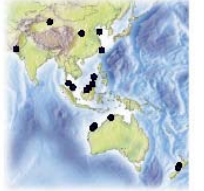


Drilling & Production Operations

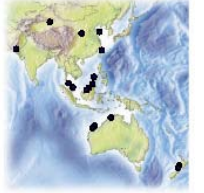
Positive Culture Change In New Zealand





Kiwi Culture “some of our problems”

- ✓ Permit to work “understanding and training”
- ✓ Emergency response
- ✓ Work at height “Emergency recovery plan is not good enough for ‘what ifs’, Man riding issues, awareness of Emergency Recovery.”
- ✓ Awareness of Hazardous Areas (regarding Electrical inspections and Electrical competence)
- ✓ Wearing correct PPE



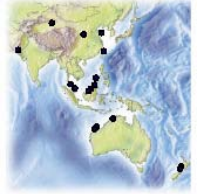
INTRODUCTION

Purpose

- Define clear HSE and ER expectations within the Operations/Drilling function

Driver

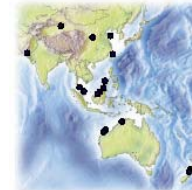
- Assure that Operations/Drilling staff fully understand their responsibilities with respect to HSE and ER



HSE

Contribution

- Understanding role, responsibilities & accountabilities
 - Functional Operations/Drilling
 - Permitting (PA, PICWS, AT, PI, ROS)
- Accountability for Safety
 - Compliance with rules & procedures
 - Active HEMP participation/application
 - Intervention behaviours
 - Ownership of HSE aspects of activities being performed
 - Assurance (hazards identified, controlled, managed to ALARP)
competencies current



HSE MANAGEMENT

- **Asset Integrity by Design, Maintenance, Operations**

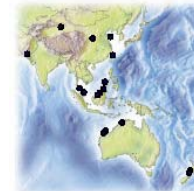
Risk to People, Asset, Environment per HSE Case

- Level 1** • **Assure HSE assumptions & plant condition intact**
Declare plant fit for access
- Level 2** • **Evaluate & prepare for proposed activities → haz ID & management**
Permissions for work to proceed
- Level 3** • **Monitor plant status, environmental conditions, hazard management, SIMOP's & conflicting activities**
Permit work to continue
- Level 4** • **Completion of activity**

PEOPLE

ASSET

ENVIR.



EMERGENCY RESPONSE

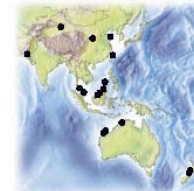
- Raise alarm, often we do not identify nearest call point
- Activate automated protection systems (isolate, depressure, deluge)
- Initiate ER procedures (request for support, we try to do too much ourselves, do not identify the possibility of escalation)

Assess and evaluate situation

- PEOPLE

- PRIORITY

PIC acts and/or awaits assistance

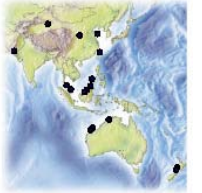


Back-Up to HSE Management 1

1. Identify threats to Asset Integrity (HSE aspects, equipment status)
2. HSE case assumptions intact (ETRERA, Escape Temporary Refuge Evacuation Rescue Analysis and MOPO Matrix of Permitted Operations etc)
3. Visual confirmation

