

### SITUATION:

A refinery in the Gulf Coast region of the USA suffered significant damage to its critical control room after a recent hurricane. The entire plant was damaged, and the control building was completely lost to salt water flooding. The building had to be gutted, mold prevention enacted, and - most critically - function restored as quickly as possible. Millions of dollars were being lost daily.

Facing significant profit losses due to downtime, the manufacturer needed a solution. Smith-LaRock Architecture PC (SLA) was asked to participate in immediate planning and reconstruction efforts.

### APPROACH:

Arriving on site two days later, SLA conducted preliminary planning that night, and the redesign began the following morning. With only eight weeks to create construction drawings, complete construction and install new consoles, long-lead time items were identified and a critical path was established.

The Owner took advantage of the opportunity to include expanded consoles, improve the ergonomics, and implement the missing human factors considerations to provide a more conducive work environment.

SLA & their Human Factors consultants assisted in the reformation of the new control suite layout, developing methods to expand the control room without expanding the existing control area recessed floor limits.

Operators and managers were interviewed and critical control room adjacencies were reconfirmed. Interaction diagrams were prepared. Human factors were discussed and incorporated into the design.

After discussing console vendor coordination, a custom console was adopted. Using SLA's real-time 3D design software, the Owner was visually reintroduced connected to their old building/new plan, gaining instant comprehension and allowing a rapid approval process. Consoles were ordered and expedited by one of SLA's contacts providing such mission-critical console furniture.

Smith LaRock's ability to deliver immediate visual feedback allowed the stakeholders to quickly compare alternatives between what had been and what could be. Solutions were refined. New possibilities emerged. A final plan was evaluated and agreed upon.

### RESULT:

At completion, the owner remarked that Smith LaRock process that took six days had taken months on a previous project undertaken by another firm. The eight week goal was intact. The project advanced to the next level. The leadership group was very pleased.

Walls were being built five days later. Consoles had been ordered, and other long-lead items had been located. Smith LaRock's ability to get the client back in motion in such a short amount of time reduced the potential profit losses, while its human factors approach meant that the control suite was functional, operating better than before, and had room to grow. The client was extremely pleased with SLA's participation and leadership.

