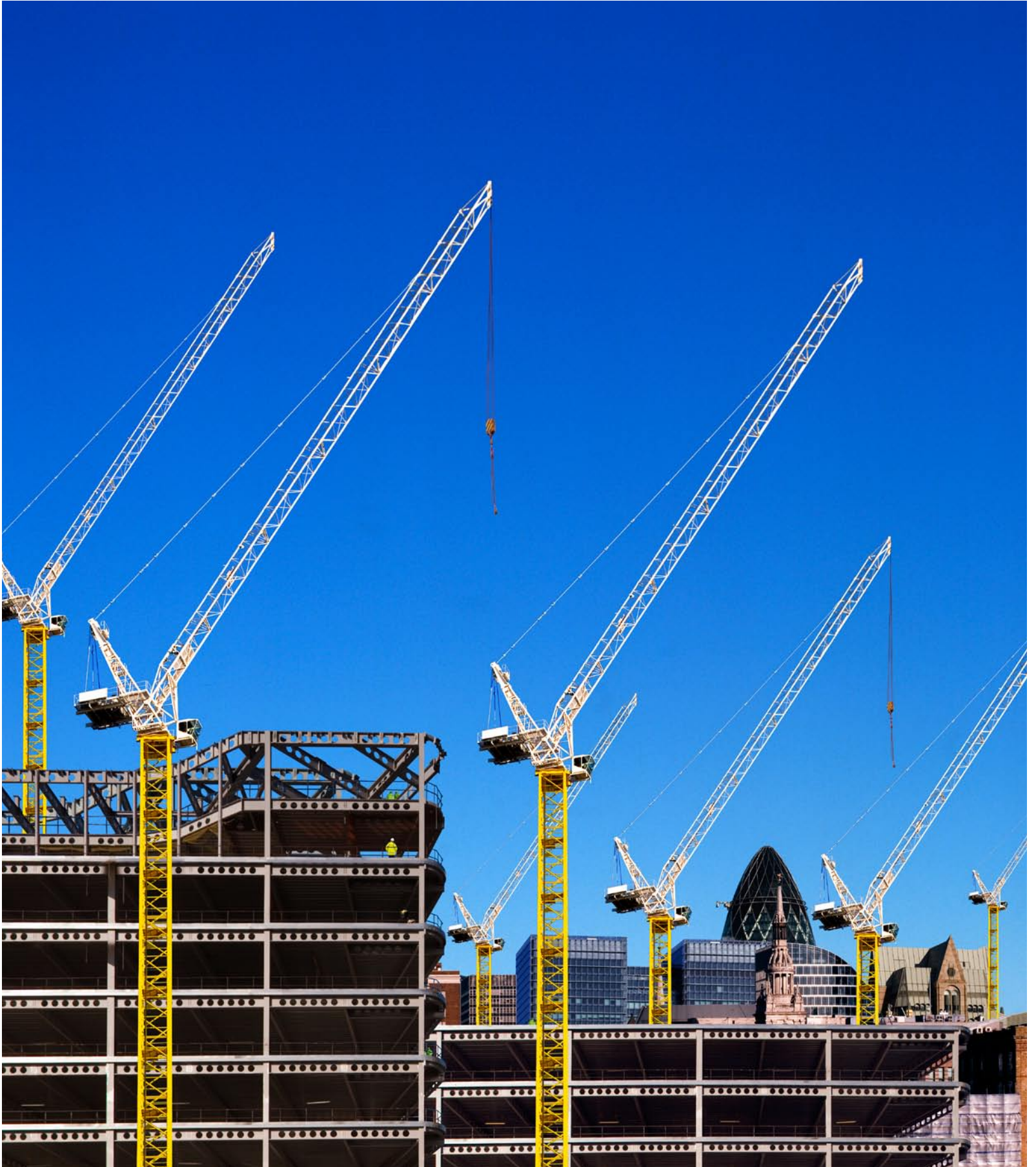




Commissioning Services

All systems ticked off and ready to go



MANAGING QUALITY
IMPROVING PERFORMANCE

Cost-effective quality assurance

Early involvement of our commissioning teams can help to eliminate the quality issues that can occur during the design, engineering and installation phases on your project.



