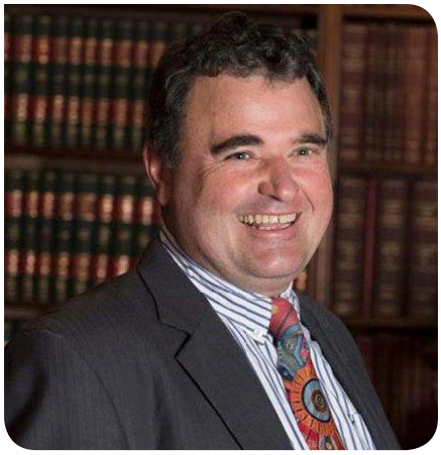
Transport
Asset Standards
Authority

June 2018

Authorised Engineering Organisations

Newsletter

Transport for NSW's Authorised Engineering Organisation (AEO) program, managed by the Asset Standards Authority (ASA), is designed to improve the ability of Transport and its supply chain to collaboratively manage NSW transport network assets more effectively and efficiently over their whole life.



Jason Gordon
Executive Director

Upcoming ASA events

Heritage Community of Practice
18 June

Safety & Assurance Risk Technical Forum
3 July

Systems Engineering Technical Forum
26 July

Competency Seminar
9 August

AEO Community of Practice
14 August

Rolling Stock Technical Forum
16 August

*Above information is correct at time of publishing and is subject to change. Refer to ASA website for latest updates.

Jason's message

As the AEO Community continues to grow – 116 and counting- this publication has become more important than ever. The ASA value our relationship with the AEO Community and this newsletter is one way in which we keep that relationship strong, by connecting with you regularly and keeping the channels of communication open.

We also value close relationships with industry bodies, such as the Rail Technical Society of Australasia (RTSA) who have again hosted CORE (Conference On Rail Excellence). CORE is the nation's pre-eminent event for the rail industry, which is why Transport for NSW (TfNSW) chose to partner with them and had staff presenting papers and chairing sessions. This was a prime opportunity for TfNSW to be part of the conversation about innovations for the future and ways in which we can deliver better for the customer.

TfNSW hosted the Control-Command and Signalling & Telecommunications Workshop organised by the UIC (International Union of Railways) which was held on 3 to 4 May at the same venue as CORE2018. The event featured keynote speakers from the global rail industry presenting on topics including: Optimal modelling and safety assessment of Signalling Systems via standardised methods and languages; cybersecurity; train control and future trends; the regulatory contexts and migration strategies toward future technologies.

Thank you to everyone who attended these events.

Sally Dominguez, Master of Ceremonies at CORE2018

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AEO Transport for NSW Authorised Engineering Organisation

Prioritisation statements for applicants

The current unprecedented program of transport works continues to challenge the engineering services community in NSW. Since 2013, the ASA has been expanding the AEO population to build a sufficient level of industry capability and capacity to support the Transport works program.

As outlined in the AEO Engineering Services Matrix, industry capability is the level of technical ability across the asset life cycle phases. Industry capacity is the ability of industry capability to meet Transport's needs.

To ensure that the Transport procurement program continues to be supported, the ASA continues to prioritise assessments based on business need. The priorities (in order) are:

1. Authorisations required for procurement purposes
2. Authorisation of strategic capabilities for TfNSW
3. General applications by organisations for assessment

The principles underpinning the prioritisation of activities are:

- Transport needs
- Relevancy of the organisations
- Balancing operational and strategic needs

The assessment process, once an organisation's assessment is prioritised, is carried out as follows:

- A Preliminary Review is conducted on the applicant's Self-assessment Toolkit submission to ensure that it has been completed satisfactorily and necessary evidence is included.
- The applicant is then included on the Transport website "Ready for Assessment" status list
- The ASA will then advise the applicant of the change in status and the assessment will be scheduled.

These requirements balance the needs od prospective AEOs with the appropriate authorisation resources from the ASA to deliver asset life cycle services to Transport.

Organisations tendering for work must be able to demonstrate to Transport that they hold the appropriate scope of authorisation for the work or that they have engaged with the ASA and are able to be authorised for that scope prior to commencing work.

For AEOs with the required scope there is no change to the tendering process.

Applicants who do not have the required scope (new applicants and AEOs expanding their scope) will need to demonstrate that they have engaged sufficiently with the ASA and are on the "Ready for Assessment" list.

Once an organisation has been shortlisted for a tender, the ASA will commence the assessment process.

