facilities are regularly inspected
* the existence of dispensary, controlled drugs, and medical treatment registers
* the existence of an approved ERP
* evidence that emergency contact numbers are current, for medical support, emergency response personnel, and external support bodies
* evidence that regular audits have been carried out of the ER system
* evidence that emergency drills and exercises, have been carried out in accordance with the plan and schedule
* evidence that the feedback from emergency drills and exercises have been incorporated into the ERP and appropriate procedures.

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Company Petroleum Emergency Response Plan  |
|  | Oil Spill/Pollution Contingency Plan |

# INSPECTION, TESTING AND MONITORING

## Intent

To develop, implement and maintain effective systems for inspection, testing and monitoring, to ensure the technical integrity of facilities.

## Performance Standards

### Inspection and Test Plans

An inspection and test plan shall be prepared for each major facility. The plan shall be incorporated into the MMS and shall detail the following:

* equipment or system concerned
* details of any monitoring system installed
* inspection interval
* details of inspection scope
* test interval
* description of test to be carried out
* test and monitoring equipment to be used

Employees who will carry out tests and inspections shall review and provide input to the test and inspection plan and associated procedures.

#### Condition Monitoring

A corrosion-monitoring programme shall be implemented and the results documented. This shall cover, as a minimum, all critical systems. (Refer to section 17 Maintenance & repair for further information.)

A vibration-monitoring programme shall be implemented and the results documented for appropriate equipment. Feedback from the programme shall be used to identify the need for imminent inspection or maintenance requirements depending on the criticality of the equipment concerned and also changes to the associated maintenance programme.

Workplace environmental monitoring shall be carried out where appropriate and the results documented.

The monitoring shall include but may not be limited to:

* airborne contaminants
* hazardous or toxic discharges from equipment, or storage containers, etc.
* waste disposal
* spills

#### Inspections

Inspections of the workplace and systems/equipment shall be carried out on a regular basis. The frequency of inspections shall be determined on the basis of:

* the type of work activities carried out at the workplace,
* the criticality of the systems and equipment concerned
* assumptions used in the formal safety assessment
* manufacturer’s recommendations
* appropriate regulations, standards, codes of practice, etc.
* operating experience

Checklists shall be developed for use during inspections. Workplace inspections shall concentrate on the identification of potential hazards, e.g.

* poor housekeeping
* damaged electrical cables, rigging equipment, etc.
* liquid spills
* faulty scaffolding,
* etc

#### Testing

Tests shall be carried out to ensure that the item being tested is fit for purpose.

Inspection and test procedures shall be developed where the absence of such procedures may affect the quality of any ‘products’ from a Company operation.

Inspection and testing requirements should be established as early as practicable in a project to ensure that the time is available to develop the necessary systems before they are required to be used.

The scope of such procedures shall include, as appropriate:

* receiving inspection and tests
* ‘in-process’ inspection and tests
* final inspection and tests
* inspection and test records

#### Receiving Inspection and Test

This will detail the requirements for inspection and any testing that may be needed to verify that the goods meet the requirements of the original purchase order.

In some instances it may be appropriate for sub-contractors to submit their design information, or other documentation, for review and approval by staff engineers prior to delivery of goods. Such requirements should be specified in the purchase order.)

#### In-Process Inspection and Test

Inspection and testing shall be carried out for all newly installed equipment onto a facility.

The procedure for the installation and commissioning of such items shall include check sheets that are to be completed by the appropriate engineers to confirm that the equipment is mechanically complete and ready for commissioning. Such checks may include requirements for:

* structural
* painting
* mechanical
* piping
* electrical
* instruments
* others

If appropriate the system may require the completion of a ‘system acceptance’ sheet to be signed by all involved discipline engineers prior to the system being commissioned.

Where sub-contractors carry out tasks on a Company Petroleum facility, then these shall be supervised by Company personnel, where appropriate, to monitor the quality of their workmanship to ensure that it meets Company requirements.

#### Final Inspection And Testing – Design Documentation

Any design documentation shall undergo verification by appropriate Company engineers.

Where applicable, documentation may undergo verification by third parties/Certification bodies.

#### Final Inspection And Testing – Hardware

Where appropriate, competent Company personnel will review the final installation of equipment, structures, etc. for acceptance prior to putting the equipment into service. Checks shall be made of the installation and ‘As-built’ documentation produced where applicable.

Verification may also be carried out by competent third parties or certification bodies appointed by Company.

Examples of tests that may be required include:

* load testing of lifting and rigging equipment, lifeboats, etc.
* critical function testing of emergency equipment, safety systems, navigation aids, communication systems, etc.
* integrity tests on electrical circuits, pressure vessels, etc.
* set-point tests, e.g. pressure relief valves, etc.
* integrity tests, e.g. weld tests, corrosion to pipework or structure, etc.
* performance testing, e.g. emergency power, fire pumps, lifeboat engines, etc.

Each Project shall produce a Validation Procedure. This procedure shall include a validation plan detailing all tests to be carried out.

### Inspection and Test Records

The following records shall be maintained, as appropriate, following inspection and testing of equipment, etc.:

* Quality Plan Record
* FAT record
* Engineering Drawings
* Conformance Certificates
* Mill Certificates
* Non-conformance Reports

#### Equipment

A file shall be maintained of ITRs for the appropriate equipment.

#### Documents/Designs

Copies of all important drawings and documents shall be maintained on file for record purposes, including those used as check prints that have been marked-up with comments.

#### Crude Oil Product

Procedures shall be developed by a project to describe the various laboratory tests that will be carried out to confirm the product meets the required specification. All records of these tests shall be maintained on file.

### Maintenance of Testing and Inspection Equipment

All inspection, testing and monitoring equipment shall be maintained and calibrated in accordance with appropriate standards.

All test and inspection equipment shall be stored in suitable conditions to protect them from damage or deterioration.

Inspection, measuring, and test equipment used by Company that affects product quality shall be calibrated and verified in accordance with a documented schedule.

Calibration shall be performed by either appropriately trained Company personnel, or an approved external body.

A register shall be maintained of all inspection, testing and monitoring equipment used on a facility or at a workplace. This register shall record, as a minimum, the following information:

* unique identification number for each item of equipment
* date of last calibration
* date of next calibration
* calibration requirements, including appropriate standard

Details of the calibration status of equipment shall be maintained and readily available. Wherever practicable this shall be achieved by labelling the equipment itself with the calibration expiry date. Where this is impracticable, then documented records shall be deemed adequate, and it is the responsibility of the user to confirm that the calibration date has not expired prior to use.

Calibration traceability, for all test equipment that may affect product quality, shall conform to an appropriate National Standard, where such standards exist. In the event that no National Standard applies, then a generally accepted industry standard shall be used, dependent on client requirements, and agreement.

Where calibration is carried out in-house, the applicable manufacturer’s calibration procedures shall be used. Where the manufacturer’s procedures are unavailable, or where the equipment has been modified by Company, then specific calibration procedures shall be developed to suit the equipment.

### Reporting

Details associated with each inspection or test carried out shall be documented in the MMS.

The need for corrective action to ensure the equipment/system remains fit for purpose shall be documented and work orders raised.

The implementation of corrective actions shall be prioritised with respect to the benefit gained by the action.

These records shall be periodically reviewed and the results used to identify areas where the work priorities of the facility/worksite require amendment.

### Corrective Actions

A report shall be prepared for each inspection and test procedure carried out.

The report shall identify corrective actions necessary to ensure the equipment/system remains fit for purpose.

The report shall prioritise the implementation of corrective actions in respect of the benefit gained by the action.

These reports shall be periodically reviewed and the results used to identify areas where the work priorities of the facility or workplace should be amended.

Problems identified during worksite inspections shall be documented and monitored until closed out. Concerns that cannot be resolved immediately shall be recorded in the EFAC tracking system, which shall then be used to monitor its close-out.

Corrective actions identified from equipment and system inspections shall be documented in the EFAC tracking system and monitored until closed-out.

Each action shall be assigned a person responsible for ensuring that it is implemented and closed-out. The responsible person shall report progress, on a weekly basis to either the Project Manager or Facility Superintendent as appropriate.

The individual who carried out an inspection or test shall be responsible for:

* following up each corrective action after the actionee has advised that the action is complete to verify its completion before advising that the action can be closed out in the EFAC tracking system
* following up each corrective action to determine its effectiveness

## Key Performance Indicators

The following KPIs apply to this section:

* inspection and test plan developed and approved before the commencement of a project or a facility’s operations
* inspections and tests carried out in accordance with the schedule in the ITP
* appropriate tests carried out to ensure products are ‘fit for purpose’
* appropriate condition monitoring programmes developed and approved before commencement of a facility’s operations
* all inspection and test equipment appropriately calibrated
* records maintained for all inspections and tests carried out
* All corrective actions tracked and closed out in a timely manner
* all incoming goods undergo receiving inspection and tests as applicable
* ‘in-process’ inspections and tests carried out where appropriate
* final inspections and tests carried out where required

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that adequate resources are available for the development, implementation and maintenance of effective inspection, testing, and monitoring facilities

#### Project Manager/Facility Superintendent

Is responsible for:

* ensuring that an effective ITP is developed for each worksite/facility
* ensuring that an effective condition monitoring programme is developed and implemented for each facility
* reviewing inspection and test reports and agreeing any proposed changes to the system
* following up all corrective actions to insure that they have been implemented effectively

#### Technicians

Are responsible for:

* the effective implementation of ITP and corrosion monitoring programme
* ensuring that testing and inspection equipment is properly maintained and calibrated
* ensuring that reports are prepared for each inspection and test procedure carried out

#### QA Manager

Is responsible for:

* maintaining a register of all inspection, testing, and monitoring equipment.

