High Potential Incident
Projectile Vibrator Rim
DESCRIPTION OF INCIDENT

- On 13/05/2019, at 10.30hrs a vibrator was being moved from storage to an inspection area.
- During the operation the driver heard a bang, the vehicle tilted to the left and the driver immediately stopped the vehicle.
- Driver got out and saw that the front left wheel was missing its rim element and the rim had been shot approximately 25m across the yard and had impacted a porta cabin at a height of 1.5m, damaging a section of the steel wall.
- Driver immediately raised the alert and all movements in the yard were stopped.
- All other vibrators had wheel checks and two more were found to be incorrectly fitted.
INVESTIGATION AND ANALYSIS

• Locking ring had come off the wheel allowing the rim, once under pressure from moving to shoot off
• Wheels had been assembled by off site (subcontractor) by a new operator who had not known the correct procedure.
• Operator had over tightened the locking ring to 200Nm as opposed to 80Nm as advised by GKN the wheel manufacturer.

• This was a new type of rim never before used on a Vibrator.
• Work instructions had not been updated to reflect new type.
• Unknown that an incorrect assembly could lead to a possible life threatening situation.
• Operator had not reported that they had never worked on this type of rim and although the was several types of rim assembly there was only one reference document for all.
CORRECTIVE ACTIONS

- Inventory and inspection of all rims, all GKN rims where banned from using until further notice.
- Awareness training for all staff involved with wheel assembly and fitting.
- Review and update to all reference documentation for wheel assembly, including importance of torques settings and lock positioning.
- Updates to risk assessment and training for new rim design and assembly process.
- Subcontractors to be trained on new assembly process and work checked and signed off by Senior staff before fitting.
- Company to secure one single design process for the rim function.
CONCLUDING COMMENTS

• The link between procurement and manufacture to be able to understand the real risks of introducing new parts to heavy machinery is clearly outlined in this event.
• Any change to safety critical parts should always be reviewed and understood before sign off and into production.