

Factory Acceptance Test (FAT)

A customer performed test at our YMC facility to confirm the system performs to its Functional Specification (FS).

The FAT

An FAT at YMC Process Technologies' (YPT) is a hands-on review of a completed system/system control software by the client. The purpose of the FAT is to confirm the system has been built according to the specifications, that the system can be operated fully by the control software as it was designed, and that the system is fully functional.

The FAT is performed at YPT's site according to a client approved test plan, written by YPT, to show that the system is ready to be shipped for installation on the client's site.

The FAT protocol challenges the Functional Specification (FS) that was originally derived from the User Requirements Specification (URS). The FAT includes both static and dynamic testing of the system or major system components to support the qualification of the system.

Standard customer-performed FAT duration is 3 to 5 days per system at 8 hours per day. FAT's for multiple systems are typically run concurrently.

YPT will provide the following during FAT testing:

- FAT Protocol
- Support equipment (tanks, agitator as required and hoses)
- Purified water (DI Water)
- Support process engineer
- Support automation engineer

Standard customer-performed FAT will utilize DI-water; if other chemicals are required, they can be provided after approval by YPT for an additional cost.

Typical FAT Activities

Acceptance of a FAT typically includes the following items:

- Perform and sign the FAT protocol and FAT Test Matrix
- Review and confirm as-built technical drawings
- System components verification
- Welding processes qualification
- Review and confirm system documentation
 - FAT Test Protocol (Test Documentation)
 - Functional Specification
 - Main Equipment data sheets
 - Certificates of Compliance
 - Instrument calibration certificates
 - Spare parts list
 - User/maintenance manual(s)
- Pump performance test
- Operational testing against Functional Specification
- Optional testing upon request

Scheduling and Accommodations on site

The test is scheduled via the YPT Project Manager or Sales Account Manager 6 to 8 weeks prior to the anticipated system ready date.

The client can send up to four (4) staff at the clients' expense. Additional client personnel requires YPT approval as space may be limited.

The client will be provided a separate meeting room as part of the FAT service where documents may be reviewed. YPT will supply safety glasses and steel-toe overshoes if the client does not have their own. The customer can choose to bring their own food, purchase lunch for delivery or eat out at a local restaurant. YPT does not have on site food service.

Additional services by YMC Process Technologies

YPT can provide documentation and support services at your site.

Site Acceptance Testing (SAT)

An SAT is a review of the installation site for a system confirming that the resources required to run the system are in place and meet the environmental requirements as defined by the manufacturer. This includes power supply, water supply, air supply, waste accommodations, environmental conditions (humidity, temperature, grade, etc.) and any other resources the system may require to operate properly according to the manufacturer. YPT staff are available to supervise the work of client staff in the various steps customary for SAT.

Installation Qualification (IQ)

The IQ is a verification procedure confirming that the system has been delivered complete to design, installed according to manufacturer specifications, and all labeling of the system components are correct. This is a quality control document which, when complete, is submitted for review, approval, and archiving by the customer's quality assurance group. This is the first document an investigator/auditor would review for a system.

Operational Qualification (OQ)

The OQ is a verification procedure with the intent to test the system's performance against the manufacturer's specifications. It will confirm that all components which comprise the system are able to perform to the specification set by the manufacturer. This includes all moving components, such as the valves and pumps, and all analytical components, such as the pressure,

temp, UV, and conductivity meters. The overall goal of the OQ is to confirm the system has the capabilities claimed by the manufacturer so that the client can operate the system within those capabilities.

Performance Qualification (PQ)

PQ is a procedure developed and performed by the client. YPT does not offer this service

Training

Specific to the equipment, YPT can train client staff on the fundamentals for safe and productive operation of the equipment. This includes both classroom and hands-on training. Typically, training is from one to three days depending on customer needs and budget.

Preventative Maintenance (PM)

PM is a service performed at the client's site by YPT or a YPT authorized service provider to replace wear items on a scheduled basis (vs emergency repair service). A PM protocol is provided by YPT. After wear items are replaced, verification is performed and if necessary, calibration. A PM report of the executed protocol and results is provided upon completion.

Verification: Confirming that a device is performing within the manufacturer's specifications for accuracy, precision, and range against a known standard (determines whether a Calibration is needed)

Calibration: Adjusting a device to bring it into specification for accuracy, precision, and range (usually only performed if Verification check shows it is needed).

Services above are supplied either by YPT staff or our qualified services partner (in the USA and Europe)
– Analytical Technologies Group (www.atgservice.com). Request pricing at sales@ymcpt.com.