

NIPA Insights III: Project Hindsight - Post Decision Implementation

Case Study Supplementary Report

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Case Study A – Gull Wing (Lake Lothing Third Crossing, Lowestoft)

“The big challenge for this project is that it's kind of unique.” (Interview 1)

“You are always going to find unexpected things ... when you're doing deep foundations in a marine environment.” (Interview 4)

Summary

The Gullwing, Lowestoft, is an iconic new road bridge, that will provide a third crossing over Lake Lothing. Intended to bring better movement, and improved connections between the north and south of the town, the bridge is a key part of Lowestoft’s Town Centre Masterplan, aimed at supporting economic regeneration, development and growth in the wider region. Employing an innovative engineering solution, a rolling bascule lifting bridge, the design reflects off-shore wind technology, a burgeoning industry supporting the economy of the wider region.

The scheme, due to be completed by the end of the first quarter 2024, is perceived as having had a relatively smooth journey from consent through to construction thus far. This is the result of a **clearly defined Development Consent Orders (DCO), continuity of key staff within the promoter team, clear project management and leadership, as well as strong relationships** between the Suffolk County Council as the promoter, their planning colleagues within the wider council, and East Suffolk District Council. Nevertheless, challenges have arisen related to commencement of construction during **COVID-19** and **post-Brexit**, including a **change in contractor team post consent, lack of access to land for temporary works, and easement rights**.

The key learning from this project is about building-in knowledge of the construction process early enough to enable the right balance to be achieved in the level of detail needed to assess impact and an appropriate level of the flexibility to enable responsiveness during construction. In part, this is about the value of incorporating risk and uncertainty related to construction methodology, logistics and temporary works into the DCO process, as the programme cost of revisiting and amending is high once construction is underway.

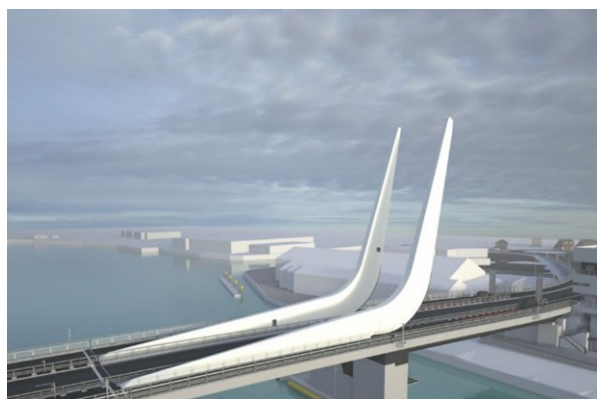


Image 1 – 3D design impression (Courtesy of Suffolk County Council)

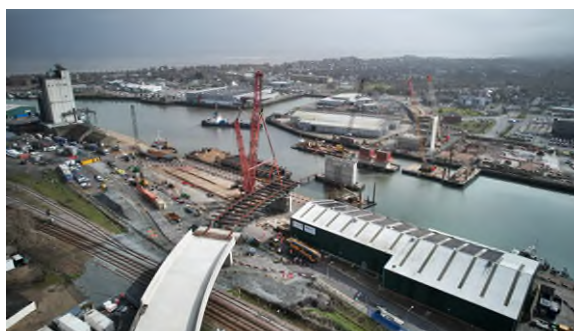


Image 2 – Gull Wing construction image (Courtesy of Suffolk County Council)

KEY PROJECT DETAILS

- A NEW, HIGHWAY BRIDGE CROSSING OF LAKE LOTHING, LOWESTOFT, PROVIDING A THIRD CROSSING FOR THE TOWN.
- ARCHITECTURALLY ICONIC, EMPLOYING A NOT WIDELY USED BASCULE STYLE BRIDGE
- FUNDED BY SUFFOLK COUNTY COUNCIL AND DEPARTMENT FOR TRANSPORT (DFT) (VIA THE DFT'S LOCAL MAJOR TRANSPORT SCHEMES)
- DCO GRANTED IN APRIL 2020
- CORRECTION NOTICE ISSUED OCTOBER 2020
- CONSTRUCTION STARTED APRIL 2021
- TARGET COMPLETION DATE IS EARLY 2024

KEY DELIVERY PARTNERS

- SUFFOLK COUNTY COUNCIL (PROMOTER AND PROJECT MANAGEMENT)
- FARRANS (CONTRACTOR)
- ARDENT, ARUP, MOTTS, PINSENT MASONS, SHARP CONTRACTING AND SURVEYING, WSP, (LAND, DESIGN, SITE SUPPORT, LEGAL SUPPORT, CONTRACT MANAGEMENT AND RISK CONSULTANCY)

Views on the DCO as granted

"It's a good process, it gives you the certainty ... and gives you control over the programme." (Interview 1)

"The key obligations we've been asked to comply haven't been overly onerous. They all make sense." (Interview 3)

Opinion on the **DCO as granted was largely positive** and there is a strong commitment to deliver the project's scope *"as defined"*, in order to *"deliver those benefits for the community of Lowestoft"*. It was observed that it has been only *"by exception"* that issues have occurred as a result of the DCO. The DCO was described as being *"pretty comprehensive"* and the examination process was seen as having been beneficial in terms of working through important details. Notable, was the **impact** the *"rigour"* of the DCO process was perceived as having on the **project management approach**. The DCO encouraged *"a structure ... to how we have captured and retained those commitments that were made during that process which otherwise might have got lost in the midst of time for somebody to remember when it's too late ..."* Issues experienced to date in the project were thus principally seen as arising out of *"procurement and contractual arrangements ... not really DCO issues"*. Importantly, the differences between the DCO and *"the processes that others were used to"* were not necessarily seen as *"better or worse, just different"*.

Positive delivery experiences

Overall, the delivery process *to date* was seen as reasonably smooth, and praise was given to the quality of construction. A number of specific elements stood out.

The experience of **discharging requirements** was seen as relatively straightforward with *"nothing un-towards cropping up"*. Here, the benefits of being a local authority promoter were highlighted. The project team reported excellent relationships with their planning colleagues both in Suffolk County and in East Suffolk District Council. They highlighted the strong shared understanding of the objectives of the scheme, and the benefits for the promoter of insight accrued from having delivered

highways schemes in the authority previously, noting that “a developer delivering all over the place wouldn’t have that” benefit. They observed that:

“... without that support things would have taken longer, the time scales that they could have used in order to respond to things were shortened in order for the benefit of the project.”
(Interview 2)

As one participant observed, “when the information to discharge requirements arrives, you know failure’s not an option. It’s a good news story for the County Council”. In particular, taking a **pragmatic approach to the discharge of requirements, allowing partial discharge**, or “progressive levels of consent” was seen as essential to “enable the contractor to get going ... without compromise to the programme and hence cost”. An example here, was being able to move forward with the demolition of buildings. Nevertheless, the promoter team suggested the level of scrutiny applied by their planning colleagues “sometimes goes even further”, to avoid criticism of any bias.

Reaching agreements with key players and landowners, has been comparatively unproblematic. It was clear that considerable emphasis was made on securing land and work agreements during the DCO process “to remove objectors” and prior to construction commencement “to help them weather the storm of the construction phase”. With the exception of one more obdurate player, and some ongoing discussions around the acquisition of third-party rights over a strip of railway land part owned by Network Rail and part owned by the Crown Estate, this strategy was largely successful.

Particularly key **was agreement with the Harbour Authority** (also the Port Authority and Operator), described as “a very informed and invested stakeholder in the entire process”. Whilst the Harbour Authority was noted as “giving us some difficulties” (being initially opposed), sharing strategic objectives with the County Council over protecting the long-term future of the port’s operations, enabled agreement to be reached. The DCO process was perceived as providing a rigorous and transparent process for “developing and evolving an agreement”. The relationship during construction was depicted “as very constructive and positive”.

Clear **leadership and project management are evident in the delivery of this project**. The Suffolk team was described as consistently positive, with regular meetings “to keep banging the drum on this project” with delivery partners, contractors, and wider stakeholders: “we’ve got a good client team ... it’s a healthy sized client team, and a commercial team of about four or five people”.

Repeated mentions were made to the documentation required to cross-check the detail of the DCO, “we need the reference point to always look back to ... to check when we committed to do the traffic impact analysis for example.” More significant perhaps was the acknowledged value of **staff continuity**. Although the project director was employed post consent, several key members of the pre consent team have stayed in role during the delivery phase: “they have actually followed the project through ... that’s helped me a lot in terms of having them to interrogate ...”

Given the challenges of working in an urban (and marine) environment, considerable attention by the project team **to communication and community engagement was evident**, including: an appointed communications manager; a 24 hour construction livestream; newsletters and letter drops; key stakeholder meetings (bi-monthly); MP briefings; use of social media; defined requirements in the construction contract for engagement with schools and businesses, including opportunities for placements; and history days. Here, the benefits of being a local authority promoter was highlighted: “I think the Council ... because of its role within the community, actually, does always want to go that extra mile. The ethos has always been to be transparent, trying to communicate with the local community ... I think this might not exist in other types of organizations.”

One participant observed that: *“construction impacts are the biggest on a community so get it done, get out and get out quickly. It’s better for everyone”*.

With residential properties adjacent to key parts of the works site, challenging issues were noted in relation to **noise, dust and vibration**. **Monitoring** of these construction impacts by the contractor was highlighted by the promoter as key to their management, *“providing us and our neighbours with something impartial and factual that we can use to have a less polarized conversation”*. Again, the positive relationships between the district and county were observed here, *“we are quite fortunate to have good relationships with our colleagues, such that we explain the commercial pressures of the contractors, and sometimes the methods required”*.

Delivery challenges

“This is a challenging project from an engineering perspective so it was always going to be a testing delivery phase.” (Interview 1)

“We are making good progress ... but we are on not schedule in terms of the original programme.” (Interview 4)

Alongside the positive narrative, a number of challenges during the delivery phase thus far were also highlighted, not least of which was the **uniqueness of the design**, and the **lack of comparator projects** to learn from (the closest ‘like’ project being in New Zealand). Some technical challenges and risks to the construction, maintenance, operation and ongoing reliability were therefore highlighted as still being ahead: *“... there are going to be more unknowns, that’s where the risk lies ... it’s not been all tried and tested”*. Notwithstanding the uniqueness, the following factors have proved challenging:

Firstly, all participants highlighted the challenges of commencing construction during **COVID-19**, and the subsequent impact of **Brexit and the war in Ukraine**, on the **supply chain**. Delays in materials, and the risks and restrictions on what could be done on site, had all impacted the construction programme.

Secondly, the contractor was observed as having to **“go on a steep learning curve”** in terms of delivering a DCO, with a DCO perceived as *“something different in construction terms”*. The contractor was described as lacking a consents specialist in its team, and initially lacking staff in its core team, causing delay. DCO compliance sessions were put in place by the promoter, in order that the contractor understood the DCO in terms of its *“powers and restrictions, and some of the constraints”*. For example, the contractor was observed as finding the construction management plan *“a little bit constraining”*, and *“more all-encompassing ... requiring them to do a bit more than they are used to”*. Of all of the requirements, this was perceived as the most difficult to discharge, going through at least five iterations.

Thirdly, and related to the above, **was the change in contractor post consent** following a re-tendering exercise, *“to get a bit of competitiveness back into the process”*. It was observed that whilst there were evident cost savings resulting from the change in contractor, the new contractor did not have the benefit of the experience accrued from taking the reference design through to examination: *“as a client, the risk benefit is the loss of knowledge and lack of continuity and that did cause the start of this construction phase to be probably more challenging”*. The contractor had different views on how to design and construct some elements which required a learning curve for them, and more support from the original designer than had been anticipated. For example, and as detailed above, the contractor was observed as having their own views on the construction

management plan, 90% of which was already in draft when they came on board, *“it would have been a lot simpler if we’d had continuity”*. Some aspects of the terms of the DCO were challenging for the contractor, particularly their ability to carry out temporary works and some of the space constraints. These impacted construction methods, when alternatives would have been preferable but unachievable within the limits of the DCO.

Importantly, Arup was **retained post consent to provide design support** to both the contractor and client: *“... to answer queries, technical queries, any issues and problems with the design ... being a client without the initial designer working closely with us with would be very challenging”*. This was seen as way of managing the risks associated with not carrying the original design team into the construction phase.

Fourthly, there was an issue to do with easement rights. It was observed that the *“there is a lack of function within the DCO”* to allow easements required for the benefit of a third party (namely utilities) on private land, and therefore separate agreements with landowners needed to be negotiated, causing delay and incurring costs. This was described as potentially *“problematic because the existing utility might be where you need to put your new bridge foundations”* and seen as a *“knotty legal problem”* which is still being worked through in terms of implications for future DCOs.

Fifthly, some minor observations were made about the funding **of statutory bodies** - *“they are under resourced and not always fulfilling their functions”* - with one consent from the Environment Agency (EA) not yet fully discharged, and other agencies observed as *“not working at any speed”*. The importance of the resourcing of key third parties – particularly those involved in compliance – was seen as essential in order for promoters to hold contractors to account for key requirements.

Finally, less of a challenge but more of an unforeseen event was the **risk of nesting seagulls** in buildings that needed demolition soon into the construction process. Initial concern that a license may not be granted from Natural England (NE) to move nests should they be found, proved unfounded. Close working between the Ecological Clerk of Works, Suffolk County Council and NE resulted in a relatively unproblematic resolution: *“We had a period of time when we thought we might have to delay the demolition of these sheds because of gulls. Bear in mind the project is called the gull wing, this seemed somewhat ironic”*.