Design flaws can lead to underperforming systems and can also affect a completed facility's productivity and operating costs through premature equipment failure, increased energy consumption, poor indoor air quality or an uncomfortable work environment for its occupants. Proper commissioning can eliminate these concerns.

Designed to minimise the risks involved in engineering and construction, commissioning is a cost-effective way to ensure the best possible start up and handover of a facility, on-time, within budget and to specified quality standards. It also ensures that systems, equipment and occupants are ready to work at optimal productivity

from day one. And that this level of performance is sustainable.

Looking at the big picture from a systems perspective, commissioning brings real-world operating insight to design and construction teams, helping them to identify issues before they escalate. What's more, by ensuring that every aspect of a facility is designed, built and operated properly, commissioning can also help to reduce long-term operating and maintenance costs, energy consumption and liabilities.

Ticking all the boxes

Implemented from the design phase through to at least a year after construction, commissioning is a

systematic process of ensuring that all the systems in a facility perform and interact according to the contract documents, the design intent and the owner's operational needs.

"Commissioning is a requirement of the construction contract on Johnson & Johnson projects. The need to be first to market means that new projects are often started before all the issues are known. As the client, Johnson & Johnson benefits most when those executing the project can operate in an environment where 'what ifs' and ambiguity are kept to the minimum."

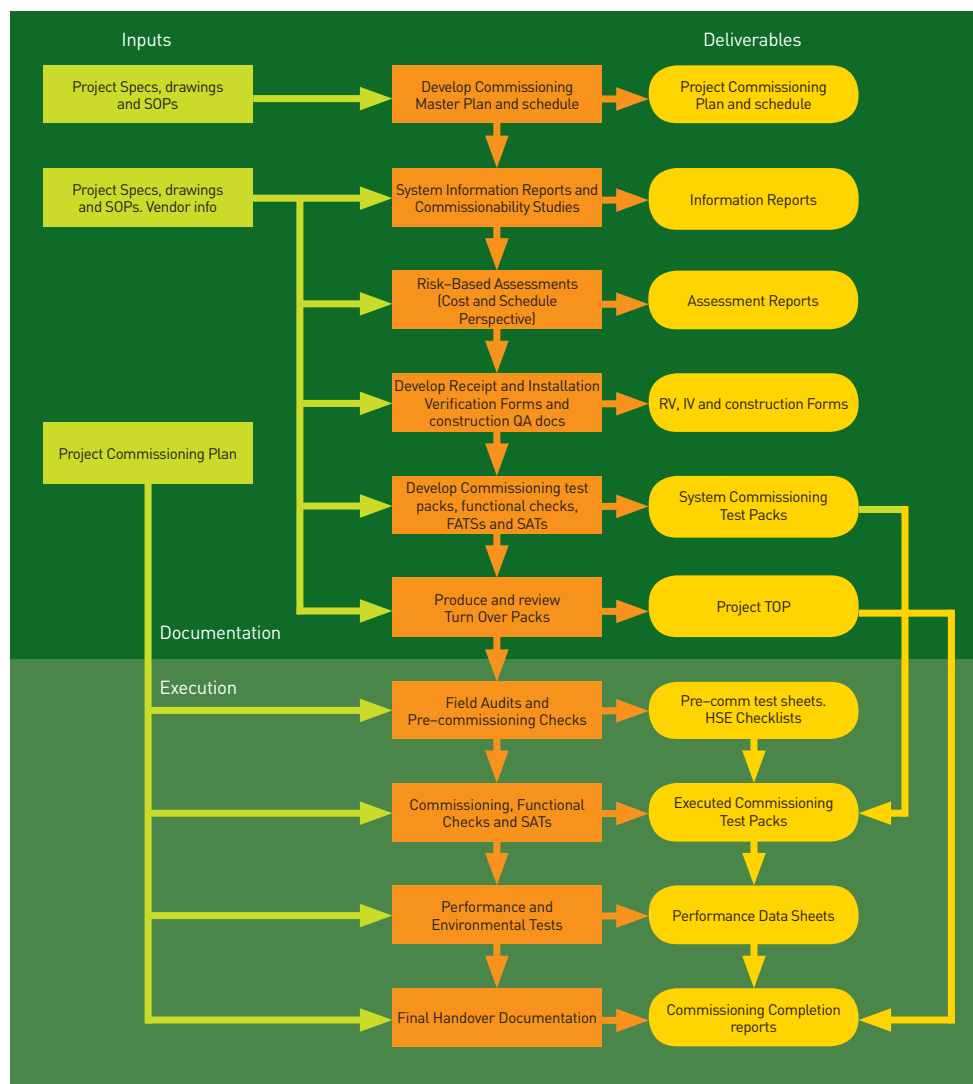
**Bill Tibbitt, Executive Director,
Worldwide Engineering and Real
Estate, Johnson & Johnson**

