Project brief

# Freelance
# Freelance and Petrohunt rejuvenate gas processing plant

**Obsolescence and an increased desire for more precise control leave many plants built before the late 1970s with the need to modernize their automation systems.**

Gas processing plants built before the 1970s were designed and built with pneumatic controls utilizing miles of tubing carrying control signals in order to perform process automation. The evolution of plant controls from pneumatic to analog, and finally to digital, has left many older plants antiquated when it comes to equipment automation.

## Little Knife Gas Processing Plant

Petro-Hunt is the owner and the operator of the Little Knife Gas Processing Plant (Little Knife Gas Plant) west of Killdeer, North Dakota. The Little Knife Gas Plant processes and treats associated gas produced from the Petro-Hunt operated Little Knife oil field in McKenzie, Billings, and Dunn Counties, North Dakota. In addition to treating gas produced from the Little Knife wells, the plant also treats and processes products from third parties who operate oil and gas wells in the surrounding Williston Basin areas.

**We found that the transition to Freelance went very smoothly. The product and support have been exceptional. It has opened windows into our plant that we never had. We've been very satisfied with the ABB system.**

**-- Tim Dukart, Instrument & Controls Lead Petrohunt**

The plant can process up to 32 million cubic feet of both sweet and sour gas per day. The state of the art equipment at the plant creates end products for sale such as butane, ethane, propane, natural gasoline, Y-grade, elemental sulfur and sweet methane gas.

Challenges were abundant when proposing a solution for this plant. Because of critical applications in the plant, the project was put together and I/O was switched over with no downtime. Critical items in alarm management had to be carefully considered. The project required graphic design by engineers who designed templates and control loops. Commissioning was a challenge with the remote location and tight schedule. Preparing Petro-Hunt for a smooth transition to the new system was another key to the success of the project.

### Winn-Marion

Winn-Marion was the system integrator and ABB partner that completed this project. Winn-Marion has grown from their base in Denver, Colorado adding offices in North Dakota, Pennsylvania, Utah, Arizona, New Mexico, Montana and Wyoming. Serving the industrial and semiconductor process markets with more than 100 employees they have been helping customers in the Rocky Mountain region of the United States.

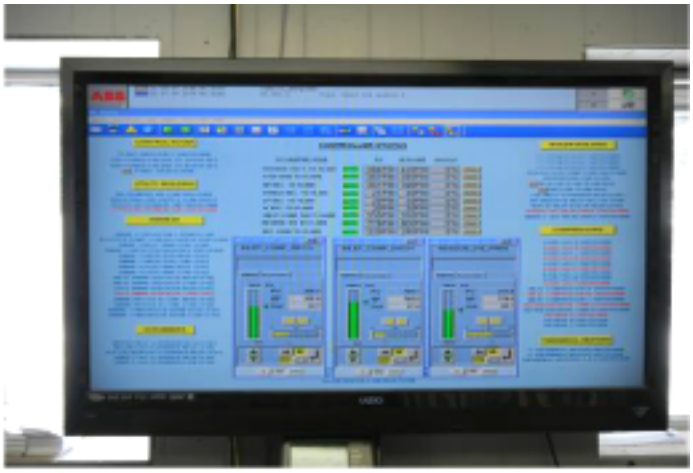
**The Freelance control system provides the ability to quickly turn the control of the DCS over to the plant personnel for modifications and additional enhancements after initial commissioning.**

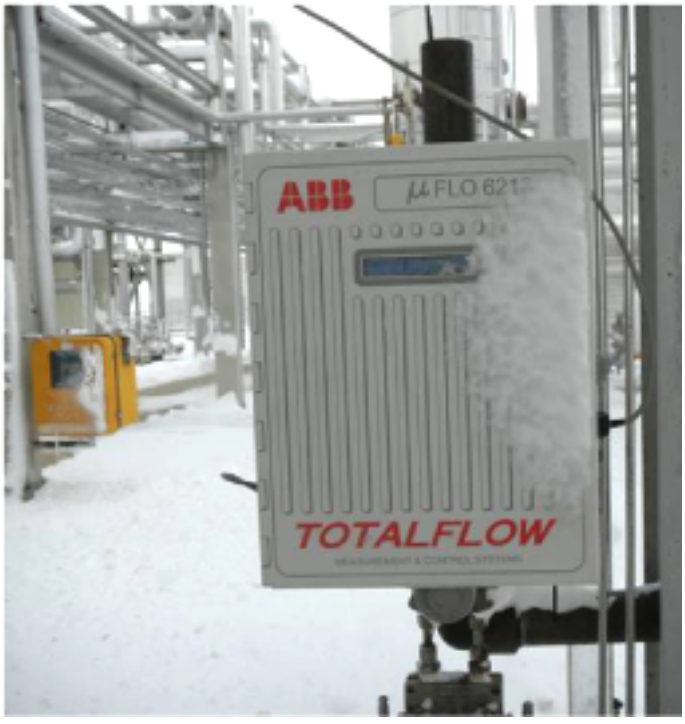
**-- Dan Blanchard, Controls Systems Specialist**
**Winn-Marion Inc.**

