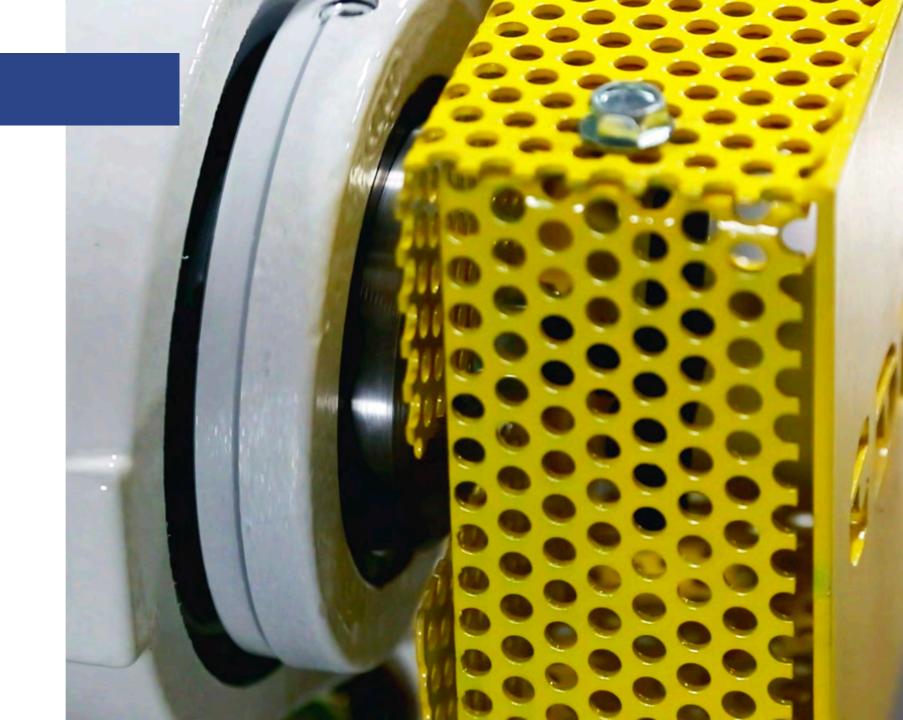


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Fertilizer Producer Ramps Up Capacity with CDM Bucket Elevator and En-Masse Conveyor



THE SITUATION

A North American Fertilizer Producer was updating its process to increase production of a specialty product. The process required various screens to be added for over and under separation.

A NEW BUCKET ELEVATOR
WAS NEEDED TO LIFT THE
PRODUCT AND A NEW
EN-MASSE DRAG CHAIN
CONVEYOR WAS NEEDED
TO MOVE THE PRODUCT
THROUGH THE
SCREENING PROCESS.

Off-spec product, unable to pass final screening for loadout, would be recycled back through the process.



THE CHALLENGE

With a very limited installation envelope inside the facility and the large physical size of the additional screening equipment, a 15-degree incline was required for the en-masse drag chain conveyor – which would carry product to two separate screens and a recycle discharge.

THE MILL'S NEED FOR A
700 MTPH CAPACITY AND
SPATIAL LIMITATIONS
RESULTED IN DIFFICULT
EQUIPMENT SIZING,
LAYOUT AND
OPERATING CONDITIONS.

CDM had to figure out how to accommodate the expansion in production with a challenging installation and configuration.



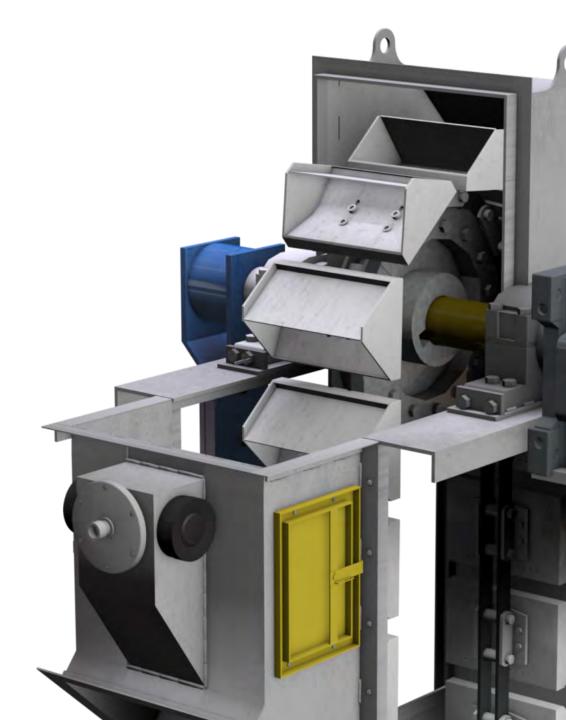
The Fertilizer Producer was able to solve two problems at once with CDM, which manufacturered both the high-capacity continuous elevator and inclined en-masse conveyor.

Bucket Elevator:

- Built with high-capacity buckets and robust chain to provide a continuous product flow to the downstream conveyor and minimize surging.
- Further detail was provided for maintenance and access to the elevator because inspection and observation at the boot would be limited.
- Sliding barn-style access doors at the boot, internal gravity take-up, 316SST construction for washdown and modular design were all included in the boot design.

- The boot was designed for entire internal take-up assembly (shaft, traction wheels, bearings, take-up frame) to be removed as an assembly through these panels.
- Upper casing section was provided with inspection doors for observation of the chain, buckets and fill.
- Strategically located access doors on the casing above the boot section allow for bucket replacement, repair or maintenance at a location more conducive to maintenance personnel.

THE BUCKET ELEVATOR
WAS ONE OF THE HIGHEST
CAPACITIES CDM HAS EVER
BUILT - NEARLY TWICE THE
SIZE OF ANY OTHER BUCKET
ELEVATOR ON FERTILIZER
PRODUCER'S SITE.



Drag Chain Conveyor:

- Built with "twin strands" to accommodate the capacity while mitigating the operating speed.
- Materials of construction were altered to improve wear-resistance and minimize replacement of normal wear items because of the associated high capacity and maintenance cycles.
- Chain flight configuration was altered to ensure product acceleration at the inlet and to minimize surging caused by the combination of the conveyor's incline and a continuous discharge elevator.
- Access panels (50" x 60") were fabricated from 5052 aluminum and provided with sliding rollers to remove the need for monorail or ancillary winches for access – allowing easier access for proper preventive maintenance.