The issue life cycle

Challenges arise at every stage of a project, from planning and design to construction, handover and operation. Commissioning is an effective way to identify problems as early as possible and resolve them quickly while there are low-cost or no-cost solutions available.

Ideally an issue will have an early birth and a short life. If left undetected or unresolved until late into construction, or during testing or operation, it will be more costly to resolve.

A commissioning team that is involved in a project from the planning and design phase can highlight issues early and ensure they are resolved so that quality, cost and schedule are not compromised.



The benefits of commissioning

- ✓ Improves energy efficiency – by ensuring that systems are designed, implemented and operated properly
- ✓ Reduces change orders – through early detection of issues during design and construction
- ✓ Reduces maintenance costs – by identifying ways to make systems and equipment easier to service and maintain
- ✓ Ensures correct and efficient equipment operation – extending equipment lifetime and avoiding premature malfunction
- ✓ Improves indoor air quality and thermal comfort – increasing occupant productivity
- ✓ Reduces time to completion – by improving coordination between design, construction and occupancy
- ✓ Improves communication between project teams – accelerating the detection and resolution of issues
- ✓ Improves in-house knowledge – with comprehensive documentation covering every aspect of a building's systems, processes, facilities, equipment and utilities

Long-term impact

Commissioning-related savings extend beyond the project budget, showing up year after year as reduced operating and maintenance costs. For example, if commissioning at the design phase identifies a way to make an equipment room more accessible, it can save thousands of dollars every time the equipment is repaired or replaced.



Risk-based approach to commissioning

SPGL takes a risk-based approach to commissioning and start-up, focusing best practice verification and documentation procedures on the areas most likely to affect quality, cost and schedule.

We start with a comprehensive commissioning plan which provides a route map for the project and highlights the areas that require most risk management. The plan also determines the level of documentation required for each system within a project.

Expert in commissioning facilities for the pharmaceutical industry, SPGL can produce highly detailed documentation for close scrutiny by regulatory authorities. For non-regulated industries, we simply adjust the level of detail to suit each project.



A flexible service

Because every project is different, SPGL offers three levels of commissioning support which can be adapted to create the ideal approach for a facility. We also provide a continuous commissioning service, extending our support post-occupancy to ensure that a facility continues to operate at optimum productivity with a healthy and comfortable work environment.

1. Independent Witnessing Agent

Depending on the size of the project, one or more SPGL commissioning managers would work as part of the project management team. Acting independently of the M&E contractor and commissioning teams, we would be the accepting authority for all M&E project testing, commissioning and performance testing.

2. Commissioning Management

An SPGL commissioning team would compile and monitor the commissioning schedule and be responsible for ensuring that all commissioning activities were executed and completed efficiently and cost effectively. For this approach to succeed, the commissioning manager must be an integral part of the project team from the design phase through to completion.

3. Complete Commissioning

SPGL's complete commissioning service combines the role of commissioning manager with commissioning execution, giving our team responsibility for all planning, management and execution services. The M&E contractor would be responsible for delivering systems to a defined state of mechanical completion, after which we would carry out all further activities.

Safety & Sustainability

At SPGL, safety and sustainability are non-negotiable. Site safety is a top priority and we give equal importance to the effective use of materials and energy resources. By ensuring a safe, comfortable environment and a facility that is operating efficiently and to specified quality standards, long-term operating and maintenance costs are reduced and worker productivity improved, ensuring a sustainable level of performance.

Why SPGL?

Honed in the demanding and highly regulated world of pharmaceutical projects, SPGL's risk-based approach to commissioning is ideal for commercial developments and industrial facilities, improving coordination between design, construction and occupancy by ensuring quality, reducing costs and speeding time to market.

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