



Regenerating the Power Infrastructure – is the imperative to spend on capital projects leading you to burn money?

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What's the insight? You can stop burning money on major capital projects while increasing shareholder value and meeting regulatory targets. How? Forget 'better' project management. You need a new style of management, delivering whole projects on time and in full.

Money: you have to spend it, so spend it wisely

In the face of an impending energy gap in the UK, and elsewhere in Europe, generators have to make the capital investment to comply with regulatory frameworks. Money has to be spent. And it has to be seen to be spent. Capital projects typically burn money. But it is possible to manage them in ways that meet regulatory targets and increase shareholder value.

What does your level of spend tell you about the success of your capital project?

The answer is little or nothing. The relationship between money expended and value created is often unclear at best and, at worst, non-existent. A major capital project in the energy generation sector can take years from conception to inception. Across the best part of a decade, definitions of 'success' can change radically. Money can end up being applied to unproductive areas or wasted compensating for broken process.

How can you make things better?

A well chosen and well managed project does not have to be an open drain on capital. Right now, many complex capital projects are running behind schedule and over budget for some easily identifiable and readily fixable reasons. Frequently, problems occur and recur because multiple contractors (which are a feature of all utilities construction projects today), risk, and other key operational factors are not effectively managed.

What does effective management mean?

Constantly reacting to issues as they arise is a recipe for repetition and proliferation of those issues. Throughout the long life of a capital project, effective management is a question of six key actions and one over-arching imperative.

Six Key Actions

1. Fix problems as early as possible – don't live with them and work around them
2. Understand what causes issues and obstacles (root cause analysis)
3. Learn from your understanding
4. Share your understanding
5. Don't accept and live with risk –manage it
6. Decide early in the project lifecycle whether the right risk mitigation measures are in place

One Over-arching Imperative

Don't go on spending money in pursuit of different and better outcomes only to discover that the same issues keep recurring. Recognise that the real answers lie within the project and the relationships between the multiple sub-contractors who contribute to the project. Manage those relationships but not with more of same. In this paper we discuss how to manage them differently for radically improved productivity and on time and in full delivery.

Context

Britain's ageing nuclear and coal-fired power stations will have to be decommissioned. This will leave an 'energy gap' with the UK potentially generating only about 80% of the electricity it needs within a decade¹.

To help compensate, there is a 48 per cent increase in place for capital investment (CAPEX) allowance for the UK energy sector up to 2010. Some of the new wave of capital projects has already begun.

But modern large CAPEX projects are more complex to manage than ever before. Significant value is being lost through poor planning and execution, from project selection and identification onwards. Multiple sub-contractors are working on a basis of sub-optimal communication and coordination, without the benefits of integrated planning. As a consequence, projects often lack a common understanding of shared end goals. In short, there is a breeding ground for wastage, confusion and expensive over-runs on time and budget.

This situation is bad for the health of individual projects. It also has negative implications for future financial performance. Failure to get the capital spent, as projects become locked up in construction that takes too long to complete, depresses ROI in an increasingly competitive industry.

For energy generators, the imperative is to use capital as wisely as possible: maximise return by minimising avoidable wastage. And much of the wastage is arising through issues related to the planning and execution of major infrastructure projects.

Large projects need not inevitably mean large problems

There are five core areas where focus and determination at every stage of the project will pay dividends. They are:

1. Better integrated contractor management
2. Effective individual project prioritisation within a major capital project
3. Integrated project planning
4. Root cause analysis of problems and problem-solving
5. Engineering project management through fit for purpose management systems MCRS®

1. Integrated Contractor Management and Communication

Getting everyone on the same side is key. 'Contractors often spend half their time onsite competing against each other rather than concentrating on getting the job done', observes one construction project manager.

Contractor Control and Integration

The way you choose, coordinate and control contractors is just as important as the way you run your core business.

On a major CAPEX project, contractor activity can never be allowed to become peripheral, still less to get out of control. Manage it as tightly as you would any core function.

Breaking Down Contractor Barriers

Tight management of multiple contractors is fundamentally a question of effective communication. Barriers to contractors' understanding – of what is expected, when, and on what specific terms – have to be removed.

Managing Contractor Performance

Contractor performance cannot be taken as read. Clear visibility of performance through tightly defined - and limited - periods of time is a management necessity. And it needs to be based on current and accurate project data.

The People Factor

Underneath the complexities of sub-contractor relationships, plans, processes and systems, there are people. And people work most efficiently and collaborate best when there is effective communication between them.

Better communication should not be a wish list item. It is a practical approach, demanding a management style that actively checks for clarity of understanding – rather than assuming that project requirements are clear.

It is practised by an informed management team, confident that they are communicating accurate and actionable information to project stakeholders. And it requires sustained action through the life of the project. Start with simple measures, such as regular meetings with clear agendas and a small number of go-dos. Make them mandatory. And ensure they are productive for everyone attending.

2. Project Prioritisation – It Matters That You Do What Matters

Project prioritisation develops a common approach to decision-making, where ‘common’ is defined as the shared intention to ensure the well-being of the central project; and not pursuit of an individual, departmental or sub-contractor agenda.

Prioritise projects against clear delivery criteria. Even different types of projects can be ‘ranked’ against their importance in the wider scheme of things.

Change Happens – Control Your Reaction

Recognise that priorities will change across the lifespan of a large capital project. Robust project prioritisation will take change into account, applying changing priorities and either bringing work forward, putting it back, or even cancelling, in pursuit of the best agreed outcome.

Establish a single, integrated planning system, incorporating all work that needs to be carried out on the asset. This will yield a single master plan that accounts for all activities. The plan offers ‘one version of the truth’ that evolves on a structured basis to deal with even the most unexpected events.