THE RESULTS

Despite the higher speed and greater load on the equipment, CDM's bucket elevator and en-masse drag conveyor have withstood the rigors of handling a large capacity of the moderately abrasive and moderately corrosive product - which makes it practical for everything from fertilizer, potash, phosphorus, etc.

The Fertilizer Producer has hit their desired output of 700 metric tons per hour, which has allowed them to increase production and maximize profits. Despite rigorous tasks, the Fertilizer Producer hasn't experienced any downtime with the equipment.





THE SITUATION

A global Potash Producer was undergoing a major expansion at an existing facility in Saskatchewan, Canada – including a new adjacent processing plant.

THE EXPANSION AND NEW CONSTRUCTION WOULD DOUBLE ITS CAPACITY.

Nearly 100 individual conveyors for material transfer were needed to meet the increasing global demand for the potassium-based lot, used mainly in fertilizers. The company worked through an Engineering, Procurement and Construction (EPC) contractor with a list of requirements for the expansion.



THE CHALLENGE

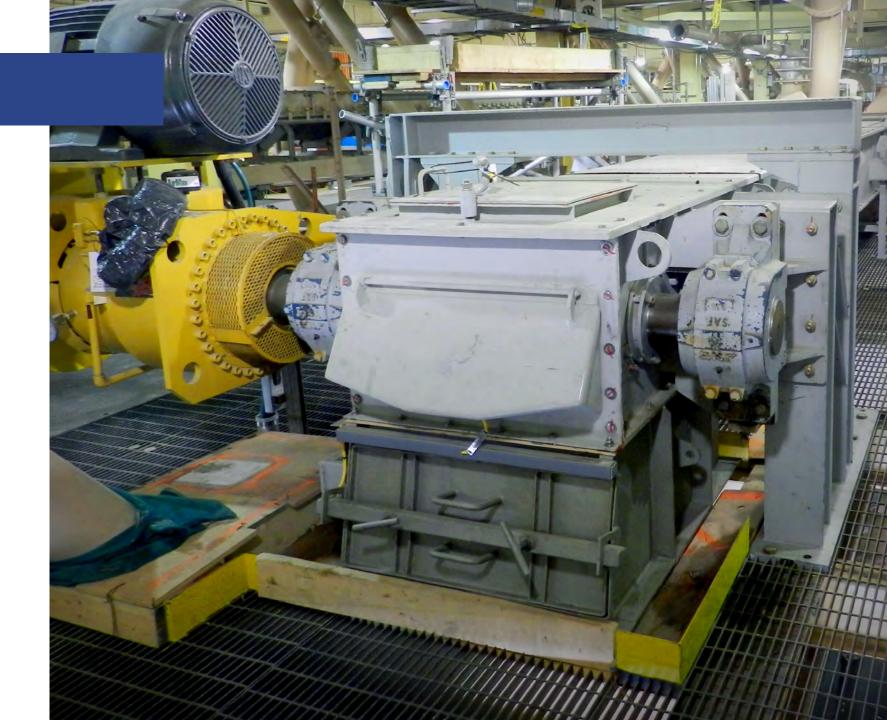
The cost of operations needed to remain low during the expansion. Potash's highly volatile, commodity-driven price required rigorous cost controls on the back end.

CAPITAL PURCHASES WERE BASED ON TOTAL COST OF OWNERSHIP (TCO).

The TCO requirements were complex because the project had a wide range of capacity and length specifications for the conveyors. CDM had to find an optimum design that addressed variance in application with commonality requirements to make spare parts universal and keep TCO low.



CDM built the series of conveyors to handle the wide range of variances: capacities ranged from 20-1,475 MTPH and lengths were between 30-170 feet – all while ensuring conveyors could handle product that could reach up to 400°F.



PROJECT BY THE NUMBERS





















Common Failure Mode Sensor

Universal sensor provided immediate alert and saved thousands of dollars in inventory/repair costs

Chain Series

Depended on conveyor length and speeds, hourly capacity, HP consumptions

Conveyor Sizes

Engineered for capacities ranging from 20-1,475 MTPH

Gear Reducers

HP ranges from 5-250 HP and speed ranges from 16-30 RPM

Bearing Sizes/ Shaft Selections

This commonality eliminated thousands of dollars from annual maintenance

Engineering Requirements	Elements of Design
Capacity requirement and bulk density	Used to calculate key conveyor components and establish ultimate performance
Distance to be conveyed	Necessary to determine chain pull and horse-power
Horsepower	Balanced energy consumption with optimum speed
Chain pull	Calculated for efficient operation with minimal wear on the motor
Abrasion/corrosion	Proper chain and housing design for longevity and minimalmaintenance requirement
Elevation	Important for flight selection to maintain required capacity rates and minimizing chain pull

THE RESULTS

CDM balanced the variety of conveyors with the necessary commonality to keep TCO down, and also worked with the Potash Producer's structural department to minimize the need for additional, owner supplied structural steel. CDM designed and supplied all conveyor supports to account for thermal expansion.

CDM'S TCO DESIGN APPROACH RESULTED IN QUANTIFIABLE SAVINGS FOR THE POTASH PRODUCER.

By working with CDM, the Potash Producer received custom-made, built-to-last conveyors to help with the rapid expansion.





Improved Coal and Ash Handling System
Saves Facility Hundreds of Thousands
of Dollars in Maintenance Costs



THE SITUATION

A facility in northeastern North Dakota needed to upgrade their central heating system. The long and cold winters in the region require a 7-month heating season. The facility consisted of several interconnected buildings, with boilers producing steam to provide heat.

THE AGING, INEFFICIENT SYSTEM WAS COSTLY TO OPERATE BECAUSE OF HIGH MAINTENANCE.

A new central heating system was designed to gain operating and heating efficiency – but the project had a strict budget and expected a return on investment of less than 5 years.



THE CHALLENGE

A system was required to both bring coal into the boiler and remove ash from the boiler. While coal is typically not a challenging material, the harsh environmental exposure – temperatures that can drop to -40F – required a chain that could break up friable, frozen coal but also handle free flowing fines.