AEO maturity ratings explained

1. The applicant organisation has not met AEO requirements
2. The applicant organisation has reactive controls
3. The applicant organisation has limited consistency and proactive controls
4. The applicant organisation has proactive controls and performance measurement feedback
5. The applicant organisation has proactive controls, performance measurement feedback and additional focus upon continuous process improvement

Hyperloop - potential AEO impacts

As part of its remit to provide sustainable and safe transport options for its customers now and into the future, TfNSW has been examining the viability of high speed rail options such as Hyperloop. This remit is included in the NSW Government's *Future Transport 2056* which was launched in March 2018 (https://future.transport.nsw.gov.au/).

Hyperloop is a proposed mode of passenger and freight transportation that would propel a pod-like capsule through a reduced-pressure tube that would exceed airliner speed. The pods accelerate to cruising speed gradually using a linear electric motor and glide above their track using magnetic levitation.

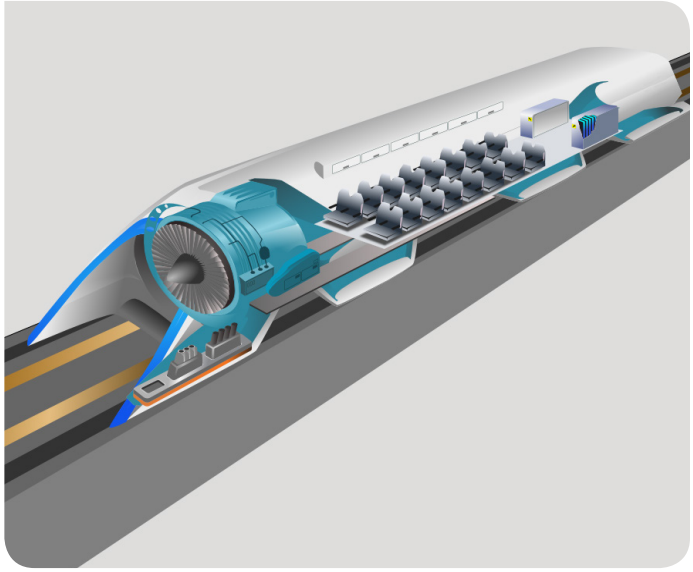
The system is expected to be highly energy-efficient, quiet and autonomous, and rely on solar energy.

The two main proposed use-cases of Hyperloop are for freight and passengers. While Hyperloop is not yet a fully proven solution, it offers the potential to achieve similar if not better performance capabilities (speed, passenger-km, freight ton-km) than traditional high speed rail and air travel.

The potential impact for AEOs by Hyperloop and many other disruptive technologies are many and far-reaching. Assuming that Hyperloop as a transport mode would develop into a viable transport mode there would need to be a review and update of the AEO framework going forward to include the range of new or adapted engineering services and products to support the Hyperloop.

Some considerations for AEOs include:

Skills may need to incorporate variations of operational skills from the airline sector and the (oil and gas) pipeline sector, and even the space transport sector (operations in a near-vacuum).



Artist's impression: Inside a proposed Hyperloop pod

Maintenance methods would be different as the need to maintain extremely clean conditions within the evacuated tube is required to mitigate against the risk of the capsule striking loose materials at 1200 km/h.

Maintenance access would need to provide egress that minimises loss of the vacuum conditions and consider the extremely high speeds of capsules. The use of air locks and tube valves to seal off portions of the tube may need to be considered.

Spares and logistic support would need to align with this technology, including what types of spares to hold, at what quantities, at what locations, and with what lead times/logistic delay.

While this technology is in the early stages of development and not part of our foreseeable future, it was a challenging exercise for TfNSW to consider the key issues and criteria involved.

Risk management process improvements

Risk management is something that needs to be considered at every stage of the asset life cycle. Safety hazards and assessing the associated risks posed are routinely captured within a Hazard Log (HL) or Risk Register (RR) and are expected to be managed and reviewed to understand the asset lifecycle risk profile.

Up until now however, there seems to be inconsistency and misunderstandings in the use of terminology, assessment and controls and the reporting of hazards and risks.

To clarify this, the Infrastructure & Services division of TfNSW has developed a new template to allow a consistent and streamlined approach to capture and assess safety risks, while adhering to the TfNSW Enterprise Risk Management (TERM) framework. This template replaces the current Project Specific Safety Risk Register (PSSRR) and will eventually become the mandated way AEOs capture and report safety hazards and risks back to TfNSW. An accompanying user guide is also in development. The documents are planned to be released later this year.

2017 ASA Performance Survey

The ASA would like to thank all the stakeholders who responded to the ASA Performance Survey. The Survey enables us to continuously improve services for the AEO Community and the wider transport services industry. We are currently compiling and analysing the results and will publish them in the next issue of the AEO Newsletter.

