LESSONS LEARNED	: HIPO INCIDENT
OBJECT	: QUEEN JULIANA BRIDGE
JOB DESCRIPTION	: LIFTING BRIDGE
LOCATION	: ALPHEN AAN DEN RIJN
COUNTRY	: THE NETHERLANDS
DATE OF INCIDENT	: 03-08-2015
SPEAKER	: MR. G. VAN DE WERKEN
JOB TITLE	: ADJ. DIRECTOR
FIRST AID / RWC /FATALITY	: 0
MATERIAL DAMAGE	: APPROX. € 20 MIO

Peinemann Kranen B.V.

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- Peinemann Kranen B.V. established in 1975 as part of Peinemann Mobilift Group B.V.
- 132 FTE, 98 FTE operational and 34 FTE staff employees
- Modern (fleet) crane - and transport equipment, approx. 90 units
- Approx. 80% of crane rental activities in (petro)chemical industry
- Other 20% of rental activities related to harbour, heavy industry, wind industry or civil works

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Planned lift operation – animation – movie images

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Incident lift operation – movie images - animation

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Crisis Team consists of:

- Insurance specialists for major disasters (COT – AON)
- Traumatic psychologists for the mental help
- Administrative law lawyers
- Insurance lawyers
- Damage experts

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Investigation bodies/institutions

- I -SZW (Labor Inspection)
- OVV (Onderzoeksraad voor de Veiligheid)
- Aboma/ Eurorigging (Peinemann internal incident investigation)

Reason for internal investigation by Aboma / Eurorigging.

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- To prevent incidents like this in the future
- To learn from this incident for the future
- To inform the stakeholders about the lessons learn:
  - management measures taken
  - management measures still to be taken

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Missing / Failing safety/ quality barriers

- Peinemann ask Aboma to investigate this incident and investigate the root causes.
- During investigation one main cause could be identified and some contribution factors.
- Incident was caused by missing or failing barriers in the process
- Some missing or failing barriers were input in the organization improvements and the critical missing/ failing barriers were direct implemented.

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Use method by ABOMA/Eurorigging

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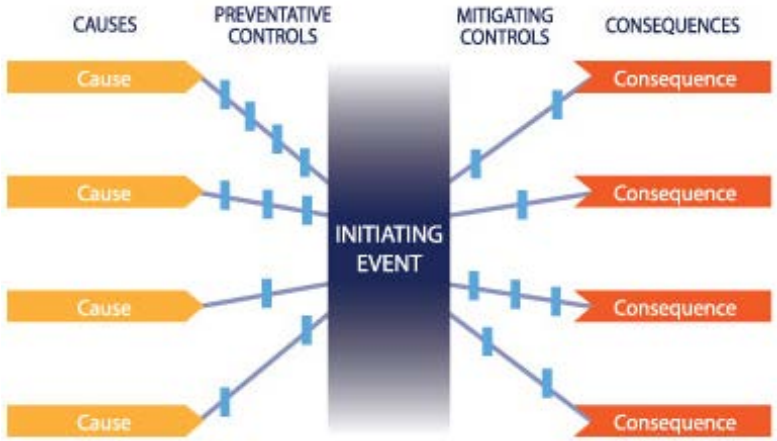
- Preliminary investigation (Looking for actual information)
- Determine scenarios, Collecting data at incident location
- Interview stakeholders and employees
- Final scenario Bow Tie method Review liftingplans and recalculate stability



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Frameworks

- Legal framework
- Sector framework (Dutch Branch Organization – VVT)
- Organizational framework (HSEQ Policy & Manual Peinemann)

Conclusion Aboma / Eurorigging

- Insufficient initial stability Lastdrager 24 (barge - 400 tons crane)
- Insufficient founding ability, in combination with free hanging load and influence of wind
- Combination pontoon, crane and free fluid surfaces
- Failing barriers in implementation and work preparation.

