



INSTITUTE OF COMMISSIONING & ASSURANCE MONTHLY NEWSLETTER



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PRESIDENT MESSAGE

By Paul Turner, P.Eng., PMP

Announcing the ICxA Certification Program

This month marks an exciting milestone for the Institute of Commissioning and Assurance (ICxA). After years of advancing best practices and setting the global benchmark for commissioning and outcome assurance, we are proud to officially launch the **ICxA Certification Program** – a professional pathway designed to recognize and elevate the elite 1% of commissioning professionals delivering today's most complex projects.

Why ICxA Certification?

Capital projects are more complex than ever – everything is integrated and interconnected, with bigger scopes, bigger risks, and higher stakes for successful delivery. The old way of delivering projects no longer works, and a new approach to project delivery is required – a systems-thinking approach to lead project outcomes – not just complete tasks.

The need for trusted project professionals who can deliver successful projects is needed more than ever. And commissioning professionals are in the best position to do this – experts who can deliver outcomes and achieve project results.

The ICxA Certification is not just about knowledge – it is about leadership, real-world results, and the ability to drive projects from concept to operational excellence.

There are Four Levels of ICxA Commissioning Certification

- **Level 1 – CxP (Commissioning Professional):** Entry-level recognition achieved by completing the ICxA Commissioning Course and passing the exam.
- **Level 2 – CxL (Commissioning Leader):** Awarded to professionals who demonstrate documented leadership experience on projects.
- **Level 3 – CxPM (Commissioning Project Manager):** For those who have successfully led entire projects from planning through commissioning and operational readiness.
- **Level 4 – CxOA (Outcome Authority):** An exclusive, invitation-only designation for the top 1% of commissioning professionals who set the standard for outcome assurance globally.

Your Pathway to Recognition

Every member who enrolls begins at Level 1 by completing our comprehensive course and exam. From there, your professional achievements, leadership, and experience determine how far you progress. We also maintain a public registry of certified professionals, showcasing your credibility to project owners and industry leaders, demonstrating your knowledge and expertise to deliver results.

Why Now?

This commissioning certification framework is more than a credential – it's a movement. It ensures that commissioning is recognized as the leadership function it truly is and that the professionals who drive project outcomes receive the recognition they deserve.

The world is changing, and we are on the precipice of transformation in the industry. Global competition for talent is at an all-time high, and new technologies are changing the game. Those that step forward into commissioning leadership are in the best position to take control of their career and lead the future. Those that remain stagnant will get left behind in a changing world – where will you be in 5-10 years from now? The question is - who do you want to become?

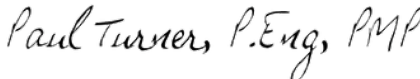
Legacy Membership

This industry-leading opportunity is available to those that want to change the way projects are delivered and be recognized for their ability to provide maximum value to projects.

The first 100 members to join this movement receive an exclusive discount. Visit www.icxa.net/first100 to be the first industry leaders championing this change for improved project performance.

I invite each of you to take the next step in your professional commissioning journey. Whether you're just starting out or are already leading complex projects, ICxA Commissioning Certification is your gateway to being recognized as an authority in the industry.

To your success,



President – Institute of Commissioning & Assurance

THE ANALOGY CORNER

Distilling key ICxA themes into clear, concise, and engaging perspectives

by Peter Foxley

ICxA Commissioning Government
Policy Director



THE HOLE IN THE HEAD - AND WHY COMMISSIONING FILLS IT

In his landmark 2014 article, *“Project Management: A Profession with a Hole in Its Head,”* Professor Peter W.G. Morris (UCL) challenged the very foundations of project delivery. His critique was clear: project management, as traditionally practiced, lacks integrated, experience-informed, and conceptually coherent knowledge. A profession that over-indexes on process and under-delivers on strategy, adaptability, and outcome assurance.

