

Notting Hill Supply Area

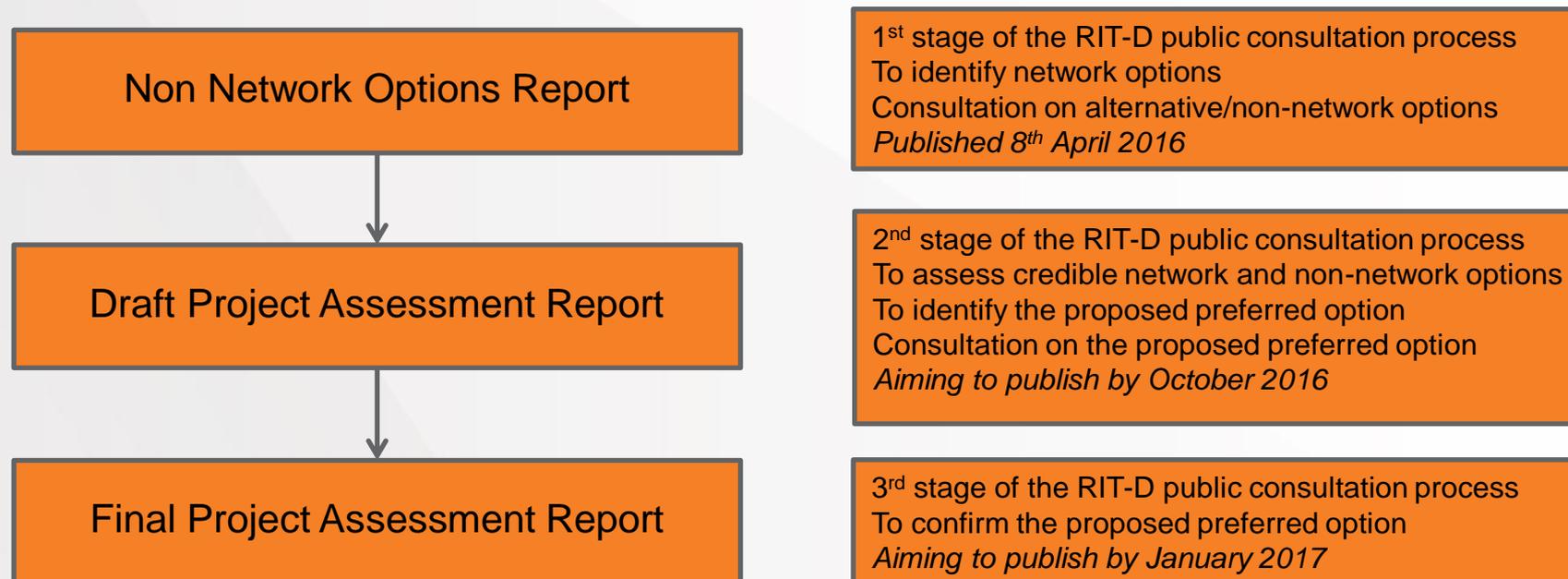
Public Briefing on RIT-D Process First Stage of Consultation

Network Planning – 19th April 2016

RIT-D Process

The Regulatory Investment Test for Distribution (RIT-D) is a framework under the National Electricity Rules for UE to consult more broadly on Augmentation investments greater than \$5m and undertake economic evaluations on such investments

The process provides opportunities for third-parties to offer alternative options (including non-network solutions – demand management and generation) to address the identified need, and involves three stages of consultation as follows:



Introduction



UE's *Distribution Annual Planning Report* identified an economic case to augment the network to increase capacity for the Notting Hill (NO) supply area in response to committed customer load growth.

The preferred network option is to install a 20/33MVA 66/22kV third transformer at Notting Hill zone substation along with two new feeders at a cost of ~\$6M.