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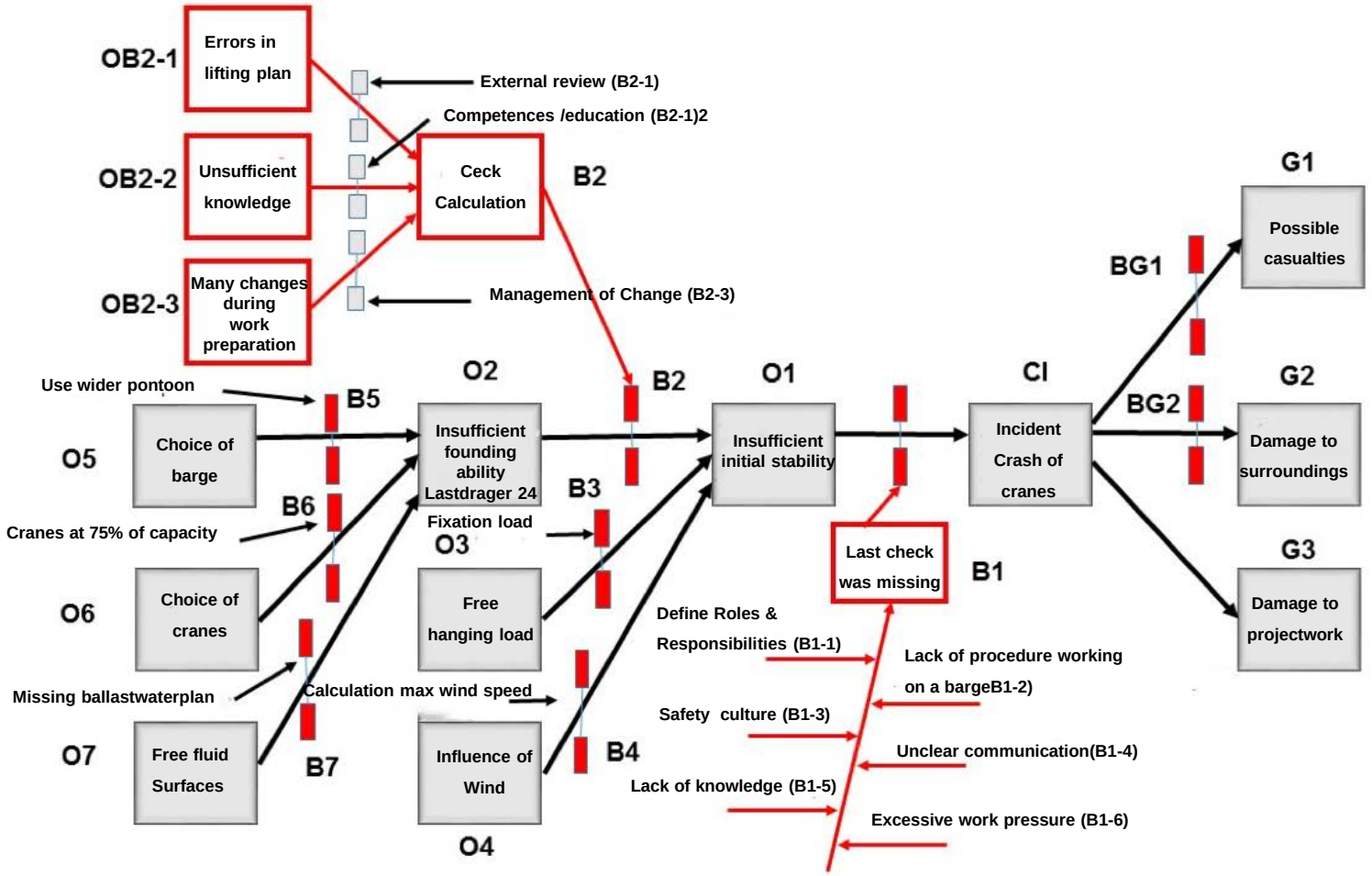
Missing / Failing barriers