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section shall be verified by:

* the existence of a documented and approved, ITP for each facility
* the existence of appropriate condition monitoring reports
* evidence that inspections and tests have been carried out in accordance with the ITP schedule
* evidence that all inspection and testing equipment is calibrated at the required intervals and stored in suitable locations
* the existence of inspection and test reports that clearly identify any corrective actions deemed necessary
* evidence that all corrective actions, other than those that are actioned immediately, are logged in the EFAC and monitored until closed-out

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Maintenance and Integrity Management Philosophy  |
|  | Maintenance and Integrity Management Manual  |
|  | Equipment Maintenance Strategies  |

# HEALTH MONITORING SYSTEM

## Intent

To develop, implement, and maintain effective systems to monitor and evaluate the effects of the work environment on employees’ health.

## Performance Standards

A health programme shall be implemented, that as a minimum complies with the requirements of local regulations.

It shall, as a minimum, incorporate the following:

* pre-employment health checks (refer to section 18 Health Criteria and Examinations for further information.)
* protection against contracting disease while at the workplace, e.g. vaccination programmes
* health checks (refer to section 18 Health Criteria and Examinations for further information.).
* identification and management of workplace health hazards (Refer to sections 8 hazard identification and risk management and section 19 workplace environment for further information.)
* health hazard exposure monitoring (Refer to sections 19 workplace environment and section 21 inspection, testing and monitoring for further information.)
* first aid and medical evacuations (Refer to section 20.2.1 First Aid for further information.)

An assessment shall be carried out to determine the likelihood of personnel being exposed to harmful substances or airborne pollutants. The assessment shall consider exposure through both inhalation, or by skin absorption during the course of an employee’s normal work.

The assessment shall identify areas where exposure to such substances may possibly exceed local health regulation limits. Where such possibilities are identified, then procedures shall be developed to manage the work, and exposure-monitoring programmes implemented. (Refer to section 16.2.3 hazardous materials for further information on the control of hazardous materials.)

Regular reviews shall be carried out of the health programme to ensure it is effective.

#### Drugs and Alcohol

Appropriate controls on the use of drugs and alcohol shall be implemented at each workplace and facility, refer to the Drugs and Alcohol policy.

On all offshore facilities, and other hazardous workplaces, the use of non-prescribed drugs and alcohol is banned as they can affect an individual’s competence and endanger the safety of other personnel.

All persons taking or holding prescribed medicine or medicine purchased from a pharmacy for the purpose of medication are required to declare it to the either the medic, or production superintendent immediately upon arrival at an offshore facility. This rule covers all medicines including herbal and traditional medicines such as 'Chinese medicine'. Once reported, the medicines can be retained by the individual.

Anyone found in possession of undeclared drugs or medicines may be subject to disciplinary action.

Anyone found in possession or under the influence of prohibited drugs will be subject to disciplinary action.

Anyone found with traces of prohibited drugs in their system as a result of urine analysis or blood analysis screening may be subject to disciplinary action.

All drug related offences will be considered to be serious misconduct in the disciplinary process.

(Refer to section 20.2.1 First Aid for information related to drugs and medicines associated with the provision of first aid and medical facilities.)

### Pre-employment Assessments

Pre-employment medicals shall be carried out, and records maintained on file. (Refer to section 18 Health Criteria and Examinations for further details.)

### Health Monitoring

Workplace environmental monitoring shall be carried out and records maintained. . (Refer to sections 19 Workplace environment and 21 Inspection, testing and monitoring for further information.)

Monitoring shall be carried out to for all health hazards present at the workplace and to ensure that these are being effectively managed. Examples include, but are not limited to the monitoring of:

* noise and vibration levels
* airborne contaminants
* toxic materials or chemicals
* asphyxiants
* skin irritants
* carcinogens
* corrosive and caustic chemicals
* radiation
* UV exposure
* repetitive tasks
* manual handling
* inadequate lighting
* stress
* infectious disease

Individual employees shall be monitored, where appropriate, for:

* hearing loss
* sight deterioration
* exposure to hazardous substances

For details of the systems for managing these hazards refer to the following sections:

* section 8 Hazard identification and risk management
* section 19.2 Noise and Vibration
* section 19.2 Atmospheric Contamination
* section 21.2.1 Condition Monitoring
* section 16.2.3 Hazardous materials

Annual hearing tests shall be provided, and records maintained, for all personnel whose work exposes them to high noise levels for extended periods.

Where any health concern is raised relating to work activities, the individual shall undergo a medical assessment and an exposure-monitoring programme established if appropriate. Additional assessments shall be carried out if recommended by a medical practitioner to monitor the concern.

### Records

Medical and health records shall be maintained for all employees. These are confidential and shall be filed in a secure location.

Records shall be maintained of all health and exposure monitoring programmes.

### Rehabilitation

An injury management and rehabilitation system shall be established for each workplace or facility under the control of Company Petroleum. The system shall, as a minimum, include:

* availability of medical advice
* adequate first aid facilities
* availability of paramedics or doctors for serious injuries
* emergency evacuation to hospital facilities
* provision of prompt notification of an incident to next of kin
* rehabilitation counselling
* rehabilitation arrangements, e.g. supervised alternative or light duties, additional hazard identification training, additional training in appropriate procedures

## Key Performance Indicators

The KPIs applicable to this section are:

* health programme implemented for all employees, worksites, and facilities under the control of Company Petroleum
* health monitoring requirements identified and monitoring systems in place before commencement of work at any workplace
* injury management and rehabilitation system established for each worksite or facility prior to commencement of operations at a worksite or facility

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that adequate resources are available for the effective implementation of the health monitoring system
* approval of the drugs and alcohol policies

#### Project Manager/Facility Superintendent

Is responsible for:

* ensuring that an effective health-monitoring system is established
* ensuring that an effective health-monitoring programme is implemented at each applicable worksite/facility
* ensuring that the drugs and alcohol policies are upheld at each worksite/facility

#### Regional HSSEQ Officer

Is responsible for:

* development and implementation of an appropriate health programme
* development of the drugs and alcohol policies

#### Human Resource Manager

Is responsible for:

* maintaining records of health-monitoring programme
* administering the injury and rehabilitation system for each workplace and facility

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section shall be verified by:

* the existence of a health programme covering all worksites/facilities
* evidence that the health programme is assessed to ensure it is effective
* evidence that an assessment of the likely substances to which personnel may be exposed has been performed for each worksite/facility and the appropriate controls and monitoring implemented
* evidence that appropriate records are being maintained
* evidence that an injury management and rehabilitation system is in operation at all worksites/facilities

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Drug & Alcohol Policy  |

# INCIDENT / HAZARD INVESTIGATION AND REPORTING

## Intent

To develop, implement and maintain effective hazard and incident investigation and reporting systems.

## Performance Standards

### Incident/hazard Reporting

All incidents, including accidents, occupational illnesses and near miss incidents shall be shall be reported on Company’s standard incident report forms. These shall include incidents that have the potential to impact personnel, the environment, or where substantial damage to equipment or a facility is possible.

Incident report forms shall be made available to all personnel.

All personnel shall be made aware of their responsibility to report all incidents and near misses, and that these reports shall not be used for disciplinary proceedings, but shall be used to identify incident trends. This requirement applies to permanent employees, visitors and contractors.) All personnel shall be advised of their responsibilities during the individual’s initial induction and the information shall also be stated on the incident report form.

The responsibility for the initial reporting of an incident rests with the individual. The individual’s head of department is responsible for completing the incident report form.

It is important that the report forms are completed in full and witness statements gathered wherever possible.

Incidents shall be reported to the appropriate authorities where they fall into the category of ‘reportable incidents’, in accordance with local legislation.

### Incident/hazard Investigation

All reported incidents shall be investigated as soon as practicably possible to determine their root cause.

Following identification of the cause, the necessary actions shall be taken to either remove the cause, or put in place control and mitigation measures aimed at minimising the likelihood of a similar incident occurring.

The project manager/facility superintendent, together with the regional HSSEQ officer/engineer and qualified employees shall first investigate the incidents.

Where a major incident has occurred, an investigation team shall be assembled to carry out the investigation.

The team shall normally be appointed by the Chief Executive Officer Company Petroleum.

 Representation on the team shall be commensurate with the actual and potential seriousness of the incident and may include some, or all, of the following:

* employee(s), or contractor’s employee(s) involved
* employee HSSEQ representative (where applicable)
* the supervisor of the group whose activity led to the incident
* regional HSSEQ officer
* relevant management representatives
* relevant specialists from other Company Petroleum worksites
* other appropriate specialists
* senior Company Petroleum management

All reported incidents shall be investigated to a depth of detail commensurate with the actual, and potential, seriousness of the incident. Minor ‘near-miss’ incidents, for example, may require little detailed investigation providing the causes are fully understood.

The investigation shall establish:

* the basic event leading to the incident
* the controls in place that would normally prevent its occurrence
* factors that contributed to the failure of these controls
* specific details of the control failures
* the corrective actions necessary to prevent repetition of the incident

Wherever possible, photographs, sketches, diagrams, etc. shall be made of the incident’s site in sufficient numbers to include all relevant details. Witnesses shall be interviewed separately and sympathetically.