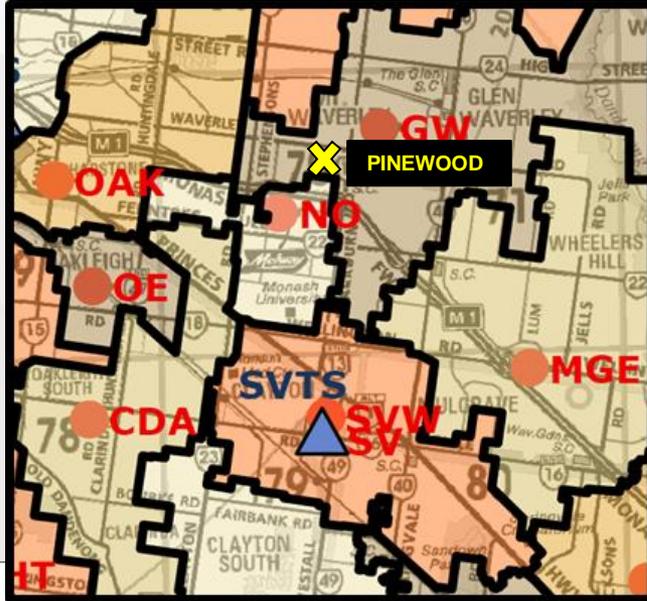
Given the cost of this proposed augmentation is in excess of \$5M, UE has:

- Commenced the RIT-D public consultation process; and
- Published the Non Network Options Report and Request for Proposal on 8th April 2016 on UE's website

Link: <https://www.unitedenergy.com.au/industry/mdocuments-library/>

(under the Regulatory Reports section)

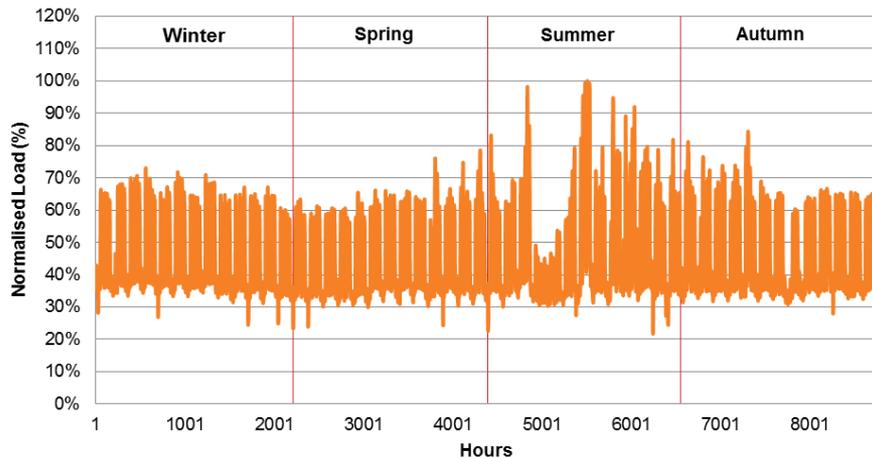
Overview



The Notting Hill (NO) zone substation:

- Supplies 3800 customers in areas of Notting Hill, Monash and Clayton North.
- By customer count - 80% are Residential and 20% Commercial & Industrial (C&I)
- By energy consumption - 80% of the energy supplied by NO zone substation at maximum demand period is consumed by C&I customers
- Maximum demand occurs during summer season in business operating hours (10am-5pm)
- This area has been earmarked as a *National Employment Cluster* by the Victorian Government's Plan - Melbourne Metropolitan Planning Strategy.
- Forecast increases in maximum demand are due to committed customer connection applications received by UE.