ABOMA incident report



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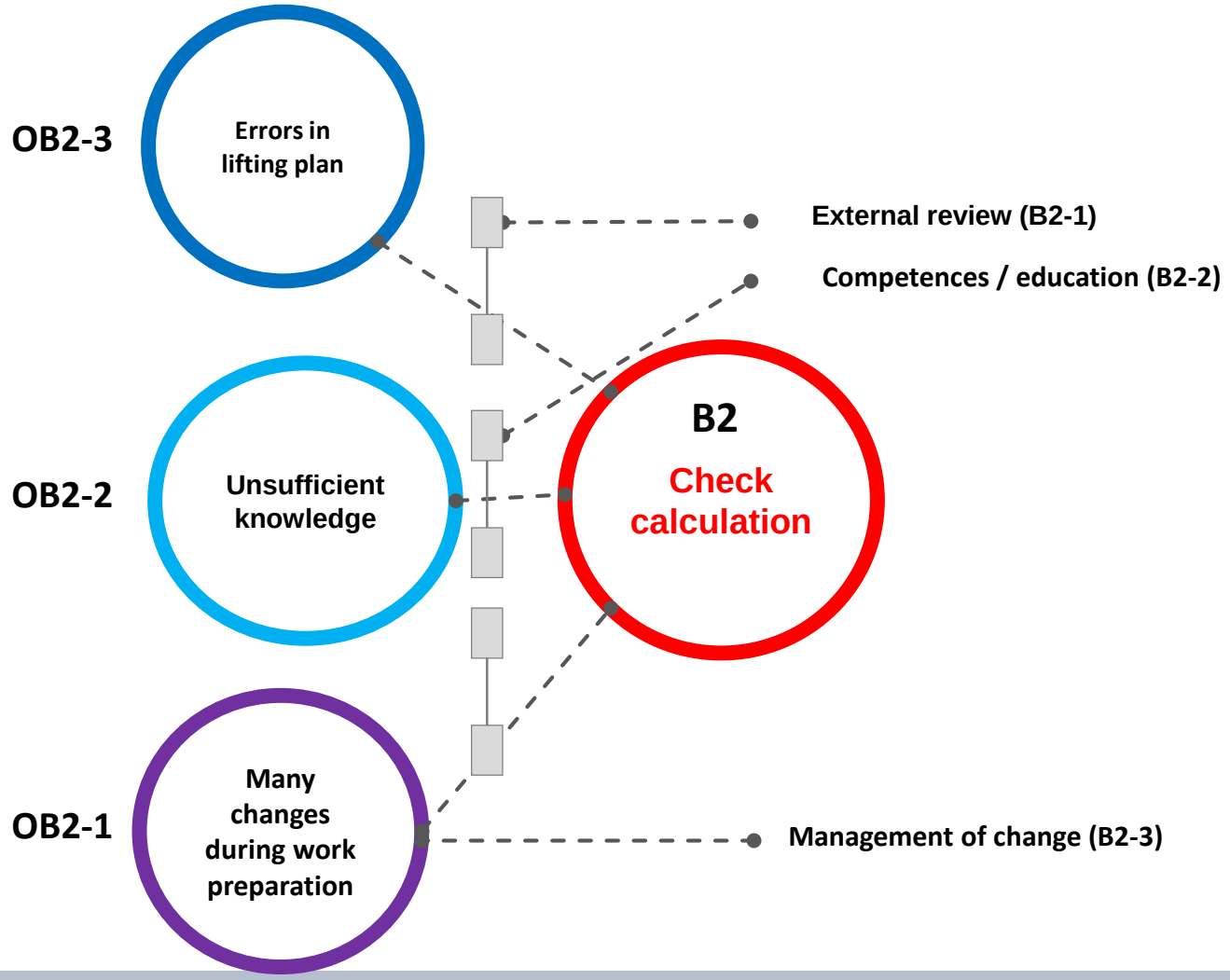
Bron: Intern Onderzoek Aboma – Bow tie-methodiek

BowTie model – Barriers
(Calculation check was missing B2)