I know status, I know what may change

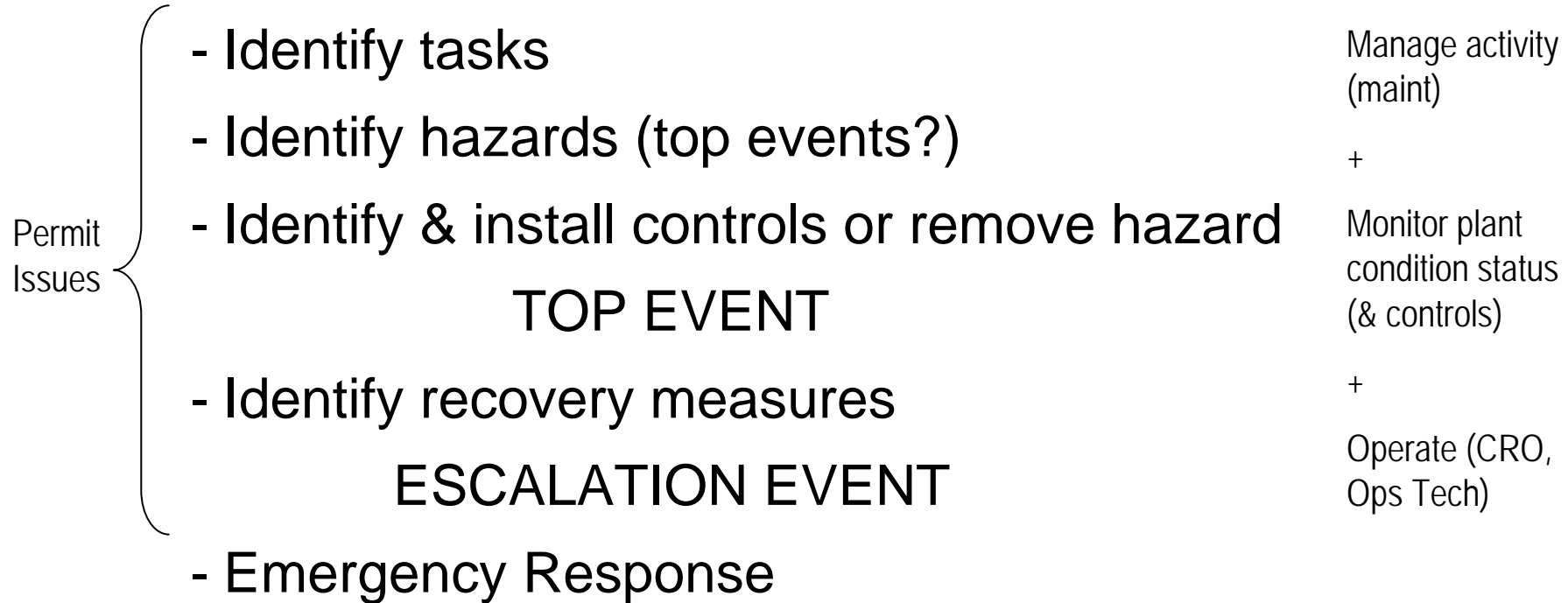
----- FIT FOR WORK TO PROCEED -----



Back-Up to HSE Management 2

Time to manage the people / activity

Permit to Work → Why do we have PTW system?



Continue monitoring & assurance
(operating conditions & work practice)



HSE PRIORITIES - Notepad

- Handover – establish current condition, status, issues (inside)
Safety critical PM's, – HSE case assumptions intact
- Permit review and discussion
- Toolbox – non routine
- Area Tech duties

OPERATIONS HSE

Declare plant fit for access

Assure HSE Assumptions & plant condition intact

Evaluate & prepare for Proposed activities: Hazard ID & Management

Permit work to proceed

Risk to People, Asset, Environment per HSE Case

Status understood Plant secure

Monitor plant status, environment, hazards, SIMOPS & conflicting activities

Permit work to continue

Completion or suspension Of activity (plant secure)

Ops Readiness & Assurance PMs

Safety systems isolation review

Isolate and gas free

Community Meeting

JHA review

Permit endorsement

Toolbox talks

Shift Handover

Shift Handover

Worksite visits

Operating Variations

Stepback 5x5

Permit suspension

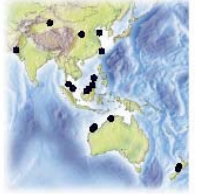
Safe Act Reinforcement

Monitor, operate & control plant

Manage corrective maintenance

Worksite visits

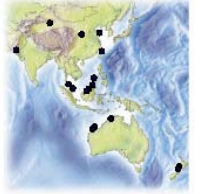
Stepback 5x5



Responsibilities

- ✓ Permit Issuer
- ✓ Area Tech
- ✓ PICWS Person in charge of the work-site
- ✓ Permit applicant
- ✓ ROS Responsible Operations supervisors (Overall in charge)

- ✓ Have copies of above's responsibilities at end of Power point will not show unless we have time



