BIOMASS

SUCCESSSTORIES

Optimizing Conveyor Maintenance for Enhanced Efficiency

PROBLEM SUMMARY

A biomass power station in the Eastern United States specializing in wood pellets faced a significant challenge in maintaining its conveyor systems efficiently. The facility's six conveyors required frequent maintenance to replace idlers. However, the facility's constraints—limited to a 30-minute maintenance window and restricted access to most conveyors—made this process difficult, time-consuming, and hazardous. With conveyors often inclined and accessible from only one side, the task posed safety risks and operational inefficiencies. This problem demanded an innovative solution that could enhance safety, streamline operations, and minimize downtime.

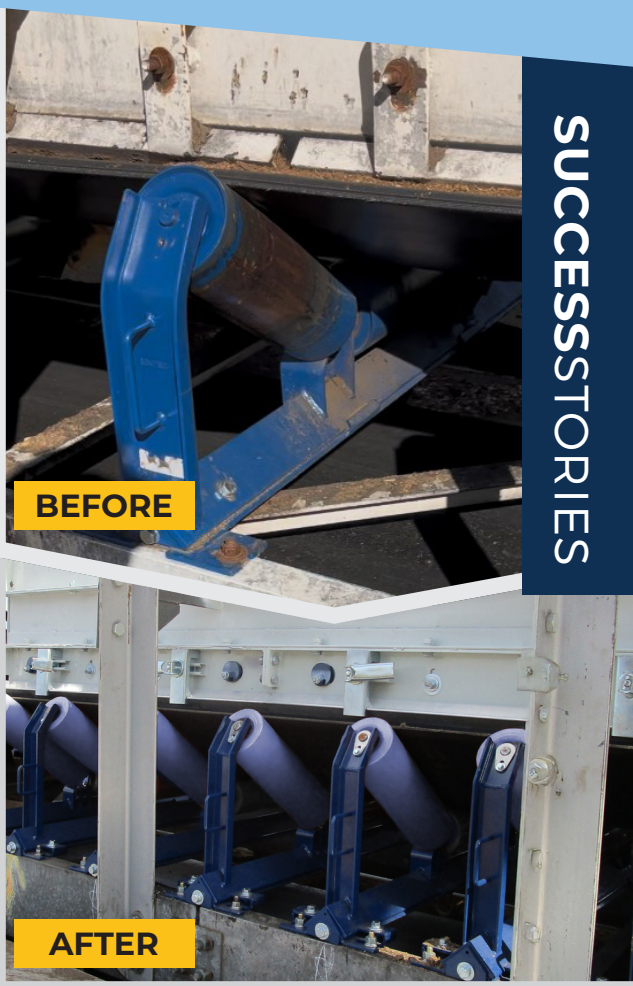
BENETECH SOLUTION

Benetech identified the opportunity to improve the power station's conveyor maintenance process. To address the facility's challenges, Benetech's Simple Slide and Drop & Slide Idlers were introduced on a trial basis. These cutting-edge components were strategically installed in the plant's most critical load zone.

The idlers' innovative design enabled technicians to replace and adjust components safely and efficiently within the narrow maintenance windows. Benetech worked with the power station to ensure the seamless integration of these idlers into their existing system, aligning the solution with operational demands.

Benetech products included, but were not limited to:

1. **Simple Slide Idlers** — Roller frames that quickly slide into place without the need to remove adjacent idlers, resulting in excellent serviceability and improved safety.
2. **Drop & Slide Idlers** — A patented idler with a unique retractable design for conveyor systems with limited or no access, allowing rollers to be replaced from one side without raising the belt or removing adjacent idlers.



IT PAYS TO IMPLEMENT BENETECH SOLUTIONS

- 300% increase in idler replacement efficiency – four replaced in the time it used to take to change one
- Maintenance time per conveyor was drastically reduced
- Reduced safety hazards associated with single-side access and inclined conveyor systems
- Minimized downtime ensured uninterrupted operations and maximized production
- Cost savings from reduced downtime, minimized maintenance, and durable product upgrades

SUCCESSFUL RESULTS

The power station reported exceptional satisfaction with the performance of the Simple Slide and Drop & Slide Idlers. The streamlined maintenance process significantly reduced time and effort, enhancing both safety and productivity. By simplifying the roller replacement process, the station achieved a reduction in maintenance time, allowing critical repairs to be completed within the plant's tight 30-minute maintenance window. With Benetech's solution, the team improved efficiency by 300%, replacing four defective idlers in the same time it previously took to replace just one set. This reduction in downtime directly contributed to increased operational continuity and minimized disruptions to the station's production schedule.

Impressed by the trial's success, the station has already replaced all idlers on one conveyor—both the carry side and return side. Plans are underway to upgrade the remaining conveyors in 2025, further solidifying the value of Benetech's solutions. This expanded installation will also result in continued cost savings, including reduced labor and downtime expenses, as well as lower equipment wear and tear due to the durability of Benetech's products. Overall, the introduction of Benetech's idlers has not only improved maintenance practices but also contributed to a safer, more cost-effective, and efficient operational environment.