



Lessons Learned Report – ACG_/04

DAFWC- Plate Clamp Incident



Type of Incident: DAFWC- Plate Clamp Incident

Business Unit: AzBU, ACG Project, Delivery Team

Country: Azerbaijan

Location of Incident: ATA Fabrication Yard, Baku
Structural fabrication shop

Date of Incident: 31.01.04

Brief Account of Incident: The activity in progress was the completion of a routine lifting activity that involved moving a steel deck plate with the fabrication shop overhead crane. The plate was positioned on the top of a prefabricated frame that was at waist height. The rigger proceeded to release one the lifting plate shoes, he then climbed onto the frame and crossed the deck plate to remove the second lifting plate shoe, on attempting the release of the second lifting plate shoe using the lifting webbing strop for leverage, the shoe came detached and struck the rigger on the side of the head.

Losses: DAFWC - The incident resulted in a fracture of the skull in the area of the right eye socket, an open wound and soft tissue damage to the right cheek.

"The level of potential injury was diminished by the injured persons PPE i.e. Safety hardhat and Safety glasses".

See photos below

Critical Factors:

- The deck plate was positioned on a prefabricated frame that introduced restricted access for de-rigging the lifting accessories.
- The rigger climbed on the prefabricated frame and crossed the deck plate to release the lifting plate shoe putting himself in the "Line of Fire".
- The method used to release the second Lifting Plate Shoe was unsuitable and did not follow good rigging practice.

Immediate Causes:

- **2-5: Improper placement of materials:** In positioning the deck plate on the prefabricated frame the team introduced restricted access to enable good rigging practice to be followed.
- **4-1 Improper decision making / lack of judgement:** In making the decision to place the deck plate on the prefabricated frame the team displayed poor judgement and introduced hazards to completing the activity in a safe manner. This poor judgement was compounded in the method used to release the lifting plate shoe through using the webbing sling.

- **1-5 Improper position or posture for task:** The rigger on crossing the deck plate put himself within the "Line of Fire" associated with the potential failure of the lifting arrangement and being struck by the lifting plate shoe on its release.
- **8-1 Congestion or restricted motion:** The prefabricated frame incorporates a truss that runs through the centre, this truss restricted easy access to enable the second lifting plate shoe to be removed in a safe manner. The rigger also introduced a restriction to his motion by attempting to release the lifting shoe from within the lifting arrangement arc.
- **1.10 Shortcut:** The rigger used the webbing sling connected to the lifting plate shoe for removal, which introduced additional stored energy in the lifting arrangement. It is believed that this additional stored energy was released when the lifting shoe came free and increased the speed of impact and level of injury.

System Causes:

Critical factor: The deck plate was positioned on a prefabricated frame:

- **11-1 Inadequate Planning:**
- **14-2 Inadequate development of PSP's**

There is an expectation that the lifting team will walk the route prior to undertaking the activity to ensure hazards are identified and planning of the activity is addressed. This has been only communicated verbally.

Critical factor: The rigger climbed on the prefabricated frame and crossed the deck plate

Critical factor: The method used to release the second Lifting Plate Shoe was unsuitable

- **5-3 Inadequate identification of critical safe behaviours**

The Injured person (IP) was working as part of a three man team i.e. two riggers and the overhead crane driver. The IP did not identify that climbing on the plate and approaching the lifting equipment within the "Line of Fire" was an unsafe act. The activity team members did not recognise the unsafe behaviour being displayed.

Golden Rules: Lifting Operations- Lift was not properly assessed.

Actions to Prevent Recurrence:

- Communicate incident critical factors and learning to all rigging and lifting workforce.
- Undertake periodic workplace assessments to review working practices to determine if trends exist
- Review workshop to minimise congestion and improve layout
- Include expectation for rigging teams to walk route prior to routine lifting activities taking place in task risk assessments and check list of considerations
- Communicate investigation findings with IP to support understanding of unsafe behaviour displayed.
- Management to focus on incident learning issues in weekly safety walks
- Produce lessons learning report and publish
- Develop and deliver "Line of Fire" campaign incorporating issue of "Stored Energy" risks



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