Experienced/Inexperienced workforce

- ✓ Green workforce, due lack of skill work force and a lot happening in NZ Drilling and Operations lack of training for the younger workforce
- ✓ Started a Drill training program course in Taranaki (Taranaki Drilling school) to an NZQA and Australian Drilling Unit standard
- ✓ *This course is designed to prepare a new entrant for work on a drilling rig. A hands on and practical approach to participative training will provide opportunities for new entrants into the Oil, Gas and Geothermal drilling industry to get a taste of life on a land rig.*



Synthetic Mud Eye Injuries prevention



HSE Lessons Learnt – PRESSURE CLEANING

Do YOU always use the correct PPE ?



Hearing protection

Full face shield

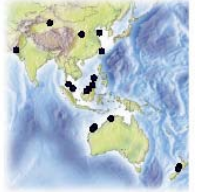
Tyvec coveralls

Goggles

Respirator

Latex Gloves

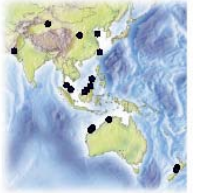




Lack of awareness

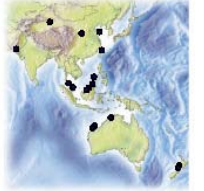
Hazardous Area Electrical Inspection





We cannot afford to have this



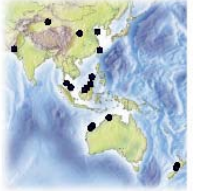


Hazardous Area Electrical inspections

Electrical and Instrument equipment could become a danger to life and Company assets if incorrectly installed and maintained.

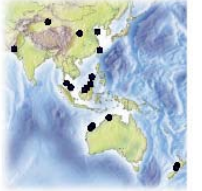
We have electricians that turn up on sites with no Hazardous Area Training, will discuss earthing examples.

Equipment installed and maintained. Equipment installed in Hazardous areas is not suitable for the area could become a source of ignition if the equipment is:



Hazardous Area inspections

- Not suitable for the area of installation.
- Not installed and maintained to the manufacturer's certificate.
- Allowed to deteriorate beyond the manufacturer's guidelines of design and construction

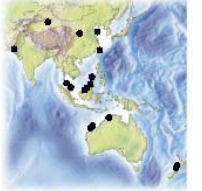


Strategy. “Why we inspect”

Principle requirements are:

- Why do we do it because of HSE act
- Electrical Legislation
- Standards and Codes relating to electrical inspection (*AS/NZS 2381*)
- Acceptance/rejection criteria (*AS/NZS 2381*)
- Frequency of inspection (*AS/NZS 2381*) and risk associated with Hazardous location.

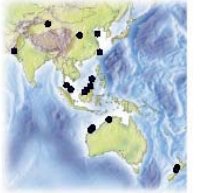
Verification Documents



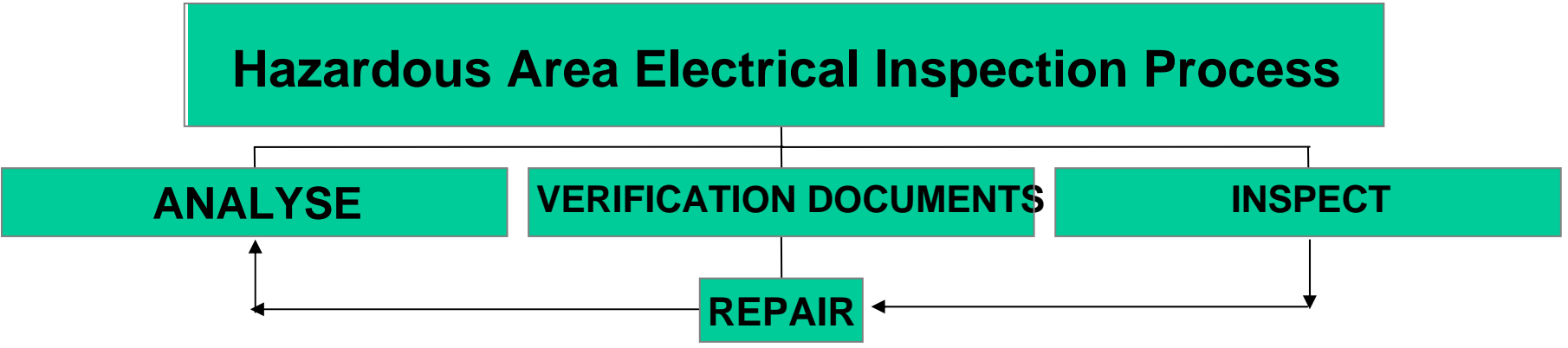
Inspection Strategy. “Why we inspect”