Morris's metaphorical “hole in the head” wasn't just rhetorical - it exposed the cognitive and structural blind spots that plague large-scale infrastructure delivery. Fast forward to the present, and both the *Stewart Review* and the *Crossrail Sponsorship Reports* confirm that these gaps are still very real.

What Morris Saw Then...

“Managers are not confronted with problems

that are independent of each other, but with dynamic situations that consist of complex systems of changing problems that interact with each other.” - Peter Morris, 2014

He argued for a balance of:

- **Episteme** – Framework of understanding
- **Techne** – Applied skills
- **Phronesis** – Practical wisdom in action

And he warned that governance structures unable to integrate all three will repeatedly fail to deliver outcomes.

What Stewart & Crossrail See Now...

The **Stewart Review** calls for smarter forecasting, clearer governance, and deeper integration. The **Crossrail Reports** reveal fractured sponsorship, late-stage discovery of systemic misalignment, and a lack of readiness ownership. Both documents echo Morris's diagnosis: process isn't the problem - **outcome blindness is.**

The ICxA Response: Outcome Assurance Commissioning-Led Governance

Where Morris pointed to the hole, ICxA builds the bridge.

The ICxA commissioning-led governance model addresses:



THE ANALOGY CORNER CONT'D...

Historical Gap	ICxA Remedy
Siloed planning	Lifecycle-aware commissioning from Day One
Overreliance on process	Evidence-based assurance linked to system performance
Governance fragmentation	The Outcome Authority role—strategic, accountable, and qualified
Reactive integration	Commissioning as a forward discipline, not a recovery effort

As ICxA advances the UK-Canada dual PAS-ISO pathway, our contributors and partners aren't just patching the cracks - they're reshaping how leadership works in large-scale infrastructure.

Because if we don't? We'll keep repeating the same mistakes: fragmented governance, flawed forecasting, and reactive fixes - fuelling cost overruns, public backlash, and underperforming assets.

Final Word:
It's Time to Lead with Commissioning Wisdom

Commissioning isn't what you do at the end. It's how smart projects begin. As Professor Morris warned, delivery systems must think holistically - or risk structural failure. ICxA members, credential holders, and institutional allies are the ones ready to **fill the hole in the head**—with leadership, clarity, and assurance.

Why Commissioning Fills the Hole in the Head - Not Just the Gaps

ICxA's credential pathways embody the very principles Professor Peter Morris advocated:

- **Clarity** - Rooted in codified standards and globally aligned frameworks
- **Methodology** - Grounded in practical experience across systems, governance, and operational transparency
- **Knowledge** - Focused on evidence-led decisions under pressure and complexity

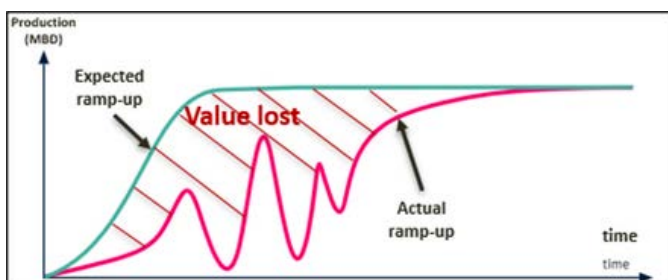
“Delivery systems must think holistically - or risk structural failure.”

OPERATIONAL READINESS: AN EXPERTISE-BASED FRAMEWORK TO BRING PROJECTS TO LIFE

by David Tain, MSc, P.Eng., PMP

Starting up an asset without a robust Operational Readiness strategy is a major cause of cost increases, unexpected shutdowns and potential accidents. Evidence shows that up to 30% of the value of a capital program can be destroyed due to failures in assessing readiness to operate (Deloitte, 2012). Interestingly, these failures are not associated to technology infrastructure. Instead, challenges, emerge from the complexities derived from the “people” side of delivering the project and the operation itself.

Significant value is lost during project startup and production ramp-up due to insufficient preparation, incomplete information and unanticipated risks, leading to erratic production profiles and unexpected down times as shown in the figure below.