The investigation may also include:

* a review of the applicable hazard register, safety case and other supporting documents to establish if the cause of the incident had been previously identified
* a review of other incident records to establish if precedents, or similarities exist
* a review of operating and maintenance records
* measurements and tests on equipment or components and liaison with suppliers, manufacturers and contractors
* consultation with third party specialists, with a facility’s operator and relevant government bodies

The investigating team shall be advised, and their understanding confirmed, that the aim of the investigation is to prevent a recurrence of the incident and not to seek grounds for disciplinary proceedings.

The findings and recommendations of the investigation team shall be documented in a formal report that shall be maintained on file.

Should hazards be identified, they shall be recorded in the EFAC register. Hazard identification may arise from the investigation of an incident, a routine audit or as a result of the awareness of an individual working on the facility. Hazards shall be reviewed and closed out in the same manner as any non-conformance through the implementation of corrective action.

### Implementation of Corrective Actions

Recommendations from the investigation report shall be prioritised for action and included in the EFAC register. Actions shall be prioritised on the basis of CBA, where those actions with the greatest potential HSE benefit for capital expended, receive the higher priority.

Actions may include changes to design, construction, operation, or maintenance. These changes shall be managed in accordance with the management of change procedures.

Where required by client, corrective actions are to be agreed with client representative prior to implementation.

The implementation and close-out of actions shall be monitored by means of the EFAC register.

### Communication of Findings

The results of the investigation, and the actions taken or to be taken, shall be communicated to all relevant employees. This shall be done by one, or more, of the following:

* statements posted on notice boards
* e-mail
* Sharepoint
* HSSEQ circular
* HSSEQ meetings
* toolbox meetings

### HSE Performance

Data recorded on incident reports and recommendations from investigations, shall be used to monitor HSE performance. The overall HSE performance uses incident and injury data to measure the effectiveness of the system, as well as recording the frequency of those activities and actions that contribute to its effectiveness. In this way an assessment may be made between the key inputs to HSE performance and the overall results achieved.

The operator may be required to make reports on HSE performance on a regular basis to the appropriate authorities. Company Petroleum is responsible for providing accurate statistics to the operator for the report. The key performance indicators are benchmarked against those of the operator.

Key inputs to the process that are monitored include:

* frequency of HSE committee meetings
* frequency of drills and exercises
* frequency of toolbox talks
* frequency of facility inspections
* the number of HSE actions raised, in progress and completed.

The key measurements of the effectiveness of the system are detailed below:

Incident frequency data generated from incident investigation reports is used to develop HSSEQ performance trends. These are then used to assess the overall effectiveness of the HSSEQMS.

The data is reported in the following ways:

* Reported Incident Frequency (RIF), which is the number of reported incidents per one hundred thousand man-hours worked. (Reported incidents are those involving impact on the environment, damage to a facility, or near-misses having the potential for injuries, environmental impact or facility damage to occur.)
* Lost Time Injury Frequency (LTIF), which is the frequency of lost time injuries per one hundred thousand man-hours worked. (Lost Time injuries are those that result in the loss of at least one complete shift, or day’s work, for the injured person, following the shift or day of the incident.)
* Medical Treatment Injury Frequency (MTIF), which is the number of injuries requiring medical treatment per one hundred thousand man-hours worked. (Medical Treatment Injuries are those requiring treatment by medical staff onshore and therefore evacuation of the casualty from a facility.)
* First Aid Injury Frequency (FAIF), which is the number of injuries requiring first aid treatment per one hundred thousand man-hours worked. (First Aid Injuries are those requiring first aid treatment onboard a facility or at the worksite, by a trained first-aider, but do not require the casualty to be evacuated to a location where onshore medical staff are available.)
* All Incident Frequency (AIF), which is the sum of the RIF, LTIF, MTIF and FAIF

### Training

All personnel required to be involved in incident form completion and incident investigation shall receive the appropriate training. This training requirement shall be included in the CAART.

The person selected to direct the investigation shall have received formal training in audit procedures and be a qualified auditor under a recognised system of quality assurance. More extensive investigations may require that this person be qualified to Lead Auditor status. All interviews with personnel shall be carried out by qualified auditors.

Responsibilities shall be included in the appropriate position descriptions and detailed in the CAART. (Refer to section 5.2.2 Roles & Responsibilities for further details.)

(Refer to section 18 Employee selection, competency and training for further information.)

## Key Performance Indicators

The following KPIs apply to this section:

* all reported incidents investigated as soon as practical following the occurrence
* all corrective actions tracked by means of the EFAC and closed out in a timely manner
* all appropriate personnel trained to the required standard for incident investigations or audits
* downward trend to the number of incidents occurring

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for;

* ensuring that an effective hazard and incident investigation and reporting system is developed, implemented and maintained
* ensuring adequate resources are available to develop, implement and maintain the system
* appointment of the incident investigation team
* advising the investigation team that the aim of the investigation is to prevent a recurrence of the incident, not to seek grounds for disciplinary proceedings
* reviewing and approving the final report
* ensuring that personnel on the investigation team receive the appropriate training

#### Project Manager/Facility Superintendent

Is responsible for:

* carrying out the initial investigation of the incident with the regional HSSEQ officer

#### Regional HSSEQ Officer

Is responsible for:

* developing, implementing and maintaining the hazard and incident investigation and reporting system
* ensuring that all employees are made aware that reporting of near miss incidents will not be used for disciplinary proceedings
* ensuring that all recommendations are prioritised and included in the EFAC
* communicating the findings from the incident investigation to relevant employees
* generation of incident frequency data reports
* training employees in the completion of incident forms and including this training on the CAART
* maintaining file copies of all incident reports

#### Line Manager

Is responsible for:

* completion of the incident report form

#### All Personnel

Are responsible for:

* the initial reporting of any incident or near miss

#### Incident Investigation Team

Is responsible for:

* carrying out the incident investigation and preparing the investigation report

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* evidence that all reported incidents are investigated within 24 hours of the incident occurring
* evidence that all corrective actions identified in investigation reports are tracked by the EFAC and closed out in a timely manner
* evidence that the results of incident investigations are communicated to all relevant employees
* the existence of trend data generated from incident reports
* the existence of training records confirming that personnel involved in incident investigation have received the appropriate training

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Incident Reporting and Investigation Procedure  |

# HEALTH, SAFETY, ENVIRONMENTAL AND QUALITY INFORMATION AND REPORTS

## Intent

To develop, implement and maintain effective systems for the analysis, dissemination, storage and retrieval of information relevant to HSSEQ.

## Performance Standards

### Employee Health and Safety Records

Records shall be kept of an employee health and safety performance. This information shall be maintained in confidential files, and stored in a secure location.

The records shall include but may not be limited to:

* health data (Refer to section 18.2.3 Health Criteria and Examinations, section 19 Workplace environment, section 20.2.1 First Aid and section 22 Health Monitoring System.)
* incident data (Refer to section 23 Incident / Hazard Investigation and Reporting.)
* annual performance evaluations (Refer to section 18.2.4 Employee Selection, Competency and Training.)

### Health and Safety Documents/Data

Data and documents associated with HSSEQ matters shall be collected, filed and made available for use as appropriate by employees. These shall include, but may not be limited to:

* HSSEQ alerts
* hazard and incident reports
* audit close-out reports
* inspection and maintenance records
* hazard registers
* HSSEQ statistical information
* training records
* calibration results
* non-destructive testing reports (NDT)
* measures of injury or potential loss

As a minimum, reports and records shall be maintained for the period required by local legislation.

Refer to section 24.2.5 Safety Performance for details of how incident data is analysed and used to identify trends in Company’s safety performance.

Refer to sections 8, 10, 12, 14, 16, 17, 18, 21, 22 and 23 for the methods of collecting and retention of the above data.

HSSEQ documentation shall be circulated to appropriate personnel for implementation as applicable.

### Health, Safety and Environmental Performance Assessments

Performance assessments shall be made by assessing health monitoring data, (refer to section 22 Health Monitoring System for details) and HSE incident data (refer to section 23 incident / hazard investigation and reporting for details).

## Key Performance Indicators

The following KPIs are applicable to this section:

* implementation of a system for the collection and dissemination of HSSEQ information

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring adequate funds and resources are available to develop, implement and maintain a data storage and retrieval system for HSSEQ information

#### Regional HSSEQ Officer

Is responsible for:

* the collection and record keeping of HSSEQ data and documents and for ensuring that they are readily available for reference
* maintaining employee HSSEQ performance records

## Verification

Verification audits for this section will be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* evidence that all applicable HSSEQ data is collected, maintained on file and disseminated as necessary

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|   |   |

# AUDIT

## Intent

To develop, implement and maintain a system to verify the effective operation of the HSSEQMS.

## Performance Standards

### Audit Programme

#### Internal Audits

All aspects of the HSSEQMS shall be audited at least once per year. It is not necessary for all elements of the system to be audited at the one time.

The audit scope shall cover the timely development and effective implementation of the Company Petroleum HSSEQMS and is intended to identify areas for improvement of the system.

Internal audits shall be conducted by auditors within Company Petroleum who are qualified to carry out the audit in accordance with a recognised quality assurance standard.

#### External Audits

An annual audit of the HSSEQMS shall be carried out by an external body. The external body may be either an audit group formed from an alternative region group within Company Petroleum, or by a third party organisation, such as a client, WADME, certification body, HSSEQ consulting organisation, etc.