Post consent flexibility and managing change

“... the red line boundary could have easily been drawn to include that bit of water we didn't include ... it would have been very straight forward for us to draw that wider... that was a huge impact contractually trying to build it ...” (Interview 2)

“You just can't foresee until you start getting on to site and you start knocking things down and thinking about how you're bringing things in that there are certain things that just don't reveal themselves, even with the best, most experienced people, you can't minimise that for sure.” (Interview 5)

“For the most part”, the limits within the DCO were described as *“allowing sufficient room ... for us to do the works”*, with horizontal and vertical limits of deviation, being used through the development of the final design and enabling *“good flexibility”*.

Perceived as very positive, in terms of enabling flexibility, was the use of the **Design Guidance Manual** (DGM). It was described as enabling clarity around each key element of the scheme but *“not in a huge amount of detail”*. The iterative process around the development of details in the context of the DGM - the interim version being approved in the DCO with the final version signed off as a post consent requirement - is what one participant credited as the reason why post consent construction was enabled relatively quickly as compared to some other projects:

“... we know the pier footprint, the size of the pier, the height of the pier ... but we don't necessarily know exactly what shape that pier might be. Does it have a feature on the inside? Is it completely rectangular? Does it taper at the edges? The kind of aesthetics of that pier was still left to finalise and the reason for that, as much as getting the aesthetics right, was to give the contractor a bit of flexibility as well ... because things like how you finish the concrete, what finish you use, makes a huge difference to the cost of the scheme.” (Interview 5)

Flagged here, was the important role of the **technical acceptance panel**, in relation to discharging the final highways design. This was set up prior to consent, so *“they'd already seen it twice so they knew what was coming ... it was quite straightforward”*.

However, as noted above, the limits were deemed *“quite tight”* in relation to some of the space desired for temporary works, that ultimately restricted the contractor deploying their preferred method. Relevant here, is that **revisiting these limits in the form of a change to the DCO was not deemed an option**, because of the timescale involved and the resultant programme implications. Given the complexity of the siltation and ecology of the marine environment there were evident concerns about the delay that would result from further environmental assessment, and for these to be undertaken across seasons. One participant was clear that:

“When realistically compared to all the assessed impacts and the assessed effects of the scheme, it was going to have no greater impact because it was the same land ... you're drawing out the impact on the community by taking longer to do the work.” (Interview 5)

Whilst there was acknowledgement that it is not until you work closely with a contractor that *“you understand what's feasible and what's not feasible”* (exacerbated in this project by the change of contractor post consent), some participants reflected on the need to push hard (prior to consent) to provide for more land than you think you will need, because *“once you've got your DCO issued and you're in contract, where contractor time is money, you haven't really got the time as a client to go back even if technically you could do it”*. In particular, it was observed that more thought needs to be given to what temporary works might be needed *“... we need a fast track process for temporary rights. It [the process] lacks a pragmatism that you need when you get to construction”*. However, others acknowledged the challenge of achieving a balance between taking too much land, *“just in case”*, and paying more compensation or rent to landowners, *“and taking too little, which constrains the contractors”*. The judgement in any one case depends on the level of clarity a designer has pre consent on the access and temporary works required for the construction of their design. This points to the benefit of early engagement between promoter, designer and contractor to help achieve the optimal balance.

Some minor observations were made about the use of Town and Country Planning Authority (TCPA) applications as a potential route to change. All were clear, however, that this route could not *“trump the DCO”* and was only appropriate for associated development, with examples of permission for hoarding promotions and a temporary car park: *“we took rights to building on someone else's land*

under the DCO, but for some reason we weren't given the right to construct the temporary car park so that had to be done under a separate TCPA consent”.

Lessons for other projects

- Time needs to be built-in post consent to fully absorb the terms of the DCO. DCO expertise within the contractor team is an ideal.
- Sufficient limits need to be defined for temporary works, not just permanent works.
- Retention of design expertise (in some form) pre to post consent is essential.
- Incorporating risk and uncertainty related to construction methodology, logistics and temporary works needs to be built into the process, as the programme cost of revisiting and amending is high once construction is underway.
- Sharing drafts of requirements before submission to discharge can speed up the process, and also create the appropriate pathways for partial discharge.
- Contractors would benefit from greater awareness of the DCO process, and industry wide support is needed to support that learning.

Case Study B - Thames Tideway Tunnel

“Our DCO has given us the flexibility we need and we’re delivering it. We’re getting close to the end of the job now and there’s been nothing in the consent that’s really prevented us from delivering the works.” (Interview 1)

Summary

The Thames Tideway Tunnel (TTT) scheme involves construction of a ‘super-sewer’. A 25km long tunnel to convey combined sewerage and rainwater discharges, which at times currently overflow into the River Thames. The scheme was consented¹ on 12th September 2014, construction commenced in 2015, with completion anticipated in 2025. To date (April 2023), there have been 5 non-material changes (NMAs) submitted and approved, which have largely been uncontroversial. This case study was created by undertaking interviews with 10 experts between November 2022 and February 2023. These comprised: promoters; contractors; and stakeholders, all of whom were involved in implementing the TTT DCO. The case study is written by the researcher and does not necessarily reflect the views of the promoter.

Brief outline of **positives**

- The DCO had sufficient flexibility built-in through use of ‘approximate’ dimensions, parameter plans/limits of deviation and ‘unless otherwise agreed’ tailpieces.
- Dedicated in-house project management team with embedded regulatory bodies’ officers for the duration helped knowledge transfer and deliverable, pragmatic solutions to be achieved.

Brief outline of **challenges**

- Some on-the-ground factors came to light once construction commenced, resulting in changes being required to the DCO via non-material amendments.
- Discharging the requirements and protective provision (secondary) consents presented challenges for contractors: differing amounts of supporting information being required by different consenting bodies; multiple regulatory consenting bodies with overlapping remits; and delayed responses.
- The formal process for reaching ‘agreement’ was not always clear, for example in respect of environmental consents for pre-commencement works.
- The use of conditions on protective provision consents requiring further approval by third parties potentially created a “ransom hold” over the project.

Key **learning** arising:

- A balance between certainty and flexibility is critical.
- The DCO should be subject to as few plans and consents requiring subsequent approval as possible and practicable, and the grounds upon which consents can be refused requires careful consideration.
- Maintain channels of communication with all stakeholders throughout the project, pre and post consent.

KEY PROJECT DETAILS

<ul style="list-style-type: none">• DCO GRANTED IN 2014• CONSTRUCTION STARTED 2015• TARGET COMPLETION DATE IS 2025• THE DCO IS DIVIDED INTO 19 SCHEDULES, <p>key ones are:</p> <ul style="list-style-type: none">○ Schedule 1 - authorised development;	<h3>KEY DELIVERY PARTNERS</h3> <ul style="list-style-type: none">• Promoter/Client• Contractors in 3 ‘zones’• 14 London Boroughs
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¹ <https://www.gov.uk/government/publications/thames-tideway-tunnel-development-consent-order>

- | | |
|--|--|
| <ul style="list-style-type: none"> ○ Schedule 2 - approved plans and drawings; ○ Schedule 3 - 'Requirements';
 ○ Schedule 15 – Deemed marine licence;
 ○ Schedule 16 - provisions for protection of specified undertakers;
 ○ Schedule 17 - process for discharging the requirements, and appeal. | <ul style="list-style-type: none"> ● Marine Management Organisation
 ● Protective Provisions bodies:
Electricity and Gas Undertakers;
The Port of London Authority; The Environment Agency; Transport for London; Network Rail;
Communications Network Operators; The City of London Corporation; |
|--|--|



Image 3: Thames Tideway Tunnel: Secondary lining the main Super Sewer tunnel beneath Blackfriars Bridge (Courtesy of Tideway)

Context and delivery bodies

Bazalgette Tunnel Limited (BTL) (trading as Tideway) and Thames Water Utilities Limited (TWUL) are the infrastructure providers for the purposes of the DCO. The majority of the TTT alignment lies beneath the River Thames, whose unique environment means there are three river regulators: the Marine Management Organisation (MMO); the Environment Agency (EA); and the Port of London Authority (PLA). Numerous statutory undertakers and protective provisions bodies also have an interest. Additionally, there are 24 above-ground sites for associated development along the route

running through 14 London Boroughs². The route is divided into three zones: west; central; and east each having its own team of contractors to deliver the project.

Tideway let a series of design and build contracts with the main works contractors for each zone to deliver the project. Under this approach, the contractors have responsibility for discharging requirements and obtaining secondary consents. To oversee the contractors, Tideway rolled-forward their **in-house consents team**, initially created for the DCO for examination, which enabled effective knowledge retention. They employed a project management company (Jacobs) to manage the contract on their behalf, utilising two layers of programme and project management:

- **programme managers**, overlooking the whole programme.
- **project managers**, for each of the three zones and system integration, looking in detail at specific aspects of delivery.

Individuals from a wide range of practices and disciplines, including planning, design and engineering, were integrated into the project teams. This approach worked well because it facilitates multi-level delivery management: looking in detail in each contract zone regarding the specific details on the ground for that specific contractor; and providing an overarching view that *“enables collaboration to help identify competing influences or potential opportunities across the programme. It also manages the client’s expectations on what is, or may, be possible”* (interview 4). Overall, this structure has been *“very helpful”* (interview 4) for delivering the project.

Views on the DCO as granted

There were contrasting opinions expressed by interviewees on the appropriateness and efficacy of the DCO wording. Most considered it to reflect what the promoter wanted, it *“gives us flexibility”* (interview 1), *“the toolkits that everybody uses are all in Thames Tideway Tunnel DCO”* (interview 9), and *“the project was flexible enough to allow for delivery”* (interview 5). This sits in stark contrast to some interviewees, particularly from the contractor-side, who felt the consent *“has been proven to be quite a poor DCO in the round”* (interview 8) due to it needing so many secondary consents, *“which has ended up hindering delivery”* (interview 7).

Positive delivery experiences

An overarching theme was that **communication** between parties and building good working relations over a long period of time, were *“hugely important”* (interview 9). However, a mixed picture emerged regarding **relationships** between client, contractor, LPAs and protective provisions bodies.

Delivering the scheme efficiently, entailed contractors getting a timely response to requirements submissions, particularly where pre-commencement works on site were dependent upon a swift decision. To achieve this, four key approaches were used: embedded staff in the project management team; ringfenced resources in local authorities; a single local authority point of contact to coordinate responses; and a regularly convened stakeholder forum and expert forums.

The project management team from the outset incorporated **embedded staff** from across the different regulators. This was managed through a service level agreement and was very *“valuable in getting things done”* (interview 4). *“It was a day or two a week and it's definitely an approach that works. It opens up the ability to get to the nub of technical discussions and is a lot quicker”* (interview 3). However, it is important that the regulator appoints the *“right person... someone for example*

² London Boroughs of: Ealing; Hounslow; Hammersmith and Fulham; Lambeth; Lewisham; Newham; Richmond-upon-Thames; Southwark; Tower Hamlets; Wandsworth; the Royal Borough of Greenwich; the Royal Borough of Kensington and Chelsea; the City of London; and the City of Westminster.

able to challenge the method statement, so that issues can be dealt with as they arise rather than later on" (interview 4). It was noted that those regulators with embedded staff have benefited because, "they've had a better grasp on the scale of what's happening on-site, so they can make a more informed view whether something is a high risk or low risk activity" (interview 4). The Environment Agency, for example, were mentioned by a few interviewees as having "really benefitted" (interview 4) from this approach: "they've generally gone above and beyond to be as pragmatic as they can be" (interview 8); "it became a less transactional relationship, more of a collaborative process. I think that helped an awful lot" (interview 3); "they developed a 'yes if' process, which I can't speak highly enough of from a consent granting body point of view" (interview 9).

The promoter provided financial contributions to regulatory bodies in order to provide one full time employee or equivalent, enabling a dedicated **ring-fenced resource** to support and process consents. The consents team reflected that, "we've definitely found it beneficial" (interview 4), although it was noted that not all regulators have wanted to do that. Benefits were that: it enabled a consistent approach to be taken; both sides' personnel were familiar with the project (and importantly each other); and there was the necessary time allocated to handling the discharging process. It was considered that the contractor team and the project management team, "certainly from the planning side of it, work very well together" (interview 7) as they all understood the DCO's strengths and weaknesses. Although in some instances, despite there being a service level agreement in place, a lack of communication to explain delays, was "frustrating" (interview 9).

From a local authority perspective, "knowledge transfer, where new staff are involved, has been a bit of an issue as time's gone on. We've had three different case officers, and their attitude and approach can be different, which is a bit tricky for the contractor" (interview 6). To overcome this, a **single local authority point of contact**, paid for by the contractor, but working within and for the local authority (for example Tower Hamlets had a liaison officer), "is pretty fundamental" (interview 6). It helps keep things moving smoothly, building and maintaining relationships, providing continuity, coordinating different council departments and functions/responsibilities, whilst keeping officers and members focused.

Use of a regular, quarterly, **stakeholder forum** to facilitate open discussion between the relevant London authorities, Tideway staff and other key stakeholders is "useful" (interview 1). The forum is led by an independent Chair, whose role is to encourage full and frank debate, identify areas of consensus, summarise differences and distil possible solutions emerging or needing to be investigated further. "The LPAs are aware that the implementation is time critical. The Forum's priority is making sure the officers are well informed" (interview 5). "Communicating overcomes barriers between the organisations, which is pretty fundamental to successful project delivery" (interview 6). "The stakeholders find it useful because they're learning about construction techniques and things that they may not have known about otherwise" (interview 1).

Additionally, **expert forums** were held every couple of months where officers discussed issues with their counterparts from other Boroughs, which allowed those that may have initially adopted a harder stance to know that a different approach is being used elsewhere, which can provide confidence to take a more pragmatic view. Where this occurred, it was "really helpful" (interview 3).