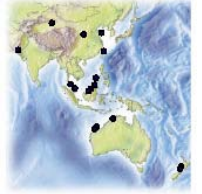
Inspection: Inspection of site based electrical equipment located within hazardous areas requiring:

- Verification of compliance with the standard adopted in the strategy - Pass/Fail criteria
- Provision of site records to meet legislative demand (Automatic generation of Work Order within Company)
- Re-inspections of repaired equipment



Strategy. "Why we inspect"



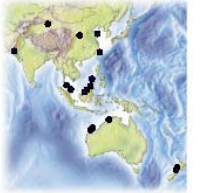


Rescue at height “do not depend on the emergency services”

Five scenarios have been identified for a drilling rig:

- (i) Rescue from the crown**
- (ii) Rescue of man from the blocks**
- (iii) Rescue man from stabbing board**
- (iv) Rescue of man from man-rider**
- (v) Rescue man from ladder**

Do not surmise that your staff understand the “Emergency operation/lowering” of the man-riding winch harness. Operate it - prove it actually works.



“We have improved”



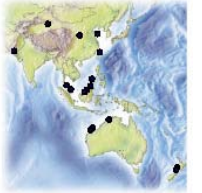
these days
are OVER



I'm glad I've
got fall
protection !

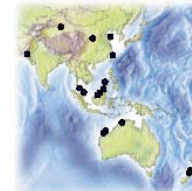
....don't let gravity win!!





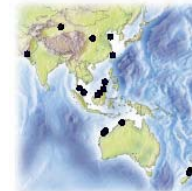
“We have to improve””

The End



Permit Issuer Responsibilities

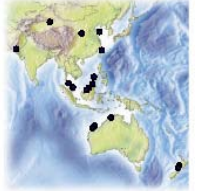
- ✓ Central Permit Coordinator – coordination, control and issue of permits
- ✓ Ensures that personnel under permit are competent
- ✓ Agrees work content, reviews HAZID, adds hazards of day
- ✓ Ensures that people have an overview of hazards that may affect them
- ✓ Ensures PICWS understands permit conditions
- ✓ Ensures isolations have been examined, fit for purpose and sequenced
- ✓ Authorises and endorses work to proceed
- ✓ Maintains an overview to manage SIMOPS and conflicting activities, monitor isolations and work in progress
- ✓ Ensures effective handover of incomplete work and accepts completion
- ✓ STOP work at own discretion



Area Tech Responsibilities

- ✓ Responsible for safety and control of process area
- ✓ Confirm worksite is safe for work to start
- ✓ Monitor all permits in area
- ✓ Confirm continued safe status of worksite
- ✓ Consider level of presence required at the worksite
- ✓ Ensure (with appropriate presence) that permit controls remain in place
- ✓ Perform spot checks per audit requirements
- ✓ Confirm that worksite is safe and tidy at job completion

- ✓ STOP work at own discretion



PICWS Person in charge of work-site Responsibilities

- ✓ Understands work to be done and conditions of permit
- ✓ Ensure that people covered by permit are aware of and comply with requirements
- ✓ Briefs team on permit conditions and hazards
- ✓ Responsible for direct supervision of work (per CoWSP)
- ✓ Confirm that worksite is safe and tidy at job completion

- ✓ STOP work at own discretion or if work scope changes



PA (Permit Applicant) Responsibilities

- ✓ Point of contact for planning and work detail
- ✓ Responsible for work planning and execution
- ✓ Ensures that hazards and controls for work are identified

- ✓ STOP work at own discretion or if work scope changes