#### Audit Schedule

A detailed audit plan and schedule is to be developed for each facility and operation including field, regional and corporate offices. This schedule shall identify routine, planned audits only.

Unscheduled audits may be carried out at any time when a concern is raised regarding the status of the HSSEQMS or its effective implementation.

Examples of concerns that may prompt such an audit include, but may not be limited to:

* accidents causing severe injuries or fatalities among personnel
* incidents resulting in pollution or other environmental impacts, or facility damage
* recurring minor control deviations
* suspected non-compliance with HSSEQ procedures, or the HSSEQMS itself
* concerns expressed by any personnel

### Methodology

#### General

Audits shall be conducted in accordance with the Audit Procedure, document number [xxx].

Audits shall concentrate on validation of compliance with this HSSEQMS by reference to the validation requirements detailed in each section.

The audits shall involve systematic and independent examination of the system, including:

* common HSSEQMS documentation, e.g. procedures, plans, etc.
* worksite, or facility specific HSSEQMS documents, e.g. procedures, plans, training requirements, etc.
* the overall system, e.g. its completeness of scope, current suitability, etc.
* implementation of the system, its procedures, etc.
* individual’s understanding of the system and their responsibilities under the system
* how past actions associated with its improvement have been monitored and closed-out
* overall effectiveness of the system
* quality records

Audits shall be carried out to evaluate the implementation and effectiveness of the HSSEQMS at each worksite and facility. It shall include any facility or worksite-specific components of the HSSEQMS.

Audits shall also be carried out of contractor organisations, (Refer to section 14 Contractors and Support Services) to:

* establish their suitability for bidding of proposed work or supply of services by pre-qualification audits
* verify that they are working in accordance with their own and Company’s HSSEQMS as appropriate

All actions requiring significant changes to equipment, systems, or equipment shall be advised to all affected personnel.

#### Audit Team

The audit team shall be appointed by the Chief Executive Officer Company Petroleum who shall endeavour to contact the person chosen to be the audit team leader a minimum of four weeks prior to the anticipated audit date and advise him/her of the requirement for an audit. The audit team leader shall discuss the proposed audit with the Chief Executive Officer Company Petroleum who is required to approve its composition prior to its execution.

Auditors shall be independent of the operation and the department under scrutiny as well as the implications of the audit’s outcome.

The team leader shall be responsible for the co-ordination, control, preparation and notification to participants of date and schedule, finalising the report findings, recommendations and presentation to senior management.

#### Checklists

The lead auditor shall ensure that checklists are developed for all documents and systems to be audited. These shall be based on the mandatory requirements of a document or system.

### Employee Involvement

Relevant employees shall be interviewed to determine their understanding of the system or procedure being audited, their methods for its implementation and their responsibilities associated with it.

The auditors shall discuss any non-conformances, or observations with the particular employee concerned, and obtain his/her agreement that this is valid. Where the employee does not agree with the findings they shall be given the opportunity to provide further explanation to support their opinion.

### Audit Reports

Audit reports shall, wherever practicable, be issued within two weeks of the audit having taken place. The audits shall be issued to the Chief Executive Officer Company Petroleum, the project manager/facility superintendent, and all appropriate managers for review.

The reports shall contain the following information:

* audit objectives
* audit scope
* date and location of audit
* composition of audit team
* auditees questioned
* audit findings (observations and non-conformances)
* non-conformance details
* associated checklists/questionnaires if applicable

Following issue of the audit report, the audit team no longer has a role to play in the remainder of the process. The auditee is to develop detailed proposed actions and dates by which the actions would be implemented. All actions (including their financial and operational impact) are to be agreed with the COO. High potential / high consequence actions are to be agreed with the CEO.

### Corrective Action Management

All corrective actions shall be agreed between the lead auditor and the line manager against which an observation or non-conformance has been raised.

All corrective actions (including details of the audit, terms of reference and findings) shall be incorporated into the EFAC system, which will be used for monitoring their progress until close-out.

A follow-up review shall be carried out by the lead auditor after an appropriate time to confirm that the corrective action implemented has been effective.

## Key Performance Indicators

The following KPIs are applicable to this section:

* all elements of the HSSEQMS audited at least once per year
* audit schedule prepared that covers the whole scope of required audits
* audits carried out in accordance with the applicable procedure
* audit team composed of suitably trained individuals
* audit reports issued within 2 weeks of completion of the audit
* all agreed corrective actions recorded in the EFAC and actively monitored until closeout.

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that adequate resources are available to develop, implement and maintain an audit system
* appointing the audit team (for internal audits)
* appointing the audit body (for external audits)
* approving the final audit report

#### Regional HSSEQ Officer

Is responsible for:

* the development of the audit procedures
* ensuring that all corrective actions are incorporated into the EFAC

#### Project Manager/Facility Superintendent

Is responsible for:

* ensuring that personnel are available to be interviewed by the audit team
* following up the progress of corrective actions until closed out

#### Audit Team Leader

Is responsible for:

* the co-ordination, preparation, notification and effective conduction of the audit
* preparation of final audit report
* development of checklists
* agreement of any corrective actions with the manager of the department affected

#### All Employees

Are responsible for:

* co-operating with the audit team when they are being audited

## Verification

Verification audits for this section will be carried out in accordance with the planned audit schedule.

Compliance with this section will be verified by:

* evidence that each element of the HSSEQMS is audited each year
* the existence of a comprehensive audit schedule
* evidence that audits have been carried out in accordance with the schedule
* evidence that audit teams were suitably qualified
* evidence that audit reports are issued within 2 weeks of audit taking place
* evidence that all corrective actions are recorded in the EFAC, and have been regularly monitored and closed out in a timely manner
* evidence that all appropriate personnel have received copies of audit reports

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Audit Procedure  |

# REVIEW AND IMPROVEMENT

## Intent

To develop, implement and maintain a system to review the HSSEQMS and ensure that it is effective in meeting the company’s policies and objectives.

## Performance Standards

### Review Programme

A review team shall be established annually to review the HSSEQMS and ensure that it remains effective in meeting the company’s policies and objectives for the coming year. The review shall take place as soon as practicable after the annual objectives have been agreed.

### Comparison Against Objectives

The review team shall be agreed with the CEO and comprise at minimum:

* Chief Operating Officer Company Petroleum
* Technical Director
* Corporate HSSEQ Officer

When carrying out the review the team shall make use of various information as applicable. This may include, but is not limited to:

* agreed annual objectives
* results of previous audits and reviews
* results of past performance against past objectives
* recent changes in legislation
* modified business/operational activities
* changes to business objectives and expectations
* results of incident reports and trends
* employee feedback
* changes in company organisational structure/personnel

The annual objectives shall be reviewed in turn and any deficiencies perceived in the current HSSEQMS discussed and agreement for any proposed improvements or changes reached

The review shall be documented and records maintained.

When reviewing the effectiveness of the system, the following shall be considered:

* problems identified and actions taken
* ‘partner’ complaints
* how the HSSEQMS is working and whether objectives are being met
* the findings of both internal and external audit reports
* areas for improvement, and changes needed
* actions outstanding
* the relevance of the various policy and objective statements to current needs.
* the effectiveness and relevance of existing training, and the need for any additional training requirements
* problems experienced with suppliers
* equipment, working environment, and maintenance problems

### Communication

Any significant changes to the HSSEQMS shall be communicated to all affected employees. This may be achieved by:

* formal presentation
* notices displayed on notice boards
* e-mail communication
* memorandums
* circulated company HSSEQ publications

### Continuous Improvement

This review is part of the overall system for the continuous improvement of the HSSEQMS.

Other components of continuous improvement include:

* annual and unscheduled audits
* feedback from employees
* review and incorporation of amended regulatory requirements, and other industry standards
* feedback from contractors

All agreed improvements recorded in the EFAC and monitored until closed-out.

## Key Performance Indicators

The following KPIs are applicable to this section:

* review of HSSEQMS effectiveness carried out annually against annual policy and objectives
* actions tracked by the EFAC until closed-out

## Agreed Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that a system is implemented to review the HSSEQMS annually to ensure that it is effective
* appointing the review team
* ensuring that the review is documented and records maintained

#### Regional HSSEQ Officer

Is responsible for:

* communicating any changes to the HSSEQMS to all affected employees
* ensuring that all actions originating from the review are incorporated into the EFAC and monitored until closed out

## Verification

Verification audits for this section will be carried out in accordance with the planned audit schedule.

Compliance with this section will be verified by:

* evidence that an annual review of the HSSEQMS’s effectiveness against company annual policies and objectives has been carried out
* the existence of reports detailing the reviews and agreed actions
* evidence that all significant changes to the HSSEQMS have been communicated to all affected employees
* evidence that agreed improvements have been tracked by means of the EFAC until closed-out

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|   |   |

# SAFETY CASE

## Intent

To develop, implement and maintain a safety case for each facility where local regulations require.

## Performance Standards

### Preparation

Company Petroleum shall develop a safety case for all of its facilities or field operations (regardless of whether a safety case is a local regulatory requirement). The safety case is to conform with the UK model unless required otherwise by local regulators.

The Safety Case shall be prepared in two parts. One shall cover the initial design, fabrication, and installation phases, while the second shall cover the offshore commissioning, operation, and future decommissioning and abandonment phases. Once a facility has been installed, the first part of the safety case shall be replaced by the second.