CORE - the rail industry's premier event

Transport for NSW was the host sponsor of CORE2018 (Conference on Railway Excellence). The theme of CORE2018 was "Rail: smart, automated, sustainable" The program featured a broad range of topics including:

- Transport for NSW – procuring a Regional Fleet to deliver sustainability: Guy Collishaw & Dr Jane Inglis, Transport for NSW
- Challenges to Achieving Functional Safety Compliance of Railway Tunnel Automated Systems: Matthew Sorrensen, AMOG
- Achieving Light Rail Consistency, Interoperability and Standardisation in a Sustainable Way: Kenelm Wong & Michael Uhlig, Asset Standards Authority

ASA kiosk at CORE18

AEO Community of Practice #5

On Thursday 8 March, the ASA held the fifth AEO Community of Practice (CoP). Thirty representatives from across the Transport cluster and the AEO Community came together in a safe and open environment outside of contractual boundaries. Two primary issues were examined:

- How asset integration can better assure TfNSW in the context of multiple AEO engagement, considering contemporary expectations for managing, owning and controlling the associated risks?
- Project acceptance of assets relies heavily on the generation and active management of comments as integral to product and service review. Is this the best way of assuring asset acceptance under the AEO Model and could better value be realised through enhanced or alternative means?

The attendees presented their own perspectives and then collaborated to understand the causes and develop solutions. A number of the attendees agreed that the AEO CoP is one of the few highly valued forums where the client and supply partner organisations come together for the sole purpose of discussing real issues that impact delivery of infrastructure planning and delivery and formulating response strategies.

Going forward, outcomes of AEO CoPs will be published documents readily available to the AEO Community and the industry to share, transfer and build knowledge.

OUR AEO's

AAM | ABERGELDIE | AW EDWARDS | ACCIONA INFRASTRUCTURE | AECOM | AEOEP | ALLIANCE POWER & DATA | ALSTOM GRID | ALSTOM TRANSPORT | ALTRAN UK | AMOG CONSULTING | AMS PROJECT TEAM | ANSALDO STS | ARCADIS | ARCHITECTUS SYDNEY | ARENCO | ARUP | ATKINS GLOBAL | AURECON | BECA | BOLEH CONSULTING | BROADSPECTRUM | BROOKFIELD MULTIPLEX | BROOKFIELD MULTIPLEX ENGINEERING & INFRASTRUCTURE | CALDIS COOK | CALIBRE GLOBAL | CARDNO | CERTIFER | COFFEY | COLEMAN RAIL | CONSTRUCCIONES Y AUXILLAR DE FERROCARRILES | CPB CONTRACTORS | DEGNAN CONSTRUCTIONS | DEGOTARDI SMITH AND PARTNERS | DESIGNINC SYDNEY | DOWNER INFRASTRUCTURE | DOWNER RAIL | ENDEAVOUR ENERGY | ENSTRUCT | EPS GROUP | FAIVELEY TRANSPORT | FERROVIAL AGROMAN | GANNELLEN | GARTNER ROSE | GHD | GRIMSHAW ARCHITECTS | GROUP GSA | HASLIN | HASSELL | HATCH | HYUNDAI ROTEM | ICD ASIA PACIFIC | INDRA | JACOBS | JMD RAILTECH | JOHN HOLLAND | KBR | LAING O'ROURKE | LENDLEASE | LEWIS | DUNNINGS | LINDSAY DYNAN | LOCATERS PTY LTD | LYCOPODIUM INFRASTRUCTURE | MCCONNELL DOWELL | MCKENZIE GROUP CONSULTING | METWEST MGB | MITSUBISHI ELECTRIC | MOTT MACDONALD | MTR AUST. | MWH GLOBAL | NETWORK RAIL | NORMAN DISNEY & YOUNG | NOVA SYSTEMS | NOVO RAIL ALLIANCE | PARSONS BRINCKERHOFF | RAIL SYSTEMS AUSTRALIA | RCR INFRASTRUCTURE | O'DONNELL GRIFFIN | ROBERT BIRD GROUP | SIEMENS RAIL AUTOMATION | SMEC | SNC LAVALIN RAIL & TRANSIT | SOFRACO ENGINEERING SYSTEMS | STADLER RAIL | STEPHEN EDWARDS CONSTRUCTIONS | SYDNEY METRO DELIVERY OFFICE | SYDNEY TRAINS | SYSTRA | SCOTT LISTER | TCQ CONSTRUCTION | THALES GROUP | TRANSDEV SYDNEY | TYCO PROJECTS | UGL ENGINEERING | UGL RAIL SERVICES | UGL UNIPART | WABTEC | WORLEY PARSONS | WSP BUILDINGS | ZINFRA