
CHAIN REACTION

A SERIES OF CASE STUDIES ON SASKATCHEWAN'S
INDUSTRIAL AND MINING SUPPLY CHAIN

ROCKFORD ENGINEERING WORKS

CASE STUDY # 0 0 1



Rockford Engineering: Taking the Pinch out of Pipeline Inspection

It's what keeps anyone who uses a
pipeline awake at night: the thought that
somewhere out there a pipe is leaking.

What could have been done to prevent it?



For any company, the total labour, transportation and materials costs of a faulty pipe can be major – even more so if the leak leads to public criticism or regulatory violations. Far better to prevent the problem before it happens – which is what pipeline inspection facilities are all about.

It is not hard to imagine a day when just one of those employees, perhaps the least skilled and experienced on the team, is feeling particularly tired and unmotivated. The chances of an injury are high. So, too, are the odds that one of those pipes will not be properly inspected, and end up causing major problems down the line. It's something that kept Clayton Jahn awake at night in his hometown of Estevan – but in his case he wasn't thinking of the problem. He was thinking of the solution. What if you could create an automated system that made pipe inspection much safer, more efficient and more reliable?

Clayton had been in the pipe inspection business for many years. His family business had recently included his stepson, Chris McClelland, which led to the new name of CJ-CSM Inspection Ltd. Driven by the desire to create a unique automated facility, Clayton talked to another local company, Wil-Tech Industries, about his idea. They in turn referred him to Rockford Engineering Works in Regina. After a few phone calls, CJ-CSM and Rockford arranged a meeting in Regina.

“By working with a local engineering firm here in Saskatchewan, we benefitted from the drive and teamwork to do something totally different and many times better.”

Pipeline inspection facilities, however, have their own set of challenges, the foremost being safety. Typically, they are noisy outdoor yards, with five employees using traditional equipment to manhandle heavy pipes. The major safety concern is the numerous “pinch points” involved with maneuvering the pipes and equipment.



PHOTO:

The operator can sort and catalogue the pipes from a touch screen station.





PHOTO:

The automated system eliminates the danger of “pinch points” associated with handling pipes.



1st of its kind in the world



Reduced costs –
Single operator



Improved safety –
remote operation

“It was exciting,” remembers Chris. “We were starting with basically the table-napkin sketch of what we had in mind, and we could tell right away that Rockford shared our enthusiasm for creating something that would be the first of its kind in the world. Their credentials both nationally and internationally gave us the confidence that we could do it.” Over the next several months, the drawings became ever more refined, the reality ever closer.

Every step of the way, including fabrication, testing and installation, Rockford and CJ-CSM worked together. “Being just a few hours away, we were able to provide timely expertise during the entire project life cycle that only a local firm could have delivered,” says Scott Konecsni, one of Rockford’s owners and the lead facilitator on the project. “Likewise, the short distance made it possible for CJ-CSM to be present in Regina for all sign-offs and Factory Acceptance Tests.” By late 2014, installation of the Automated Pipeline Inspection Facility was under way in Estevan– with almost all of the steel, profiles, components and the electrical system sourced locally.

By August 2015 the facility was up and running. The pinch-points had disappeared. So too, had the uncomfortable working conditions and chances for error. In this brand new indoor facility, there was one highly skilled operator, seated in front of a touch-screen monitor – doing all of the facility’s sorting and cataloguing of pipe products.



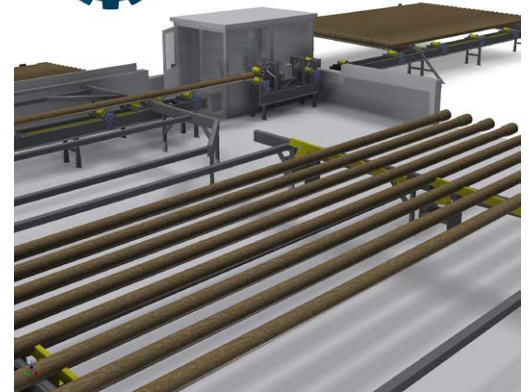
Rockford Engineering Works Ltd.

(306) 789-0089

info@rockfordworks.com

www.rockfordworks.com





The new indoor pipeline inspection facility in Estevan, Saskatchewan dramatically improves safety, reduces costs and ensures highly reliable grading. Thanks to Rockford's engineering, it's all operated by just one person.

The entire facility is operated through the PLC (programmable logic control) system that communicates the status and position of all actuators* and product locations. The automated inspections enable the facility to sort and catalogue product into good, bad, and unusable batches – all from the touch screen station. Pipes for future processing are stored on a multitude of racks and tables complemented by five building exits for additional handling. Rockford has continued to stay in touch regarding the operation and feedback, not only during the commissioning, but at various points during production.

*pneumatic cylinder responsible for moving or controlling a mechanism.

With its prototype plant now proving its worth, both CJ-CSM and Rockford are optimistic about its market potential. "The system could be modified and tailored to any other pipe inspection company doing similar work," says Scott.

Chris McClelland says CJ-CSM is already talking with other interested firms in Canada, with further potential internationally. At present, most companies would immediately be thinking of Texas as the place to go to find inspection

designs. "I'm glad we decided not to go there, because I think we just would have been given a cookie-cutter solution. By working with a local engineering firm here in Saskatchewan, we benefitted from the drive and teamwork to do something totally different and many times better."

And somewhere out there, a pipe is not leaking. ❖



SIMSA is the Saskatchewan Industrial and Mining Suppliers Association, representing Saskatchewan based companies who provide goods and services to industrial projects.

811 - 56 St. E.
Saskatoon, SK
S7K 5Y9

(306) 343-0019

simsaadmin@sasktel.net

www.simsa.ca