16 September 2020

Critical Infrastructure Security Division
National Resilience and Security Group
Department of Home Affairs

Go8 Response: Consultation on Protecting Critical Infrastructure and Systems of National Significance

Thank you for the opportunity to respond to the Consultation on Protecting Critical Infrastructure and Systems of National Significance.

The Group of Eight (Go8) recognises the importance of safeguarding infrastructure that has been rigorously and effectively identified as critical – especially in relation to the national interest. We also recognise and support the premise that universities are fundamental to the nation, similar to water, electricity, gas and ports. We agree that Go8 members should be appropriately protected and secured as required.

This is not a new proposition for us. It is one we have accepted and implemented for many years. The process we currently find ourselves in is more about reconciling how the Government defines critical infrastructure compared with how the Go8 does, and how we can resolve this and work together in effective partnership in the same way as we have through the University Foreign Interference taskforce (UFIT), a process that has been internationally recognised as world leading

Our universities, more so than water, electricity, gas and ports, are complex, multi-layered and multi-functional organisations, with intricate relationships and interdependencies including with Australian and overseas Governments, industry and global enterprises. As such we are a global partner of choice for many illustrious results.

Any impression that universities are self-contained entities, managing simply their own affairs and operating solely for the benefit of their immediate student and research population, is further challenged when we consider that the Go8 universities lead and foster major capability on behalf of the nation and indeed in close partnership with Government. Examples are the National Computational Infrastructure at the Australian National University, the Population and Health Research Network led from the University of Western Australia, and numerous medical research institutes affiliated with Go8 universities.

This critical function of universities to provide such leadership and capability must continue unhindered – not just for the universities' sake, but for that of the nation.

The Go8 is definitive in its view that this deeply embedded complexity demands a highly nuanced approach to the definition of "critical infrastructure" within universities, which sets us apart from those above-mentioned infrastructure entities. To fail to do this risks overreach and unintended – even detrimental – consequences which will damage the nation's economic and societal future. It is just as important for universities to have clarity around the potential ramifications for their operations. This is not yet sufficiently clear from the consultation paper or the efforts at outreach so far of the Department of Home Affairs.

The Go8 does recognise that there may nevertheless be useful parallels from other sectors already regulated by the Security of Critical Infrastructure Act 2018, and would therefore welcome a more granular discussion – based on relevant examples from those sectors – of the potential ways critical infrastructure could possibly, in agreed partnership, be identified and ring-fenced in universities.

We understand this will involve a significant process. The Go8 is willing to conduct a thorough internal examination of assets and their linkages to inform what best approach may be taken. This will also help to clarify the potential extent of regulatory impact on our members. Given the Department itself will be hamstrung without a comprehensive understanding of university systems, networks, assets and other infrastructure, the Go8 strongly advocates for the opportunity for it to undertake that vital process of internally examining assets and their linkages – initially through a pilot – to inform what best approach may be taken as a basis to a no-assumptions dialogue.

Recommendations

1. That the extension of the Security of Critical Infrastructure Act 2018 to the higher education sector be nuanced and targeted, informed by a comprehensive understanding of university operations and relationships, and the potential ramifications of regulatory approaches.
2. That the parameters be more tightly defined - after the Department reaches an understanding of universities - rather than as currently suggested by the Department of Home Affairs, as for utilities such as gas, water, and electricity, and our ports, all of which are quite different in structure.
3. That a pilot focusing on specific purposes or infrastructure to begin, such as cyber, may assist to better establish the parameters, ramifications and approach to be extended more broadly across other purposes or infrastructure.
4. That the Department take the time required to educate itself on how universities operate and their extensive interdependencies (which are both supported and required by Government) to ensure the most effective approach.
5. That all efforts be taken to minimise overlap and duplication with other regulatory measures currently in place to secure university operations.
6. That a concerted effort be taken by Government to avoid overreach and the distinct potential for unintended consequences in developing its approach.
7. That there be an emphasis on minimising the regulatory burden on universities (already extensive) and that the methodology and results of the Government's own inquiries into the regulatory cost be made available to the sector as soon as possible.
8. That Government be open and transparent regarding the potential consequences for the sector, including the extent and nature of its 'assistance' in situations of cyber-attack.
9. That Government seriously consider that a positive way to align with existing regulatory requirements as well as ensuring limited cost and impost would be to use an existing mechanism to oversee the implementation of future agreed measures. Further discussion is needed to determine which existing body or mechanism may be best suited.

