

FACT SHEET

OPERATION HORNBILL

A) SUMMARY OF RESULTS AND FINDINGS

Table 1 – Summary of Overall Enforcement Results

	Enforcement Category	No.
1	Total number of Contraventions	67
2	Total number of Notices of Non-Compliance ¹ issued	8
3	Total Number of Stop Work Orders issued	5

Table 2 – Summary of Top 5 Contraventions uncovered

	Contravention	No. of Contraventions	Amount of Fines Issued
1	Failure to maintain the Cranes	15	\$7,500
2	No Lifting plan or inadequate Lifting Plan	13	\$6,500
3	No Permit-to-Work System for lifting operations	8	\$4,000
4	Using defective Lifting Gear or Lifting Gear without certification	6	\$3,000
5	Using a crane which has not been examined by an Authorised Examiner ²	2	\$1,000

B) DESCRIPTION OF CONTRAVENTIONS

(1) FAILURE TO MAINTAIN THE CRANES IN GOOD WORKING ORDER

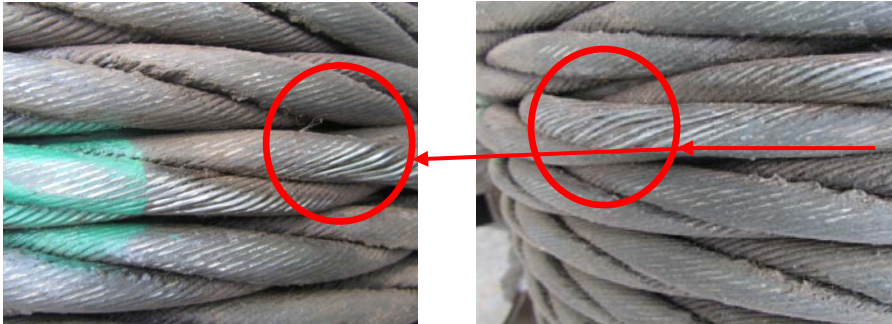
The physical condition and integrity of the cranes is of utmost importance in lifting operations. Any failure of a load bearing part will be critical and may result in the possible failure or collapse of the entire crane. It is therefore paramount that owners of cranes establish and implement a comprehensive maintenance regime to ensure that the cranes are in good working condition at all times. Some of the key findings within this category are as follows:

- i) Failure or malfunction of Safety Devices

¹ A **Notice of Non-Compliance** (NNC) serves as a warning for any breach of WSH regulations in the workplace.

² Under the WSH Act all lifting machines including cranes must be tested and examined by **Authorised Examiner** at periodic intervals. For cranes, the frequency of testing and examination by Authorised Examiners is 12 months. Authorised Examiners are Professional Engineers competent in the field of pressure vessels or lifting equipment approved by the Commissioner for Workplace Safety and Health under the Workplace Safety and Health Act.

- ii) Poorly maintained Cranes
- iii) Damaged, corroded or kinked hoist wire ropes
- iv) Defective or damaged safety latches of main hooks and auxiliary hooks



Portion of the wire rope on the drum, which was severely flattened and starting to open up.

Figure 1 - Damaged Hoist Wire Ropes



Poorly maintained hoist wire rope with broken wires at multiple locations within a short length.

Figure 2 - Poorly Maintained main hoist Wire Rope



Figure 3 - Kinked main hoist Wire Rope



Faulty indicator in the crane cabin.

Figure 4 - Faulty Indicator in the crane cabin



Defective Safety Latch on Main Hook Block.

Figure 5 - Defective Safety Latch on Main Hook Block

(2) NO LIFTING PLAN FOR LIFTING OPERATIONS OR INADEQUATE LIFTING PLAN FOR LIFTING OPERATIONS

2 Not developing a Lifting Plan or having a Lifting Plan with inadequate information to ensure a safe lift was one of the top contraventions identified during “Operation Hornbill”. From September 2011, the WSH (Operation of Cranes) Regulations stipulate the requirement for a comprehensive Lifting Plan to be developed and implemented before a lifting operation can be carried out. The Lifting Plan takes into account details like the dimensions of the load, intended load radius of crane, how the lifting team communicates, physical and environmental considerations like ground conditions and obstacles. A Responsible Person will also be required to establish and implement this Lifting Plan before the commencement of any lifting works.

3 The Lifting Plan for each worksite was assessed with reference to the recommendations specified in the Approved Code of Practice for Safe Lifting Operations at the Workplace. Some of the key elements in which the Lifting Plan was assessed are as follows:

- i) Load Details
- ii) Lifting Equipment Details
- iii) Lifting Gears Details
- iv) Rigging Details
- v) Means of Communications
- vi) Personnel Involved in the Lift
- vii) Physical & Environmental Conditions
- viii) Sequence of Lift
- ix) Sketch or Drawing of Lifting Zone

4 The Operation revealed that the industry would need to improve the establishment and implementation of proper Lifting Plans for their lifting operations, which shall be in accordance with established safety practices. MOM, together with the WSH Council and National Crane Safety Taskforce, will continue to work with the industry to propagate good practices in implementation of Lifting Plans for their use.



A lorry crane was caught with no Lifting Plan and Permit-to-Work System. The improper planning and consideration had led to the unsafe deployment of outriggers of the lorry crane on a slope.

Figure 6 - No Lifting Plan and PTWS for lifting operation involving a Lorry Crane

(3) NO PERMIT-TO-WORK SYSTEM FOR LIFTING OPERATIONS

5 Lifting operations are one of the hazardous works for which a Permit-to-work System (PTWS) must be implemented. They form part of the hazardous work identified under the WSH (Construction) Regulations for which a PTWS must be implemented. A PTWS serves to ensure that hazardous work is carried out with due regard for the safety and health of persons involved. In addition, it ensures that the relevant persons are informed of the hazards involved in the work and that all the necessary safety precautions are taken and implemented on-site. Failure to implement the PTWS would be a major procedural lapse that would endanger the safety of workers involved in the lifting operation.

(4) USING DEFECTIVE LIFTING GEAR OR LIFTING GEAR WITHOUT PROPER CERTIFICATION

6 The Lifting Gear is a critical piece of equipment that secures the load to the cranes. As such, it is of utmost importance that the condition of the Lifting Gear is checked for its fitness for use before it is used in the lifting operation. Besides ensuring the regular maintenance and upkeep of the Lifting Gears, the Lifting Gears must also be tested and examined at periodic intervals by the Authorised Examiners, in accordance with the regulations.



Kinked portion on Lifting Gear.

Figure 7 - Defective and kinked Lifting Gear



Broken wires on Lifting Gear.

Figure 8 - Defective Lifting Gear – Broken Wires



Kinked portion on Lifting Gear.

Figure 9 - Defective Lifting Gear - Kinked



Figure 10 - Badly Corroded Lifting Gear due to lack of upkeep



Multiple kinks on Lifting Gear.

Figure 11 - Defective Lifting Gear - Multiple Kinks