THE CONFINES OF THE PLANT REQUIRED A SMALL FOOTPRINT - MAKING IT CRITICAL TO EFFICIENTLY UTILIZE SPACE.



A truck receiving conveyor was designed to handle material with flow rates of 55 TPH, ensuring the plant never ran short on fuel. This conveyor meters the flow rate from the receiving hopper and elevates the coal around 40 feet at a 70-degree incline.

THE COAL'S WIDE RANGE OF CHARACTERISTICS REQUIRED A CDM 142STD 001 SERIES CHAIN.

This chain series' skeletal flight profile effectively carries material with a broad spectrum of characteristics.

Downstream from the truck receiving conveyor, CDM supplied a bin distribution conveyor with manually

operated gates - with bin level indicators to give monitoring personnel plenty of time to close the upstream gate and open downstream gates for an uninterrupted flow.

Coal is then drawn off the bins using screw conveyors, which directly feeds the four boilers.

The bottom and fly ash from the boilers is fed to an enclosed En-Masse Conveyor – allowing the transfer and elevation of ash without emissions. To address the abrasive product and high temperatures of the process, CDM constructed the conveyors with an abrasion-resistance plate and provided all shaft penetrations with high temperature packing gland shaft seals.



THE RESULTS

CDM's conveyors provided a highly efficient use of space, which allowed the desired small footprint. The new conveyor system had tangible financial results for the facility.

AFTER THE FIRST YEAR OF OPERATION, OFFICIALS SAID THE NEW PLANT SAVED HUNDREDS OF THOUSANDS OF DOLLARS IN HEATING AND MAINTENANCE COSTS.

The facility has had zero unplanned downtime and only requires routine maintenance. Not only did CDM conveyors help improve the heating process, but the facility also said they are projected to come in under the 5-year ROI target.





THE SITUATION

A global Fiberglass Insulation
Manufacturer used a combination
of screw and belt conveyors in all of
their North American plants to move
glass cullet and batch. Belt conveyors
were used when material had to be
moved further than 30 feet and screw
conveyors were used for shorter distance
applications and when hanger bearings
were not required.



THE CHALLENGE

The tumbling nature of the screw conveyor agitated the highly abrasive material, which caused excessive wear and tear.

MISAPPLIED CONVEYORS
INCREASED HOUSEKEEPING
AND MAINTENANCE
COSTS WHILE REDUCING
PRODUCTION OUTPUT.

The belt conveyors – because they tend to only effectively use 20% of available space – needed more physical space and higher horse power for the job.

CDM needed to find a new, reliable conveying method for moving abrasive materials in a way that fit into the Manufacturer's existing floor space.



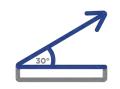
When one of the plant's aging screw conveyors was due for replacement, the Manufacturer decided to try a different method of conveyance. CDM reviewed the application, material and installation location before proposing a reinforced Drag Chain Conveyor to replace the screw conveyor.

CDM ENGINEERED THE DRAG CHAIN CONVEYOR TO METER THE FLOW FROM THE BIN WITH MINIMAL CONVEYOR EXTENSION BEYOND THE INLET.

Client's Concerns About Using a Drag Chain Conveyor









Application Location

The conveyor needed minimal clearance between inlet and terminal shaft because of existing layout.

Metering

The conveyor needed to meter the product feed from the bin without flooding the conveyor.

Elevation

The product had to be elevated at an approximate 30-degree incline.

Product Characteristics

The course cullet was difficult to handle and batch, so it was important to feed the downstream melter.



THE RESULTS

The Manufacturer realized immediate savings from the reduced purchase price and installation costs of the Drag Chain Conveyor, which has now been in operation for more than 10 years.

In this same time period, the Manufacturer would have needed to replace screw conveyors 4-5 times.

Using A.R.S. 400BHN flights offered greater efficiency of the cross section over the previous conveying methods. The smaller footprint of the conveyor fit within the existing space of the screw conveyor without modification to surrounding equipment. The conveyor was also supplied with a zero speed switch, plug chute sensor and a chain break indicator.

THE MANUFACTURER
INCREASED PRODUCTION,
REDUCED OPERATING AND
MAINTENANCE COSTS,
IMPROVED HEALTH AND
SAFETY AS WELL AS
VIRTUALLY ELIMINATED
ENVIRONMENTAL AND
DUSTING ISSUES.

The plant now operates with planned outages in which chain and sprockets are replaced on 4-year intervals. The return rails have only been replaced once since installation.

Because of the benefits the Manufacturer received from custom-made equipment, CDM has supplied more than 25 conveyors in other North American locations.





Biomass Power Generation

Utility Uses Farm Waste to Generate Power and Capitalizes on Revenue Streams



THE SITUATION

An electric power generating facility in Benson, Minnesota was designed to use non-fossil fuel as the energy source in the boiler. Poultry litter obtained from area farms consisting of excrement, feed, feathers and wood particles is the fuel for the steam-generation process.

Not only is the litter a good source of energy, but the ash collected from the burn process is nutrient-rich and can be sold as fertilizer.

THE FUEL GENERATES 55 MWS, MAKING IT THE LARGEST POULTRY LITTER-FIRED POWER PLANT IN THE UNITED STATES.

The facility contracted a third party to transport the ash from the bottom ash conveyors to a warehouse 200 yards from the plant where it's processed and sold as fertilizer.



THE CHALLENGE

CDM was contracted to provide a complete system that covered the distance from the plant to the neighboring property and included the following:

- DESIGN LAYOUT
- DROP-FORGED CHAIN
- EN-MASSE CONVEYOR
 - DRIVES
- STRUCTURAL STEEL TOWERS
 - CATWALK TRUSSES

In the event of boiler failure, the conveyors were also required to handle the unburned fuel at a rate that exceeds 20 trains per hour (TPH.)



CDM started by selecting the optimum chain for the application, then designed the other components around it.