Load Profile

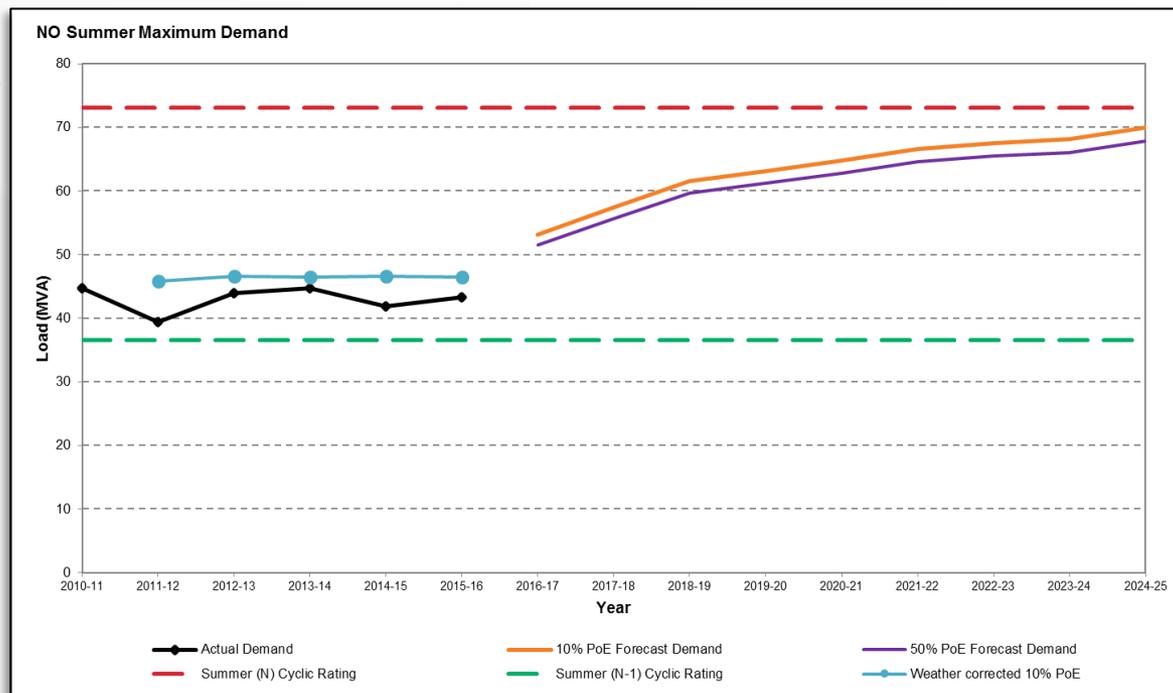




Major Customer Committed Loads

The Notting Hill Supply Area has seen commitments from a number of existing and new customers to increment their demand:

- Two Data Centres
- New Hospital
- Local University
- New Retail Centre
- Load increase along the Dandenong rail line corridor
- Other residential and commercial





The Need

Transformer Overload

- Insufficient capacity at NO zone substation during high demand periods if either one of the two 66/22kV transformers fails or either one of the incoming 66kV lines trips
- Incremental risk in neighbouring zone substations and feeders (SV/SVW/GW) following load transfers from NO
- Deteriorating load transfer capability away from NO, leading to excessive load shedding in the Notting Hill supply area.

Distribution Feeder Overload

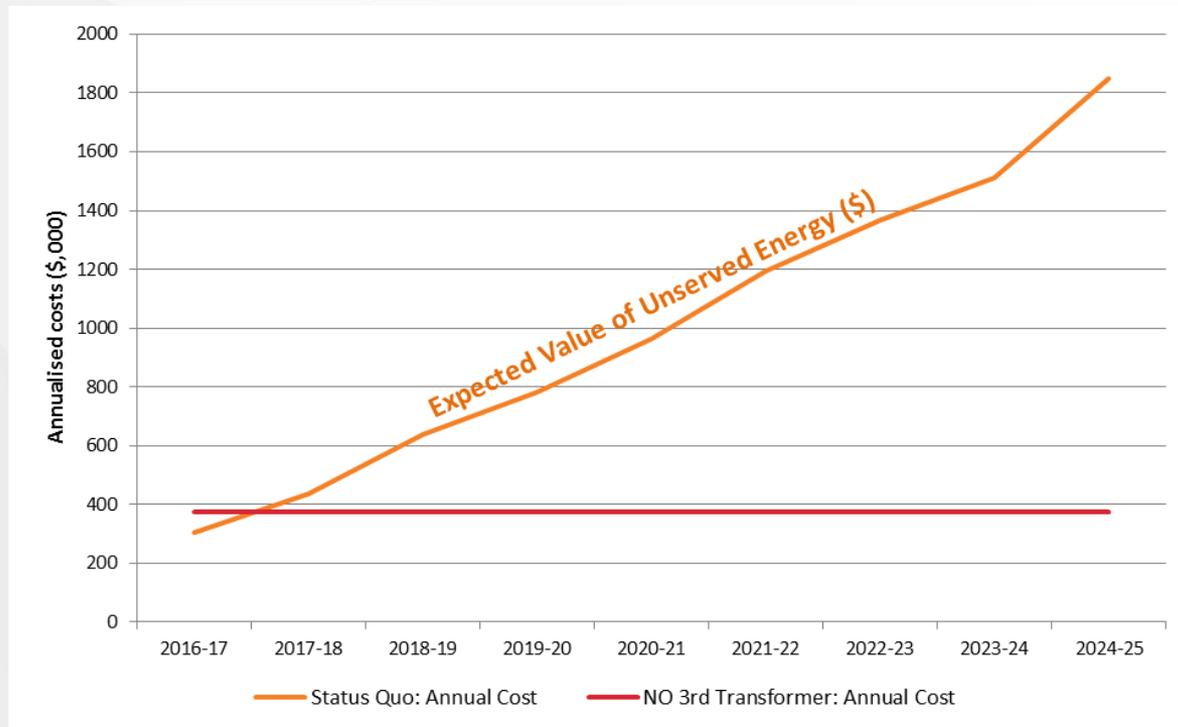
- Thermal limitations on some distribution feeders under system normal operation (all plant in service) and under feeder N-1 conditions during high demand periods