Delivery challenges

"When the DCO was consented there was probably the view that, we've got the consent, we now just need to discharge a few requirements... But we've ended up with a massive

workload of having to get thousands of additional consents, just to keep the programme moving along.” (Interview 4)

Working with the Consent Granting Bodies

Interviewees expressed a broad range of experiences in respect of working with each other, one interviewee (working for a contractor) stated *“we had fantastic relationships with every borough I’ve dealt with on the project”* (interview 9). *“The LPAs that had the most sites within their area were really quite engaged... they came into the offices a couple of days a week and sat with us and we worked through issues in quite a collaborative way, which helped a lot”* (interview 3). It was noted though, counter to this, that other contractors found some LPAs harder to engage with, recounting examples of instances where *“ridiculous”* (interview 8) amounts of information were requested to support either a discharge of Requirement or when submitting a construction environmental management plan³ (CEMP) (air quality and contaminated land were two mentioned by a few interviewees).

From the LPA perspective, implementation of the DCO is currently *“going really smoothly, but it did have it’s more difficult period”* (interview 5). This was believed to be partly a result of the timeframe for the examination being *“rigorously enforced”* (interview 5), despite both sides requesting an extension of time to further consider the project and the mechanisms for implementing it. Consequently, in the final stages of the examination, things were *“getting too rushed and too fraught. Both sides wanted more time and the Secretary of State refused. So, it just had to be done. And of course, when a document is produced in less time than both parties really want, it did produce a little bit of antagonism and frustration. Some of the local authorities felt that there was a bit of bulldozing going on”* (interview 5). This caused *“tensions”* (interview 5) post-consent, once submissions to discharge the requirements were starting to be made.

The Code of Construction Practice (CoCP)

The CoCP⁴ sets out a series of measures and controls to be applied throughout construction to mitigate the potential impact of site activities. It is secured under the DCO and is based on the premise that the contractor will follow best practice in minimising construction impacts. The CoCP is in two parts: Part A sets out general requirements; and Part B the site-specific requirements. Part A includes a number of plans that required the submission of documents to the respective local planning authority for approval.

It was widely considered to be a *“really valuable”* (interview 9) tool. However, in contrast, one interviewee reflected that the CoCP has, at times, *“hindered delivery”* (interview 7) because they felt that the language used in Part A: wasn't tight enough around the submission of additional documents like environmental management plans; the regularity at which they needed to be updated; and whether or not approval was needed from the local authority for the updates. Consequently, some contractors felt that there were too many, *“little grey areas that caused unnecessary delays to actually getting stuff built because you were faffing with these and didn't want to start work until they were approved”* (interview 7).

³ CEMP – ‘will detail the practical execution of the construction works that demonstrates compliance with the measures and controls of the CoCP, the DCO, the Requirements and protective provisions, Section 106 Obligations and Undertakings and other necessary consents, along with legislation and best practice. The CEMP shall provide details of the general site layout and operations, working hours, site lighting, security, emergency planning and response, fire prevention and control, utility works and worker access and welfare.’ (CoCP, para 2.3.1).

⁴ DCO Schedule 3(2) requires the authorised development to be ‘carried out in accordance with the CoCP... unless otherwise agreed by the relevant planning authority, in consultation with other relevant stakeholders’.

In addition to the CoCP, each site has its own set of 'topical' environmental management plans⁵, which also require approval. These similarly incorporate standard good practice measures needed to mitigate the effects of construction that contractors should automatically implement, which in any event are already stated in the CoCP. This additional approval was thus viewed as unnecessary duplication (interview 1).

Overall, the number of documents that had to be prepared was considered excessive, "something like 26 separate plans for each site, but the CoCP and CEMP effectively say the same thing" (interview 9). This was "very repetitive and caused a lot of issues" (interview 9). As a consequence, greater thought was needed about how documents sit together, what they're actually mitigating and how that mitigation is being delivered. To address this, it was suggested that "one of the tiers of the environmental management plan could be removed" (interview 9). Under this approach, Parts A and B of the CoCP would remain at a high level, with details of the mitigation measures to be applied at each site subject to approval via a Requirement to demonstrate how the contractor delivers the CoCP.

Constructability

The DCO makes a number of commitments about piling in the river. The CoCP specified that push piling should be used, unless it was impossible to do so, due to the noise impact of percussive piling on residents and fish. That approach was based on engineering advice during examination. However, following appointment of contractors who undertook more ground investigation, they realised that non-percussive (push) piling was not actually possible. *"The brutal fact was that those commitments were made without proper constructability testing, the reality was that push piling wasn't achieved"* (interview 8). *"You need to impact pile if you're gonna build anything in the river"* (interview 3). This challenge was overcome through contractors working with the PLA, MMO and EA for the best part of 18 months, involving *"an awful lot of negotiation"* (interview 8).

⁵ CoCP 2.3.2 Appendix B provides the template structure for the CEMP. Appendix B, Section B.3 sets out the additional topical environmental management plans that will be prepared to support the CEMP.



Image 4: Blackfriars Bridge Foreshore showing surrounding cofferdam (Courtesy of Tideway)

Getting contractors on board as early as possible, possibly during the Examination stage, helps to ensure constructability of the project. *“It’s really important to get the contractors there because they know what they’re doing”* (interview 7). This may not be easy to do due to probity in future contractual arrangements, but it could help avoid making commitments that are costly to implement or can’t be delivered.

It would have helped to get on-site quicker if the DCO had allowed for preparatory works to be undertaken (such as erecting site fencing) before triggering the CoCP requirements for management plans to be submitted and approved. *“Pre-commencement requirements were a massive challenge, it varied between local authority”* (interview 8), *“getting that definition of pre-commencement works defined that you are permitted to do without having to submit a load of details is really key”* (interview 7). Furthermore, there was uncertainty as to whether the DCO allowed for requirements to be partially discharged, in *“bite-sized chunks, split both by geography and by phase of the project”* (interview 8). The ability to do this could be a practical way of allowing pre-commencement to go ahead. For example, where heritage assets are present in multiple locations around a large site, some were impacted much earlier in the programme than others and could be dealt with immediately, whilst those likely to be encountered later (sometimes years later) could be dealt with at that future point in time.

Procedure for Discharge of Requirements

There was extensive discussion during examination about how the Schedule 3 requirements should be discharged. This came about due to local residents opposing the project at examination and wanting a greater say in what the final scheme would look like (interview 1). Consequently, a *“unique”* (interview 9) two-stage approach was set out (in Schedule 17) to give LPAs foresight of the draft application prior to submission:

1. In **stage one**, a draft application is submitted to the LPA, a site notice tells people that an application has been submitted and they can make comments - the LPA has 4 weeks to respond;
2. In **stage two**, the contractor makes a formal application and the LPA has 8 weeks to determine it.

The draft submission stage was seen by some as helpful in expediting the process, *“assisting both sides”* (interview 7) once the application was formally submitted. Whilst potentially lengthening the consideration process, this had the potential to reduce delays at the determination stage. Despite this standardised process, contractors reported that LPAs *“seem to be operating slightly different approaches”* (interview 4) *“depending on their political leanings or their objection to the scheme”* (interview 3) but *“in general the relationship with the planning authorities is good”* (interview 1) and it was acknowledged that LPAs, *“have to do a hell of a lot of work”* (interview 7). It was noted that the phrase ‘unless otherwise agreed by the discharging authority’ is incorporated into Schedule 17 allowing for agreement to not submit a draft application in all cases.

From an LPA perspective, one of the reasons that delay was encountered in discharging Requirements was due to a desire, or need, to undertake their own public consultation, which *“takes time”* (interview 6). Whilst the DCO sets out how an LPA will determine a Requirement, it doesn't build-in public consultation into the process, so the Boroughs have to balance that against their own adopted approaches. *“It would be helpful if DCOs could set that out a bit more clearly”* (interview 7). From an LPA perspective, this is where the submission of Stage One draft Requirements applications was seen as being useful. It was highlighted that *“the key thing is always communication, knowing what the developer wants to do and why they want to do it is fundamental”* (interview 6). There were instances where LPAs found it challenging to discharge/approve requirements, particularly where Members had called-in the applications to Planning Committee for determination because of objections from residents. An example was given for the approval of details for a kiosk and landscaping scheme at a foreshore site, where it was treated almost like a normal planning application. *“Some residents turned up to speak at Committee and members found it a bit hard to know what to do because you can't move it, it's within the DCO limits”* (interview 6).

Schedule 17 sets out an appeal process in the event that an LPA refuses an application, fails to determine it within the set time period or grants it subject to conditions. Whilst this was viewed as being a *“useful mechanism to include in the DCO”* (interview 4), *“a nice concept”* (interview 4), the problem multiple interviewees raised was that despite encountering delays, this mechanism was never used. Interviewees from all sides cited: the uncertainty and risk associated with the length of time such an appeal might take; not wanting to be the first to use it; and the need to maintain ongoing working relationships. As an alternative, recognising the national importance of PA 2008 projects and the need to deliver these projects in a timely manner, future DCOs should seek to incorporate a ‘deemed consent’ approach so that if a requirement is not approved within a set period it is deemed to be approved.

Protective Provisions

With regards to discharging secondary consents, there are multiple protective provisions bodies each with their own interests and responsibilities, which were not always compatible. With regards to work in the River Thames, this necessitates gaining consents/permits from three different regulators (MMO; EA; and PLA), *“each with different views on how much detail they expect to see or what they need to see to be able to grant consent”* (interview 4). Getting agreements with these various regulators, *“was complicated”* (interview 3), and *“quite challenging”* (interview 9). Potentially what one says could have a knock-on effect on another, in turn necessitating revisiting the submission, this effectively creates a four-way conversation. A side agreement to the DCO was

set up to speed up the process. However, one interviewee considered that *“care needs to be exercised in the use of legal ‘side agreements’ to avoid fettering the DCO powers”* (interview 7), and another was of the opinion that, *“basically it says, ‘play nicely”*” (interview 9). In practice, the contractor submitted applications to all three at the same time, waited until all responded, reviewed comments to check for compatibility and then opened up dialogue if conflicts were apparent.

Contractors considered that dealing with regulators/protective provisions bodies that do not report to a higher authority (such as a Minister or the Secretary of State) was found to be challenging. *“I think that maintaining powers within the protective provisions and not being clear around the river regulators’ responsibility was problematic”* (interview 3). Some have extensive powers and, understandably, need to protect the interests for which they have legal responsibility. The DCO⁶ states that any approval required shall not be unreasonably withheld and that it can be subject to reasonable conditions of the authority. Different parties held differing views as to what comprised ‘reasonable’, each citing their own areas of interest and accountability. Under the Schedule 16 protective provisions, if a consent is not determined within the specified time-frame it is a deemed refusal and there is no right of appeal as there is for applications determined under Schedule 3.

It was noted that conditions applied to consents by the protected bodies could *“delay”* (interview 9) commencement of works on-site. In order to discharge the condition, the consenting organisation can request further information from the applicant or require further submissions to be made, sometimes requiring the approval of private third parties. This was likened by one interviewee to the television advertisement for Skittles sweets, whereby *“if you touch one consent it booms out into 10 additional consents”* (interview 4). In discharging these secondary consents, the contractor felt that there needs to be a limit on the extent of the scenarios that are being assessed, as well as the third parties that can be tied-into giving their ‘agreement’. *“Is it right that somebody from a private organisation could, in effect, stop a national infrastructure project by saying “no, I’m not gonna sign it”?”* (interview 8).

To create flexibility for getting approvals for ‘low risk’ aspects, the EA worked with an expedited process that allowed, *“really small changes to be turned around in a day because it doesn’t have to be consulted on”* (interview 9). Where discharging bodies are not so pragmatic, it was believed that *“there needs to be an arbiter to decide what is or isn’t reasonable to have to assess”* (interview 9).

Community involvement

Relationships with local communities are important in implementing the DCO. The promotor noted that community involvement was undertaken from the outset, but that, *“maintaining open channels of communication with the local community is not always easy, particularly if you’ve got people who are opposed to the project. But you do need to keep those channels open and let people know what’s happening”* (interview 1). Due to the extended period of time over which it takes to deliver a project of this scale it was noted that there can be *“a silence gap”* (interview 6) from the promotor between the examination, when people are making representations, and work commencing on site, creating *“a disconnect in the process... nothing is happening until suddenly a contractor turns up in their local park and starts putting fences up and hoardings”* (interview 6).

Once appointed it was considered that contractors *“are quite good at [community engagement] across the project”* (interview 6). Post consent, each site had a community liaison working group where the project team would go and talk to the local community about what was coming up, *“providing regular updates to the surrounding community”* (interview 8). Whilst they can be a useful

⁶ Schedule 16, Part 2, Section 5 (3)

tool linking delivery to the community, an example of *“some gripes from the Boroughs”* (interview 5) was around public engagement by the contractor/client direct to the public, that in-turn was not being copied to the authorities. So, officers sometimes meet with Councillors who had been given information by residents and officers knew nothing about it - *“That’s a terrible situation”* (interview 5). Consequently, *“the communication system that’s now running could be set up earlier”* (interview 6).

Post-consent flexibility and managing change

“DCO’s need to allow the works to be progressed efficiently, with the flexibility to fully realise additional design and efficiency improvements.” (interview 8). The TTT DCO incorporates a number of tools to allow flexibility in delivery, including: requirements with tailpieces; limits of deviation; a book of parameter plans, incorporating tolerances; agreed design principles for permanent above-ground features; and the wording of the Order itself.

