

Safe Hoisting Operations

-Tower Crane & Mobile Crane

“ RPE’s Safety Perspective ”

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Content

- The role of RPE
- Test & examination tower crane and mobile crane
- Facilitation for RPE's work
- Total safety management



Tower crane



Tower crane



Mobile crane



Mobile crane



Role of RPE

To carry out
Test & examination of tower crane & mobile crane

Legislation
Requirement
(Cap59)

Competent
Examiner

Engineers
Registration
Ordinances
(Cap409)

Disciplines:

-Mechanical
(MCL)

-Marine & Naval
Architecture
(MNA)

Rules of Conduct (Responsibility)

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graph TD; A([Rules of Conduct  
(Responsibility)]) --- B([Profession]); A --- C([Colleague]); A --- D([Public]); A --- E([Clients]); B --- F([Reputation]); C --- G([Mutual Advancement]); D --- H([Health, Safety  
& Environment]); E --- I([Integrity]);
```

Profession

Reputation

Colleague

**Mutual
Advancement**

Public

**Health, Safety
& Environment**

Clients

Integrity

Health & Safety check-up



Health & Safety check-up

Concern to our own body

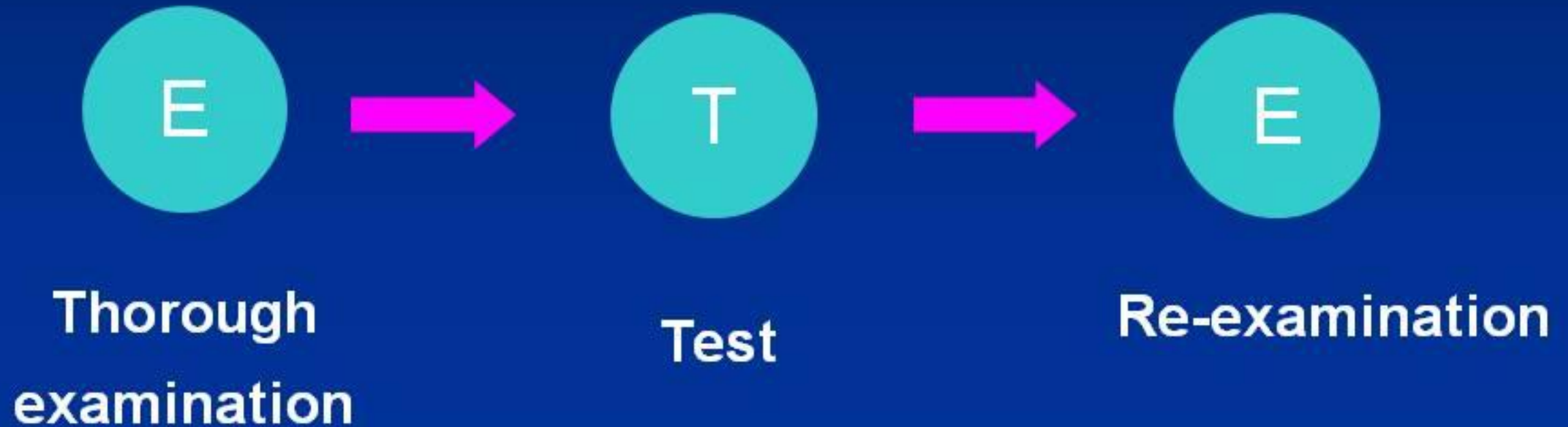


Health & Safety check-up

The crane has been running OK !



Process of test & thorough examination



Thorough examination

- Mechanical construction
- Strong & sound material
- Free from any defect
- Correct configuration & condition



Thorough examination

- Methods:
 1. Visual examination
 2. Dimensional examination
 3. Functional or operational test
 4. Electrical test & examination
 5. Non-destructive test



Visual Examination of Main structural parts

- Fixing angle / Foundation
- Tower base
- Tower mast
- Slewing ring assembly
- Tower top/ A-frame
- Counter jib
- Jib



Visual Examination of Accessories