Design & Structural Considerations

CDM addressed key considerations for power, scale and economy in the following ways:

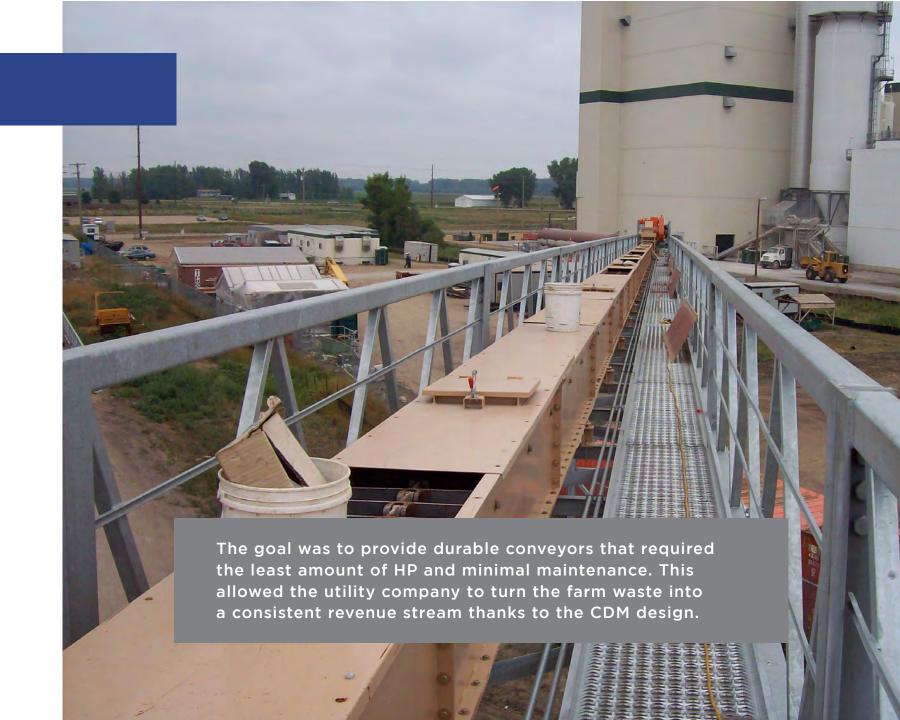
- Designed en-masse conveyors to operate at minimal chain speed and HP consumption
- Used chains with a hardness formula able to withstand abrasive ash
- Limited the number and size of conveyors
- Accounted for height and distance across the properties
- Trusses accommodated truck traffic and avoided utilities
- Provided easy access to conveyors, service platforms and towers for maintenance

EN-MASSE CONVEYORS ELIMINATED THE NEED FOR LARGER CONVEYORS WITH GREATER HP REQUIREMENTS AND DUAL **STRAND CHAIN ASSEMBLIES** WHILE MITIGATING CATASTROPHIC FAILURE.

THE RESULTS

THE NEW CONVEYORS
CONSISTENTLY AND
RELIABLY MOVED ASH
FROM THE BOILERS TO THE
PROCESSING FACILITY ON THE
NEIGHBORING PROPERTY.

The design, selection and engineering of the ash handling conveying system and structural supports took into account the characteristics of the material, volume, conveying distance and accessibility requirements. These elements were used to calculate the required chain strength under acceptable chain pull.





THE SITUATION

A small power producer supplied a nearby malting facility with its electricity and heating needs.

THEY OCCASIONALLY
STRUGGLED TO FULFILL
ITS OBLIGATIONS DUE TO
UNEXPECTED DOWNTIME
OF CONVEYORS AND POOR
MATERIAL DISTRIBUTION.

Material flow issues began in the truck receiving system, where they took in a mixture of wood chips, hulls and hog fuel by truck and unloaded it into a pit hopper.

INEFFICIENT UNLOADING
ADDED LABOR,
MAINTENANCE AND
PRODUCTION COSTS WHILE
REDUCING OUTPUT.



THE CHALLENGE

CDM's challenge was to design a new conveyor layout for effective material handling and safety improvements.

The conveyor under the hopper needed to meter the material, elevate it from the pit and transfer it to a bucket elevator. But the original layout and plant design created an instantaneous load on the conveyor, stressing the drive, chain and housing. Additionally, the short section and steep (+60°) incline caused excessive strain on the chain flights. This led to premature wear and damage.

The power producer needed a better way to move the feedstock to the boiler.

THE GOALS WERE
A REDUCTION OF
EQUIPMENT, STREAMLINED
MATERIAL FLOW,
BUILT-IN REDUNDANCY
AND IMPROVED SAFETY
AND RELIABILITY.

Project Goals



Reduction of Equipment



Streamlined Material Flow



Improved Safety



Build In Redundancy



Increased Reliability



CDM designed two en-masse drag chain conveyors in the following layouts:

PRODUCTS UTILIZED





Drop-Forged Chain

En-Masse Conveyor

CAPACITY: 60,000 LBS/HR EACH

CONFIGURATION: L-PATH

HORIZONTAL SECTION: 20 FT

VERTICAL SECTION: 120 FT

INCLINE: 40°



The two conveyors allowed the facility to have built-in redundancy and continuously supply fuel to the boilers.

> THIS ENHANCED DESIGN AND THE PROPER SELECTION OF A CHAIN AND FLIGHT ASSEMBLY ALLOWED FOR THE EFFECTIVE UNLOADING AND DISTRIBUTION OF THE FEEDSTOCK.

Because of a tight capital budget and short installation window, CDM reused existing components that still met safety and performance specifications. They also instructed the maintenance crew on how to properly maintain the conveyors.



THE RESULTS

THE CDM EN-MASSE DRAG CHAIN CONVEYORS HAVE BEEN OPERATING FOR YEARS WITHOUT DOWNTIME.