It was widely acknowledged that only around a third of the scheme was designed in detail prior to, and during, the DCO examination. The remainder was left for the contractor, once appointed, to decide once ground conditions / construction techniques were established at each location, and to then obtain the necessary consents. The approach was likened to having an outline consent for the principle, but everything else left for later consideration in reserved matters-style applications. Detailed designs had to be in accordance with the project’s design principles. That was seen as a pragmatic and sensible approach to take by the promoter, and was supported by the local authority interviewee, *“because you can’t know everything about the implementation at the point of design. It’s such a huge scheme”* (interview 6). Consequently, the DCO, has a large number of ‘requirements’ to be discharged post-consent.

The DCO employed the Rochdale envelope⁷ approach to assessing uncertainties inherent to the proposed development at the time of submitting the application. The protections deemed necessary were reflected in both the ‘Requirements’ and the CoCP.

Tailpieces are text phrases inserted into requirements or conditions that allow for a variation in approach. In both the requirements and the CoCP there is extensive use of tailpiece provisions, most commonly utilising *‘unless otherwise agreed’*. The opening text of Schedule 3 makes it clear that this only applies to minor or immaterial changes whether it has been demonstrated that there are not new or materially different significant environmental effects. Whilst these provisions are widely used in the TTT DCO, it was noted that the Planning Inspectorate Advice Note 15⁸ no longer favours this approach as it ‘kicks the can down the road’ at examination rather than dealing with the issue at that point in time. Notwithstanding this, tailpieces were seen by a couple of interviewees as comprising, *“a really important tool”* (interview 9), and *“a really powerful part of the DCO”* (interview 3). This was because, *“it allowed flexibility when you didn’t know exactly what was going to happen all the time because... there’s a massive amount of uncertainty doing things in the river environment, it is challenging.”* (interview 3). This was seen as a positive aspect as it provides *“an opportunity to reach an agreement, which I think is a good thing because it encourages collaborative discussions about what the real concern is”* (interview 3). Another benefit of tailpieces was in terms of financial benefits from reducing delays to the project. *“The tailpiece probably saved the project millions and millions of pounds as it allowed us to go to local authorities and agree something different”*

⁷ <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/>

⁸ PINS Advice Note 15 (2018), Drafting DCOs, Paragraph 17.4

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-15/#17>

(interview 9) for example in respect of the need to use impact piling as opposed to the non-percussive piling assumed during examination.

From the LPA point of view, they also found tailpieces useful. *“It gives the flexibility to the planning authority to actually do something a bit different, for example about Easter working”* (interview 6). However, not all of the requirements contain the tailpiece wording, such as those relating to archaeology and the river transportation strategy. A couple of interviewees noted that those aspects have experienced issues around a lack of flexibility as a consequence.

Flexibility in delivering a linear infrastructure project, such as the TTT, is essential. *“If you're absolutely fixed to a linear line at the DCO stage and you can't change it, you can incur massive additional costs associated with that”* (interview 1). The tunnel alignment has **limits of deviation**, which set out a 'corridor' within which the tunnel would be constructed. The project has largely followed the centre line of the route as originally envisaged, but the limits of deviation have allowed the tunnel alignment to be modified in some locations where it has been necessary whilst still building in accordance with the DCO.

Flexibility was also incorporated through having four different levels of drawings; **for approval** drawings were submitted for approval and are listed as approved drawings in the DCO; **indicative** drawings which indicate the way in which development would be arranged on site; **illustrative** drawings which illustrate one way in which the development might be arranged on that site; and **for information** drawings were not for approval and are not listed in the DCO. *“The most important ones are those that are approved as any changes to these would require an amendment to the DCO”* (interview 1).

Flexibility for above ground structures was provided through **parameter plans** which showed an indicative area within which the structures would be built. The promoter's view was that these were useful in getting the initial DCO approved. *“Although, some of our NMAs have been to amend those parameter plans because they've been drawn too tightly around things, I think they were probably a sensible way of doing it at the time of the DCO”* (interview 1). The use of parameter plans was generally seen as helpful, but once contractors were involved, actually having to provide the detail that is absent from these plans, *“proved challenging.”* (interview 4).

Schedule 1 Part 1 of the Order sets out the Authorised Development and distinguishes between those works which form part of the nationally significant infrastructure project and those works which are associated development. This provides some flexibility as it opens up the possibility of using a **standard planning application** process for amending these works which are associated development. Amendments to the pedestrian bridge at Blackfriars was consented under the Town and Country Planning Act early on in the project. It was noted by one interviewee that if the local authority is willing to expedite proceedings effectively, then a planning application might be an easier way of approving amendments than amending the DCO. However, depending on the nature of the change this isn't necessarily always the case. If the change falls within the definition of a non-material amendment submitting an NMA could be simpler than following a planning application process, *“because then you've got all the DCO's other provisions that control it's construction”* (interview 1). So, whilst the planning application approach for minor works on an ad hoc basis may appear to be an easier option, if the LPA weren't in favour of the wider scheme this could add further delays into the project, *“a local authority which was not positive about your scheme, giving them a planning application to sit on for a bit, I don't know if it gets you there any quicker”* (interview 7).

The Order also provides flexibility by making it clear in the Interpretations section⁹ that *'all distances, directions, levels and lengths referred to in this Order are approximate.'*

Unforeseen events

The project was impacted by changes under the Water Resources Act which meant that dewatering activities for engineering works (which had previously been exempt) now required an Abstraction Licence. This resulted in the contractors having to secure derogation agreements with numerous third parties before the Licence was approved. This introduced unknown timescales for securing agreements and a risk that a third party could effectively have a *"ransom hold"* (interview 8) over the whole project.

The dewatering strategy submitted with the DCO was drafted in the knowledge that the exemption may cease and set out a process to protect existing abstractors. With hindsight, if the legislation implementing this change had been disapplied in the DCO, abstractors rights would still have been protected but the additional risks this legislative change introduced would have been avoided.

Concluding thoughts

The TTT DCO has proved to be exceedingly complicated and resource intensive to implement. There are hundreds of requirements, multiple 'plans' and other documents that control works and provide environmental mitigation. Additionally, there were multiple local authorities and other consenting bodies involved in discharging requirements, each with their own interests and responsibilities, which were not always compatible. Added to this, some secondary consents from protective provisions bodies have set out conditions requiring agreement from private non-statutory third-parties, who are unaccountable. Interviewees expressed differing opinions on how deliverable the DCO has been. *"It strikes me that this is fundamentally not what the DCO process was about when they created the 2008 Act, it was supposed to make these things more efficient, more logical, and it strikes me that this DCO process is anything but"* (interview 8). But there was acknowledgement that the Order is *"a complicated piece of legislation"* (interview 1), reflective of being a complicated project *"so it's not going to be straight forward"* (interview 1). Despite this, *"our DCO has given us the flexibility we need and we're delivering it. We're getting close to the end of the job now and there's been nothing in the consent that's really prevented us from delivering the works"* (interview 1).

Lessons for other projects

- Use an in-house team with embedded officers – at both DCO examination stage and post consent.
- Provide resources for a dedicated local authority officer's time, and use a single point of contact to liaise with other departments.
- Maintain channels of communication with all stakeholders throughout the project, pre and post consent. E.g. use regular expert forums, *"particularly relevant on long linear projects with multiple local authorities"* (interview 1); and set up the communication system earlier in the process, if possible, to avoid 'gaps' in communication, especially with local residents and local authority officers.
- Provide clearer definitions in the DCO, for example, defining: pre-commencement works (site set-up work) that can be done before triggering submissions under the requirements.

⁹ DCO Part 1 interpretation (page 8). 'All distances, directions, levels and lengths referred to in this Order are approximate. All distances for scheduled linear works referred to in this Order are measured along the centre line of the limit of deviation for that work. Internal diameters for tunnels and shafts are the approximate internal dimensions after the construction of a tunnel lining. Unless otherwise stated in Schedule 1 (authorised project), depths are specified to invert level and are measured from the proposed final ground level.'

- Have a CoCP secured under the DCO and seek approval for the mitigation measures (from the CoCP) to be applied on each site rather than asking the LPA to approve a 'management plan'.
- Be confident when interpreting indicative drawings that you are following the intention behind them.
- Balancing certainty and flexibility are critical. Avoid detailed design at the DCO stage that is not thoroughly considered for constructability by those with practical on-the-ground expertise.
- The DCO should be subject to as few plans and consents/requirements needing subsequent approval as possible and practicable.
- Don't underestimate the number of submissions that will be needed or the level of detail that will be required to discharge the requirements and other approvals required under the DCO.
- Make more use of the parameter approach in the DCO if possible (i.e. don't draw zones too tightly) to provide for flexibility in construction implementation.
- Clearly state in the DCO that partial sign-off of requirements is acceptable to avoid need for full discharge process to be followed.
- Constrain the ability for protective provisions bodies to apply conditions to their secondary consents requiring approvals from private third parties.
- The use of a two-stage process in the discharge of requirements was subject of much discussion. Some interviewees suggested removing it, whilst others, such as local authorities, believed it was a useful part of the process, providing a degree of scrutiny and accountability. If it is used, then *"it should be possible to ensure sufficient time is allowed for in contractors programmes"* (interview 1), and local authorities should determine the applications within the timescales set.
- It is advisable to use an 'unless otherwise agreed' tailpiece, despite PINS Advice Note 15.
- Include provisions for deemed approval of consents if not determined within the time period specified (as opposed to deemed refusal)
- Do not lose sight of the overarching purpose of the project and its wider benefits – ultimately it has been deemed to be in the national interest.

Case Study C - Tilbury2

“There hasn't been anything that we have had to change in order to deliver what we wanted to deliver in the first instance.” (Interview 1)

Summary

Tilbury2 is a new port (benefitting from the Government's 'freeport' status) built on the site of disused Tilbury power station in Essex, South-East England. It comprises a 'roll-on/roll-off' terminal for container import and export, a CMAT (construction materials and aggregates) terminal for handling bulk construction materials and additional storage capacity for goods and vehicles. It is an expansion of the existing Port of Tilbury who are also the promoters/owners. Tilbury2 is located in Thurrock district, facing Gravesham on the other side of the Thames.

Tilbury2 is a positive example of the successes of the DCO in supporting effective and efficient project delivery, with the DCO here working as a useful tool for post consent planning and development. The project has been delivered smoothly and swiftly with no issues of lack of flexibility emerging once the consent had been given. Moreover, several respondents felt DCOs were more effective and useable post consent than permissions gained via the TCPA system. The process leading up to the DCO examination and the examination itself was seen as more problematic than delivery however.

Some final requirements related to dust and noise monitoring are yet to be discharged because not all the aspects of the site are fully operational, but consultants are employed to do this, and no issues are foreseen. The post consent planning process is therefore still regulating the development whilst it is operational, but this is not a barrier to the operation of the port.

The key reasons for success in this project appear to be the strength, longevity and organisation of the promoter/developer team and the approach taken to flexibility: *“it got the range of consents and it got a usable vehicle for getting on site as quickly as possible.” (Interview 2)*

The challenges in the DCO process in this case emerged prior to the consent being granted. This largely stemmed from the way that statutory consultees engaged- or rather did not engage- with the process: *“They just got free reign to unpick everything...Frustrating. And, you know, and costly to the client because we had to do everything again pretty much”.* (Interview 3)

One key piece of key learning arising from this case study is the importance of an organised and cohesive team who are on the project from inception to operation, and that all understand the goals of the project. *“there's nothing worse than having more than one client speaking with more than one voice and saying contrary and confusing things”* (Interview 3)

KEY PROJECT DETAILS

- DCO APPLICATION RECEIVED OCT 2017
- DCO GRANTED IN FEBRUARY 2019
- CONSTRUCTION STARTED
- PROJECT IS IN OPERATION (OPENED JAN 2022)

KEY DELIVERY PARTNERS

- PORT OF TILBURY
- TARMAC
- GRAHAMS (construction company)
- THURROCK COUNCIL
- ATKINS, PINSENT MASONS, VINCENT GORBING, I-TRANSPORT



Image 5 – Tilbury2 in construction (Courtesy of Tilbury Port)

Views on the DCO as granted

“A lot of developers will submit a planning application and through conventional routes they get it approximately right. We’ll put it in and then we’ll work our way through it as we go along. Well, you don’t get that opportunity with the DCO. It’s either right when it goes in or it’s not.” (Interview 1)

All interviewees agreed that the DCO as granted was a good, fit-for-purpose tool to take the Tilbury2 scheme from design to operation. The view expressed above indicates that interviewees were aware of the importance of ‘getting it right’ in the DCO application. With noise and air pollution monitoring, the applicant commissioned an independent expert to review the judgements of the consultants they had employed to make sure of its accuracy and robustness to challenge:

“... bringing in a third party to do that. Just belt and braces I think yeah they were very keen that this would get through first time and not have to go through lots and lots of rounds of discussion.” (Interview 4)

This was partially due the environmental sensitivities of the site, but also because of concerns and objections of the local authority on the opposite side of the Thames who raised concerns in the hearings about these issues impacting on proposed developments on their side of the river/in their LA jurisdiction. The team felt it was important to convince all parties that their assessments were independent and rigorous.

Although all this level of preparation was seen as presenting a high bar, and one which one interviewee commented was a little unsettling for shareholders who had to put more costs up front than in TCPA applications, it was seen as worthwhile for the certainty that a DCO would bring in terms of development speed once the order was granted. The tight wording of requirements associated with a statutory instrument and the threat of legal action for non-compliance, created simplicity and clarity for all players including the local authority in their discharging role:

“conventional town and Country Planning Act applications can take an awful long time and you get things that will come in leftfield during the course of that, whereas the DCO has got a little bit more certainty, which I suppose was the original, the original concept’.” (Interview 1)

“I think there might be more scrutiny of the requirements during the DCO process itself, whereas planning conditions sometimes are very loosely worded and can cause you the problems themselves because they're too loosely worded or too ambiguous. So in that sense you could say requirements are probably slightly better than conditions because they tend to have a good legal input.” (Interview 3)

This was not seen as a removal of power from the local authority; more a streamlining and signing off on an agreed process:

“So I mean the local authorities haven't had a problem with that. We've kept them informed and you know, once we know that we're in that situation with throughput being broadly what was assessed in the environmental impact assessment then we'll conclude that monitoring and provide it to the local authorities for approval.” (Interview 2)

There were no concerns expressed by any interviewees about elements of the DCO constraining or hampering deliver post consent.