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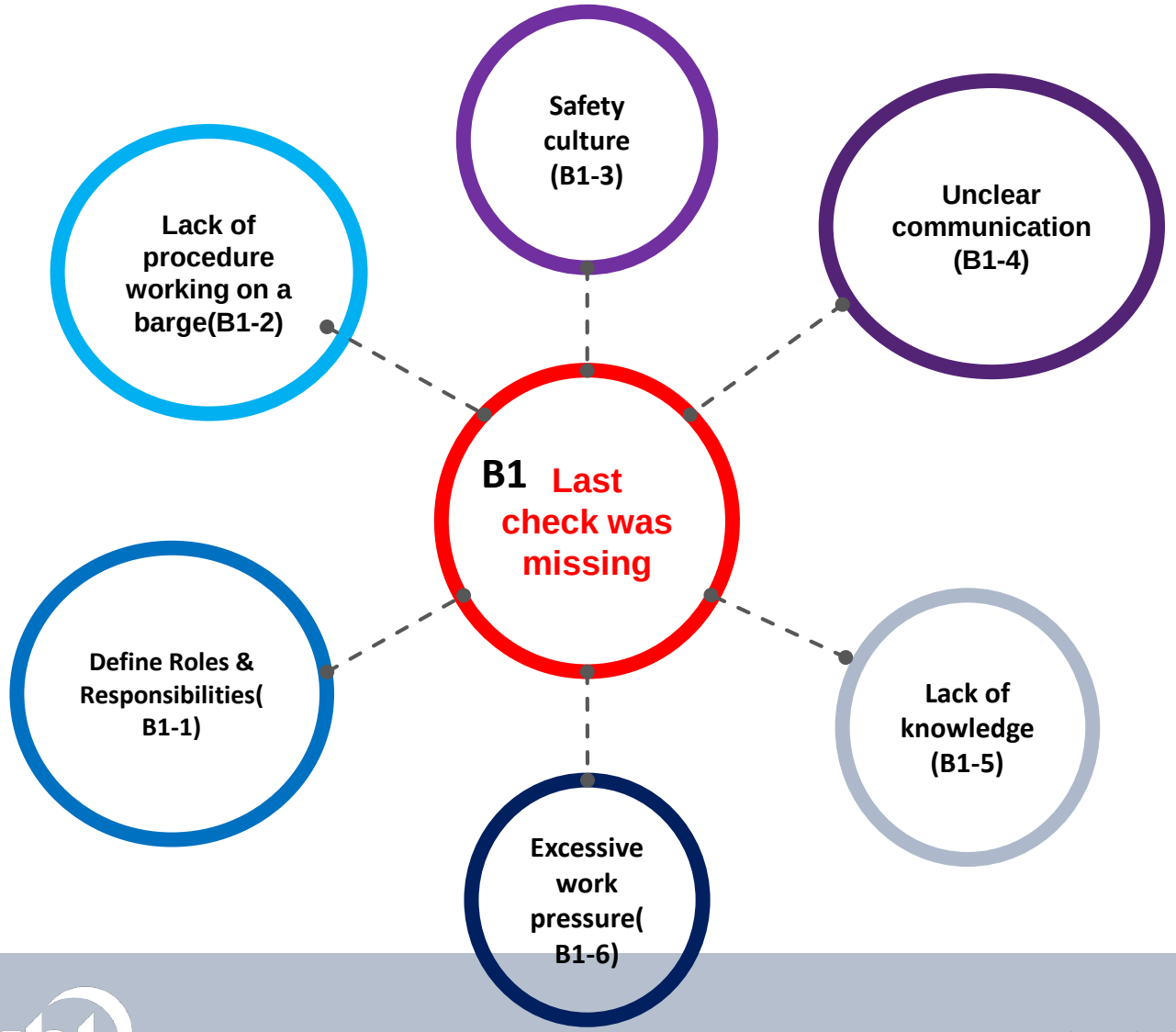
Bron: Intern onderzoek Aboma – BowTie methodiek

BowTie model – Barriers
(Last check was missing B1)



Bron: Intern onderzoek Aboma – BowTie methodiek

Safety management measures

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B1-1
Roles & Responsibilities

- Review roles, responsibilities and compentences – SAFETY FOCUS
- Escalation model, lifting plan control procedure and Risk Assessment

B1-2
Lack of procedure

- Review and rewrite HSEQ Peinemann Management System
- GO/NO GO implementation
- Work instructions Branch organsation

B1-3
Safety Culture

- Safety Culture Measurement
- 6 eyses control principle – critical lifts
- Safety Behaviour Leadership training
- Enforcement and remuneration policy

B1-4
Unclear communication

- Format request subcontracting
- Format order subcontracting
- Management of Change procedure

B1-5
Lack of knowledge

- Escalation model, lifting plan control procedure and Risk Assesment.
- Control of Work form Go/No Go descission
- Review roles, responsibilities and compentences – SAFETY FOCUS

B1-6
Excessive work pressure

- Expansion staff
- Re positioning Engineering department
- Workload determination / tuning
- Internal request lifting plan 5 working days
- Fixed agenda item

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Compliance – Management of Change/ Management System

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- More focus on Quality -> More internal audits

- An independent assessment done by Aboma (2 x a year)

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Safety

- *“If you think safety is expensive, try having an accident”*

- No blaming and shaming! Just learn from each other

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