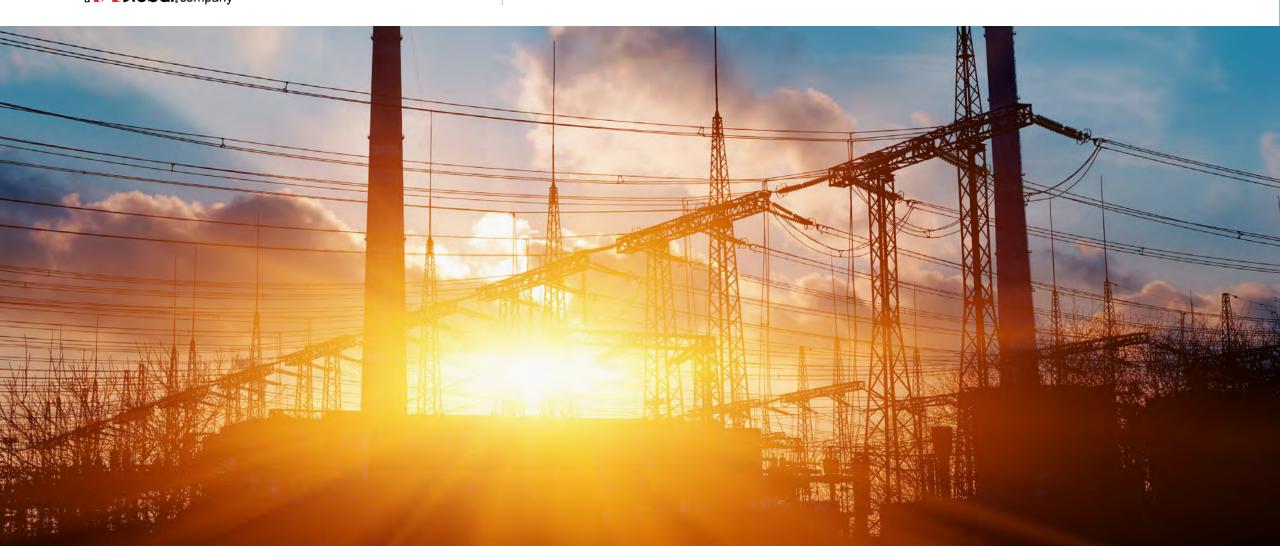
CDM's conveyors provided a highly efficient use of space, which allowed the desired small footprint. According to the power producer, the new conveyor system had tangible financial results for the facility.





Power Generation

Standardizing Ash Handling Helps Utility Save Hundreds of Thousands of Dollars



A large power generation facility in Illinois had ongoing maintenance challenges with their existing coal ash handling systems.

Previous expansions by various engineering, procurement and construction contractors led to inefficient equipment and conveyors to handle the high-temperature ash exiting the boilers. The utility needed a better ash handling method to improve operations and reduce maintenance costs.

The most complex and costly was a water-jacketed cooling screw conveyor, designed to handle the high temperatures of the incoming ash. The ash fell directly to the screw, requiring ancillary pumps and water filtration before moving through a rotary feeder to maintain a seal on the boiler. A drag conveyor then elevated the ash to storage.



THE PLANT'S GOAL WAS
TO REDUCE MAINTENANCE
RESOURCES WHILE IMPROVING
OPERATING EFFICIENCIES.
THE KEY WAS SIMPLIFYING
THE ASH CONVEYORS.

The facility's engineering manager contacted CDM for an evaluation based on the company's 40 years of experience with ash handling systems.

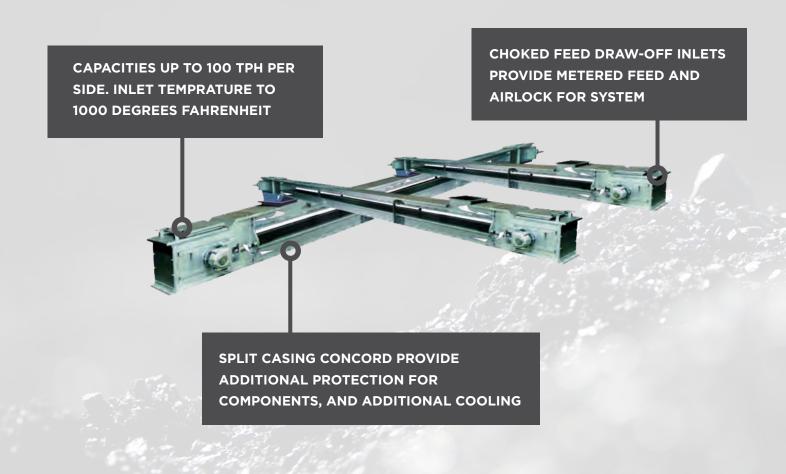
The problem was the setup of each boiler was different. CDM found differences in manufacturer, capacity, ash draw-off position, ash temperature and volume, and layout configuration.



To standardize the ash handling conveying with minimal maintenance, CDM redesigned the watercooled screw conveyor with two drag chain conveyors and a collecting transfer unit. The split trough design handled the sealing process at the boiler discharge while facilitating ash cooling.

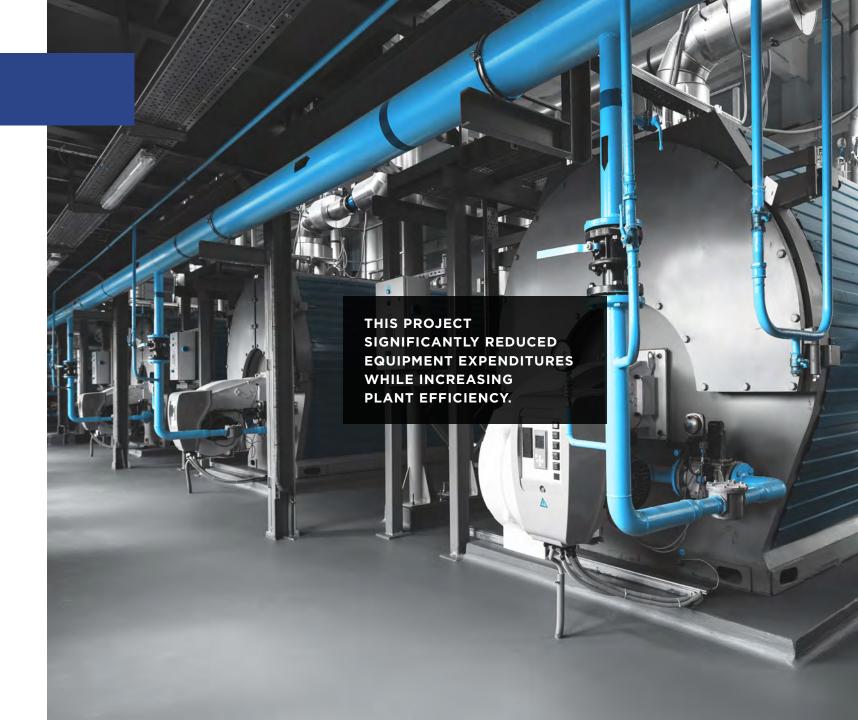
CDM reduced the product bed depth to just above the flights while the return chain speed metered the discharge flow. This engineered flow design allowed a head of ash to remain in the boiler, which created a seal at the boiler discharge to prevent airflow downstream of the boiler.