IT-oriented Solutions: Technological Risks for Operational Readiness

It is common to find in the market digital Operational Readiness solutions based on pre-established checklists and IT-based platforms. Although these “solutions” provide appealing capabilities to manage data, with layouts to show progress in different areas, they dangerously overlook the fact that projects and organizations are unique, human-based complex adaptive systems (Tain, 2021).

Subordinating expertise-based processes to tools and automated dashboards create a tunnel vision that inhibits adaptability and, more importantly, induce significant risks to organizations due to the potential to distort the perception of readiness of a project.

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Some of these commercial solutions have proven to severely effect operations and compromise data integrity. Recent IT events worldwide, notably the Microsoft outage in July 2024 (that impacted 8.5 million devices across worldwide) and multiple cyber events in the past 5 years, compromised the effectiveness of corporations that deployed Operational Readiness programs based on digital commercial packages. The losses presented at all scales, with some companies that lost months of intense work and data collection, to other (less fortunate) that experienced tremendous financial and intellectual losses as these commercial tools are normally fed with sensitive corporate data.

**Expertise-Based Approach:
The APR Framework for Operational**

Readiness

Operational Readiness is an integrative effort oriented to the successful start-up of an asset and the sustainment of initial operations in a reliable manner. This effort progressively collects, analyzes and integrates information generated along the project lifecycle in line with the business. A concise 3-stage approach that demonstrated success in multiple projects of diverse nature is the Awareness-Preparedness-Readiness (APR) framework.

This framework is a combined result of a stage approach to execute industrial megaprojects (Merrow, 2024; IPA, n.d) with concepts of organizational ambidexterity (O'Reilly and Tushman, 2016) and recent advances in complexity oriented to organizational resiliency and risk management (Black, 2023).



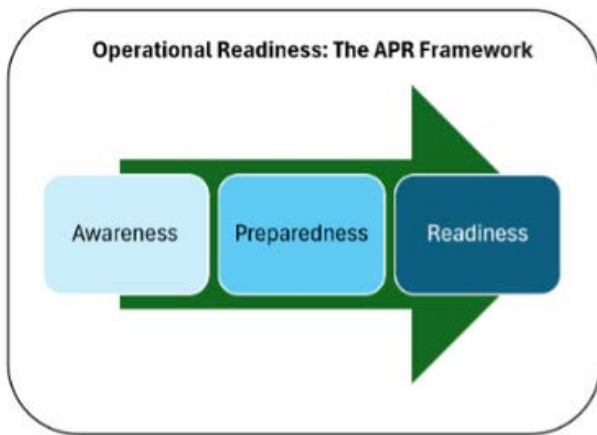
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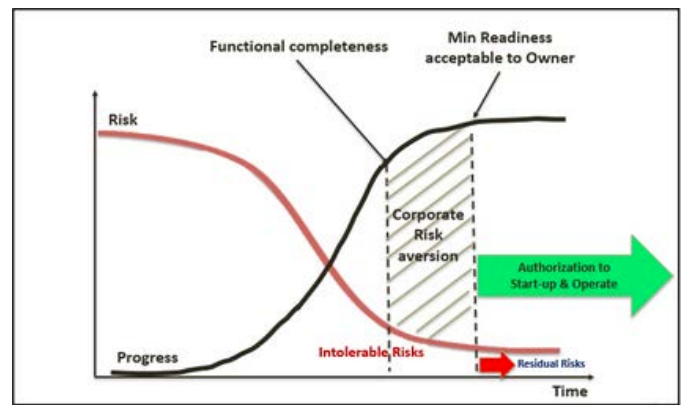
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Awareness is the front-end effort to clearly define all parameters to steward and declare readiness in the project. At the most basic level, a project can be ready when it reaches a minimum level of technical completeness that allows to “press the start button”. However, this defines the minimum parameters, necessary but not sufficient, to consider bringing the project to life. On a broader scale, Awareness is about defining all aspects, technical and non-technical, that the organization requires confidently to start-up and operate the asset. These aspects will vary in each organization and are direct function of the risk tolerance emerging from multiple business variables including but not limited to need (and cost) of capital, type of industry, existing operations, competition, corporate culture. Ultimately, all these variables will frame the timing an asset will come to life.

