Case Study: North American Energy Company
Plant Launch Project: Chemical Processing Plant

Client Need
A North American energy company decided to launch a new facility with the goal of having more control over their costs while achieving close to zero harmful emissions. The company developed a plan to implement process safety programs, design and deliver training internally, and perform comprehensive pre-startup qualification activities in order to successfully transfer to a more reliable resource to power the plant and achieve better cost control and improved overall efficiency.

To accomplish its goals, the company developed a new technology based on the coal gasification process to use low-value coal to power the plant and capture all by-products to sell as consumables. During the construction phase of the project, the company recognized a need for more robust procedures and training materials to align with Process Safety Management (PSM) requirements that would satisfy the needs of a plant with significant new technology and complexity. In addition, the company needed more detailed guidance and structured program elements for the management of highly hazardous materials.

GP Strategies Solution
The company entered into a partnership with GP Strategies™ to ensure a successful plant launch. A team from GP Strategies performed the first step, a gap analysis, which included identifying needed training, technical documentation, procedures, and recommendations. The team drew on GP Strategies’ extensive experience helping businesses pass OSHA standards to identify industry standards and best practices that fit this company’s needs. The gap analysis concluded with the following recommendations:

• Establish a path forward that achieves the company’s training and qualification goals in time for facility startup
• Merge current program elements into a perpetual program that complies with PSM standards
• Adapt industry best practices for training and qualification that provides:
  – Manageability and sustainability over time
  – Reduced time to qualification

The overarching goal was to achieve qualified operators in time for facility startup while addressing all regulatory requirements related to PSM.

GP Strategies worked in collaboration with the company to create an Operator Training and Qualification Process to rapidly and effectively onboard new employees from entry-level and duty-area training to post-qualification training. This process included a blended learning strategy with elements such as eLearning for plant fundamentals and simulations; structured, knowledge-based theory and application exercises; gun drills; skills demonstrations; and much more.
GP Strategies developed customized technical documentation specific to the new facility for exercises and drills, operational and unit reference information, and corporate policies and procedures. The documentation developed and revised includes:

- Unit-specific troubleshooting exercises
- Emergency response matrices
- Gun drills
- Field training guides
- Large control diagrams
- Process description manuals
- Startup and shutdown procedures
- Emergency procedures
- Document standardization

As part of the troubleshooting package offered, GP Strategies developed Troubleshooting Workbooks. The example below is from a “What if” exercise. It provides the root cause “What if feed increases?” and the operators provide the symptoms, deciding how the unit is going to react and why.

### Client Impacts
Implementing these solutions has numerous proven benefits such as operators achieving rapid familiarity with major equipment, policies, and procedures. This solution was accomplished using a combination of GP Strategies’ vast experience in the industry and expertise with adult learning.