CDM retrofitted the existing drag conveyors with 142 TPL series chains to unify all conveyors in the plant with the same base chain. This standardization allowed for a single chain series and assembly, along with various flight types for use in existing equipment throughout the facility.



The success of this project transferred into a complete rework of all nine existing boiler systems, and the implementation of two new boilers. The facility has now reduced its store items to only two styles of CDM drop-forged chain, sprockets and terminal idlers.

STANDARDIZATION SAVED THE UTILITY HUNDREDS OF THOUSANDS OF DOLLARS IN CONVEYOR REPLACEMENT.





A Pulp & Paper facility in Pennsylvania had extensive issues with conveyor corrosion and failures on their salt cake handling system.

THE CORRESPONDING
FAILURE LED TO
HIGH MAINTENANCE
REQUIREMENTS AND
FREQUENT DOWNTIME.

During the pulping process, vapor from the black liquor tanks severely corroded the housing, drive assembly and chain of the conveyor. The corresponding failure led to high maintenance requirements and frequent downtime.



The paper producer sought to solve the liquor vapor corrosion problem to reduce maintenance and improve operating margins.

Adding to this, the facility management and mill staff had a tight budget and timeline for repair or replacement of the conveyors.

CDM WAS CHALLENGED TO FIND THE BEST AND MOST ECONOMICAL SOLUTION.

When CDM inspected the existing equipment they found the vast majority of corrosion occurred near the drive/discharge end of the conveyors. This was due to the incline of the conveyors and where the vapor was being trapped. After evaluating the operating conditions, the CDM team concluded the best option was a retrofit of the existing conveyors fabricated from a stainless steel housing.



CDM designed the conveyor components with stainless steel to resist corrosion. It is a softer metal with lower heat threat limits and is more susceptible to erosion, but CDM countered this by keeping the chain speed at a minimum to reduce wear. Thicker sidewalls and bottom plates provided additional protection to the stainless steel components.

This configuration allowed the mill to simply add the flight extensions to suit the chain. CDM worked with the mill's staff to retrofit the conveyors within an existing maintenance budget. CDM then reviewed the design of the structural steel connections and anchor points and found that they could be reused – along with many other components.



The retrofit conveyors have allowed production at the paper mill to continue without unplanned downtime from conveyor failure.

CDM's design and engineering of the conveyors eliminated the effects of the corrosive vapor on the conveyors and their components.

THE COST OF THE CONVEYORS AND INSTALLATION MEASURED AGAINST THE INCREASED UPTIME AND REDUCED MAINTENANCE COSTS GENERATED A POSITIVE RETURN IN LESS THAN 12 MONTHS.

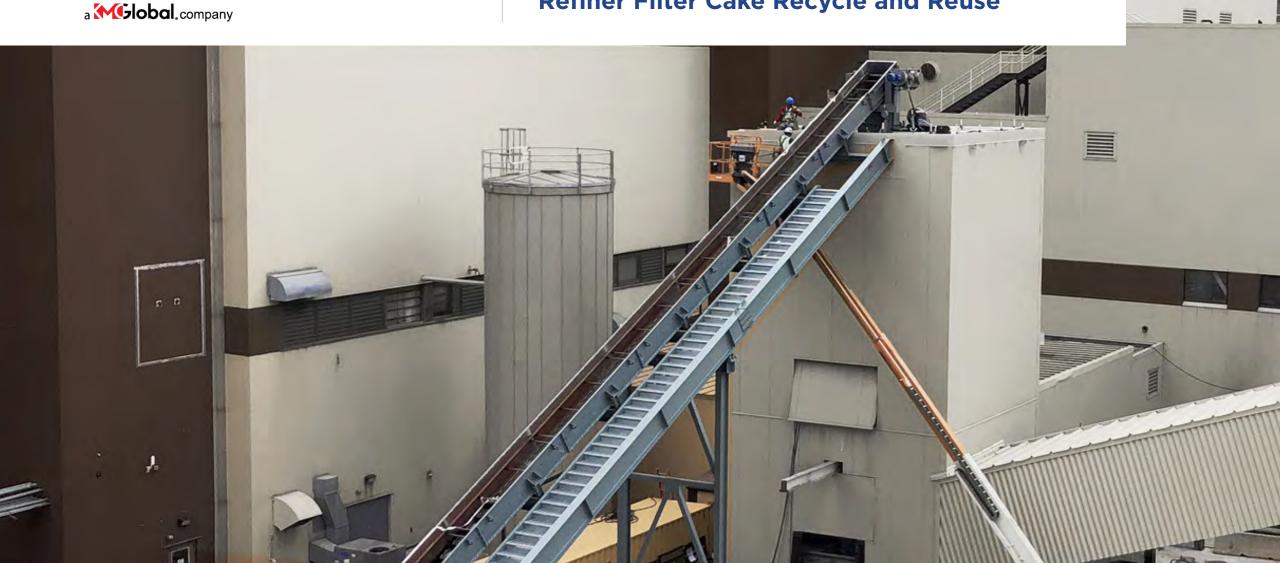
The paper mill's production has returned to peak levels.





