

UOP Field Operating Services



ON-SITE TECHNICAL SUPPORT FOR SUCCESSFUL
START-UP AND ONGOING OPERATION

**Avoid costly start-up delays and maintain
a successful ongoing operation**

An efficiently engineered design, on-time start-up and the ongoing optimization of your operation can be difficult to achieve without the support of an expert. Fortunately, UOP provides you with a comprehensive team of highly trained and experienced experts. UOP's Field Operating Services team is dedicated to supporting the delivery, start-up and ongoing operation of your UOP technology, and to identifying opportunities to maximize your profit.

Smooth start-up, successful performance and safe operation right from the start

World-class team, exceptional service

A new process unit is a big investment, so when there are start-up delays, design flaws or an improperly trained operating staff, your profitability dwindles. At UOP, we understand those unique challenges and want to help you avoid them. Along with your UOP-licensed process unit, you gain access to a superior network of highly trained and experienced service experts

who are dedicated to helping you meet your business objectives from engineering design through ongoing operation.

UOP's Field Operating Services group comprises approximately 225 field-based technical advisors and a regional services group - both available for on-site support. Additionally, our office staff is equipped with technology, engineering, training and inspection experts. This entire group is at

your disposal and prepared to help facilitate a smooth and safe transition to on-stream operation, and to help maintain successful ongoing operation at your plant.

You can be assured that our services experts are the best-in-class and are well-equipped to extensively support your facility. Before working independently, each member of our team trains with senior technical specialists to

UOP's Network of Service Professionals



understand the fundamentals of technology development, engineering design, research and development, and best practices in safety training. They train using our proprietary training simulator technology, in group settings with senior technical specialists and also by observing experienced chief advisors during start-ups.

Our field advisors are solely dedicated to unit start-ups and often do multiple jobs in a single year. They have executed start-ups in a variety of situations, adequately preparing them for challenges and equipping them with the knowledge to find solutions.

Successful start-up

The UOP chief advisor is your primary, on-site contact to guarantee UOP's commissioning, start-up and initial operations services are properly executed.

For each process unit, you will have a dedicated chief process advisor to ensure the proper time and attention is allocated to the operation of the unit. These professionals have an array of experience including checkout, start-up and testing, and are experts on the type of process unit to which they are assigned.

Optimal reliability and performance of your process unit

The chief process advisor arrives on-site before the completion of construction and conducts a detailed inspection of all equipment, vessels, piping, catalysts, adsorbents and chemicals to ensure they meet UOP specifications. This examination

helps to proactively identify any potential challenges that could interfere with a smooth start-up and successful performance of the unit.

Following the inspection, the chief process advisor observes and advises on the commissioning, including hydrostatic testing, water flushing, equipment run-ins and catalyst loading. Detailed start-up instructions and a schedule are provided to ensure an on-time start-up.

Technical support for successful ongoing operation

Just as important as the start-up, are the steps you take afterward to ensure your unit operates at maximum efficiency. It's important that we maintain a long-term relationship to maximize the return from your UOP process investment.

Our process advisors work in tandem with the chief process advisor to observe your unit's performance and make recommendations that help ensure it operates optimally. UOP typically assigns three process advisors to each unit during pre-commissioning and they work in shifts to remain on-site 24 hours a day for the ongoing technical support of the unit.

Process advisors are the key to daily compliance and safety at your plant. They are familiar with critical health, safety and equipment procedures, such as emergency shutdown, and can advise you on the proper operating procedures needed to protect the unit and the catalyst during upset conditions.



Count on your chief process advisor to thoroughly inspect:

- Equipment
- Specifications
- Catalysts, Adsorbents and Chemicals

We transfer knowledge to your staff

UOP process advisors instruct your operating personnel on how to establish the proper flow rates, temperatures, pressures and other process variables necessary for an efficient unit. An important part of their daily function during ongoing operation is the coordination and evaluation of the unit's operating data and laboratory results. Findings are analyzed by the chief process advisor and recommendations are made for continuous optimization of the unit.

UOP instrument advisors are experienced in both designing and commissioning instrumentation loops. While on site, the instrument advisor assists in the visual inspection of instruments and instrument installations to verify compliance with their specification. The advisor will also instruct your staff on UOP control systems to help ensure personnel can troubleshoot and maintain systems effectively in the future.

Proven success

Over the past 15 years, our team has started up more than:

- 100 UOP CCR Platforming™ units
- 20 FCC units
- 33 Hydrocracking units
- 33 Aromatics complexes
- And restarted many others

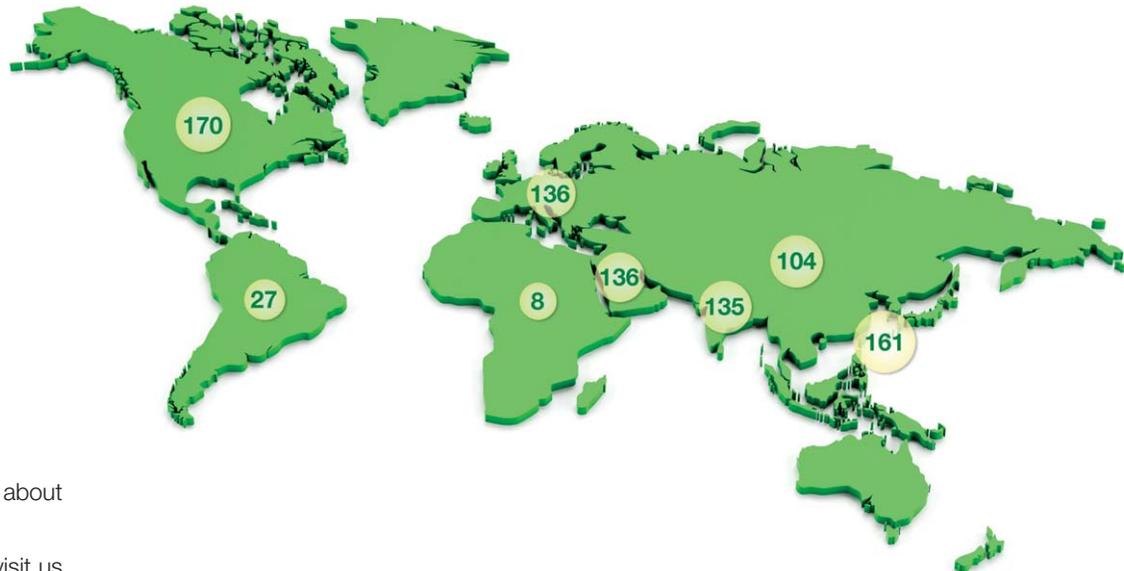
Our engineers share best practices and experiences after each project, which ensures we continue providing the most current developments and solutions to guarantee the operational efficiency of your units.

Process advisors' responsibilities often include:

- Monitoring utility commissioning
- Pump and compressor run in
- Reactor and heater dry-outs
- Catalyst or adsorbent loading
- Providing informal instruction for the operating personnel



2010 Field Service Assignments



Find out more

If you are interested in learning more about UOP field operating services, please contact your UOP representative or visit us online at www.UOP.com.

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