The Safety case shall include all operations in the immediate area of the facility, including:

* supply vessels
* helicopter operations
* offtake tanker activities
* drill rig activities
* diving operations
* pipe-laying operations
* shore-based support operations

In preparing the safety case, the maximum practical involvement of the work force shall be sought. This shall be achieved by involvement of workforce representatives in:

* HAZOP reviews
* ALARP reviews
* hazard identification workshops
* documentation reviews
* design reviews
* regular meetings

This will ensure technical accuracy of the FSA and validity of any assumptions made.

#### Format

 The safety case shall comprise the following components:

* description of the facility
* a summary of the formal safety assessment carried out for the facility and an assessment of the risk to personnel associated with the facility
* an overview of the facility's HSSEQ management plan

#### Facility Description

The facility description shall provide an overview of the facility and its operating environment. The following subjects shall be included:

* overview of the field facilities
* development bases and phases
* staffing philosophy
* shipping and custody transfer
* occupational health and safety
* environmental protection
* metocean conditions
* facility layout
* equipment
* interaction with other facilities
* structural design
* process system
* utility systems
* pipeline and riser systems
* wells and sub-sea systems
* drilling systems
* work-over and wire-line systems
* marine functions and systems
* helicopter operations
* design standards and specifications
* hazardous substances
* protective systems
* facility shutdown system
* fire and blast protection
* fire protection systems
* emergency power
* communications
* lighting
* escape and evacuation
* rescue
* general alarm
* emergency equipment
* drawing set

Sufficient information shall be provided to ensure that a reviewer can gain an understanding of the overall facility, its hazards, operational philosophies and protective systems provided.

#### Formal Safety Assessment

The formal safety assessment section shall include an overview of the assessment carried out and the conclusions reached, regarding hazards associated with the facility and the residual risk present.

As a minimum, the following subjects are to be included:

* safety goals and acceptance criteria
* hazard identification
* non-flammable hazard assessment
* fire and explosion assessment
* gas and smoke ingress assessment
* emergency system survivability assessment
* temporary refuge survivability assessment
* escape, evacuation and rescue assessment
* quantified risk assessment
* simultaneous operations analysis
* ALARP studies

#### Facility HSSEQ Management Plan

This document shall provide an overview of the HSSEQ management system under which the facility will be operated.

The scope of the document shall include, as a minimum:

* overview of the facility’s HSSEQ management system structure
* policies and objectives
* organisation and responsibilities
* risk assessment and risk management
* employee involvement
* employee selection, competency and training
* contractors and support services
* safety integrity during design, construction, commissioning and operation
* safe operational procedures
* maintenance, inspection, testing and modification
* management of change
* health system
* emergency response
* incident investigation and reporting
* performance audit and review
* environmental protection

### Submission

Where required by local regulation, the safety case shall be submitted to the designated authority for acceptance at least 3 months (or more if determined necessary) prior to the commencement of any activity in the immediate area. Where submission is not required by local regulation, the safety case should be submitted to a competent individual for assessment (with the UK acceptance criteria being the reference terms for evaluation).

Where changes to a facility or its operation are proposed that significantly affect levels of risk, or which incorporate major modifications to the facility or equipment, then the safety case shall be revised and re-submitted to the designated authority for acceptance at least three months prior to any planned implementation of the changes.

### Control

The safety case shall be a controlled document in accordance with Company’s document control and filing procedure.

### Revision

The safety case shall be updated in accordance with the appropriate regulations, to ensure that it provides up-to-date information.

The HSSEQ management system shall be regularly reviewed to ensure that it is operating effectively. Such reviews will include audits, formal reviews, facility inspections, HSSEQ meetings, etc. (Refer to section 11 Management System Documentation.)

Areas of the HSSEQMP identified for improvement may also require an update to the safety case. The safety case may require to be revised periodically to incorporate facility modifications, changes in operational procedures, changes to manning levels, changes in maintenance philosophies, etc.

It shall also be amended if significant new hazards are identified, or if changes to the levels of risk occur.

Examples of such major changes include:

* changes of operatorship, ownership or the contracting out of the management function
* significant changes in the facility’s organisational structure, working or shift arrangements, e.g., duty cycles, shift duration, staffing levels, personnel distribution, etc.
* changes as a result of an unsatisfactory audit of the HSSEQ Management Plan leading to significant changes or remedial work
* the conclusions of an investigation into an incident where the actual or potential consequences were significant and which result in recommendations to make significant changes to the HSSEQ management system or facility design
* the introduction of any major new activities, or simultaneous operations, on the facility or in connection with it that have not already been considered in the latest revision of the safety case previously submitted for regulatory authority approval. Examples include drilling, diving, major maintenance activities, etc.
* major extensions in the scope, or volume of work associated with activities such as the development of reservoirs not previously considered in the safety case, irrespective of whether this would require the submission of a new or revised development plan
* substantial changes to operating parameters, e.g., debottle-necking, start-up of satellite operations, reservoir changes, etc.
* introduction of changes in technology, e.g., change of materials, introduction of new software or control systems
* modifications to the structure or to plant that have, or may have, a major impact on safety. Examples are: : installation of additional pipelines, or risers; the introduction of a new process train to accommodate production changes; the removal or repositioning of critical safety equipment; the removal, or repositioning of lifeboats; or repairs following damage to the facility
* regulatory changes

Minor changes may be implemented, and shall be documented, but the safety case may not be updated providing it can be demonstrated that the change continues to satisfy the regulations and does not impact on the conclusions of the safety case. The cumulative impact of minor changes on the facility’s safety shall be monitored and the safety case revised and re-submitted for approval, if this cumulative effect is significant.

Irrespective of the above reasons for updating the safety case, a revised version of it shall be submitted to the designated authority, for acceptance, at least once every five years, or at any other such interval as may be required by regulation or the designated authority. The revised safety case shall be submitted at least three months in advance of the review date.

## Key Performance Indicators

The following KPIs apply to this section:

* safety case prepared for each facility where local regulations require, and submitted for DA (or third party) for acceptance at least 3 months prior to any activity in the immediate area
* workforce involved in the preparation of the safety case
* safety case covers all phases of a facility’s life
* safety case revised and re-submitted to the DA for acceptance at least 3 months prior to the implementation of any major changes
* updated and re-submitted at least once every five years

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that a safety case is developed where required
* ensuring that adequate resources are available to develop any required safety cases
* ensuring that the safety case is submitted to the DA at the appropriate times
* ensuring that the safety case is updated whenever appropriate

#### Regional HSSEQ Officer

Is responsible for:

* the development of the safety case
* ensuring that the safety case is technically accurate

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* the existence of a safety case for all facilities where required by local regulation
* evidence that the workforce has been involved in the preparation of the safety case
* evidence that the safety case has been submitted to the DA for acceptance at least 3 months prior to any activity in the immediate area
* evidence that the safety case is a controlled document
* evidence that revisions to the safety case are carried out in accordance with the safety case update procedure
* evidence that all significant changes have been incorporated into the latest revision of the safety case and that the safety case has been re-issued to the DA for acceptance at least 3 months prior to any planned implementation of a change

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Operations Safety Case Summary  |
|  | Facility Description  |
|  | Formal Safety Assessment Summary  |
|  | Hazard Identification Study  |
|  | Hazard Register  |
|  | Coarse HAZOP Study  |
|  | Detailed HAZOP Study  |
|  | Fire Risk Analysis  |
|  | Smoke and Gas Ingress Analysis  |
|  | Emergency Systems Survivability & Availability Analysis  |
|  | Escape, Temporary Refuge, Evacuation and Rescue Analysis  |
|  | Ship Collision Analysis  |
|  | Dropped Object Analysis  |
|  | Quantitative Risk Analysis  |
|  | ALARP Study  |

# QUALITY MANAGEMENT

## Intent

To ensure that systems are developed, implemented and maintained so that Company’s operations are carried out in general conformance with ISO15000..

## Performance Standards

Company’s Quality System is an integrated component of its Health, Safety, Environmental and Quality Management System. This section provides an overview of Company’s quality system with references to the applicable sections of the overall system where the specific details are provided.

### Management Responsibility

#### Quality Policies and Objectives

Refer to Section 4.

#### Organisation

Refer to Section 5.

#### Resources

Refer to Section 5.

#### Management Representative

The management representative shall be appointed by the Chief Executive Officer Company Petroleum.

The Regional HSSEQ Officer is Company’s management representative and has the authority for ensuring that quality systems are established, implemented and maintained throughout Company’s operations.

The Regional HSSEQ Officer is the primary contact for external parties regarding Company’s Quality system.

The responsible for reporting on the effectiveness of the QA system to the Chief Executive Officer Company Petroleum and for identifying opportunities for the continued improvement of the system lies with the Regional HSSEQ Officer. This shall be achieved by means of quality system audits that shall be carried out annually by the Regional HSSEQ Officer, who shall prepare a report for each audit and issue these to the Chief Executive Officer Company Petroleum for review and approval.

#### Management Review

For details of the requirements for management review of the quality system refer to Section 26.

### Quality System

The QA system shall ensure appropriate controls exist for:

* identification of customer requirements
* design and development
* planning and development
* purchasing
* production/provision of services
* verification that the requirements have been met
* packaging and storage
* sales/distribution
* installation and commissioning
* technical assistance and maintenance
* ongoing support
* disposal or recycling of product at the end of its useful life

#### Identification of Customer Requirements

It is essential that for all of Company’s operations, ‘products’ that require quality control are identified, so that appropriate controls can be developed and implemented. These ‘products’ shall normally be agreed at the commencement of an operation, or project, but additional ‘products’ may be identified at any time.