Drag Chain Conveying System

Redesigned Conveyor Layout Supports Refiner Filter Cake Recycle and Reuse



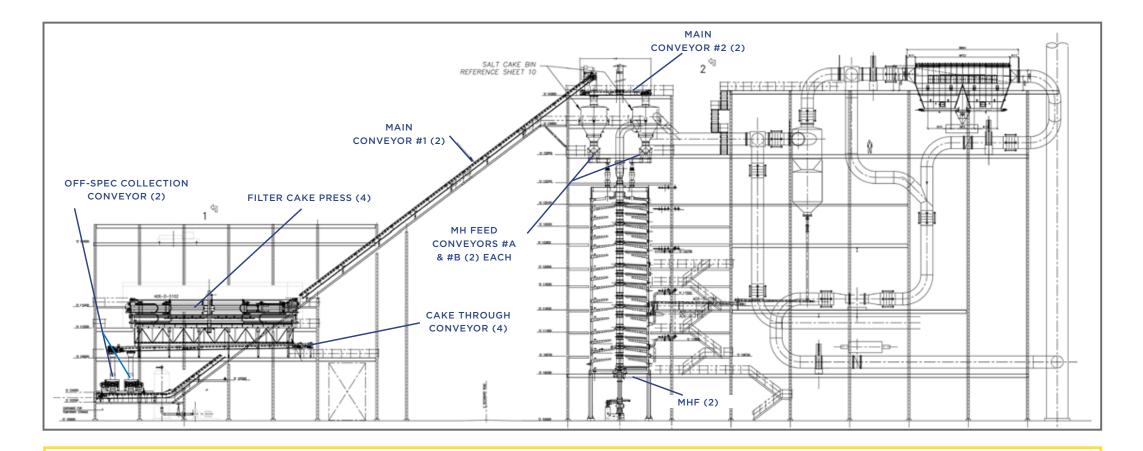
A large oil company sought to expand refinery operations at one of their global locations. To accomplish this, the expansion required a more effective way to move the filter cake at a new refinery both horizontally and vertically to the facility's two multi-hearth furnaces to be burned and reclaimed as an energy source.

NUMEROUS CONVEYERS
WERE NEEDED TO MEET
THE HIGH VOLUME OF
FILTER CAKE AND SYSTEM
REDUNDANCY REQUIRED.

In addition, the refinery required reliable, 24/7 operation of the conveyors in a corrosive environment.



THE LAYOUT



THIS IS THE FILTER CAKE PROCESSING LAYOUT FOR A SINGLE SYSTEM. EACH SYSTEM HAD 4 IDENTICAL UNITS FOR A TOTAL OF 64 CONVEYORS.

cDM was tasked to design a new system with dual strand drag conveyors to transfer the filter cake to collection conveyors and then into one of two main elevating conveyors to reach the surge bins before entering the multi-hearth furnaces (MHF). This new system must meet the required material transfer rates and provide reliable operation in a corrosive environment.

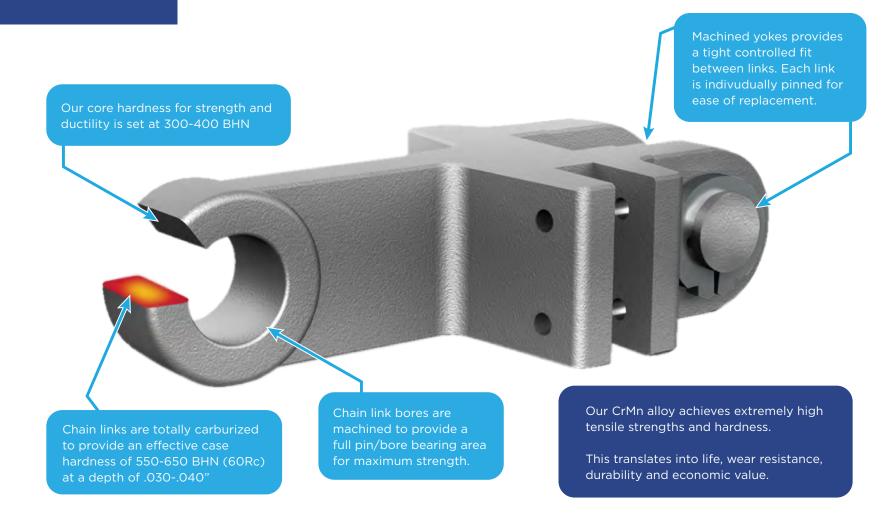
ADDITIONALLY, A
SEPARATE HOPPER AND
CONVEYING SYSTEM WERE
NEEDED TO EFFECTIVELY
DISCHARGE OFF-SPEC
MATERIAL AND TRANSFER
IT TO STORAGE.



CDM's exclusive CrMn forged steel alloy chains have a core hardness of 300-400 BHN and are machined and carburized for a case of 550-650.

THIS CONFIGURATION,
COUPLED WITH THE
SIZE AND SPACING OF
THE FLIGHTS, MINIMIZED
CHAIN PULL AND
MITIGATED THE RISK FOR
UNPLANNED DOWNTIME.

To support the required reliability in a 24/7 operation, the housing was constructed with ferritic stainless steel.



Exclusive drop-forged, case hardened chain provides long, reliable service life.

A refinery relies on the 24/7 operation of the conveyors to carry bulk material.

When a conveyor goes down unexpectedly, production at the facility is compromised, and workers are exposed to unnecessary risk. Large-scale production facilities have many confined spaces, hazardous material, dangerous utilities and operations that have the possibility for injury or extended outage when exposed to emergency downtime.

CDM ENGINEERED
THE CONVEYORS AND
THEIR COMPONENTS
SPECIFICALLY FOR THIS
APPLICATION, WHICH
WAS CRITICAL TO
DELIVER UNINTERRUPTED
PRODUCTION AND
INCREASE THE LONGEVITY
OF THE EQUIPMENT.





