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**Product Recovery
(Pigging) Case Study:**

CP Kelco

San Diego, California, USA

How an HPS Pigging System
Increases Yields and Reduces
Product Losses in Food Ingredients
Manufacture

HPS Product Recovery Solutions

www.HPS-Pigging.com



Summary

- **HPS designed, supplied, and implemented one fully automatic single-pig pigging system at a CP Kelco plant in San Diego, California, USA.**
- **CP Kelco is a nature-based ingredient solutions company with manufacturing, R&D facilities, and offices throughout the world.**
- **CP Kelco approached HPS to incorporate liquid product recovery (pigging) technology to recover product, instead of sending it to waste.**
- **If the company wasn't pigging, they would lose roughly 1200 gallons of usable product each cycle.**
- **As well as recovering massive amounts of product, the HPS solution is flexible and space efficient.**
- **The system is fully automated which means it increases operational efficiency, enhances safety, and minimises the risks of human error by reducing manual intervention.**

About the Customer

CP Kelco, a division of J.M. Huber Corporation, is a nature-based ingredient solutions company. It produces a wide range of products including gellan gum, pectin, xanthan, carrageenan and other hydrocolloids for the food, beverage and consumer products industries.



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With more than 200 years of experience in manufacturing, manipulation and application of multiple hydrocolloids, the company's goal is to be the preferred partner for providing innovative products and solutions through the use of nature-based chemistry.

Headquartered in Atlanta, Georgia, USA, CP Kelco has manufacturing, R&D facilities and offices throughout the globe. This enables the company to exceed the global and requirements of their customers.

Project Background

The CP Kelco team reached out to HPS because they were reinstating an existing pipeline for transfer between different processing areas at their facility in San Diego, California, USA. They wanted to incorporate liquid product recovery (pigging) into their process.

The length between the processing areas is 900 feet. Therefore, the company estimated that if they didn't have a pigging system, they would lose roughly 1200 gallons of useable product each cycle.



CP Kelco, San Diego, California, USA

CP Kelco had used pigging before, but not a system provided by HPS, and the system had been demolished over 10 years ago due to changing business conditions. The previous system was a manual one-way system, where operators would have to remove the pig from the receiver and bring it back to the launcher. The footprints of the launch and receive stations were also quite large, taking up valuable workspace.

So, Tyson Richart, Engineering Manager at CP Kelco, approached HPS to discuss using process pigging to recover usable product, instead of sending it to waste. They also wanted to use pigging to improve their manufacturing and production processes. It was critical that the pigging system was fully compliant with current Good Manufacturing Practices or "cGMP".

Tyson explained,

"The previous pig system was a one-way system with a city water propelled launcher and a receiver at the other processing area. At the conclusion of the pig transfer, operators would have to remove the pig from the receiver and bring it back to the launcher".

"The length between the processing areas is 900 feet and it was estimated that about 1200 gallons of product would be lost without a pigging system."

Why CP Kelco Chose HPS as their Pigging Systems Provider

HPS has a solid reputation as the world's leading hygienic and sanitary pigging systems specialists. That's because HPS has a proven track record of successful projects which deliver high return on investment (ROI), rapid payback, and that exceed client's expectations.

In addition, HPS has specialised in process pigging since 1995 and has worked with a wide variety of companies that manufacture food ingredients, beverages, chemicals, and so on.

Asked why CP Kelco chose HPS, Tyson commented,

"HPS had expertise in our product segment and demonstrated an understanding of what design elements were required for cGMP facilities. They were able to demonstrate their equipment to our technical team by facilitating a site visit with a customer with similar requirements to ours."



The Solution

Working closely with CP Kelco, HPS designed, supplied, implemented, and commissioned a single-pig pigging system. The bespoke pigging solution recovers up to 99.5% of product from the pipeline. If it wasn't for pigging, this usable product would be discarded as waste.



Like most HPS pigging solutions, the system is fully automatic, meaning the HPS pig is sent and returned using PLC control. Special HPS pig-detection technology ensures accurate and reliable pig location and subsequent control by the HMI/PLC. The pigging system is fully compliant with cGMP.



As well as pig detection technology, the pigging equipment uses a bi-directional pig, various specialist valves, plus full engineering drawings, electrical connection diagrams, functional design specification plus more.

HPS provided a full service – from design and supply of a system to implementation, commissioning, and customer support.

When commissioning was complete, HPS engineers ensured employees understood how the system worked and were fully aware on how to operate and maintain the equipment properly and safely.

The Results

The primary aims of the project were to increase product yields and reduce product losses. The pigging system recovers up to 99.5% of product from the pipeline. If it wasn't for pigging, this product would be wasted.

Because the HPS system is bi-directional, it enables CP Kelco to experiment with different cleaning techniques of the pipeline, since they have different utilities present in each of the processing areas.

Tyson commented,

"We have been able to recover all the product from the pipeline as we had anticipated. The bi-directional system has allowed us to experiment with different cleaning techniques of the pipeline since we have different utilities present in each of the processing areas."

In addition to recovering massive amounts of product, the HPS solution is flexible, and extremely space efficient.

Tyson explained,

"Our previous experience was with pig systems that had launchers and receivers with large footprints. The HPS system is compact and lightweight which allows us to consider this system in areas where we previously did not have space."

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-Tyson Richart, CP Kelco

Because the customer chose an automatic pigging system, this enhances safety and minimises the risks of human error by reducing manual intervention.

Summarizing the project, Tyson said:

“Overall, the project was a success. The lead time of HPS was about half of their competitors which allowed us to get the system up and operational to meet our business needs. HPS provided technical support in a timely fashion to help ensure issues were resolved quickly and that the system had flexibility for future potential changes.”

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-Tyson Richart, CP Kelco

When asked if he would recommend HPS to other companies, Tyson replied:

“Yes. HPS was able to help us customize our design based upon our processes. They worked hand in hand with us to help us understand the trade-offs of the different design elements.”



Contact HPS

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