Introduction/Context

The Go8 is comprised of the nation's leading research-intensive universities and has extensive operations and linkages both across Australia and Internationally. These are fundamental to our success, competitiveness, and global standing, both as quality providers of university education and of cutting-edge research[1]. It is also fundamental to the nation's economic success and to a more sovereign post-COVID Australia.

The Go8's infrastructure ranges from land and buildings, utility infrastructure, information and communications technologies and networks, through to transport capability. Purpose-built infrastructure includes libraries, clinics, research laboratories, specialised equipment and indeed entire complex facilities housed in a single location or across the nation to form part of Go8 assets and capabilities. The Go8's larger campuses are communities in and of themselves and host infrastructure by other providers such as Australia Post, Telstra, numerous food or health providers, and gymnasiums, to give only a few examples.

The Go8 takes great pride at how much of its widespread infrastructure is so often at the very centre of a community and its growth and success. As examples, the Go8's major precinct hubs such as Melbourne Connect or the ANU Kambri precinct, provide a 'home' for local SMEs, larger industry, local, state and federal government, non-profits, global partners and numerous visitors in addition to the   domestic and international student population. This provides critical benefit to the local community as well as the national economy.

The Go8's domestic capability   extends from the Albany Centre at the University of Western Australia to the University of Queensland's research station on Heron Island, and from the University of Melbourne's Dookie agricultural campus in regional Victoria to the University of Adelaide's rural clinical school at Whyalla. The Go8 **is** a truly national operation and works hard to ensure its infrastructure can deliver so many benefits. Yet, this aspect of the Go8's work and geographical reach does tend to 'fly under the radar'. Go8 infrastructure can therefore range from publicly accessible facilities such as conference centres, to highly sequestered and protected capability such as our biomedical laboratories or high-performance computer facilities

 This means that any application of critical infrastructure regulation, where critical infrastructure is poorly and far too widely defined, has alarming potential to adversely affect any of the current groups named above, inadvertently or otherwise, and we must guard against that.

It has been suggested during discussions between the Go8 and the Department of Home Affairs that cyber is likely to be the larger focus for the purposes of the Act. While the Go8 would contend that without an express consideration of its asset categories this assumption remains unproven, we would nevertheless agree that focusing on a specific purpose, affiliation or asset may be a useful way to begin considering the implications and potential approaches for universities.

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[1] Six Go8 universities are ranked in the top 70 universities in the world under the 2021 Times Higher Education rankings, with all being in the top 140, ahead of all other Australian universities.

Definition of critical infrastructure for the higher education sector

Reinforcing the discussions that have occurred to date with the Department of Home Affairs[2], the Go8 considers the definition and threshold put forward (see below) for the higher education sector on critical infrastructure and regulated critical infrastructure to be too broad and insufficiently targeted.

> ### *Critical infrastructure asset (Proposed Definition)*
> Higher education providers[1], and an entity or institution that is responsible for a research program (however described) that: has received investment, funding or a grant from the Commonwealth Government, or is relevant to one or more critical infrastructure sector.
> [1] Higher education provider is defined in the Tertiary Education Quality and Standards Agency Act 2011 (Cth).
>
> ### *Regulated Critical Infrastructure asset (Proposed Threshold)*
> Any asset that is critical to learning, teaching or research and is owned or operated by a higher education provider[2] that is registered in the Australian university provider category of the National Register of Higher Education Providers[3].
> [2] Higher education provider is defined in the Tertiary Education Quality and Standards Agency Act 2011 (Cth).
> [3] The National Register of Higher Education Providers is provided at Part 11 of the Tertiary Education Quality and Standards Agency Act 2011 (Cth).

Broadness of definition and threshold

As previously indicated by email and our correspondence of the 11 September 2020 (attached), this unfocussed definition threatens to encompass virtually everything that the university does rather than focus specifically on critical infrastructure. The threshold as worded would be reached on all assets owned and operated by the universities, *resulting in there being in effect no threshold*.

There must be a considerable tightening and targeting if the threshold is to have meaning and application. As set out previously, the Go8 respectfully suggests that the Government reaches a better understanding of how the Go8 functions for the greater good, especially the national economy, before 'çasting the net widely' and imposing an impossible regime that is not fit for purpose..

Lack of alignment with other sectors under the Act

The *Security of Critical Infrastructure Act 2018* **seemingly defines critical infrastructure in a far more targeted way for ports, electricity, gas and water**. For instance, electricity and water are based on the type of infrastructure (network, system or interconnector), the number of customers or sewerage connections, or importance in ensuring security and reliability of electricity networks or systems.

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[2] Meeting 3 September 2020 Department of Home Affairs and Go8 representatives by telephone; Response 11 September 2020 via email regarding definitions of critical infrastructure and regulated critical infrastructure.