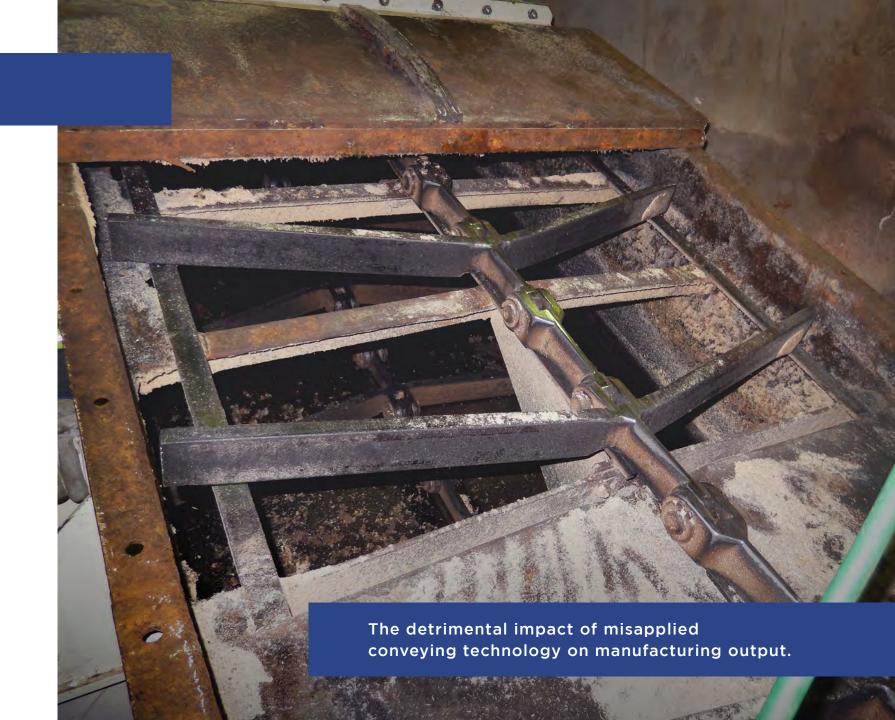
Wood Products Manufacturer

En-Masse Twin Chain Retrofit Gets Operation Running at Full Capacity



A Brazilian manufacturer of OSB and MDF wood-based products used enmasse conveyors to move raw materials from off-load to distribution and manufacturing. Poor design and small conveyor size—complicated by incorrect flight selection—meant the conveyors could not handle the required loads or the characteristics of the material.

THE CONVEYORS NEEDED A REDESIGN TO IMPROVE OUTPUT CAPACITY.

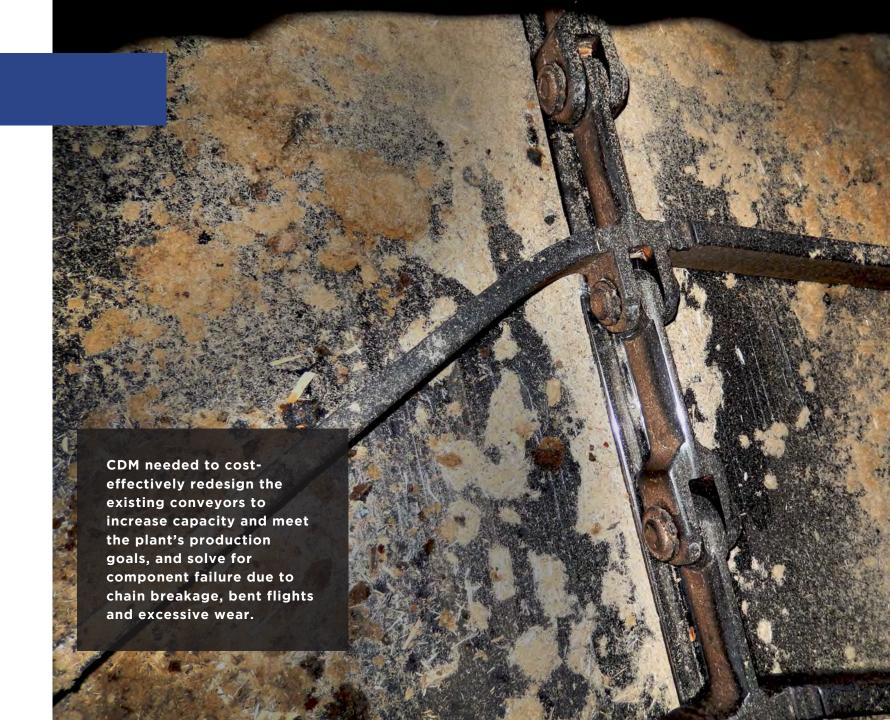


After two years on a continual repairand-replace cycle, the plant sought alternatives for the conveyors.

> CDM WAS CALLED TO THE SITE TO ANALYZE THE CURRENT SYSTEM AND RECOMMEND A SOLUTION.

Upon review of the application and equipment, CDM submitted the following summary to the facility managers:

- Conveyors did not meet design capacity criteria
- Improper chain application
- Undersized and misapplied gear reducer
- Poorly designed conveyor housing and return system



CDM redesigned the undersized conveyors to handle the full volume of chips and flake. The primary conveyor needed to handle product from six flakers without plugging and shutting down.

PRODUCTS UTILIZED





Drop-Forged Chain

En-Masse Conveyor

Redesign strategy: Increase the conveyor's sidewall height

Redesign method: Bolt formed channels to the existing sidewall



These extensions, combined with elevating the chain return rail, increased the area required to meet the capacity without increasing chain speed.

A zero speed switch and a CDM-exclusive Kick-Out End Flap were added to each conveyor, serving as a plug chute and chain break indicator. These significantly reduced damage and downtime.

Another trouble spot was the misapplication of the chain. Because no two strands of chain wear at exactly the same rates, a conveyor can eventually fail when the chain lengths become uneven. CDM corrected this with its exclusive Twin-Strand design, which has independent take-ups/chain tensioning.

Benefits of Twin-Strand Chain Design:

- Increases chain strength
- Increases chain flight strength
- Eliminates dangers of uneven elongation
- Eliminates bent flights

CDM provided the wood product manufacturer detailed fabrication drawings of the modifications to the existing conveyor to accommodate the conversion. The company used the drawings to hire local contractors to perform the fabrication and installation.



Many of the conveyor lengths were longer than 150 ft. (46 m). At this long span, CDM knew the dual strand design would not be the best selection.

Using local subcontractors saved thousands of dollars in shipping costs and taxes/tariffs on US-supplied components. CDM also provided fabrication details and design criteria for the terminal station retrofit, which were needed for the Twin-Strand design.

To support the full output capacity, CDM engineered a new drive package that could be purchased locally and supported the full material handling requirements.

CDM RELIED ON THEIR 40-PLUS
YEARS OF EXPERIENCE IN BULK
MATERIAL HANDLING AND EN-MASSE
CONVEYOR DESIGN TO SATISFY THE
MANUFACTURER'S GOALS AND RAISE
PRODUCTION TO PEAK LEVELS.

Since the completed retrofit, the manufacturer has met full production targets and improved its bottom line.