Positive delivery experiences

There are three main areas of positive experience which emerged from this case study.

The DCO as streamlining permissions: As stated above, none of the interviewees had an issue with the DCO as a tool to manage development. In fact, it was seen by most as a superior consent than a TCPA one because once achieved, it did not require additional consents, and the process for signing off pre-commencement conditions was streamlined and given due resource by the local authority.

“... and I could see the benefits because of the ability to get multiple consents through one process, particularly given we had road infrastructure, rail infrastructure, marine infrastructure.” (Interview 2)

“... and if you think about a major project if it been a TCPA with a load of pre commencement conditions equivalent of requirements that would have taken months basically and I think. Although there were a lot of requirements, I think the timescales for discharging them and allowing the port to actually get on site and start work and get ... the terminal open from my perspective was incredibly quick.” (Interview 2)

Teamworking: A reason given, again by all interviewees on why the process had been so smooth was the strength of the development team. Most players had been involved long before the DCO process started, with discussion commencing with consultants in 2015. Key players were involved even earlier and are still involved today. This also impacted on the working relationship with the discharging authority. The developer team provided them with bespoke training on the DCO process as it was their first one. This not only built the skills of the LPA team to understand what they were dealing with, but also built relationships as it was the planning consultants for Tilbury2 who helped to run this. This both built trust and aided the smooth resolution of any issues.

“Developing the internal resource at the host authority particularly was something that we spent quite a bit of time doing.” (Interview 2)

“It's partly to do with the fact that they have such a good relationship with the LPA, in terms of the thing, if there were issues they could deal with them.” (Interview 5)

Some interviewees stated that this had been expensive but was well worth it in terms of achieving desired outcomes. This sense of cohesion and teamwork spread to the local authority (Thurrock) as well as the applicant team, with the applicant team running training sessions on DCOs for the LA as this was the first one that the authority was involved with.

Local buy-in: A related, but distinct positive from this case study is the long-established relationship that local residents have with port development. The port of Tilbury has existed in some form for over 150 years and many local people work in related industries, or have family history of such work:

"I think the nature of what the port is and the location meant that people were very familiar and it wasn't something out of the ordinary. So whilst it was potentially a very big and is a very big scheme. I don't think it was something that brought a lot of adverse reaction". (Interview 3)

The port maintained strong links with local people during the whole process of application to delivery. The promoter team spoke at local meetings and put on free shuttle buses for local people to visit the development site. No issues of local concern, from the Thurrock side of the Thames, were raised. Issues about noise raised via Gravesham council are discussed more fully later, with some residents being offered mitigation in the form of double glazing by the developer.

Delivery challenges

"... they tend not to engage until they're forced to engage. You know, you can talk to them, share information with them, but it tends until they're sort of forced into a situation where they have to engage, they don't really pay it much attention". (Interview 3)

The problems in this case largely all emerged pre, rather than post consent, and stemmed around the lack of collaborative engagement from statutory consultees. Most interviewees found their relationship with agencies such as Network Rail, National Highways (then Highways England), Historic England and the National Grid problematic and prolonged. Statutory consultees were felt not to be properly committed to engaging in a timely manner, not having sufficient evidence to support their opinion when they disagreed with assessments made by the developer. Interviewees felt that the Planning Inspectorate should be given more power/duties to enforce more timely and cooperative behaviour from statutory consultees. They also felt that agreements could have been reached more collaboratively pre consent, saving time and money of all concerned:

"... we're not trying to ride roughshod over the planning regulations or their requirements, but they're, you know, there needs to be a sort of a two way process here." (Interview 1)

Participants reflected that this may partially be an issue of lack of experience in the DCO process or lack of staff resource amongst statutory consultees. Interviewees further discussed that the system could be reformed to make statutory consultees comply with a stricter timescale for engagement but:

"... you could give yourself tools, but if they don't have the resourcing it doesn't matter". (Interview 5)

and noted that:

"It [statement of common ground] doesn't rule out everything, even if you've have agreed every you know everything you think you've need to discuss, they'll always be something else that comes out of discussions." (Interview 4)

There was brief mention of some additional remediation costs such as unexpected asbestos, but these did not raise serious delivery problems or be particularly related to the DCO process specifically.

In terms of post consent monitoring, the DCO directly specified that Gravesham council would also (i.e. in addition to Thurrock council as the discharging authority) be provided with the re-assessed noise impact monitoring, and that they would also have oversight of the ongoing monitoring and mitigation of the scheme, the lighting strategy and the colours and materials used in the development. Writing in a monitoring role for Gravesham council helped alleviate concerns because they felt they maintained a role in the progression of the development:

“Their main concern was that they didn't just want to be dismissed and just rely on what had been done for the examination, they wanted to then have some involvement and an ongoing conversation.” (Interview 4)

Post consent flexibility and managing change

The main tool of flexibility in this was the ‘Rochdale Envelop’ (alongside some of the Permitted Development Rights that ports have). It set the limits of maximum heights and the applicant team were very thorough in making sure that these limits covered a ‘worst case scenario’, both for heights, but also as a general principal in all their modelling assumptions:

“We could make conservative assumptions which said, OK, well, let's put the noisiest machinery or the dustiest operations around the boundary.” (Interview 4)

“I mean it is there's always within traffic modelling, there's always a degree of flexibility as it's not an exact science. So you have to then design roads and junctions to have that some flexibility because when you get on the ground, it's always slightly different.” (Interview 3)

“If your strategy has got such hard edges around it then you will have a problem.” (Interview 1)

“[The project team all] knew where to have the flexibility as well and the engineers as well and the port themselves...I've been around long enough to know what's expected and therefore allowed for that within the DCO requirements etcetera.” (Interview 3)

The team were very conscious of this when crafting the wording of the DCO, with particular input from their legal team.

This level of flexibility was useful for both the developers and the local authorities. By drawing on the most conservative estimates, the applicant was able to demonstrate that even in the worst case scenario, the development would not go beyond what had been established as the legitimate scope of disturbance. Post consent monitoring was not only set up within these higher limits of the Rochdale envelop, but also with clauses in it to allow both affected councils to be involved in this monitoring, as discussed above too:

“it was just to give the local authorities that comfort that there wouldn't be, you know, an unintended environmental consequence that hadn't been assessed properly at the time of the application. And I think that that was a useful mechanism to ensure that the examining authority felt comfortable because there were differences of opinion, if I could say that between us and local authority to the South of the river, they would have preferred more controls.” (Interview 2)

Lessons for other projects

- Some of the recently suggested government reforms (especially Reform Area 2) seem to reflect concerns from this case study about tightening and speeding up the process prior to and during the hearing. The lessons from this case would support these proposals.
- A strong team who all understand the aims of the project is vital.
- The history of the site as industrial/Tilbury port eased this development with local people and points to the value of local support.
- The DCO process should give a more fit for purpose permission for all stakeholders than the standard TCPA route.

Case Study D – A19/A184 Testo’s Junction Alteration (South Tyneside)

Summary

The Testo’s Junction Alteration scheme is a relatively small National Highways (formerly Highways England and Highways Agency) project to improve the congested A19/A184 roundabout junction in the North East of England via an enlarged roundabout, new flyover and slip roads for the A19. Construction was not without challenges, but National Highways working with Costain (as designer and contractor) was assiduous in anticipating potential post-consent issues. This included the innovative inclusion of two design options in the DCO given the uncertain costs of diverting gas and water mains. Testo’s is distinctive as a PA 2008 scheme for early appointment of the contractor, their lead role in the DCO process, and the long lead-in time for project design. The case-study demonstrates the value of early contractor involvement at the appropriate time (for example at commencement of the pre-application stage) in the DCO process in anticipating post-consent issues. Key learning points from the case study are: (a) the inclusion of structures options in the DCO to provide important flexibility for the detailed design and construction phases; (b) the value of having the contractor taking a lead role in the process of drawing up and submitting the DCO in anticipating post-consent challenges and opportunities; (c) the ways in which National Highways drew on prior experience of previous PA 2008 projects; (d) the Testo’s project helped both the contractor and promoter test principles (such as the options for the DCO) and build knowledge and capacity for subsequent PA 2008 projects.



Image 6 – Junction construction works (Courtesy of National Highways)

Project overview and timescale

The Testo's Junction Alteration (subsequently referred to a Testo's) scheme is a National Highways project to improve the intersection of the A19 and A184 in South Tyneside in north east England, completed in 2021. This involved widening the existing roundabout and entry roads, constructing a new flyover over the roundabout with new slip-roads, and rerouting, widening, and improving footpaths, cycle tracks and bridleways, and rerouting utilities that crossed the site. The junction is part of a busy southern approach to the Tyne Tunnel and the project had been an identified transport priority since the early 2000s. The junction is in a narrow area of open countryside and the scheme only had limited direct impacts on a small number of neighbouring properties and businesses. The Testo's scheme is adjacent to (and links with) the NSIP scheme to improve the A19 junction at Downhill Lane, 1 km south of the Testo's roundabout, and consideration was given to submitting Testo's and Downhill Lane as a single DCO (see below). The Testo's site was also adjacent on its eastern boundary to a planned NSIP scheme for a new International Advanced Manufacturing Park, which also had to be considered when preparing the Testo's DCO.

KEY PROJECT DETAILS

- A NEW FLYOVER AND ENLARGED ROUNDABOUT FOR THE A19/A184 JUNCTION IN SOUTH TYNESIDE
- FUNDED BY THE DEPARTMENT FOR TRANSPORT, DELIVERED BY NATIONAL HIGHWAYS (FORMERLY HIGHWAYS ENGLAND) (FINAL COST £124.5M)
- PRE-APPLICATION INTENTION 2014, EXAMINATION ENDS MAR 2018, DCO GRANTED IN SEPT 2018.
- CONSTRUCTION STARTED MAR 2019, COMPLETED 2021.

KEY DELIVERY PARTNERS

- COSTAIN (WITH JACOBS AS DESIGN PARTNER) (PROJECT MANAGER AND CONTRACTOR)
- PROMOTED AND FUNDED BY NATIONAL HIGHWAYS
- IN SOUTH TYNESIDE LOCAL AUTHORITY AREA

The lead contractor for the Testo's project (Costain, with Jacobs as design partner) was initially appointed by the then Highways Agency in 2006 via the Early Contractor Involvement scheme to design and construct a wider package of schemes that included the Testo's scheme. The Testo's scheme was postponed by the UK Government after the 2010 general election and subsequently restarted in 2013 with the pre-application intention submitted in October 2014, the examination ending in March 2018 and permission granted in September 2018. Construction started in March 2019. Costain was also the lead contractor for the adjacent Downhill Lane scheme, with permission for the DCO granted in July 2020. **The lead contractor (Costain) therefore had a long history of involvement with the design and planning of the scheme before the DCO process and there was a relatively long lead-in time before the DCO. Costain subsequently took the lead on the process of DCO preparation and submission in collaboration with National Highways and Bircham Dyson Bell Pitmans (BDBP) (the appointed external legal supplier).**

The DCO from a post-consent perspective

The Testo's scheme has held the 'record for the shortest [DCO] examination' of PA 2008 projects (Interview 1) and the examination process was seen by interviewees as being positive and the examination process was supportive:

"As for the examination in public and discussions with the planning inspectorate, this was positive throughout the process." (Interview 3)

The DCO also provided a robust framework for implementation and delivery. Whilst Testo's was a relatively small and uncomplicated scheme in comparison with many others, the effectiveness of the examination process and the experience post-consent reflected the considerable effort that National Highways and Costain put into anticipating potential post-consent issues and ensuring sufficient flexibility within the DCO. The history of the project meant that Costain had a long lead-in time to examination, and the project design being relatively mature at the pre-application stage:

"The detailed design normally starts after the submission, but we started it earlier before submission. That was a peculiarity of Testo's." (Interview 1)

"Good communication was established with the delivery partners at the pre-development stage, with the scheme being planned for almost 10-15 year". (Interview 3).

A key issue for Costain during the consent process was to ensure sufficient flexibility for areas of construction that might otherwise have constrained construction and required additional requests for post-consent permission (e.g. allowing sufficient areas for earthworks): 'the scheme assessment covered everything we might need to do as a fall back. We were constantly asking the teams, "where do we need the flex?"' (Interview 1). Understanding the phasing of construction and the sequencing of temporary conditions was felt to be particularly important:

"Understanding phasing is really important. For a highways project you need to sort out phasing of the works, when you will need [statutory undertaker] diversions doing and temporary working areas including compounds. How temporarily are you going to get landowner/occupier to retained lands? That all comes from your phasing and understanding of where you can practically get people, plant and materials through the site, a lot of the pain points for schemes in implementation are where this has not been anticipated. Understanding of temporary conditions is the big thing that contracting organizations can really bring into the process." (Interview 1)

As part of the attempt to ensure maximum flexibility, a key element and innovation in the DCO process was to seek consent for two potential options for the elevated crossing of the A19 over the existing Testo's Roundabout. The options were not presented as alternatives but as different design approaches that allowed for 'maximum construction flexibility' to achieve the 'best solution.' Additional information and consultation on the options was also introduced during the examination process (and not part of the initial submission). The need for flexibility was driven by the complexity of diverting a significant gas main and water main that ran under the site and would need to be diverted for one of the options. Option one was for two bridges over the roundabout and an embankment mound between (with the water and gas mains following the roads under the bridges), whereas Option Two was for a single flyover bridge over the enlarged roundabout, avoiding the need for diversions. Option One was initially the preferred option, but the complexity of diverting the gas and water mains and a number of temporary conditions during construction made it necessary to secure an alternative solution in the consent.. The two options had the same land footprint, and it was relatively easy to include this level of flexibility in the EIA for the options approach despite being introduced, in part, during the examination process. Because the project 'was so mature in its design' (there were detailed designs for both options), the application included a reduced vertical limit of deviation to 'plus or minus 250mm'. The two options approach was subsequently important in securing a more favourable design solution without the need for post-

consent approvals or changes. National Highways, have subsequently adopted a similar options approach on subsequent PA 2008 schemes.

