

## **The Importance of Proper Conveyor System Maintenance Inspections**

There is little doubt that belt conveyors and bucket elevators are two of the most reliable and economical ways to move materials from A to B. However, to ensure the longevity of this type of equipment, the issue of proper care and maintenance must be fully considered.

There are many reasons for conveyor failure, but regular inspection and subsequent planned preventative maintenance is always far more efficient and less costly than breakdown downtime and repair. And it should be noted that both conveyor belt and bucket elevator maintenance, not only includes proper care of the belt, but also includes care and maintenance of the hardware, which includes idlers, pulley, belt cleaners etc.

Often though, it is not just a lack of proper maintenance that leads to failure. For example, belt speeds and feed configurations or even the feed material, may have been changed to meet new production requirements. However, what may seem like a simple adjustment to meet demands, can cause ongoing problems for the conveyor by affecting the belt tension and the counterweight or take up arrangement may not be applicable to the new belt speed or capacity. This in turn can reduce the life of the belt, componentry and be the route cause of material spillage.

Without exception, one of the most common conveyor problems is the belt alignment or tracking. To better understand this problem, it is first necessary to understand exactly what alignment is. A belt is considered to be tracking properly (aligned), when the edges of the belt constantly remain within the width of the pulley faces and within the confines of all the rolling components (idlers, return pulleys etc.), while the conveyor is under full load. To achieve this, it is therefore critical that ALL the components be square relative to one and other. Likewise, the belt material must be free from defects, squarely spliced and correctly tensioned.

Another area where careful attention should be paid is the conveyor transfer points. Loading of the conveyor centrally is essential in maintaining proper tracking, as it is almost impossible to achieve and maintain proper tracking if the loading is off centre.

Consideration must also be given to the consequences of impact at the transfer points. Correctly designed and installed support systems, not only aid the proper tracking of the belt, but can also dramatically improve material containment, which will in turn help reduce maintenance requirements.

Of course, it is not just at transfer points where attention should be paid to the cleanliness of the conveyor. The importance of maintaining a clean conveyor belt and hardware cannot be emphasised enough. For example, a conveyor with “carryback” unchecked could be responsible for far more serious problems, which will guarantee the requirement for constant attention to containing material spillage and conveyor asset damage.

It is therefore highly recommended that belt scrapers and ploughs be used and careful attention should be paid to the correct positioning and adjustment of these during maintenance inspections.

As with any continually operating machinery, a readily available supply of commonly used spare parts minimises downtime and ultimately reduces the breakdown and scheduled maintenance costs. But in today's cost conscious world, simply "having a few spares in stock" is no longer an acceptable approach.

When it comes to spare parts, companies who rely heavily on their conveyor systems should pay special attention to the following points.

- ◆ Check the maintenance history to see what would be an acceptable minimum level of commonly used parts and never let supplies get below that level.
- ◆ Ensure that spare parts are stored correctly and safely. It is no use having minimum levels if when the parts are required, they are not in good condition due to poor storage procedures.
- ◆ Consider "component standardisation". Standardising on components for all conveyors wherever possible, can lead to significant savings in spare parts by reducing inventory requirements and reducing downtime. It also virtually eliminates the requirement for "specialist knowledge" of a particular conveyor system.

With more than 60 years cumulative experience in the industry, Kinder and Co know what to look for when carrying out preventative maintenance inspections. Their engineering team can inspect a conveyor system from end to end, taking into consideration every one of the areas discussed above (and more), then prepare and present a detailed report on the findings.

This report can, where necessary, include recommendations for redesign, with subsequent recommendations able to be carried out by the company, in association with their strategic alliance partners.

Taking the inspection process one step further, Kinder and Co can also offer a complete audit of a conveyor system, including its current planned preventative maintenance program, recommended spare parts requirements and current spares inventory levels and handling procedures. Audits can also include a complete assessment of the conveyor systems safety systems and operator protection requirements.

If you would like to discuss your conveyor system and future maintenance requirements, please contact Neil Kinder at Kinder and Co. Email: [neilkinder@kinder.com.au](mailto:neilkinder@kinder.com.au) or visit [www.kinder.com.au](http://www.kinder.com.au)