In general, the earlier an organization can declare readiness to start-up a facility, the quicker its value realization potential is. However, the risks are also higher the earlier the organization decides start-up the asset. In the next figure we can conceptually appreciate how the period between functional completeness and minimum readiness acceptable to the owner, with respect to the project progress, defines the risk aversion of the organization and the residual risks that are tolerable to the corporation.



The second stage, **Preparedness**, is the progressive production, analysis and integration of all required information based on the parameters defined in the Awareness stage. This critical stage will build on key attributes of the project and the organization itself. Stakeholder engagement, robust stewardship and expert analysis of the information are critical to determine when the project can be transitioned to operations. Given the considerable amount of information and interfaces in a project, the expertise of the individuals integrating and validating the information is crucial to ensure that information gaps are identified and risks associated to these information gaps are properly assessed and understood. As we saw in the previous paragraphs, special considerations must be taken in selecting any digital tool to facilitate data collection, analysis and integration of Operational Readiness information. Preferably, the digital tool should be in control of the owner organization.

The final stage, **Readiness**, is a decision-making point that formally declares that the project can start up. To achieve this point, a formal Operational Readiness integrated outcome, in the form of a formal decision document, must be produced to the owner organization. This integrated outcome will enable the organization to make an informed decision about transitioning the project to

operations and validate all assumptions at any point in time.

An example of how critical is to implement a robust, yet adaptable, Operational Readiness program was evidenced in 2014 when in a major in-situ Oil Sands facility in Alberta, Canada. A 3-train 150,000 barrels-a-day production facility was experiencing significant cost increases and delays that were challenging the profitability of the project. To mitigate these delays, the owner decided to start operations with one train and minimum ancillary equipment while completing construction of the other two production trains and other portions of the project. This would allow bringing cash to the organization as soon as possible.

The Operational Readiness effort deployed in the project was crucial to assess available information and its maturity to achieve safe state where the project could be started up. Experts involved in this effort worked with the key stakeholders from execution and operations to identify and mitigate all the risks derived from this strategic reconfiguration. Some key outcomes from the effort included the re-evaluation of isolation strategy to safely separate the other execution areas from the operating train, variables surrounding simultaneous operations between operations and construction personnel, adjustment of commissioning and start up procedures and reinforcement of safety strategies.

The success of Operational Readiness programs lays on experience-based frameworks, carefully tailored and deployed within corporate systems and reliable IT tools, not the other way around. It is only through expertise-based frameworks that the organization can distinguish between project completeness and readiness to

operate, establishing a criterion based on corporate values and clear parameters that will progressively inform owners as data becomes available in the project, ultimately identifying residual risks and bringing value to the corporation in the shortest possible time.

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COMMISSIONING PLANNING: THE KEY TO SUCCESSFUL INDUSTRIAL PROJECTS

*by Zach Lowe, Senior Commissioning
Manager, Governance, Policy, Delivery
Modeling, SME*

Let's begin with an uncomfortable truth: across the industrial landscape—from water treatment plants to mining operations, LNG terminals to pharmaceutical facilities—projects continue to exceed budgets, underdeliver on scope, or miss critical startup

deadlines. Each year, billions are lost not due to flawed engineering or substandard materials, but because of poor coordination, misaligned expectations, and chaotic handovers.

Yet the solution has always been in plain sight: **commissioning planning**.

Now, before dismissing “commissioning” as that final, frantic phase where someone flips a switch and hopes everything works—hear me out. After two decades immersed in the mud, bitumen, steel, and silicon of industrial megaprojects around the globe, I can confidently say: commissioning is no longer the caboose of the project train. It's the locomotive—and it belongs at the forefront from the very first design meeting.