Another aspect of the DCO that was important for delivery was the interrelationship between the Testo's scheme and (a) the adjacent proposed Downhill Lane scheme to improve another A19 Junction, and (b) the planned DCO to facilitate development of the adjacent International Advanced Manufacturing Plant proposed by Sunderland City Council and South Tyneside Council. Downhill Lane was especially important because the two schemes would need to link together, both in terms of highways and related changes and enhancements to footpaths, cycle routes and bridleways. Consideration was given to submitting Testo's and Downhill Lane together as single DCOs, but the decision was taken to keep the two schemes separate. The need to coordinate across three schemes being progressed to different and uncertain timescales introduced an added level of complexity to the Testo's submission, which was the first to be examined: *"we were constantly evaluating the interrelationship between those schemes because the timing and sequence of the schemes changed during the pre-application stage of the Testo's scheme."* (Interview 1).

The Testo's DCO anticipated the future interaction with the Downhill Lane scheme (including cycle path coordination, the siting of a pond for drainage for the Downhill Lane scheme, if needed, and coordination so that the two projects could share the same site offices should the schemes be delivered concurrently).

National Highways was also proactive in identifying and including the possibility within the EIA of reusing extracted material from another road scheme in the region for the Testo's scheme, estimated to save 'something like 100,000 HGV miles' in trips to and from the landfill site.

The application and examination process was exacting and demanding for the organisations involved:

"The attendance at specific hearings and time spent completing the Local Impacts Report associated with the scheme was a significant pressure in terms of existing duties and responsibilities." (Interview 3)

There were particular challenges in relation to the approach to construction options and meshing the Testo's DCO with Downhill Lane and the planned IAMP scheme. As outlined above, National Highways put considerable effort into anticipating potential post-consent construction issues and ensuring sufficient flexibility within the DCO, and that approach was demanding for the small team responsible for the DCO. Testo's was important in supporting the building of in-house expertise within National Highways in drafting DCOs for future projects, particularly the point of flexibility:

"With Testo's we were still establishing the DCO role. We've certainly learned lessons from Testo's in many ways. The way they [Costain and the examiner] dealt with the flexibility and options was a precedent for future schemes." (Interview 2)

National Highways now procure their schemes under their Regional Delivery Partnerships engaging early with multidisciplinary teams (Delivery Integration Partners, or 'DIPs') who work with NH throughout the scheme lifecycle. National Highways, in recognising the importance of ensuring ongoing compliance with the DCO post consent established a Technical Assurance Framework to allow an independent role from the contractor to support the in-house project management team.

Issues in post-consent and delivery

Post-consent approval was only required for a relatively minor design amendment, secured through the discharge of requirements process to reroute a proposed footway connection that created engineering problems when it was found to run closer to a water main than records and surveys had indicated. The project also benefited from good working links with key stakeholders including the local authority, statutory bodies and landowners established early in the planning stage. The local authority and landowners supported the new footway connection because it maintained the intended connectivity. The footway connection redesign was approved via the detailed design requirement rather than requiring permission as a non-material change.

Early contactor involvement lead allowed the contractor to develop and maintain good working links with the key stakeholders including the local authority and the approach was to be as open as possible about what was being proposed, ‘it’s about being open with everybody.’ There were also felt to be advantages in involving the contractor in consultation: *“With consultation, people like to talk to people who are delivering the scheme, who know what will happen, and you build trust and get continuity in terms of community consultation throughout the project.”* (Interview 1)

The experience of discharging requirements was seen by interviewees as relatively straightforward, and the project team reported excellent relationships with the supportive local authority (South Tyneside Council). **Reaching voluntary agreements with key stakeholders and landowners was also possible.** Indeed, as part of its extensive work on the DCO, Costain was also able to orchestrate voluntary agreements with landowners and secure rights to advance work on utility diversions prior to the granting of the DCO, which again minimised the potential for post-consent risk and delay: *“we actually diverted a large number of stats before we started the development. That de-risked the construction phase programme”* (Interview 1). It is not always easy to engage with statutory undertakers and case study interviews highlighted the importance of learning how to engage effectively with different stakeholder organisations:

The Testo’s scheme in retrospect

Those interviewed were asked to reflect on the changing context for NSIPs after Testo’s and whether Testo’s might be more or less challenging to take forward in the current context. One important change is that road schemes are now subject to more scrutiny by environmental groups and especially that the methodology for assessing schemes against national low- or zero-carbon policies is still being developed and tested:

“The problem now is that we are not getting to post-consent. Decisions are taking longer, and we have had four schemes now that have been challenged, and two have been redetermined. That’s all off the back of carbon. It started with the Derby A38 scheme and the methodology [for assessing cumulative carbon] and that challenge was upheld. We didn’t have that level of challenge before.” (Interview 2)

The examination process is felt to be ever more challenging and demanding on organisations:

“As the whole NSIP process has progressed the examining authority has challenged more than was the case with Testo’s. More requests for documents, more requests in general, a lot more interrogation.” (Interview 2)

It is possible that aspects of the flexibility built into the Testo's project might be more difficult to achieve in the current context.

Key learning

With early contractor involvement, Costain was able to anticipate a range of issues in drafting the application that might have led to difficulties post-consent without the flexibilities built into the DCO. Costain was also able to build relationships with landowners and stakeholder during the development phase that were beneficial for delivery of the project. Testo's can be seen in the PA 2008 world as a relatively self-contained and 'easy' scheme, but that perspective overlooks the sensitivity, commitment to collaboration, hard work and innovation that went into the DCO and its subsequent delivery. Key to that role was the time, thought and resources that Costain, National Highways and BDBP put into drafting the DCO and Testo's was seen by National Highways and Costain very much as a learning experience. Both National Highways and Costain have subsequently invested in organisational teams and capacity to help link consent and post-consent processes but the effectiveness of the approach to the Testo's scheme (and PA 2008 projects in general) depended on the oversight, insight and commitment of a small number of key individuals within those organisations. Key lessons are therefore:

- The Testo's case study is very much about **the value of proactive organisational thinking in anticipating post-consent challenges and opportunities.**
- The case study demonstrates **the value of a strong contractor perspective at the pre-application stage in anticipating and managing delivery issues and exploring innovative solutions.** For example, there are relatively straightforward flexibilities that can be built into the DCO to avoid practical construction issues that might cause problems during delivery. **The role of the contractor throughout the project lifecycle avoided the transactional difficulties in moving from consent to delivery.**
- The scheme **benefitted from the project team's openness about risk and uncertainty throughout the project.**
- There is the potential for organisations to build capacity, knowledge and expertise in anticipating post-consent and delivery issues, but that requires **organisational commitment, resources and astute leadership from those who manage different aspects of the scheme.**
- The Testo's project was perhaps not as complicated as some national infrastructure projects (in terms of construction challenges and stakeholder engagement) and there were distinctive elements that made it different from many other NSIP projects in terms of easing delivery and post-consent challenges. **However, the organisational approach made the project look easier than it might have been.**

Case Study E - North Shropshire Reinforcement Project

Summary

The North Shropshire Reinforcement Project (NSRP) represents an £18 million investment on the part of Scottish Power Energy Networks (SPEN). It comprises a 22.5km 132.000-volt overhead power line supported by approximately 178 wooden poles (average height 12m) from Oswestry to Wem, plus associated works. The project will support, through enhanced electricity connectivity, new housing and employment development provided for in Shropshire's adopted Site Allocations and Management of Development (Local) Plan 2006 to 2026. The route passes through a predominantly rural, sparsely populated, agricultural landscape wholly within the county of Shropshire. The residential population directly impacted by the development is, therefore, very small. However, the project has generated direct impacts on local ecology and wildlife, landscape and visual amenity, archaeology and cultural heritage, and transport. Initial (non-statutory) consultation, comprising community newsletters and events, focusing on the project route and the local impacts of the development and its construction, commenced in May 2016. The DCO application was submitted in November 2018, following a statutory consultation period from November 2017 to February 2018. The *Reinforcement to the North Shropshire Electricity Distribution Network Order 2020* was approved, following examination by PINS from March to September 2019, by the Secretary of State in March 2020. The project construction work was completed in December 2022.

In broad terms, **participants were positive about the DCO experience**, especially compared to previous planning regimes for major infrastructure projects.

- The DCO permitted the promoter to expedite planning consent, construct the asset, and to get it into service, more promptly than earlier approaches to infrastructure investment and planning.
- The DCO represented a satisfactory balance between certainty and flexibility. The rigidity of the system presented certain challenges of operational detail, but to introduce additional flexibility would incur greater uncertainty, delays, and additional costs.

There were, nonetheless, some important observations about how the DCO process unfolded in relation to the NSRP.

- The “one size fits all” scope of the DCO regime does not differentiate between linear projects and (for example) a nuclear power station.
- Linear projects, such as NSRP, inevitably implicate a broader set of stakeholder interests and, thus, require more extensive consultation and engagement due to their extended geographical footprint and higher number of affected landowners with whom land rights subsequently need to be agreed before development can be made operational, thereby adding risk and time to the scheme progressing as programmed.
- The requirement to include a finalised project design at the DCO application stage does not align with the common practice in other SP Energy Network schemes of appointing a development contractor once consent is secured, necessitating much repetitive, post hoc, post consent design work.
- The length of the DCO and the legalistic jargon used within rendered it inaccessible to a non-specialist audience.
- Many local stakeholders (including built environmental professionals) had limited knowledge and/or experience of the DCO regime, incurring local delays.

Several key success factors were identified.

- It is imperative for the promoter to present a strong rationale for the project, built on a very clear demonstration of need.
- It is highly advantageous for the strategic aims and objectives of the promoter ... in demonstrating need ... to be aligned with those of the local planning authority.
- The prompt realisation of planning consent and construction is made possible by several years of stakeholder engagement and consultation prior to application stage.

Key Project Details

- **132,000-volt wood pole overhead line between Oswestry and Wem**
- **DCO Granted in 2020**
- **Construction commenced in 2021 and was completed within a year.**

Key delivery partners

- **SP ENERGY NETWORKS**
- **CONTRACTOR**
- **GILLESPIES (and other expert advisors)**
- **SHROPSHIRE COUNTY COUNCIL**



Image 7 – Operational scheme (Courtesy of SP Energy Networks)

Views on the DCO as granted

NSRP participants judged that **the DCO represented a satisfactory balance between certainty and flexibility**. That is, it afforded the promoter a certain scope to adapt to changing circumstances, but within clearly prescribed limits. The DCO **explains the nature and scope of the relationship with the public, statutory consultees, and other partners, and provides important controls, and rights over landowners**. The key perceived problems with the DCO itself were **its length and its statutory nature**. The latter, it was argued, rendered it **inaccessible to many local stakeholders**.

“It is quite a bit different to a planning consent, although when you read it, it's as good as a planning consent. So, perhaps there needs to be some rethinking around the presentation, that the template of the DCO is a statutory document; only some type of accredited solicitor who knows legislation for Parliament is allowed to write a DCO.” (Interview 1)

The relative novelty of, and the statutory nature and scope of, the DCO has resulted in **a lack of knowledge of the process on the part of local stakeholders**, including consultants and legal advisors. This prompted **delays in local implementation**.

“This is a one-off event for the people of North Shropshire. The DCO for us, as a Distribution Network Operator, was a very solid mechanism, but we’re still having the discussions now. A lot of the local land agents, a lot of the local solicitors, did not switch on, and I would argue that many still have not switched on to this line, actually know what DCO is. We were very happy with how it was written, and the support that we received from the appointed Planning Inspector, but I don’t think the people actually realised what it was, and even more worrying, the professional advice that they received; I think at times was a bit wanting.”
(Interview 2)

Positive delivery experiences

In broad terms, NSRP participants all compared the DCO process favourably with their experience of previous planning regimes. In short, the **DCO permitted the promoter to construct the asset and to get it into service promptly according to programme as the process provides certainty on timescales for determining projects.**

“Compared to other planning regimes DCO is very positive, with a certain confirmed timeline of events, and you know most DCOs are approved. Previously, if we went into an enquiry, it always felt like 50/50, but the DCO brings an added amount of certainty.” (Interview 1)

That said, an important conclusion is that the success of the DCO process depended to a large extent on the outcome of **years of preparatory work, and informal consultation undertaken before the statutory process began** which informed the process of “*optioneering*” and detailed implementation.

“We’ve been able to go about and construct and commission the project in relatively; short space – time, but that is after multiple years in the pre-planning and planning phases.”
(Interview 3)

“The precursor to the informal consultation, and it is part of our DCO application, is that, as an organisation, we positively encouraged stakeholder engagement before the informal stage; regular, probably every quarter, meetings with local councillors, county councillors, major stakeholders in the area. I’m not saying that they always agreed with us, but we had a conduit into the local communities; we’d pretty much done an informal consultation, 90 to 95% of the way there before we launched the formal consultation”. (Interview 2)

The progress of the NSRP was greatly facilitated by a (largely fortuitous) **alignment with the corporate priorities of the Local Planning Authority** expressed in the Local Plan and Infrastructure Delivery Plan. Participants suggested that this was, perhaps, atypical of such projects.

