

## NEC30 Webinar: Heathrow Express – from disaster to success and how NEC helped.

**Gren/Barry, wonderful to hear you both and see you both this morning! It brought back some great memories and despite it heading toward 2am, kept me awake! The NEC/ECC has a very slow take up here in Australia (barriers to change) but we are taking small steps through more collaborative forms of contract like Incentivised Target Cost (ITC) contracts. I am a big supporter of the NEC/ECC and look forward to using it here before I retire!! Thanks to you both!**

A. Marc great to hear from you and yes, some great memories of this project – challenging but very rewarding. The use of NEC is increasing in Australia and New Zealand so hopefully you will get to use it on a project soon. *Barry*

**Post-project, was there any consideration of other contract forms or were you quickly confident NEC would be best for future projects?**

A. From memory do not recall any serious consideration of moving away from NEC. There was criticism of the NEC in some quarters about its use for tunnelling works but BAA plc own experience of using the contract demonstrated that the key objective of greater certainty of outcome through disciplined work processes was hugely beneficial.

**I know Sydney Water use the NEC/ECC here in Australia but what else is happening from the NEC's perspective to expand its use here in Australia?**

A. I just completed the first f2f PMA in Australia. We are gradually ramping up activities here, running some NEC Foundation Courses and about to start organising the next PMA. Apart from Sydney Water, the next big user is the Square Kilometre Array project. We have an Oz page on the NEC Community App and I'm happy to talk more with that person if that would be helpful. - *Rob Gerrard*

**What was the Project Insurance Policy and how did this sit alongside the Contractor's Insurance?**

A. BAA took out a project insurance policy for all participants. So, in theory this would save the Client money as they have an over-arching insurance. Many contractors found that the levels of insurance required by them was not significantly reduced.

**I remember the incident well as I was a tunnel engineer at the time. What was the method of reconstruction was it still SCL?**

A. The original tunnelling method was New Austrian Tunnelling Method (NATM). London clay is one of the best tunnelling mediums in the world and essentially it involved using conventional excavators to excavate in the tunnels. The methodology including excavating what were called side drifts and then the central part of the tunnel. The exposed clay was then supported by essentially hoops of steel at 300 centres with mesh in between and then sprayed with concrete to provide the initial support. This was then followed by the permanent concrete lining.

Following the collapse NATM was re-named Sprayed Concrete Lining (SCL)- so your memory is correct.

**To you think the ECI clauses will drive collaboration going forward and do you think anything further could be done to encourage this?**

A. The use of ECI is good, but the use of ECI alone needs to be supported by investing in setting up the contract correctly at the outset. Collaboration/co-operation is not something that just happens. Investing time and effort to create the right environment, select the right people and contractors is essential.

**Did you have a design team actually located on site?**

A. Yes, the clients design team were on site and part of the integrated team – it meant that decisions on technical queries could be made quickly, which was essential in the recovery of the contract.

**Does the memory bank go far back enough to recall which items of claim were not recovered through the Insurance and were those losses shared through the contract ?**

A. Now that is testing the memory. Insurances were in place and these insurances covered the usual insurance items – cannot recall any specific exclusions other than those which were on the insurance policy.

**How were Defects dealt with - was it a joint effort to deal with any Defects?**

A. It was a joint effort in was in neither party's interest to anything else. Notify a Defect, discuss how to deal with it ASAP.

**Have you incorporated more checks through the construction process to ensure work is being carried out to specification?**

A. The Heathrow Express tunnel collapse had far reaching implications not just on HEX but also for other clients using NATM on other projects at the time and yes everyone were reviewing its use, methodology and systems to control. HEX did have a trial use of NATM under the T4 stands.

**It was mentioned that some industry experts blamed the use of NEC for the tunnel collapse. What were the arguments cited by those experts? Were those points valid, on hindsight?**

A. [This article](#) highlights the criticism of the use of NEC for tunnelling contracts. The Civil Engineer magazine had what it described at the time as an avalanche of defence for NEC. The simple question is would any contract of dealt with the tunnel collapse any better? The answer is No, did the contract with its focus on management process help – YES IT DID

**The NEC PM can sometimes feel like a 'lonely role' - so working as a collaborative team can only help this!**

A. The role of the NEC PM is a challenging one and either you are an expert on everything, or you may have a life support system to assist you.

**Contractors are often smaller than the client, and as a result might lack the capacity to manage and administer the contract as effectively. Are there any actions from your experience that clients can consider to help ease administration for contractors, and make sure they feel confident about using NEC, which might be a much more active and collaborative way of working compared to historical industry norms?**

A. The use of web based contract management systems is beneficial, ensure that the client and contractors teams are trained and educated in the use of NEC. Work with the supply chain to identify areas of concern. As a client select the most appropriate contract form, ensure that you have good scope and site information. As a client select a contractor who has the right level of resource to manage the contract and if necessary as on one project as the airport we insisted that the bidders included for a full time planner and other key positions. Remember NEC is a contract which is focussed on good management during the contract itself.

We have been involved client initiatives in which recognising the challenges of using NEC by SMEs that they have organised training workshops and contract surgery days for their suppliers to help them better understand and manage their contracts.

**Would you say that the success of the project was down to leadership and the individuals involved? Did you notice a difference between how the parties collaborated before and after the collapse?**

A. Leadership was absolutely key to the projects successful recovery. The single integrated team enables the traditional barriers to be broken down and quick decisions to be made. The difference between before and after table tennis compared to sitting and talking to each other.