Year	Demand Forecast ⁶ (MVA)	Transfer Capability ⁷ (MVA)	Load at Risk ⁸ after transfers (MVA)	Hours at Risk (Hours)
2016-17	53.2	11.9	5.2	42
2017-18	57.4	11.3	9.6	57
2018-19	61.6	10.9	14.1	103
2019-20	63.1	11.0	15.7	126
2020-21	64.8	10.4	17.8	162
2021-22	66.6	9.9	20.1	208
2022-23	67.5	9.4	21.6	242
2023-24	68.1	8.9	22.7	271
2024-25	70.0	8.5	25.0	339



The expected value of unserved energy

The expected value of unserved energy is estimated to rise rapidly. It reflects the probability of outage of critical assets, including the probability of the demand conditions occurring.



The economic timing for commissioning the preferred network option is December 2017.



The Preferred Network Option

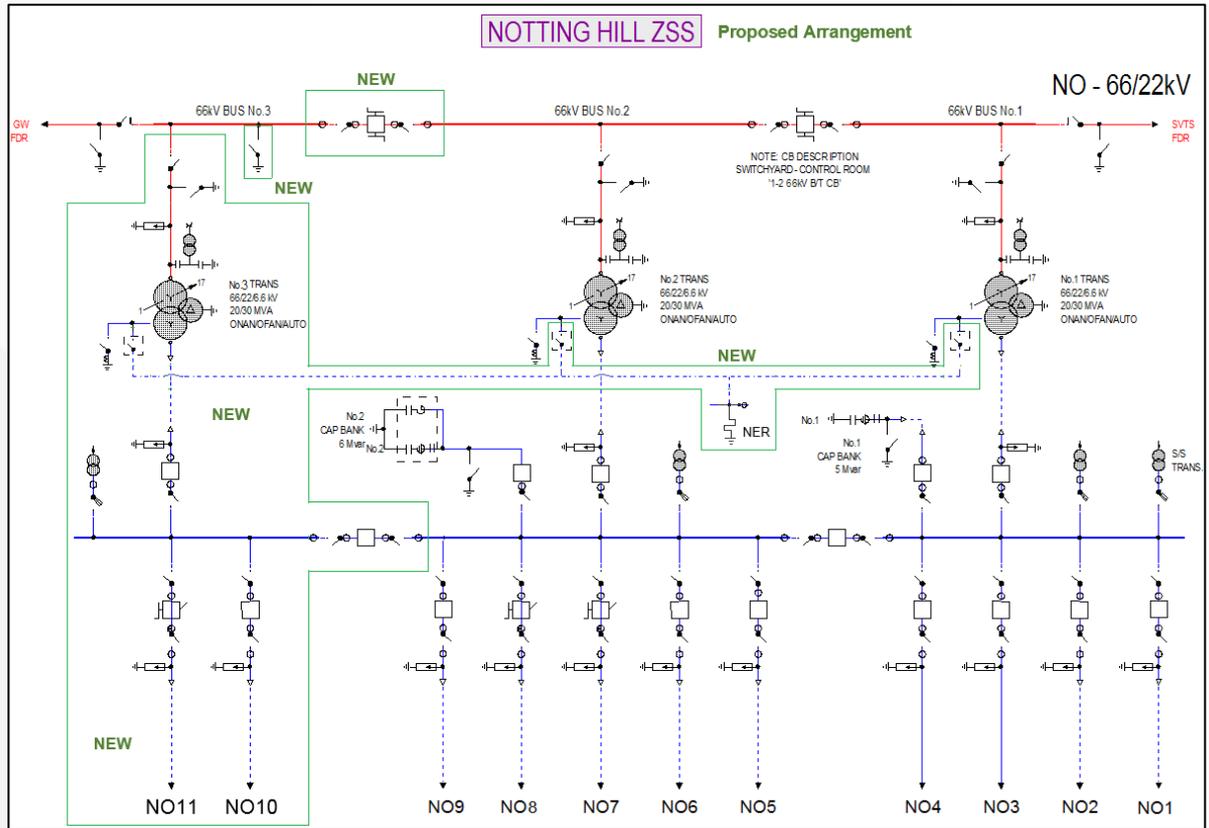
We considered five network options to address the need.