The controls may vary for each product, but should be designed to ensure that the particular needs for each are met. Examples include, but are not limited to:

* performance requirements specified in a contract e.g. product specification guarantees.
* regulatory requirements, e.g. contamination limits for produced water to be discharged into the sea.
* specified needs of a ‘customer’ group within the Company organisation, e.g. technical details, documentation, competency, software integrity.
* traceability requirements for materials
* company policy requirements, business objectives, etc.

To ensure ‘customer’ expectations are satisfied it is essential that all product requirements are identified and the acceptance criteria agreed and documented as early in the project as possible, but in any case prior to the delivery of the product to the ‘customer’.

Only when all acceptance criteria are established is it possible to determine if a non-conformance exists.

The appropriate procedures and quality related documentation shall be developed, implemented, and maintained to ensure that the HSSEQMS requirements and customer agreed acceptance criteria are met.

#### Design and Development

Where design, or development, work is carried out by Company, then appropriate controls shall be implemented to ensure that the results are ‘fit for purpose’.

#### Planning and Development

A project plan shall be developed that identifies each of the activities that will be carried out. This plan identifies the various ‘targets’ to be achieved and shall be used to monitor and report on progress.

It shall, as a minimum:

* identify any specific controls, processes, or equipment (including inspection and test equipment) that is needed by the project to ensure that the required quality is achieved.
* define inspection and test requirements, including ‘Hold Points’ where appropriate
* detail requirements for auditing
* define the inspection and test records required
* reference all applicable procedures
* define manning and responsibilities
* detail the means by which verification that customer requirements have been met is to be demonstrated.
* define the standards to be adopted
* detail requirements for design, procurement, production, assembly, installation, packaging, storage, and service

Each project shall produce an “Operations Documentation Deliverables Register”. This shall identify the documents that will be produced and is used to control and monitor their completion and approval status.

The following sections of this document should be referred to for further information regarding planning and development controls:

* section 7 – Resources
* section 9 – Objectives, plans and performance standards
* section 11 – Management system documentation
* section 12 – Design, construction and commissioning
* section 13 – Management of change

Section 21 describes the arrangements for inspection, testing, and monitoring and the inspection and test records that are required. The inspection and test plan for a facility shall be incorporated into the MMS. Verification requirements for the design phase are included in section 12, together with details of quality records that shall be maintained.

Should it become necessary to purchase equipment for which it is appropriate that the goods be inspected and tested prior to delivery, then an Inspection and Test Plan shall be developed to provide the necessary controls. This shall detail any ‘hold points’ and inspection and test records that are required. These requirements shall be specified in the purchase order. (Refer to section 14 for further information.)

#### Purchasing

For details of purchasing controls and procedures refer to Section 14.

#### Production / Provision of Services

These aspects of the quality process are detailed throughout the HSSEQMS.

#### Verification of Meeting Customer Requirements

Where appropriate verification/validation procedures shall be developed for the project.

Each project shall prepare a verification/validation plan to confirm that ‘customer’ requirements have been met. This plan shall also describe the assigned responsibilities for verification/validation.

Details of verification to be carried out, and the associated assigned responsibilities are included in each section of this document (HSSEQMS) where appropriate. Verification details associated with a project shall similarly be included in each section of the HSSEQMP document where appropriate.

Validation requirements associated with the design, construction, and commissioning are defined in section 12.2.6.

#### Packaging and Storage

Where there is a requirement for a product, or equipment, etc. to be packaged, or stored, then the project shall develop appropriate procedures and plans to ensure that such items do not suffer degradation.

The particular requirements, and references to applicable procedures, etc. shall be described in the project’s HSSEQMP.

Refer also to Section 16.

#### Installation and Commissioning

The arrangements to be made to ensure that the installation and commissioning of equipment is in accordance with the applicable standards and design requirements shall be described in the HSSEQMP.

The plan shall make reference to the associated installation and commissioning procedures to be applied.

For further details refer to Section 12.

#### Technical Assistance and Maintenance

Where there is a requirement to provide technical assistance to a ‘customer’ then the HSSEQMP shall detail how this is to be controlled.

Technical assistance will be provided by Company when requested by a project’s design team. Company personnel may also be required to provide technical input to the Emergency Management Teams in the event of an emergency situation arising.

Important areas for consideration regarding the provision of technical assistance include:

* competency of personnel
* use of appropriate information and software

These requirements are described in greater detail in the following sections:

* Section 10 – Sources of Information,
* Section 11 - Management System Documentation, and
* Section 18 – Employee Selection, Competency and Training.

For details of the controls applied to maintenance activities refer to Section 17 – Maintenance and Repair.

#### Ongoing Support

Where ongoing support is required to a customer it is essential that appropriate documentation and records are retained, and maintained in an up to date condition. To ensure that appropriate documentation and records reflect the ‘as-built’ design, various documents shall be updated to ‘as-built’ status at the completion of construction, and commissioning phase. These shall be retained for future reference.

These requirements are described in Section 11 – Management System Documentation, and Section 13 – Management of Change, Document Control and Filing.

#### Disposal or Recycling of Product

All waste product and other waste shall be disposed of in a responsible manner. Each project shall prepare appropriate procedures to control waste management.

### Contract Review

Customer interfaces and communication channels shall be identified for all contractual matters. Unless otherwise appropriate, a ‘single point contact’ shall be agreed between both parties.

Prior to the submission of any tender, or the acceptance of any contract, or order, they shall be reviewed to ensure that:

* all requirements are adequately documented, and defined
* any differences between an order, or contract, and the tender documentation are resolved
* the capability exists to enable all requirements to be met

Amendments to a contract, or order, shall be controlled by means of the ‘Management Of Change’ system. (Refer to Section 13 for details).

Records shall be maintained of all contract reviews and other contract related communication. (Refer to Section 11 – Management System Documentation).

### Design Control

Refer to Section 12.

### Document and Data Control

Refer to Section 13.

### Purchasing

Refer to Section 14.

### Control of Third-party Supplied Product

Where a customer of Company provides materials or equipment that is to be utilised by Company, then it shall be identified as such and provided appropriate care. This care shall include handling, storage, packing, preservation and subsequent delivery.

Each item shall be allocated a unique means of identification to afford traceability. The item shall be inspected on receipt from the customer, or their agent, and any damage or incomplete item reported to the customer as soon as practicable.

Where specific handling, storage, packing, or preservation requirements exist these shall be identified and a system developed to ensure that they are complied with.

### Product Identification and Traceability

#### Documentation

Where the product to be identified is a document, or drawing, then their identification and traceability shall be controlled in accordance with the document control procedures. Refer to Section 13.

#### Crude Oil Product

The identification and traceability of crude oil product from a facility shall be controlled by a procedure specifically developed by the project to suit customer and local regulatory requirements.

#### Equipment and Materials

The identification and traceability requirements for materials and equipment for a particular project are to be identified. This traceability shall be maintained during the operational phase in the event that any changes occur to either the equipment or systems on the facility. Project specific procedure shall be produced to provide the necessary controls.

Material/equipment identification and traceability requirements are detailed in the Inspection and Test Records. (Refer to section 21.)

### Process Control

Procedures and other control systems shall be developed by a project, where appropriate, to ensure that the products produced meet all requirements. Examples of control mechanisms include, but are not limited to:

* production plans
* production records
* maintenance plans
* reservoir control plans
* training schedules
* laboratory test procedures
* process monitoring procedures
* process operation procedures and logs

The following procedures shall be referenced:

* Production Operations Management System Procedure
* Routine Production Operation
* Management Of Well Activities
* Sampling Programmes
* Laboratory Analytical Procedure
* Maintenance & Integrity Management System
* Spares Philosophy Incl. Spares Management Plan
* Maintenance and Integrity Management Manual
* Long Term Maintenance
* Intermediate Special Surveys
* Routine Maintenance & Inspection
* Safety Critical Maintenance & Inspection

### Inspection and Testing

Refer to Section 21.

### Control of Inspection, Measuring and Test Equipment

Equipment used for inspection, measuring and testing may include:

* laboratory equipment
* process control equipment
* cargo metering equipment
* other specialty analysis and measurement equipment

Procedures shall be developed by each project for the calibration of inspection, measuring, and test equipment. These procedures shall also describe the requirements for a visual inspection of all test equipment to be carried out prior to use to ensure that it has not been subjected to damage or mishandling. Where the integrity of the equipment is suspect, then the equipment shall be marked as being unsuitable for use until either its calibration is checked or it is re-calibrated.

Appropriate storage facilities shall be provided for all measuring and test equipment that is not permanently installed, to ensure that it is not subjected to damage, corrosion, etc.

Records shall be maintained to record when the various items of equipment were last calibrated and when it requires re-calibration.

Records shall be maintained of all instrument calibration for a minimum period of five years, and shall not be destroyed without the authorisation of the Chief Executive Officer Company Petroleum.

### Inspection and Test Status

Each project shall develop appropriate procedures to record the inspection and test status of any applicable products associated with the project.

The inspection and test status of documents shall be controlled. This will record the status of each document in terms of its review and approval status. Examples of such documents include, but are not limited to:

* drawings
* reports
* purchase orders
* contracts
* specifications
* procedures
* data sheets, etc

The inspection and test status of crude oil product is controlled by the procedure Laboratory Analytical Procedure.