“We’ve learned from past projects how important it is to express the need for the project. So, we build into our projects what we call a need case and that, in this case, was in part from the Council themselves in their Local Plan, recognising a need to grow Shropshire in terms of its market towns, its appeal and attractiveness to people wanting to live in that area. So, Shropshire was a breath of fresh air. We had that support from the Council officers and local politicians and national politicians. So, the work left for us was with some of the other statutory stakeholders.” (Interview 1)

Participants also confirmed experience of previous DCO projects, and **the advantage of institutional learning**, had played a key role in expediting the North Shropshire project promptly. Participants, again, suggested that this was atypical of such projects.

“Internally this this is seen as a success within our business, because we’re just come off the back of another DCO up in North Wales, where I think that was a first one, and we learnt a

lot of lessons from that DCO mainly in respect of dealing with numerous landowners. So, I think we had the opportunity to learn quite a lot and those learning points we put into this one. I'm never going to say it was perfect, but I think relatively speaking it was a success.” (Interview 2)

Delivery challenges

NSRP participants argued that the Planning Act 2008 takes an all-inclusive **“one size fits all” approach to defining nationally significant infrastructure projects** irrespective of potential local impact. The standard DCO process was, thus, considered disproportionate for “linear” projects typified by the North Shropshire investment.

“We tried to argue that it was not suitable for a wood pole type line. We are in the same timeline as nuclear power stations with all its nuts and bolts. So, you can't help thinking that there ought to be a slicker process out there for the lower threshold projects with a greater presumption in favour rather than having to justify each matter in evidence.” (Interview 1)

The distinctive characteristics of the NSRP are its ‘linear’ configuration; it extends over a significant geographical area and, thus, implicates multiple stakeholders, but **its local impact, typical of many such projects, in most localities along its route is modest**. It was argued that the DCO necessitates:

“A washing machine style process of design and repeat and move and change. You come up with a detailed design at each stage of trying to decide your routes for a linear project and dealing with all the variables of design and landowners, and planning, etc. That's probably the most challenging in terms of this project. My gut feeling is that the ceremony of the DCO sets it up to be something it's not; it's not a 400KW double circuit towers, it's a wood pole overhead line.” (Interview 3)

“The real challenge is the number of interested parties, the book of references runs massively, and the expense of maintaining that and having good governance over those land ownerships you're going over is a very, very difficult complex task that takes a lot of time, especially when dealing with so many landowners who would rather not have the project. ” (Interview 3)

The promoter team perceived the DCO process as requiring **the finalisation of project design prior to approval. This did not align with their typical project management practices** in which the contractor (often responsible for detailed design) is appointed at implementation stage. This potentially provides **a disincentive for contractors to become involved in such projects**. In the case of NSRP, the DCO application was submitted in 2018, it was approved in 2020, followed by the 6 weeks judicial review period and discharge of requirements, on which SPEN managed to restrict to only two prior determination type requirements and, on these, then worked closely with the local authority. However, the contractor was not appointed until 2022. Close working between the contractor, who hired the same external design team that helped the promoter to put the design together for the DCO, helped resolve post consent design issues:

“You then end up with this ‘well, here's a DCO that we've designed for. Yeah, now you go and build it’, but part of the contract is that they're responsible for the design, so they then have to do design verification exercise on the design that we got planning for. That would be a little bit of an anomaly, but we ensured that the contract contained references to complying with the DCO as awarded. So yeah, that's a real sticking point for DCO, in that it's design up front which is not so easy to get right from the start unless there is a very strongly collaborative project team as there was in NSRP. ” (Interview 2)

The promoter was, thus, keen to emphasise the need for an improved determination process for dealing with changes post DCO, such as delegated authority or permitted development, where provided a change meets the prescribed criteria it can be deemed approved.

The NSRP encountered issues with access and issues in acquisition of rights. However, these were not as problematic as anticipated as, **in its capacity as a Distribution Network Operator, the promoter had prescribed access rights.** Participants suggested that this was, probably, atypical of such projects. In practice, these rights were not used extensively.

“We have rights under a DNO licence and not every promoter would have a licence like that. We had quite a lot of discussion with our lawyers about use, and they certainly allowed us to use that, it's always a full back. We only apply those rights in very much a last resort; all through agreement. So, we have the fall back, but it was all done by agreement, even with any surveys we did all do by agreement.” (Interview 1)

Participants noted that **many access rights issues are inevitable** in major infrastructure projects, notwithstanding the planning regime adopted.

“You've got a multi-year project and landowners may change access gates, temporary ways, they may rotate the field crops and what have you. So, what we found in terms of trying to establish construction accesses and the rights for them, we might have been constructing the assets two or three years later. So, there is always the risk that we did have a couple of things that changed ownerships, and sale or a death in the family, but that is a risk that when it comes to construction.” (Interview 2)

In practice, the main aspect of negotiating with landowners, due to the overhead line solution, was in respect of tree cutting. There were some delays incurred due to the on-set of COVID-19 but, otherwise, the period between consent and full construction was unremarkable.

“The line was built, I would say without incident, and we didn't have any campaigners or any banners or you know people blocking accesses or whatever. You didn't have any of that. It was a fairly low-key affair, I think.” (Interview 2)

The DCO, as published, **provides for a succinct set of requirements:** a project time limit of 5 years; compliance to approved details, with ‘limits of deviation’ in respect of height, position, and proximity to hedgerows of individual poles; compliance to UK Felling Standards; restricted construction hours; reporting and remediating contaminated land / ground water; and preparation of construction environment management and traffic management plans. These were agreed with the project delivery team to ensure they were acceptable. NSRP participants acknowledged that **some previous projects had been subject to many more planning requirements.** Moreover, **the imposed requirements were considered not to represent a significant increase over and above work outlined in the DCO application, and the DCO regime represented a reduction in the overall number of consents required by incorporating these into the DCO.**

“We had the protected species licences. We did have a sort of consent from the Environment Agency and exemption permit across the river which we had submitted in our other consents and licences report. Then, of course, what we what we might normally have had to have done in a previous regime were included in the DCO, so that that that was good. We didn't have Tree Notices. Then there was Permitted Development Rights which we exercised in respect of the work at the substations, and we didn't have any sort of habitat licencing to do.” (Interview 1)

A recurring theme of the interviews was **the inherent rigidity of the DCO regime, post consent.** This presented certain practical problems.

“The rigidity of the DCO process ... fixed boundaries, fixed locks, the number of poles and sites ... it removes the option of changes at the construction phase towards the end of the project... and perhaps the landowners benefit ... they might like a little bit of flexibility”.
(Interview 3)

One such practical challenge was the precise route of the line, with the location of individual poles restricted to a radius of 5m by the DCO.

“We went for an order that allowed us to build a line with a construction corridor but to be able to also move the line within this corridor. A particular aspect of that was poles in and around hedgerows, where we built in flexibility ... with, a separate design drawing to show how that would work, and we assessed poles anywhere within the applied for corridor in an Environmental Impact Assessment.” (Interview 1)

Matters of very precise detail, such as the appropriate treatment for the wooden poles, **were also subject to strict constraints, if not included within the DCO.**

“We tried innovating by using a different pole treatment that we were potentially limited in its usage because we hadn't specified that in the DCO. Therefore, when there's a design alternative to that which proposed initially, you're limited, So we'd have to go for a fully revised DCO mark two, or seek revisions to certain elements of it. So, we're almost shackled and I know that obviously the whole process is built so that you've got surety and you know what you're applying for, but there is a balance to be struck of sensible things, and in this case, it was an alternative to creosote on poles.” (Interview 3)

Temporary uses, such as sites for the storage of plant and supplies also not included within the DCO required specific Town and Country Planning Act consent.

“We have a depot at Oswestry which was a couple of miles from the edge of the DCO limit which we intended to use as a compound because that's what that area is always used for, and so we didn't need planning for that. When the contractors arrive in between the consent and construction starting, they decided that they would prefer the compound closer. They quickly found themselves a decent site which we then applied for planning permission for and was granted. That was, partly because we awarded the contract post consent and pre consent was based on several assumptions; it's all down to your supply chain how much stock you have got to hold, the footprint that you require vehicles etcetera. So, unfortunately that level of detail didn't become available until the final contractor was appointed.”
(Interview 1)

In the last instance, however, **this rigidity was anticipated.** Indeed, it was accepted. **The introduction of greater flexibility into the DCO regime, it was argued, would lead to greater uncertainty, delay and cost.**

“I was expecting there to be requirements that need the promoter to tie down on some detail, and which was right. So, one example was a construction and management plan; to explain in more detail how the construction would take place. Another one was on the traffic management, again spelling out more about how many lorries might be going down certain roads. Then, in the other aspects of the DCO, no, I'd say it was fairly controlled in terms of land rights and what we're allowed to do in our favour, because that's what we applied for. I think adding lots of flexibility won't really help you because you're just need to go through another process again on top of it.” (Interview 1)

Lessons for other projects

The promoter needs to work at speed and drive the input and decisions of the multi-stakeholder decision-making environment.

“As a promoter, you need to retain control because it is a process that brings in Tom Cobley and all, supposedly agents, advisors, lawyers, specialists and you really need to be in control, otherwise you know you can lose control. Make sure you're in the driving seat when you're on the promoter.” (Interview 1)

In particular, it is crucial for the promoter to communicate a strong and unequivocal message about the *need* for the project.

“Be absolutely on top of your needs case, why you're doing it. Be absolutely convinced of the reason for your project and make sure all your reasons are convincing and there's no ‘sort of’. There's no dubiety about it. That's it for me.” (Interview 3)

DCO is, fundamentally, a statutory process. Local stakeholders need to be aware of the established and statutorily defined terms of engagement and differentiate these steps from the early non-statutory and flexible consultation.

*“I don't think that many people, many stakeholders, many land agents and even solicitors in it's a part of this project fully understand what the DCO is and the statutory powers that it gives to the to the organisation that has one granted to them. If there's a lot of consenting involved in in linear projects like ours ... it's different if you're at a single site like a nuclear station or an airport or something ... but we were very linear, I think we got over 100 consenters that we were looking for, plus all the other people in the book of references. I think the lesson learned just to be fair and ethical, is that you bring all of those people along because they were looking to us. However, as the inspector said in his own words, it's his **process**. It's his DCO inquiry that he's holding, and I, I don't think people made that jump.”.(Interview 2)*

It is imperative to front-load stakeholder engagement and consultation to ensure buy-in and / or minimise opposition prior to application stage when the provisions of statutory consultation apply, which are more onerous.

“Lots of upfront consultation get everybody involved. Ties and the local authority type meetings which took place routinely. So, everybody brought along. So, when the applications were made, nothing was a surprise. We dealt with a lot of the issues upfront, so that was really a definite reason why I think this project went quite well.” (Interview 3)

Case Study F – Hornsea 2

Summary

Hornsea 2 is the **world’s largest offshore wind farm**, the second of four offshore wind schemes within Hornsea Zone 4 wind farm, located off the Yorkshire coast, adjacent to the River Humber¹⁰. Hornsea 2 comprises 165 turbines and the development consent is for an offshore wind generating station built out with an output of over 1.3GW. The project was originally promoted by The SMart Wind consortium, but was **taken over by Orsted following consent being granted for the DCO** in 2016. Hornsea 2 began operation in 2022, in line with the project construction timeline. Following the grant of the DCO in 2016, onshore surveys took place between 2017-2019, alongside seabed clearance and offshore survey work. Hornsea 2 was constructed during the COVID-19 pandemic, and the substation was constructed in several international locations and was re-routed via the Horn of Africa when the Suez Canal was impassable.

Key issues in this project included the change of promoter post grant of the DCO, and the complexity involved in discharging requirements. The project involved non-material changes to the DCO in relation to size of the offshore substation. There were instances where greater flexibility in aspects of the DCO would have been beneficial in facilitating construction, but fixed parameters in the DCO were required for rigorous conversations over impacts of the project at the early stages and greater flexibility would have made environmental assessment more difficult. The project was large and complex, with significant post consent challenges. However, it was nevertheless delivered effectively within the prescribed timeframe and within budget. Early engagement of key stakeholders (and the resourcing of that engagement) was important in securing the effective delivery of the project.

KEY PROJECT DETAILS

- **OFFSHORE WIND FARM – SECOND OF FOUR HORNSEA PROJECTS IN THE HORNSEA ZONE**
- **APPLICATION SUBMITTED JAN 2015**
- **EXAMINATION ENDS DEC 2015**
- **DCO GRANTED 16TH AUGUST 2016**
- **CONSTRUCTION STARTED 2019 AND COMPLETED 2022**

KEY DELIVERY PARTNERS

- **ORSTED (DEVELOPER AND PROJECT MANAGER)**
- **OFFSHORE AND NORTH EAST LINCOLNSHIRE, EAST LINDSEY, WEST LINDSEY AND NORTH LINCOLNSHIRE LOCAL AUTHORITY AREAS**

Views on the DCO as granted

Orsted took over the role of developer, owner and operator for Hornsea 2 from the SMart wind consortium following the granting of the DCO and there was a handover process to smooth this transition. Some challenges relating to the DCO as granted were linked to this change in terms of scheme design and construction. Interviewees were generally **positive about the DCO and the flexibility it offered overall**: *“There’s a lot of allowances of what you can do and what you cannot do, and I think in general there weren’t too many restrictions in the DCO and the options that were provided did allow us what we needed to do.”* (Interviewee 2). A **Deemed Marine Licence (DML)** is required for offshore wind farms within the DCO. In the case of Hornsea 2, the inclusion of the DML

¹⁰ <https://news.siemens.co.uk/news/siemens-project-ventures-and-mainstream-renewable-power-win-contract-to-develop-4gw-of-wind-farms-off-the-uk-coast> Accessed 16/04/2023.

within the DCO was felt to support the efficiency and speed of construction and was seen as a real positive.