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When executed effectively, commissioning planning isn't just beneficial—it's transformational.

A Blueprint for Certainty

Industrial projects are inherently complex and high-risk. Stakeholders are investing in multi-million—and often multi-billion—dollar facilities with intricate engineering layers and timelines that span years. In a post-pandemic world still grappling with supply chain disruptions and skilled labor shortages, these risks have only intensified.

Commissioning planning offers a rare counterbalance: **structured, measurable certainty.**

When clients engage commissioning professionals during the early design phase—well before the first pump is ordered or the first cable is laid—they are investing in a roadmap that connects every valve, wire, and control panel to the ultimate objective: **operational readiness.** This isn't a luxury—it's project insurance.

Early-stage commissioning plans define when and how systems will be energized, how documentation will be managed, and how functional testing will be sequenced to minimize rework. The benefits are widespread:

- **Clients** gain clarity and confidence.
- **Contractors** benefit from alignment and reduced friction.
- **Communities** benefit from safe, compliant, and ethically executed infrastructure.

The Value Is in the Margins

I've walked through too many pristine, silent

facilities—gleaming with new equipment and fresh paint—that should have been generating revenue but sat idle.

Why? Because commissioning was treated as an afterthought.

One client in the midstream gas sector brought me in after their project stalled during turnover.

Operators hadn't been trained.

The SCADA system was incomplete. Critical documentation was missing. One contractor had even disappeared with essential passwords.

The result? Millions lost weekly in revenue and penalties—not to mention regulatory scrutiny and reputational damage.

Contrast that with an LPG facility I led near Fox Creek, Alberta. Commissioning was integrated from day one. We developed a digital twin, mapped every subsystem with progressive



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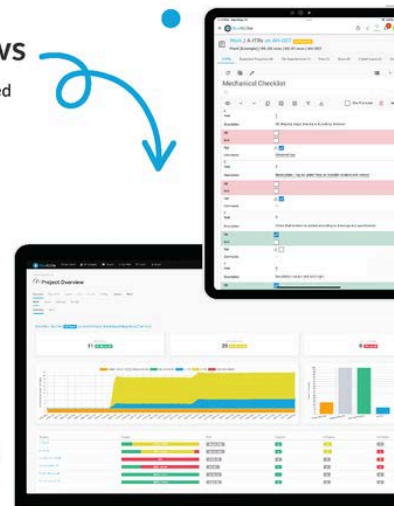
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turnover milestones, and trained operations staff months ahead of startup. The plant went online three weeks early and under budget. The client recouped their investment within months, and the project became a benchmark for future execution.

The lesson is simple: **a planned startup costs less than an improvised recovery.** Effective commissioning enhances asset reliability, reduces downtime, and ensures warranties are properly activated. It protects both the client's investment and their reputation.

A Cultural Shift, not a Checklist

Commissioning is not a phase—it's a philosophy. And embracing it requires a cultural shift in how we conceive, design, and deliver projects.

- **Clients** must empower commissioning teams as strategic leaders—not as last-minute troubleshooters.
- **Designers** must welcome their input early—not treat them as postscript consultants.
- **Executives** must champion commissioning as a competitive advantage—not a contractual formality.

When commissioning is siloed, projects suffer. When it's integrated, performance thrives.

We should take a cue from industries like aviation and pharmaceuticals, where commissioning and validation are non-negotiable. Imagine launching a new aircraft or vaccine facility without a commissioning plan—careers would end. Yet in energy and infrastructure, we still build billion-dollar assets with vague intentions to "sort it out at the end."

That era must end.

"Commissioning planning isn't just beneficial—it's transformational."

Commissioning planning may not make headlines—but it should. In an age of tight budgets, heightened environmental scrutiny, and fragile public trust, the projects that succeed won't be the biggest or boldest—they'll be the best planned.

The time has come to elevate commissioning from afterthought to anchor. For industrial clients serious about performance, safety, and profitability, the path forward is clear:

Plan smarter. Start stronger. Finish with purpose.



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