So far, the proposed definition and threshold for the higher education sector do not take such a targeted approach. Far more communication is needed.

Further tightening and targeting needed

The Go8 suggests that, similar to defining a critical electricity asset or a critical water asset, there is further breakdown of asset sub-categories. Examples that could be tested with the higher education sector could include:

- Critical teaching and learning assets – a building, network, system critical to [agreed threshold]
- Critical research assets – a building, network, system, facility or equipment critical to [agreed threshold]

The Go8 would also argue that the threshold surely needs to relate directly back to the relationship to the 'social or economic stability of Australia and its people'; or 'the defence of Australia'; or 'national security' as noted in Section 9 for situations the Minister needs to be satisfied of.

This is not clear in the definition or threshold advanced by the Department, yet that is surely what we are attempting to introduce successfully?

Establishing the appropriate threshold needs to be informed by how critical the infrastructure's capability is such as by virtue of type of infrastructure, reach of that infrastructure, importance of that infrastructure, and vulnerability of that infrastructure – in combination, rather than as single factors.

Also, and importantly, a pilot that focusses on specific purposes or infrastructure such as cyber, may assist to better establish the parameters, ramifications and approach to be extended more broadly across other purposes or infrastructure.

Alignment or otherwise with other Government inquiries and measures

The Go8 highlights that there are numerous measures and investigations currently underway by the Australian Government pertaining to national security and universities' dealings with foreign partners and entities.

The Go8 seeks to ensure there is every effort made to have resulting obligations that do not unduly overlap and create unnecessary implementation burden that could arise from lack of consideration by one branch of government of relevant regulation by another branch.

Chief among existing measures are:

- the continuing work of the University Foreign Interference Taskforce, and the Guidelines to counter foreign interference in the Australian university sector
- the Foreign Influence Transparency Scheme Act 2018
- the Defence Trade Controls Act 2012
- Australia's Cyber Security Strategy 2020 referenced in the consultation paper on critical infrastructure is another part of the relevant regulations
- the Australia's Foreign Relations (State and Territory Arrangements) Bill 2020

- the proposed Inquiry by the Parliamentary Joint Committee on Intelligence and Security into foreign interference in Australian universities

Beyond these specific security and foreign interference considerations, the higher education sector regularly reports on a range of measures to Government, such as financial status, enrolment data, research income and expenditure and student satisfaction rates. These provide an existing web of complex information to Government that is readily available for scrutiny.

The Go8 cannot accept that the proposed model would avoid duplication with any of the other initiatives named above, precisely because the scope implied by the proposed definition is so broad and inexplicit.

Potential for overreach and unintended consequences

The proposed Departmental definition, to include universities as critical infrastructure assets in their entirety, has significant potential for overreach, given that – as noted earlier – it implies almost no exclusions. Given the complexity of university operations, there is the potential for undue ramifications on the most routine of university operations such as those underpinning remuneration to employees, or those that support student completion statistics. It is questionable whether the Government's intention is served by extending regulation and scrutiny to those systems or those functions or what value this would provide.

There is the potential for unintended consequences too if the nation's reliance on university R&D is slowed or compromised by the complexity of over-regulation. As pertinent examples, the cutting-edge capacity to predict severe and unexpected weather events relies increasingly on a key piece of research infrastructure hosted by a Go8 university in a complex long-lasting collaboration with other partners. The agriculture, mining and resources sectors are increasingly dependent on autonomous and robotics infrastructure developed by the Go8.

Regulatory cost, impost and oversight

The Go8 supports the Government's intention to shed light on the potential regulatory impact of the proposed measures, including through contracting modelling on the economic impacts[3]. The Go8 asks that Government make transparent the results of those investigations including the modelling's results and methodology.

We would also urge the Government to ensure that there is minimal regulatory impost, particularly costs on its universities that result from the proposed measures. At this point, the potential for impost seems unduly significant given the undifferentiated approach to systems and infrastructure.

Consideration may also be given to the costs that will result from new regulation, for example, in ensuring existing or future critical infrastructure in scope for regulation under the Act is upgraded, designed, planned and developed to be more readily compliant with future requirements.

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[3] Department of Home Affairs advised at its 24 August workshop that Synergy Group had been contracted to undertake the modelling.

As recommended, a way to ensure both alignment with existing regulatory requirements as well as limited cost and impost would be to use an existing mechanism to oversee the implementation of agreed measures. Further discussion is needed to determine which existing body or mechanism may be best suited.