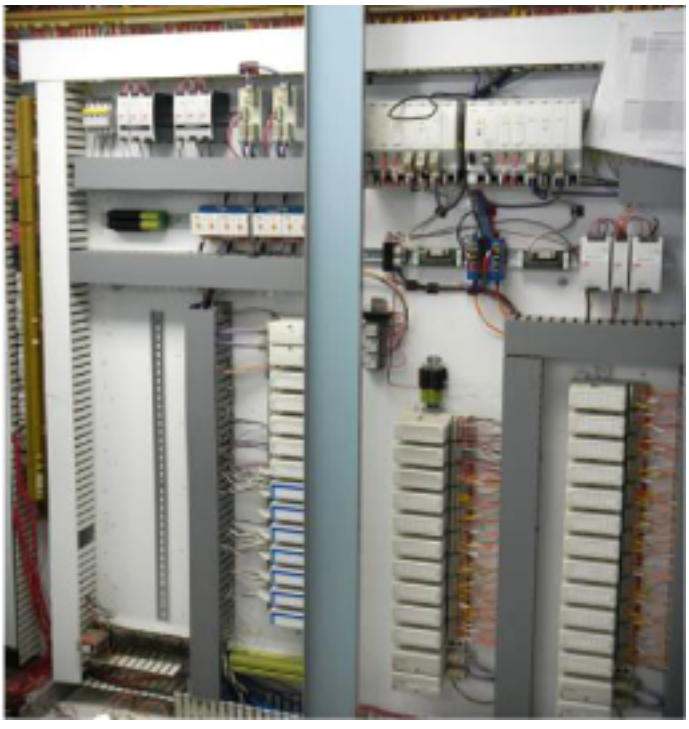
The project started small and grew as the project progressed. Petro-Hunt initially looked at PLC offerings but soon realized that they needed more. The project needed a redundant system with complete ownership.

### Solution

The answer was ABB's Freelance. The proposed system consisted of 275 monitoring I/Os, 57 control loops, all new ABB instrumentation, 580 I/Os in total, 5 remote nodes and





two S900 I/O nodes. Winn-Marion won the project based on good customer service, comprehensive factory support and a competitive price package.

**ABB's Freelance control system was a perfect fit for this type of plant modernization as it more than satisfied all the technical requirements. The S900 I/O mounted in hazardous locations set the Freelance system apart from competitors' offerings and saved the customer significant installation costs.**

**-- Tim Bradley, VP Sales**
**Winn-Marion Barber, LLC**

Freelance is a modern distributed control system that provided a whole range of superior benefits. Freelance matched the requirements that were needed to modernize and optimize economically. It was easier to implement, engineer, maintain, expand, commission and handle hazardous location issues. Furthermore, it had better redundancy, alarm handling and device integration.

Despite the demanding project schedule, Winn-Marion was able to deliver the project on time with the help of Petro-Hunt. Because Freelance is easy to use, Petro-Hunt has been trained and is able to self maintain the system. With better control, operation is much improved. Although there was initial reluctance, operators have accepted the new system and the I&E supervisor has taken complete ownership. The days of getting called out to the plant at 2 am are long gone, making the maintenance team extremely pleased. The plant manager is also happy with the new system knowing that it is in good hands with his team and the ROI is clearly evident.

# Contact us

**ABB AB**
**Control Technologies**
Västerås, Sweden
Phone: +46 (0) 21 32 50 00
E-mail: processautomation@se.abb.com
www.abb.com/controlsystems

**ABB Automation GmbH**
**Control Technologies**
Mannheim, Germany
Phone: +49 1805 26 67 76
E-mail:
marketing.control-products@de.abb.com
www.abb.de/controlsystems

**ABB S.P.A.**
**Control Technologies**
Sesto San Giovanni (MI), Italy
Phone: +39 02 24147 555
E-mail: controlsystems@it.abb.com
www.abb.it/controlsystems

**ABB Inc.**
**Control Technologies**
Wickliffe, Ohio, USA
Phone: +1 440 585 8500
E-mail: industrialitsolutions@us.abb.com
www.abb.com/controlsystems

**ABB Pte Ltd**
**Control Technologies**
Singapore
Phone: +65 6776 5711
E-mail: processautomation@sg.abb.com
www.abb.com/controlsystems

**ABB Automation LLC**
**Control Technologies**
Abu Dhabi, United Arab Emirates
Phone: +971 (0) 2 4938 000
E-mail: processautomation@ae.abb.com
www.abb.com/controlsystems

**ABB China Ltd**
**Control Technologies**
Beijing, China
Phone: +86 (0) 10 84566688-2193
www.abb.cn/controlsystems

**Note:**

We reserve the right to make technical changes to the products or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not assume any responsibility for any errors or incomplete information in this document.



3BSE068417

Power and productivity
for a better world™