Image 8 – Hornsea Two from the air (Courtesy of Ørsted)

Positive delivery experiences– where has the DCO supported delivery effectively

The Rochdale Envelope was considered an effective part of the DCO process to enable the project to move forward and reduce the need to revisit the DCO once granted. In particular, the parameters set around the cable routes and the amount of rock that was needed on the seabed were cited as useful. The envelope assessment was considered successful in relation to offshore wind generally and Hornsea 2 in particular:

“You have to basically future proof your project, there's no way to do that without that envelope assessment.” (Interview 1)

The inclusion of development options in the DCO were also helpful for delivery of Hornsea 2. For example, the foundations for Hornsea 2 were subject to options, with monopiles ultimately chosen as the most cost effective and best suited to the ground conditions. Flexibility was also offered around the options for alternating current (AC) or direct current (DC) in terms of currents for the cabling.

DCO standard clauses were considered helpful. The wording of the requirements including the statement “unless otherwise agreed in writing” with the statutory body was important as a flexibility mechanism:

“Thinking about it, that (wording) ‘unless otherwise agreed’ with the MMO, was a real sort of lifesaver, because it then allows us to have that discussion with them and say, ‘We don't think

this is realistic or this isn't possible' and we arrange another agreement essentially. And so, in that sense, discharging requirements did work quite well, and there was that flexibility.” (Interview 2)

In some circumstances flexibility from the MMO around construction methods and practices aided delivery. The MMO was able to work with the developer to build further flexibility into the DCO post consent through **agreement to options** in relation to methodologies for offshore works and management plans.

“With changes to methodologies we would always say (to our contractors) if you've got two different ways to do something, tell us them both and we'll get consent for both... put everything you think you're going to need or do up front. Let's get permission for that, again just giving ourselves sort of flexibility.” (Interview 2)

The DCO included **a list of requirements to be dealt with prior to commencement**, which included agreement of the construction management and working procedures. The early engagement of the MMO and cooperation on agreeing flexibility in methodology around archaeological surveys was beneficial for the post consent phase:

“We were lucky... we were able to start the archaeology onshore before we had to discharge any major pieces of work we had to do, like the vegetation removal... we did learn that it doesn't matter how early you think you've planned the archaeology, it's never early enough. We did a lot of geophysical survey work up front and that really helped us.” (Interview 1)

Delivery challenges

The DCO included an **extensive list of requirements**, including appearance of turbines, access, ecological management, onshore and offshore details amongst a range of other requirements. Challenges were identified in relation to flexibility around discharge of specific requirements such as the trialling of protective bubble curtains for unexploded ordnance (UXO) detonations and cable laying. The developer cited a lack of flexibility from statutory bodies such as the MMO to accept the trialling of more technologically advanced alternatives and options, within the parameters of the DCO.

“I think if we had the choice about how we had done things in the intertidal in terms of our cable laying, we probably would have changed some things there as well, but that was a real challenge on the project and probably the area where we got into most difficulty in terms of actually discharging the requirements.” (Interview 1)

Some requirements were considered too vague to be effective in guiding development. In relation to the wording of the requirements, an example given was ornithology where the requirement was for an ornithological plan to be agreed but with no further guidance. The relationship and negotiation with stakeholders required further time as a result. **Offshore discharge of requirements from the intertidal zone** outwards were considered more complex and challenging than onshore requirements due to the level of detail needed to address them and the nature conservation designations in the area. There was also an observation that the requirements did not cover all the necessary reporting in relation to some key offshore requirements.

“For spills, there was no mention of reporting for spills, even though that is a requirement, and it wasn't included. It caught a lot of our contractors off guard... the entire thing was deemed non-compliant if there was a small spill...that wasn't reported within six hours... that six-hour

timeframe was a definite commitment we needed to make but that just isn't stated in the DCO clearly or at all.” (Interview 2)

Further post consent licenses were required, including from NE, before work could be carried out and that led to delays in delivery:

“In theory you should be able to go through with Natural England, they should be able to say to you here is your licence for great crested newts. Here is your badger license, but they don't... Natural England won't sign up to it being included in the DCO process. So, every single one of those things that in theory they could include, we've never had that happen. And I don't know if any developers do have that happen.” (Interview 1)

Views were also expressed by interviewees that through the **examination process additional complexity and further requirements** could be added around compensation, although this was not the case on the Hornsea 2 project. There was concern that these additions would slow down delivery in the future, due to the additional stakeholder negotiations that would result; this was observed in relation to the recent Hornsea 3 scheme.

The need to align Hornsea 2 from the Hornsea 1 site limited the options for designing the offshore layout of the scheme suggested one interviewee.

“So, there was very little flexibility in that, the awkwardness of the red line boundary was just, to put it bluntly, ridiculous. That jagged northern boundary just made absolutely no sense to us whatsoever, and so that made it difficult when agreeing that design specification layout plan.” (Interview 3)

Overly **complex and lengthy documentation required for the examination** was not helpful for communication between contractors, promoters, stakeholders and consultees at examination and in delivery:

“So, we do have to look at these overly large documents...we're trying to address this with the MMO that these reconcondensing pollution plans are just too big.” (Interview 3)

Significant work was required by the developer post consent to manage the large number of contractors involved in the project (*“There's probably half a dozen main contractors”* Interviewee 2). The **translation of the requirements** and complexity of documentation caused issues for the developer in communicating what was needed for construction on the ground. Project management processes, clear lines of communication and daily meetings with contractors were cited as the main techniques that Orsted employed to deliver the project and navigate the complexity of the requirements of the DCO. Delays were experienced when undertaking horizontal directional drilling, due to impacts on the Site of Special Scientific Interest (SSSI). The issues were identified post consent and it was felt that taking more time for a **wider discussion around risk** and potential issues relating to the drilling pre consent would have saved time in the delivery phase.

It was also felt, however, that the ability to provide all the **required information at the outset** of a project of such scale and complexity could not have been achieved as there were still unknowns and technological advance took place between project conception and implementation.

“We definitely had some points where things could have gone better but I think that was more to do with almost the entire process from end to end of what you provide or what you can

provide when you submit an application and then what you get when you actually start digging a hole which are two different things.” (Interview 1)

Managing change and post consent flexibility

The developer team was clear that whilst the flexibility provided for, within the DCO through the Rochdale Envelope and options, had been important (as referenced above), additional flexibility would have been beneficial at the delivery phase. Design changes led to **non-material changes to the DCO** post consent, including in relation to the size of the substation.

“The most challenging thing is you set out and you think that you've done everything you can to future proof the project, but the reality is, is that you do the assessment over here (in time) and then you submit it and then it goes through examination and then when it comes out the other end, the world's changed from whatever you did over here... it had changed so much over that time period that we were ending up having to deliver things that really hadn't been considered in the consent.” (Interview 1)

In order to remove UXO on the seabed, the project required **two additional licences** in relation to the detonation itself and the management of impact on protected species: including marine mammals and harbour porpoises. The changes to the substation related to the creation of one large substation in place of a number of smaller ones. Orsted frontloaded the consultation through meeting with key stakeholders and statutory consultees prior to formal submission of any documentation, which resulted in the non-material change being approved more expediently than previous non-material changes to DCOs projects, according to interviewees.

“The changes post consent, I mean, they were absolutely critical because one of them was to build one very large offshore substation rather than multiple small ones. And when Smartwind did the assessment under the Rochdale envelope, they hadn't gone big enough.” (Interview 1)

A **defined timeline for non-material changes** would have been helped to increase certainty in the process and enable promoters and operators to plan. The timeframe for consenting non material changes could range from six weeks to over one year. Additional **further planning consents** were also required in addition to the DCO.

“There were technically over 50 further TCPA's, but we grouped them together and did four for each of the local planning authorities.” (Interview 1)

There were mixed views over whether a **faster consent process** would support faster delivery, but interviewees tended to emphasise the need to allocate appropriate time and resources to addressing issues during pre-examination and examination:

“Probably not in reality, because I think if you don't sit down and discuss this with the stakeholders up front, it just pushes the problems back and that's exactly what we've experienced is that where we leave things for later discussion, that's just what happens. They'll discuss later, they are not solved and if we push the problem back, it then becomes a problem that you've actually got to find a way to resolve in a much more pressured environment where it's costing you time and money.” (Interview 1)

When asked if time saved in the DCO consenting process would aid in fast tracking projects; one interviewee commented that **seasonality** was critical to whether the time saved in consenting the DCO would significantly impact the project timeline. For example, if the six months saved were at

the wrong time of year to undertake the required environmental surveys and assessments then this would have a negligible impact on overall project delivery timescales. The **time period between consent and commencement** was also considered by the interviewees to be inextricably tied to the financing of the project.

“There is a set timescale associated with the CFD process. So that process determines how quickly you can commence discharging the DCO and building the project because it's very rare that anyone's going to start building an offshore wind farm without the security of knowing that funding is in place.” (Interview 1)

When discussing whether a quicker start on site could have been enabled; one suggestion for expediting the process was the combination of offshore assessments for the different elements required to **reduce timeframes** and another **was twin tracking / overlapping the DCO process** timeline with more of the assessment work; although it was acknowledged that this entails risk for the developers. One interviewee felt that a quicker start on site at Hornsea 2 would not have been possible.

“No, I think it was pretty much up to us (the developer) and unless you get massive surprises in the DCO, you kind of know what's coming and the onshore stuff always comes first and doesn't tend to be the stuff that gets changed.” (Interview 1)

Community and stakeholder engagement experience post consent

Public consultation was undertaken pre and post consent, including regular communication via newsletter, but with more concerted focus on holding community events in the pre consent stage, to coincide with the statutory consultation process.

“Allow them (the public) to have their voice and ... but it was, I think, overall well received and I think we should be doing as much of that as possible.” (Interview 2)

Post consent engagement included a quarterly newsletter and an ongoing community benefit fund.

“Post consent we carry on with newsletters, we do them sort of every three to six months ... we also have a community benefit fund, so that picks up a certain catchment area and we have a team that basically go through that process every six months. So, they are continually involved for the lifetime of the wind farm.” (Interview 1)

In terms of **stakeholder engagement**, the ability to set up SLAs to fund time for statutory consultees to input, was cited by Orsted as a factor in the successful delivery of Hornsea 2; this has been trialled on some other PA 2008 projects, according to interviewee accounts. The limitations caused by **underfunding and insufficient staffing** of key consultees such as the MMO and NE were discussed as a major barrier to delivery, as were regional structures in NE which were seen to spread offshore wind expertise too thinly across the organisation.

“I think the MMO's lack of resource means that one of the things that they've struggled with most is truly fulfilling their regulator role.” (Interview 1)

When discussing **specialist statutory consultees** one interviewee considered that staff turnover was a key issue:

“The resource turnover is so high that people don't have the experience to back-up and make those decisions.” (Interview 1)

The issues around funding and personnel were echoed by consultees:

“Back when Hornsea 2 was consented, there was just one of us doing this role. You're doing everything.” (Interview 3)

There was also discussion around **relationships between consultees**; particularly clarity of remit from the MMO on the role of the Maritime Coastguard Agency (MCA). Interviewees discussed stakeholder relationships positively but there were some areas where reaching agreement on discharge of requirements was a lengthy process, stating that in some instances there was,

“a lot of pushback (from the statutory consultees), a lot of comments we've received that took a lot of time to close out and didn't feel necessary too for the purposes of receiving consent for whatever works we needed to do. So, I think that was a kind of theme throughout the construction.” (Interview 2)

The **LPAs** dealing with Hornsea 2 were considered efficient in their process by interviewees; Orsted set up Planning Performance Agreements (PPAs) with the LPAs to secure time and expertise to advise on the project.

“The onshore local planning authority for onshore documents... I think that was very straightforward. When I first joined, we had started construction onshore, but there were some kind of retrospective documents that we were submitting and in comparison, to offshore regulators and the authorities there, the onshore local planning authorities were very kind of straightforward and exactly how you sort of want them to be ... we'd get approval very quickly with the local planning authority.” (Interview 2)

There was the recognition from Orsted interviewees that LPAs are “massively understaffed” (Interviewee 1) which is causing delivery issues for the upcoming Hornsea 3 project. The S278 and S106 agreements for Hornsea 2 were mainly dealt with in the pre consent stages, when Orsted took the project on the main additional agreements required related to railway infrastructure.

“We had some agreements that we had to put in place with the railways that were more difficult. They are very exacting in how they would like you to cross their infrastructure.” (Interview 1)

Lessons Learned

- Hornsea 2 was a technically and organisationally difficult project to secure consent and deliver. It was delivered to budget and on time primarily because of the strong project management approach implemented by the promoter which included a framework for positive working relationships with key stakeholders. A proactive and positive approach to people and project management were seen as crucial for effective delivery of the project.
- The project benefited from positive working relationships with local authorities, statutory bodies and communities pre and post consent.
- Hornsea demonstrates the effective use of a range of flexibility mechanisms within the consent process.
- On reflection, there were felt to be important areas where delivery challenges might have been eased through additional analysis of difficult issues during the pre consent phase.

- Post consent material changes were needed to address construction issues that could not have been identified before construction. These were granted but defined timescales for post consent changes would have been helpful for effective project planning.