- Ballast block
- Pulleys
- Wire drums
- Wire ropes
- Hook block
- Collars
- Telescopic cage



Dimensional Examination of Pin & Hole diameter

Compare with manufacturer's recommendation

- Mast section connection
- Jib section connection
- Tie section connection



Non-destructive test

-Bolts and Pins

-Welded connection



Review of maintenance log book

- Main structural parts
- Motors
- Gear boxes
- Braking systems
- Slewing gear mounting bolts



Testing requirement

1. First put into use
2. After alternation or repair
3. Periodic test



Testing requirement

“ Test ” = Proof Load Test

SWL (Safe Working Load)	Proof Load Test
Up to 20 tonnes	SWL x 1.25
20 to 50 tonnes	SWL + 5 tonnes
Above 50 tonnes	SWL x 1.1

Automatic Safe Load Indicator (ASLI)

- Audible and visible warning when approaching the safe working load
- A further audible and visible warning when exceeded the safe working load



Anti-collision system

- Audible & visual alarms
- Set at a safe distance when the jib is traveling toward the overlapping area



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1. Hoisting capability

2. Slewing & Traveling capability

3. Safety protection capability



Report by RPE

“ In safe working order”

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graph TD; A["In safe working order"] --> B["Under normal usage & maintenance"]; A --> C["Within a working period"]
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Under normal usage
&
maintenance

Within a working period

(Form 2, Form 3, Form 5)

Weekly inspection by competent person (Form1)

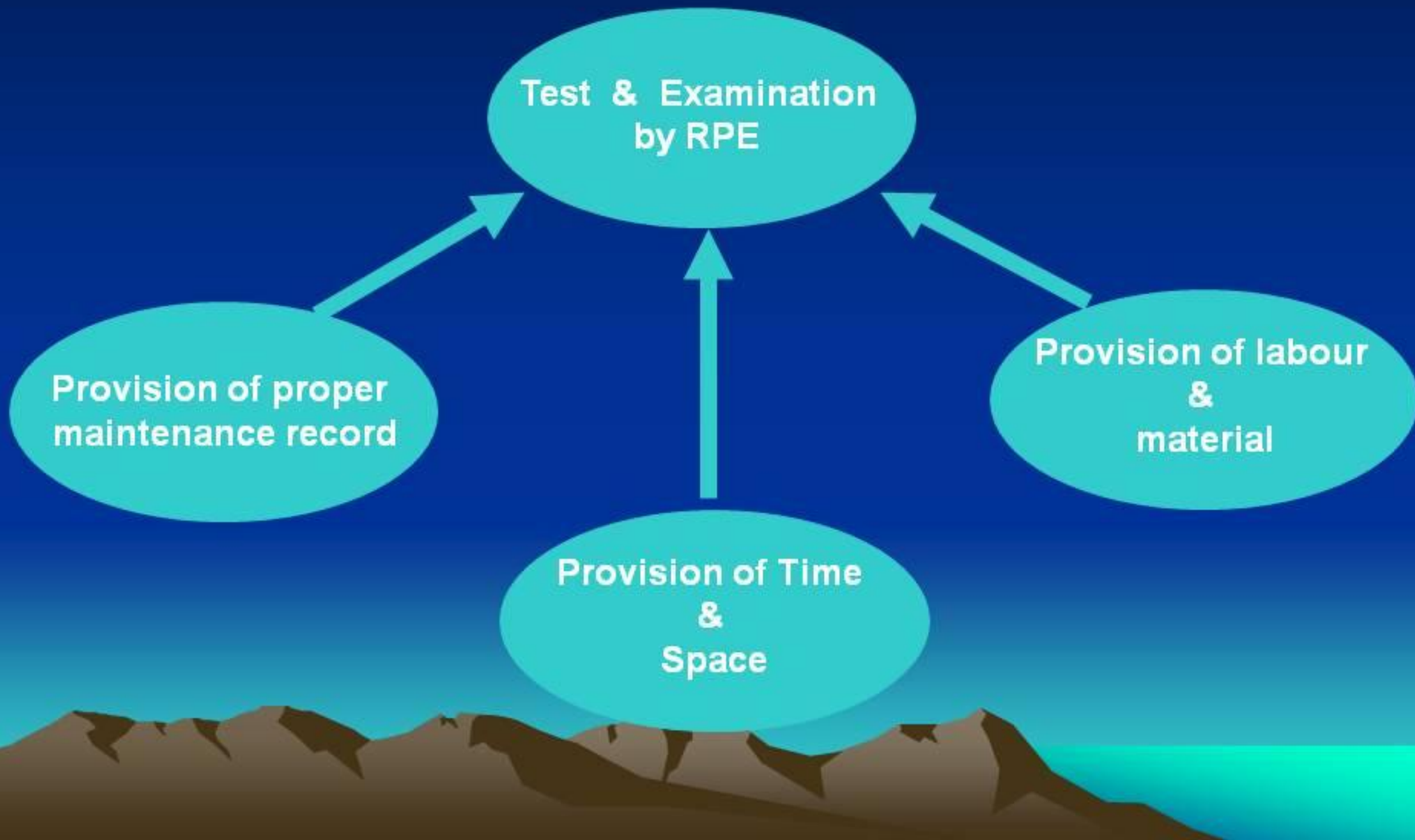


Mobile crane



Tower crane

Facilitation for RPE's Work





Total Safety Management





Safety Egg



Zero Accident

Thank you !

