

## **RAIMONDI CRANES – TECHNICAL NOTICE**

### **FOR THE ATTENTION OF: Raimondi Cranes Agents and Clients**

**September 12, 2018** - On 23 July 2018, an incident occurred involving a Raimondi LR213 luffing crane at a work site in Richmond, Victoria, Australia. Raimondi immediately commenced its investigation into this incident at its base in Italy.

On Friday, 7 September 2018, a separate incident occurred involving a Raimondi MRT189 topless tower crane at a work site in Box Hill, Victoria. Tragically, this incident involved the death of Shaun Burns and serious injuries to two other workers. Raimondi Cranes extends its deepest sympathies to the families of those affected by this tragic incident.

Immediately after the Box Hill incident, Raimondi Cranes dispatched a team of its engineers to Australia from its base in Italy and with the assistance of Worksafe Victoria, conducted an investigation into both incidents. Raimondi's preliminary findings are below.

#### **LR213 Richmond Incident**

The LR213 was damaged during high wind conditions whereby the jib attachment bent backwards. Bureau of Meteorology records indicate that the Richmond area was experiencing wind speeds in excess of 80km/h at the time of the incident. This was confirmed by the LR213's data retrieved from its black box.

In high-wind conditions, it is mandatory for crane operators to take the following steps:

1. Engage the crane in 'free slew' position; and
2. Lower the jib of the crane.

At the time of the incident, the crane was not in free slew (also known as weather vaning) position. This function, which is available on all Raimondi Cranes, allows operators to release the slewing brake to enable the jib of the crane to adjust with the wind, reducing resistance.

On Tuesday 11 September 2018, Raimondi and WorkSafe Victoria carried out tests on the LR213 involved. The tests determined the following:

1. The LR213 was mechanically sound, with the free slewing mechanism able to be manually engaged without fault; and
2. Electronically, the LR213 was sound, and the free slewing mechanism was able to be engaged by the operator without fault.

Measurements taken of the LR213 indicated that at the time of the incident, the jib of the crane was left close to a near-vertical position.

The operator had been directly engaged by the developer of the work site and unrelated to Raimondi's agents or clients. Prior to the incident, the owner of the LR213 had not been approached by the developer to provide the operator with an induction on the use of the LR213.

It is clear from the investigations undertaken that had the operator engaged the crane into 'free-slew' position and lowered the jib, this unfortunate incident would have been avoided. In fact, the LR213 is designed to withstand windspeeds in excess of 150km/h when operational guidelines are followed.

Recommendation: Raimondi's agents and clients around the world are advised to remind their customers of the importance of ensuring that crane operators are properly trained and inducted prior to commencing operation of cranes.

### **MRT189 Box Hill Incident**

The MRT189 has a hoist rope termination assembly that connects the hoist rope to the jib of the crane.

The MRT189 was carrying a kibble containing concrete when the hoist rope termination assembly was disconnected from the tip point of the jib, resulting in the kibble to drop.

After a detailed investigation of the crane and its components, it is Raimondi's view that the hoist rope termination assembly on this particular MRT189 was missing a safety pin.

The safety pin is a simple but critical component of the hoist rope termination assembly, which if missing, could result in the gradual loosening of the nuts securing the termination assembly.

Investigations are continuing to determine at which point of the supply chain the safety pin was unaccounted for, but initial indications are that the safety pin was missing at the time of installation of the crane at the Box Hill site.

Raimondi has assessed all other physical components of the crane which were found to be in good working order and as per manufacturer standards.

Clarke Cranes, being Raimondi's official agent in Melbourne *voluntarily* halted the operation of its fleet of cranes pending a safety audit. Over a period of 48 hours, each Raimondi crane in greater Melbourne was inspected and found to be in proper working order. All of Raimondi's cranes have since re-commenced operation.

Recommendation: Whilst there are no defects in the hoist rope termination design structure, it is paramount that at the time of installation and at regular maintenance intervals thereafter, Raimondi's agents and its clients ensure that all crane components (including safety pins) are identified and assessed as being properly installed in accordance with Raimondi's installation manuals.

Raimondi recommends that its agents and/or clients responsible for the maintenance of MRT189 model cranes immediately assess the hoist rope termination assembly to ensure that all pins are engaged in accordance with Raimondi specifications.

Raimondi places primary importance on safety across every part of the manufacturing process and supply chain including training and certification for end-user implementation by our official agents. This is an unprecedented issue, with no record of a similar incident having occurred in Raimondi's long-standing history of manufacturing cranes. With more than 18,000 cranes sold globally, Raimondi has never recorded an incident of this nature.