### Control of Non-Conforming Product

A non-conformance report shall be raised for any item that does not conform to the required specification (i.e. off-spec oil intended for sale). The item shall be clearly identified, quarantined, and remedial action agreed with authorized management.

The individual responsible for the examination of a product shall raise the EFAC. This shall be issued to the following persons for information/action:

* Regional HSSEQ Officer
* project manager/facility superintendent
* line manager responsible for the item
* COO

All EFACs shall be recorded in the EFAC system, which shall be used to monitor its status until the required action is complete, at which time the EFAC shall closed out.

An agreement shall be reached, and recorded, between the department responsible for the non-conforming item and the ‘customer’ regarding the proposed corrective action. This may include:

* re-processing to meet the required specification
* acceptance of the item with, or without, repair by concession
* regrading of the item for alternative use
* rejection and disposal of the item

### Corrective and Preventive Action

#### Corrective Action

The need for a corrective action may be identified as a result of:

* audits
* inspections
* testing/measuring activities
* customer complaints

The responsible line manager shall carry out an evaluation to determine the root cause of the problem and the necessary corrective action that must be taken to prevent its recurrence. This evaluation and its findings shall be documented.

The evaluation shall consider:

* processes involved
* working environment
* work instructions
* sequence of work
* specifications
* quality controls
* testing, monitoring requirements
* approval authorisation
* personnel competence
* training
* audits
* quality record requirements
* service monitoring

If the evaluation determines that a repeat of the non-conformance from the same root cause is unlikely, then the line manager responsible for the evaluation may determine that no corrective action is necessary.

Where it is found that the a repeat of the non-conformance is possible, then the responsible line manager shall recommend the appropriate corrective action to the project manager/facility superintendent, Regional HSSEQ Officer and ‘customer’ for agreement.

Corrective actions may include:

* initiation of an engineering change
* request for a procedural change
* request for a work instruction change
* requirement for new or revised policy
* development of a new procedure

A record of the non-compliance shall be maintained in the EFAC including the investigation findings, and the agreed corrective action to be taken. The individual responsible for carrying out the corrective action and the agreed time-frame in which it is to be complete, shall also be recorded.

All corrective actions shall be followed up within three months of their completion, to ensure that the actions taken remain effective.

#### Preventive Action

While corrective action must be taken in the event that a non-conformance is identified, preventive action is necessary when the potential for a non-conformance to occur exists.

Line managers are responsible for bringing to the attention of the project manager/facility superintendent and the Regional HSSEQ Officer any areas where they are concerned that a potential for a non-conformance to occur exists.

Examples of ways in which this possibility may be identified include:

* supplier or subcontractor difficulties
* process problems, including wastage levels, rework frequency
* employee concerns
* audits
* impracticable procedures
* staff availability
* staff experience
* customer / partner complaints

Records shall be maintained of all preventive actions taken for a minimum period of 5 years. These actions shall be carried out at the earliest opportunity and additional vigilance mounted until the action is complete.

All preventive actions taken shall be followed up within three months to ensure that the actions have been effective.

### Handling, Storage, Packaging, Preservation and Delivery

Refer to Section 16

### Control of Quality Records

Each project shall identify the quality records that are to be provided and maintained on file.

Examples of quality records include, but are not limited to:

* design files
* drawings
* calculations
* customer’s orders
* contract reviews
* purchase orders
* meeting notes
* audit reports
* non-conformance records
* supplier and subcontractor files

### Servicing

Not addressed

### Statistical Techniques

The project manager/facility superintendent and the Regional HSSEQ Officer shall determine the need for statistical evaluation of quality records. Where the need is identified, the project shall develop appropriate procedures that define the data to be collected, and the way in which this is to be used.

Examples where statistical data may be used include, but is not limited to:

* evaluation of non-conformance trends
* sub-contractor performance
* market research
* stock control

## Key Performance Indicators

The following KPIs apply to this section:

* management representative appointed
* customer / partner requirements identified and agreed
* project quality requirements specified, or detailed in the project’s HSSEQMP
* verification/validation plan developed, or provided in the project’s HSSEQMP
* customer requirements identified for the provision of technical assistance and maintenance
* contract reviews carried out effectively
* appropriate procedures implemented for the control of ‘customer supplied product’
* appropriate procedures implemented for the identification and traceability of products
* effective procedures in place for the control of inspection, measuring, and test equipment
* effective procedures implemented for inspection and test status records
* effective systems in place for the control of non-conforming product
* effective procedures in place to implement corrective and preventive actions
* an effective system in place for the identification and control of quality records
* applicable statistical records and techniques employed where appropriate

## Responsibilities

### Chief Executive Officer Company Petroleum

The Chief Executive Officer Company Petroleum is responsible for:

* appointing the management representative
* reviewing and approving Quality System audit reports

### Project Manager/Facility Superintendent

Is responsible for ensuring that:

* ‘customer’ requirements are identified and agreed
* project quality requirements are detailed in the project’s HSSEQMP
* verification and validation requirements are identified and a plan included in the project’s HSSEQMP or other appropriate document
* appropriate quality control procedures are developed and implemented on the project
* ensuring that a system is implemented on the project to identify and control the required quality records

### Chief Operating Officer

Is responsible for:

* ensuring that an effective quality system is established, implemented, and maintained on each project
* reporting the effectiveness of the QA system to the Chief Executive Officer Company Petroleum, together with opportunities for its continued improvement.
* carrying out quality system audits annually and for the preparation of the associated report.

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* the appointment of a management representative
* evidence that customer requirements have been identified and agreed
* evidence that contract reviews have been performed effectively
* evidence that the project’s quality requirements are detailed in the HSSEQMP
* evidence that the verification and validation requirements have been identified and agreed with the customer, and that a plan is included in the HSSEQMP or other appropriate document
* the existence of appropriate quality control procedures for: control of customer supplied product; identification and traceability of products; control of inspection, measuring, and test equipment; inspection and test status; control of non-conforming product; corrective and preventive actions; identification and control of quality records
* evidence that statistical techniques have been effectively utilised where considered appropriate by the project
* all appropriate documents controlled in accordance with the document control and filing procedure retrieval of outdated software records
* effective document control and filing system developed, maintained, and implemented for all project documents need for duplicate sets of certain records to protect against possible loss, e.g. fire
* period of time that records shall be maintained
* final disposition of records

## References

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|  | Audit Procedure  |
|  | Vendor/Subcontractor Qualification Procedure  |
|  | Purchasing and Procurement Procedure  |
|  | Company Petroleum Emergency Response Plan  |
|  | Operations Documentation Deliverables Register  |
|  | Document Control & Filing Procedure  |
|   | Validation Procedure  |
|  | Maintenance and Integrity Management Manual  |
|  | Environmental Management Guidelines  |
|  | Production Operations Management System Procedure  |
|  | HUC (Hook-up & Commissioning Manual)  |
|   | Commissioning Procedure  |
|  | Routine Production Operation  |
|  | Management Of Well Activities  |
|  | Sampling Programmes  |
|  | Laboratory Analytical Procedure  |
|  | Maintenance & Integrity Management System  |
|  | Spares Philosophy Incl. Spares Management Plan  |
|  | Long Term Maintenance  |
|  | Intermediate Special Surveys  |
|  | Routine Maintenance & Inspection  |
|  | Safety Critical Maintenance & Inspection  |

# Security

## Introduction

## Purpose

To be developed …… .

## Objective

This is a bullet list:

* ……

## Scope

Aasdf asdf asd fa sdf asd dfas df ass df asddf as df asdf as df asd fa sdf as df asdf as df asdf

## Security Management

## Key Performance Indicators

## Responsibilities

## Verification

## Reference

|  |  |
| --- | --- |
| Document Reference  | Document Title  |
|   |   |

# ENVIRONMENTAL PROTECTION

## Intent

To develop, implement, and maintain an environmental protection plan for each workplace and facility (under the control of Company Petroleum) that is consistent with the principles of ecologically sustainable development.

The plan to be based on objectives, standards and measurement criteria to enable an assessment to be made as to whether these objectives and standards have been met.

The plan is to meet, as a minimum, all local regulatory requirements. Where appropriate and not in conflict with local regulation, the environmental protection plan can be incorporated into the HSSEQ Management Plan.

## Performance Standards

### Environmental Protection Plan

For each offshore facility involved in operations in an adjacent area of, an environmental protection plan (EPP) shall be prepared and approval obtained (as required) from the designated authority prior to the commencement of any activity in the area. These should be considered as guidelines for onshore workplaces and implemented as appropriate. Note that it is typically the responsibility of the offshore concession operator to implement an EPP. Company Petroleum shall participate in the preparation of the EPP where obliged.

Should it be necessary to modify the EPP associated with any activity in the adjacent area, then prior approval from the designated authority shall be obtained before any activities associated with the requirement for change commence.

Activities include:

* seismic or other surveys
* drilling
* construction and installation of a facility (surface subsea)
* operation of a facility
* significant modification of a facility
* decommissioning, dismantling or removing a facility
* construction and installation of a pipeline
* operation of a pipeline
* significant modification of a pipeline
* decommissioning, dismantling or removing a pipeline
* storage, processing or transport of petroleum
* any other operations or works for which a petroleum instrument, other authority or consent is required under the act or the regulations

The plan shall include, but may not be limited to, the following details:

* objectives and standards including identification of specific regulatory requirements
* description of activities
* description of the existing environment
* hazards identified
* risk acceptance criteria
* implementation strategy
* monitoring, recording, and reporting arrangements
* audit plans and reviews to ensure the plan is effective in meeting objectives and standards
* demonstration that it meets the requirements of applicable acts and regulations
* other relevant information, including list of applicable acts and regulations, copy of Company Petroleum environmental policy, report on any consultations between the operator and relevant authorities, interested parties during the development of the plan.