Further clarity is also required regarding the Government's intended assistance for universities that are the target or victim of a cyber-attack, including the parameters and circumstances in which assistance may be deemed necessary by Government, the nature of the Government's assistance, and the extent to which a university's systems may be controlled by Government during that assistance period.

Yours sincerely
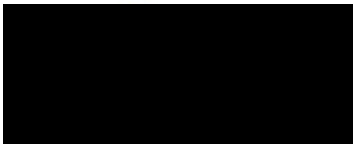
VICKI THOMSON
CHIEF EXECUTIVE

Attachment A: Go8 Response 11 September 2020 regarding Definition and Threshold

11 September 2020

███████

A/g Director | Policy and Reform Section
Critical Infrastructure Centre | Critical Infrastructure Security Division
National Resilience and Cyber Security Group
Department of Home Affairs
E: ████████████████████████

Dear ████,

The Group of Eight welcomes the opportunity to provide a response **on the proposed definition AND threshold as it applies to the application of the reforms around critical infrastructure to the education, research and innovation sector.**

Both the asset and the threshold definitions remain problematic in the amended forms. **Further development is needed to bring differentiation between assets**, including critical infrastructure and regulated critical infrastructure.

While we do not dispute the definition of higher education provider as per the TEQSA Act, and the broad definition of a critical infrastructure asset for the sector may be useful as it does allow for government assistance measures (when needed), the reality is that **neither asset nor threshold definitions advance us in terms of further differentiating between those assets that need special attention and those that do not**.

- The proposed threshold, under these definitions, will be reached on all assets (buildings, equipment etc) owned and operated by the universities, **so in effect there is no threshold.**
- Anything involving "learning, teaching or research and is owned or operated by a higher education provider" **describes practically EVERYTHING universities/higher education providers do**.
  - The threshold definition for regulation uses "critical" to define something that is already defined to be a "critical infrastructure asset". This is a nonsensical iterative definition. The threshold is set as "being critical to a critical asset".
- **At best we would suggest the threshold is too broad** and open to different interpretations**.**
  - For example, while a university's network is critical to its operations generally, we would not consider the entirety of the network to be labelled equal in terms of its criticality. For instance, a university's connectivity facilitated by its implementation of the Transmission Control Protocol is far more important than an individual network connection, as is a university's connection to the Internet.
  - Similarly, a university's enterprise finance system is important as is its learning management system, but arguably not critical from a national standpoint when compared to COVID, cancer or Defence sponsored research
- **There appears to be little differentiation between the orange and the black in the Home Affairs diagram**. The Go8 would be very interested to have an example based on these definitions (involving a higher education provider) of something that is within orange that is not ALSO within black:
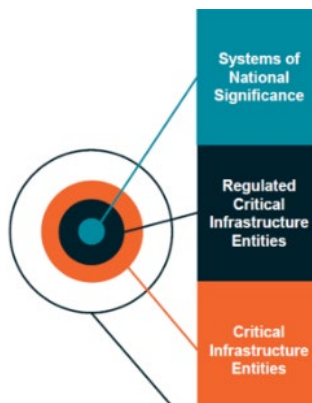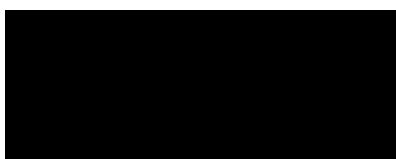
We also have a number of additional comments and questions as per and would welcome the opportunity to discuss them further with you:

- Informative tangible examples, including from other sectors, that may assist in giving meaning to the threshold are requested. These include examples that differentiate between critical infrastructure entities and regulated critical infrastructure entities.
- Under what circumstances and how, exactly, would government assistance be applied?
- In the briefing, the Home Affairs staff repeatedly drew attention and emphasis to the notion that this risk management extended to University personnel. What exactly is meant by these risks?
- Does the definition include undergraduate and/or postgraduate students?
- In terms of the scope of the obligations, in the case of "learning, teaching or research" systems, how far would the obligations stretch? E.g. in the IT space, would the supporting network or authentication systems be in scope? In the personnel space, would the staff that work on those supporting systems be in scope?
- Has and what consideration has been given for large-scale research systems that involve infrastructure spread across multiple institutional research facilities (often under the banner of a collective organising group)?
- Has and what consideration has been given to a group approach to supply chain obligations considering that we have many shared suppliers and a multi-touch approach may be unsustainable for them?

I hope this is of assistance and please do not hesitate to contact either me or the Go8 Director, Research Policy, Cheryl Kut, ███████████████ for additional information and/or clarification.

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VICKI THOMSON
CHIEF EXECUTIVE