3. Integrated Project Plan – Working From The Same Page

Nothing should be based on the **assumption** that everything is running to plan. It may well not be. Instead, detailed sub-plans need to be prepared to defined timetables. Around 30 days is the maximum suggested duration of each sub-plan. These timescales can be brought right down – to just five days – if progress needs to be charted in fine detail.

Through this short interval control, senior management knows what is really happening, either before or very shortly after it happens. A situation where data – including any bad news about budget and time - is shared after the event is avoided. Instead, key issues can be identified, dealt with quickly and effectively, or avoided altogether.

4. Root Cause Analysis and Problem Solving – Getting to The Heart of The Matter

By applying the right analysis techniques in the right time intervals, underperformance against plan stops being a mystery. Real – and fixable – causes become clear. If main causes of poor performance are reviewed regularly, action can be taken to eliminate them.

With the core project team and sub-contractors equipped with analytical skills to spot deviations from the project plan early, there is no culture of *laissez faire*. Instead, issues that cause expensive delays can be eliminated. Nagging defects and glitches, so inherent in traditionally managed large capital projects, can be removed early on.

The core team and their sub-contractors should be looking constantly for root causes in all the key areas that contribute to deep-seated problems. These include materials availability, working environment, machines and maintenance and workforce approach to key tasks such as data gathering and interpretation.

5. Engineering Project Management – Uniquely Through Better Management Systems (MCRS®)

All large capital projects have to reconcile long term objectives with daily change on the ground. Anything from specialist equipment supply issues to labour shortages to adverse weather can and will happen. For timely and on-budget delivery, it is imperative to put in place a system that cross-references daily activities, as they change, with the over-arching plan for the project.

A properly designed management system – MCRS® – custom built with each client based on the reality of their day-to-day business, achieves a short internal control/long term balance throughout the life of the capital project.

It enables a systematic review of the project's priorities with key stakeholders, including the commissioning client and contractors.

And it generates opportunities for regular review of plan attainment, and of efficiency metrics – as well as identifying actions to improve performance further.

Beyond Software

The MCRS® approach goes **beyond** software applications and process management. It creates a people-focused framework that encourages and enables different groups to work together productively. And it liberates the capacity of multiple stakeholders to overcome their knowing/doing gap. People stop thinking in terms of why they can't do something. The MCRS® provides sound reasons to go ahead and take action.

'The Reason We Make Progress Now'

How do you integrate all the activities, manage all the interfaces, cover and control all the bases, communicate key issues and direct all activity on a timely basis? How do you set realistic targets and clearly focus on priorities? The MCRS® can help manage it all, at the same time releasing existing management capacity.

It does so by relying on behaviours - and on management systems that encourage positive behaviours. The freedom from operational gridlock that positive behaviours create releases potential previously locked up in the working teams. It enables real-time problem solving and coordination to get the job done on time and in full.

Resolution – On-time and On-Budget Capital Project Delivery is Possible

Supported by the MCRS®, the need to do it all becomes the **ability** to do it all, right first time, every time. Even the complex and challenging capital renewal projects facing the utility sector will quickly show measurable improvements in the key areas of efficient project management and capacity release.

Project Management – Measurably More Productive by Design

By taking this different approach, expect to see real daily integration between multiple contractors. This is facilitated by regular meetings, involving all the relevant stakeholders.

It is enabled by transparency and accuracy of data, which in turn drives integration of different plans and consistency in the (shared) priorities of different stakeholders. And because priorities are agreed up-front and shared across all parties, key requirements, including those for specialised equipment, materials and components, can be highlighted early and the supply chain configured to deliver them.

Capacity Release – Achieving More Without Increasing Spend

Capacity release – the ability to do more with the resources you already have (rather than buying in extra resource at additional cost and often with a time delay) – is achieved through activity planning, backed by daily review of who is meant to be doing what, with strictly defined roles and responsibilities. Given this degree of clarity, effective performance management becomes possible, with realistic but challenging target setting and a good ongoing communication flow to ensure management control is kept tight.

Conclusion – Capital Renewal Projects Can be Delivered On-Time, In-Full and On-Budget

Improved availability of labour, materials and equipment capacity, achieved through focused project management and shared goals, is highly feasible. At all times, and in all situations, the sense that complex capital projects ‘inevitably’ over-run should be challenged. Demonstrably, this is not the case. Energy infrastructure renewal need not burn money.



About the Author

Owen Williams, Senior Vice-President, Infrastructure Services Sector

For the past seven years, Owen has held the position of Senior Vice President of Celerant Consulting's Infrastructure Services Sector in the UK, where he is focused on developing Celerant's presence – and building lasting relationships - with clients across the Telecommunications, Transportation and Utilities Sectors.

During his lengthy career with Celerant, Owen has also held a number of roles in our Operations Function, leading consulting teams in the delivery of change programmes for major corporations across a range of industries, including: Automotive, Engineering, FMCG, Telecommunications and Utilities. Each change programme is custom designed to fit the specific needs of the client in question, but stays true to Celerant's unique way of delivering lasting change and measurable value.

Owen holds a BSc in Metallurgy and Microstructural Engineering, and a Diploma in Management Studies. He has also participated in Celerant's Executive Education programme at INSEAD and Stanford.



About the Author

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Patrick has 15 years professional experience, having held a number of roles in both professional services and in general industry. Having joined Celerant in 2001, Patrick currently has overall responsibility for the delivery of client engagements in the UK. During his time with Celerant, he has led a number of complex engagements across a broad range of industries, including Telecommunications, Utilities, and Financial Services. The majority of the projects Patrick has been involved with have focused on improving levels of Customer Service, while also delivering significant reduction in operating costs.

Patrick holds a BSc in Physics, and has a Diploma in Accounting and Finance.

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