### Objectives and Standards

The plan shall contain environmental performance objectives, standards, and measurement criteria.

The performance objectives, standards and criteria shall be consistent with reducing all identified environmental risks to ALARP, but must be realistic and practicable as failure to meet them may result in penalties being imposed.

### Description of Activities

The description of activities shall include, as a minimum, the following information:

* proposed activities and their location
* general details regarding the layout and construction of a facility or other structures
* overview of the proposed operations to be carried out, together with the proposed timetable, including but not limited to:
* seismic surveys
* exploration drilling
* installation, including fixed facilities, sub-sea equipment, pipelines, etc
* commissioning
* production
* significant modifications
* decommissioning
* abandonment
* any other relevant information to enable an understanding of the environmental hazards, consequences, and associated risk

Where the above information is included in other documents, e.g. the facility description associated with a facility’s safety case, then it is adequate for this to be referenced. (Note: If this approach is to be adopted a thorough check shall be made to ensure that the existing documentation includes all the above required information.)

### Description of Existing Environment

The plan shall include a comprehensive description of the environment that will, or may be affected, by the planned activities.

The environmental aspects that shall, as a minimum be considered, include:

* the natural environment, e.g. water, air and land, fauna, flora, etc.
* the cultural environment, e.g. indigenous and heritage issues
* the socio-economic environment, e.g. fishing, shipping, tourism, etc

The plan shall address any particular environmental values and sensitivities that may be affected, including but not limited to:

* cultural and heritage sites
* marine protected areas
* coral reefs
* protected wrecks
* mangroves
* wetlands
* endangered flora and fauna
* fishing activities, both commercial and leisure
* availability and quality of water
* soil erosion
* nesting/breeding sites
* soil contamination
* public amenities, e.g. beaches, sites of popular water leisure activities, etc
* landscape
* changes in traffic patterns, e.g. vehicles, shipping, railway, personnel
* creation of noise, night time illumination, unpleasant odours, etc
* broad baseline data

Other environmental qualities including particular sensitivities, ecosystems, socio-economic factors

### Hazard Identification and Consequence Assessment

#### Environmental Hazard Identification

A hazard identification review shall be carried out to identify all environmental hazards associated either directly, or indirectly, with activities at a worksite, or facility. (Refer to section 8 for further details.)

These hazards shall include both those anticipated under normal operations and those that are credible under abnormal or accidental conditions for the life of the facility, in relation to:

* the natural environment
* cultural environment
* socio-economic environment

Examples of such operations include, but are not limited to:

* construction, installation and commissioning of facilities
* presence of fixed, mobile, or temporary facilities in the area
* marine operations, including but not limited to:
* seismic surveys
* transport to and from a facility
* presence of ‘standby’ vessels
* diving
* aerial operations, including but not limited to:
* aerial surveys
* transport to and from a facility
* drilling activities, including exploration, production, workover, etc
* production operations
* pipeline operations
* storage, transfer and transportation of materials, e.g. petroleum, diesel, potable water, etc
* discharges to land, or water, including but not limited to:
* drilling muds and fluids
* drilling cuttings
* formation water
* domestic waste
* other discharges
* emissions to air, including but not limited to:
* flaring
* venting
* engine exhaust
* fugitive emissions
* other emissions
* waste management
* noise and vibration
* significant modifications to a facility or other installations
* decommissioning of facility or plant
* environmental rehabilitation

An assessment of the confidence in the capability to predict the environmental effects, risks and their significance shall also be included.

Subsequent reviews shall take place in the event of any significant changes or the availability of new information that could lead to additional hazards being identified.

#### Environmental Impact Assessment

An assessment shall be carried out to evaluate the credible consequences of each environmental hazard identified and their significance.

Wherever practicable the risks shall be quantified.

### Implementation Strategy

#### Risk Management

An evaluation shall be carried out and documented to identify and assess the benefits of each option for reducing the risk, and impact from the identified hazards and their potential consequences. (Refer to section 8 for further information.) The available options shall be evaluated using CBA. The evaluation shall demonstrate that the hazards/risks have been reduced to ALARP, and that they are within Company’s acceptance criteria.

The actions associated with the implementation of the selected options shall be recorded in the corrective action tracking system and monitored regularly until closed out.

#### Organization and Responsibilities

Responsibilities for implementation of environmental protective plans are provided in section 26.4.

#### Contractors

Contractor’s responsibilities in connection with the protection of the environment shall be included in the contract documentation and shall be reiterated during project kick-off meetings. All contractors that undertake activities where a risk to the environment exists shall be subjected to competency assessments. (Refer to section 14 for further details.)

#### Training

Training requirements and personnel assessment requirements shall be assessed and included in the training matrix. (Refer to section 18 for further details.)

#### Monitoring

All discharges and emissions shall be accurately monitored and the results recorded. These include discharges and emissions to:

* air
* marine
* seabed
* sub-seabed

The monitoring results shall be compared to Company’s environmental performance and measurement criteria.

#### Reviews/Audits

Audits shall be carried out as outlined in section 25 of the HSEMS to ensure that the implementation of the environmental management systems are effective, that the performance criteria are being met and to identify any areas for improvement.

#### Emergency Response

An emergency response plan shall be developed for each work location and facility. The emergency response plan shall include an oil spill contingency plan where this is appropriate. (Refer to section 20 for further information.)

The plan shall be updated as necessary to incorporate any changes that may occur either to the hazards, the emergency response arrangements associated with them, emergency contact numbers, etc.

### Incidents, Reports, and Records

All normal and accidental discharges shall be reported in accordance with local legislative requirements.

### Other Relevant Information

#### Policy Statements

The plan shall contain a copy of, or reference to, Company’s environmental policy and any associated project specific environmental policies.

#### Legislation

All applicable environmental legislation shall be identified in the EPP, and a legislation compliance register prepared. This register shall detail the specific requirements of legislation, guidelines, codes of practice, etc and specify how these requirements are to be met.

#### Consultation

The audit plan shall contain details of any consultations between Company Petroleum and relevant authorities, and any interested parties that may occur during the development of the plan.

### Availability of Records

Records shall be filed and maintained for at least the minimum time required by local legislation.

Such records will include:

* notifications of any incidents
* all communication between Company Petroleum and the authorities
* monitoring records of all discharges and emissions
* documentation related to consultation with the authorities or other interested parties

## Key Performance Indicators

The following KPIs apply to this section:

* environmental policy statements developed and implemented
* EPP developed and maintained for each worksite and facility prior to work commencing
* approval for any amendments to the EPP to be obtained from the DA prior to the change taking place
* environmental objectives and criteria established
* all environmental hazards identified, consequences assessed and control measures agreed and implemented prior to any activities commencing that have potential environmental hazards
* all contractors advised of their responsibilities regarding the protection of the environment
* all necessary training identified and implemented
* monitoring programmes and systems in place to monitor all emissions and discharges
* audits carried out at least annually, and results reviewed by the Chief Executive Officer Company Petroleum
* emergency response arrangements for environmental incidents included in the emergency response plan (refer to section 20)
* all required reports issued to the DA
* all records maintained on file for the minimum required period

## Responsibilities

#### Chief Executive Officer Company Petroleum

Is responsible for:

* ensuring that all workplaces and projects develop and implement an environmental protection plan
* ensuring that an annual audit is carried out on the implementation of a workplace/facility’s EPP
* ensuring that an environmental policy is developed and for authorising the policy statement

#### Project Manager/Facility Superintendent

Are responsible for:

* ensuring that an environmental protection plan is developed for the workplace/facility
* ensuring that a environmental hazard identification review is carried out
* ensuring that the environmental impact assessment is carried out
* ensuring that all appropriate hazard/risk control measures are implemented
* obtaining DA approval of the EPP prior to any activities taking place in the adjacent area
* ensuring that the EPP is implemented
* ensuring that all contractors environmental responsibilities are included in their contract
* ensuring that all discharges and emissions from a facility are accurately monitored and the results recorded
* reporting all normal and accidental discharges in accordance with legislative requirements
* ensuring that all environmentally related legislative requirements are identified for the workplace/facility and complied with

#### Regional HSE Officer

Is responsible for:

* developing the EPP
* providing environmental induction to contractors
* determining any training requirements in connection with the implementation of the EPP

## Verification

Verification audits for this section shall be carried out in accordance with the audit schedule.

Compliance with this section will be verified by:

* the existence of up to date environmental policy statements
* the existence of agreed environmental performance objectives and standards
* the existence of environmental protection plans for each worksite and facility
* evidence that all environmental hazards have been identified and their consequences evaluated
* evidence that control measures have been identified, and where practicable, incorporated to reduce the environmental risks to ALARP
* evidence that all responsibilities and accountabilities have been defined in connection with environmental protection and the appropriate personnel advised
* evidence that all contractors have been advised of their responsibilities in connection with the environmental protection plan
* evidence that training requirements have been assessed and the appropriate training instigated
* evidence that monitoring arrangements are in place for all discharge and emissions sources
* the existence of annual audit reports
* evidence that the emergency response plan contains details of the arrangements for environmental incidents
* the existence of file copies of all appropriate reports and records of emissions and discharges

## References

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| Document Reference  | Document Title  |
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