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Operator Training System

Emergency Response Training

Patrick Rouanzoin

PG&E

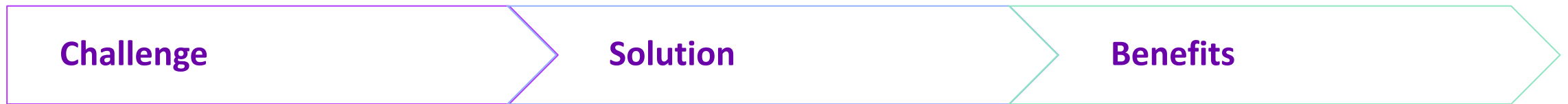
AVEVA



Patrick Rouanzoin
Gas Control Operations Specialist

- Started working in a natural gas terminal in October of 1984 and held the position of Gas System Operator (controller) until March of 2018.
- Helped with creating a training program for operators (controllers) in 1996 and had some kind of hand in training operators since then.
- Became an Operations Specialist with the Control Room Management (CRM) group in March of 2018 with the primary function of training; both creating and delivering.

Delivering for our hometowns. Serving our planet. Leading with love.



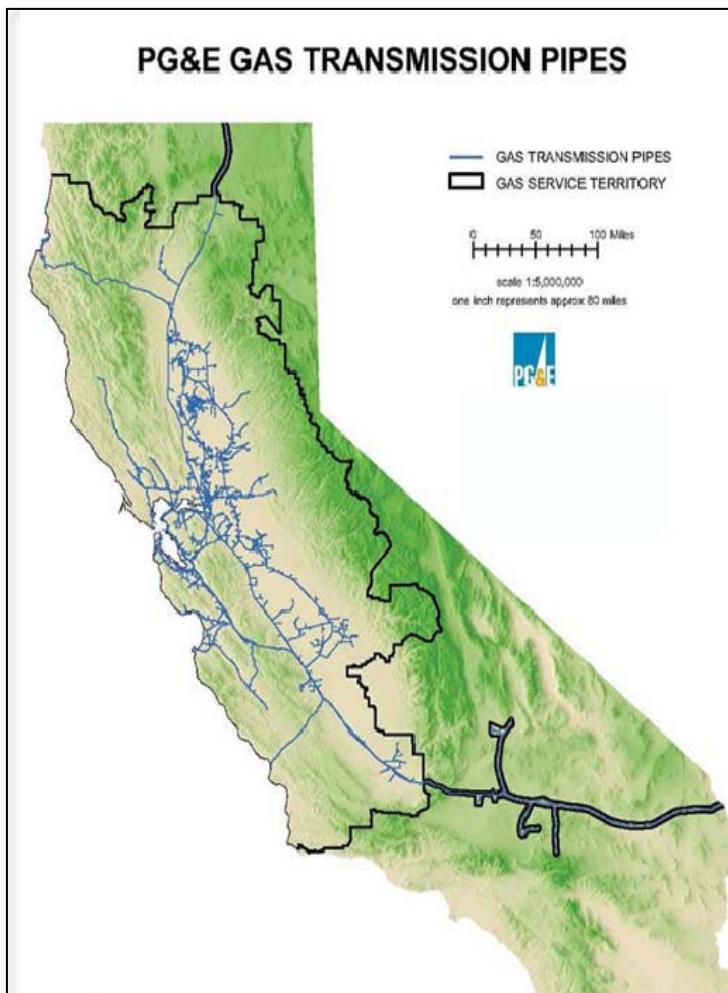
Be the safest most reliable natural gas pipeline operator in the country.

Utilize AVEVA Operator Training Simulator (OTS) to expose control room personnel to “real-life” Normal, Abnormal and Emergency Operating Conditions.

Increased safety in recognizing and responding to emergencies on the pipeline. Safer training environment. Increased reliability in minimizing loss of continuity of operations during any operation.

About My Company

Gas System Operations



- Serves approximately 15 million people throughout a 70,000-square-mile service area
- Operates approximately 6,800 miles of gas transmission pipeline and ~42,000 miles of gas distribution pipeline
- 4.3 million natural gas customer accounts.
- Deliver 970 BCF/year
- Approximately 160 BCF storage capacity with approximately 51.1 BCF of working gas.
- Approximately 203,000 HP of compression
- Gas System Operations – Safe and Reliable Operations of Transmission and Distribution 24X7

The challenge this project tackled

How do you train for an emergency without actually creating an “emergency”?



By MisterOh - Own work, CC BY-SA 3.0,
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By Bryan - cropped from Close Up Pictures of Gas Line
Explosion Damage, CC BY 2.0,
<https://commons.wikimedia.org/w/index.php?curid=11465628>

- Previously training for abnormal or emergency operating conditions has been by reviewing previous events.
- Copies of trends, alarms and operator actions only carry so much weight.
- Even “playbacks” or recordings of previous events do not place the individual “in the moment”.
- To “feel” or experience the event in the same setting as would be presented in “real life”, one would actually have to create a pipeline rupture.

Using the AVEVA Operator Training Simulator

Placing the individual in a “real” event

- Due to the modeling of the pipeline, controls and alarms, an operator/controller can “experience” an Abnormal or Emergency Operating Condition in “real-time”.
- The operator/controller can actually “see” what a line rupture, for example, would look like with respect to data, alarms and trends.
- The operator/controller can position valves and start/stop compression in the exact same manner they would do on the production (live) system.
- The operator/controller can see similar results their actions would have.
- The operator/controller can learn what “other” areas on the system they would need to focus on depending on the location of an event.
- The entire control room staff can learn effective teamwork to minimize response time and coordinate their efforts.

Implementation Details

How PG&E implemented the project

- We actually had a room that was devoted to training that was configured similar to our Control Room.
 - Multiple (3) Operator Consoles
 - Existing tools other than SCADA
- Currently training is “Instructor Led”. With presentation, simulation and discussion.

Impact

What value can be placed on human life, property or the environment?

- We've just started using and training with this product, so can't really say what impact this has had so far. Reception from the operators/controllers has been positive. We have not had an emergency since we've started using and training with this product. Nor have we had to opportunity to train any newcomers.
- Expectation is that having Control Room personnel experience ruptures and other malfunctions will minimize the hesitation and "second guessing" that is inherently part of any new experience.

"Skill to do comes of doing." – Ralph Waldo Emerson

“[the simulator] is a godsend.”

Gas Control Coordinator



Patrick Rouanzoin

Gas Control Operations Specialist

- Pacific Gas & Electric Company
- Patrick.Rouanzoin@pge.com

Questions?

Please wait for the microphone.
State your name and company.



Please remember to...


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AVEVA is a global leader in industrial software, sparking ingenuity to drive responsible use of the world's resources. The company's secure industrial cloud platform and applications enable businesses to harness the power of their information and improve collaboration with customers, suppliers and partners.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life's essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world's most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. With operations around the globe, we are headquartered in Cambridge, UK and listed on the London Stock Exchange's FTSE 100.

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