The preferred (least-lifecycle cost) network option is to install (at NO zone sub):

- a 3rd 20/33MVA 66/22kV transformer
- a 66 kV and a 22kV bus tie breaker
- two new 22kV feeders to offload existing feeders in the area.
- an earthing resistor.

Note:

UE will engage network service providers in a tender process during the first stage of the RIT-D process to obtain pricing for the preferred network option.



Technical characteristics of non-network options



Year	Load at Risk (MVA)	Hours at Risk (Hours)	Non-network support required (MW)	
			Minimum	Maximum
2016-17	5.2	42	-	-
2017-18	9.6	57	4.5	9.6
2018-19	14.1	103	9.0	14.1
2019-20	15.7	126	10.5	15.7
2020-21	17.8	162	13.0	17.8
2021-22	20.1	208	15.0	20.1
2022-23	21.6	242	16.5	21.6
2023-24	22.7	271	17.5	22.7
2024-25	25.0	339	20.0	25.0

- The table outlines estimated amount of load reduction, or additional generation required by a credible non-network solution within the Notting Hill supply area.
- Locational VCR for Notting Hill supply area is \$43,596 per MWh.
- Non-network support is required from 15th Nov to 15th Mar every year starting from Nov 2017 and must be able to provide support for up to 7 consecutive hours between 10:00am and 5:00pm.
- Non-network options must comply with the requirements set out in UE’s Embedded Generation Network Access Standard (if applicable).

Market Benefits for a Non Network Solution



The stream of market benefits available to non network options include:

- Reduction in involuntary load shedding and customer interruptions that is forecast to occur following the loss of any one of the two transformers at NO zone substation.
- Difference in PV Cost achieved due to the deferral of Network Capex project due to implementation of a credible non-network solution.
- Reduction in Electrical energy losses.
- Increase in the load transfer capability on UE's network.

To achieve similar levels of market benefits as captured by the network augmentation, it is expected that a non-network credible option would be able to eliminate the 'Identified Need' by nearly the same amount as Network Augmentation, during summer maximum demand periods.

Special Announcement



We would like to notify the industry that:

- UE may submit its own demand management proposal to defer the network solution
- UE's network service providers may submit bids for the network solution
- UE's shareholders own parties who may be interested in submitting a proposal for this RIT-D

UE has engaged a probity advisor to assist and guide us through the process (separate presentation)

UE has also ring-fenced the UE non-network proposal team from the RIT-D assessment team

UE will engage a third-party independent technical advisor to assist with the RIT-D evaluation if UE submit a non-network proposal

Probity



Anne Larkins of Dench McClean Carlson has been appointed as Probity Practitioner for the procurement

DMC is independent of all potential bidders and members of the Evaluation Team

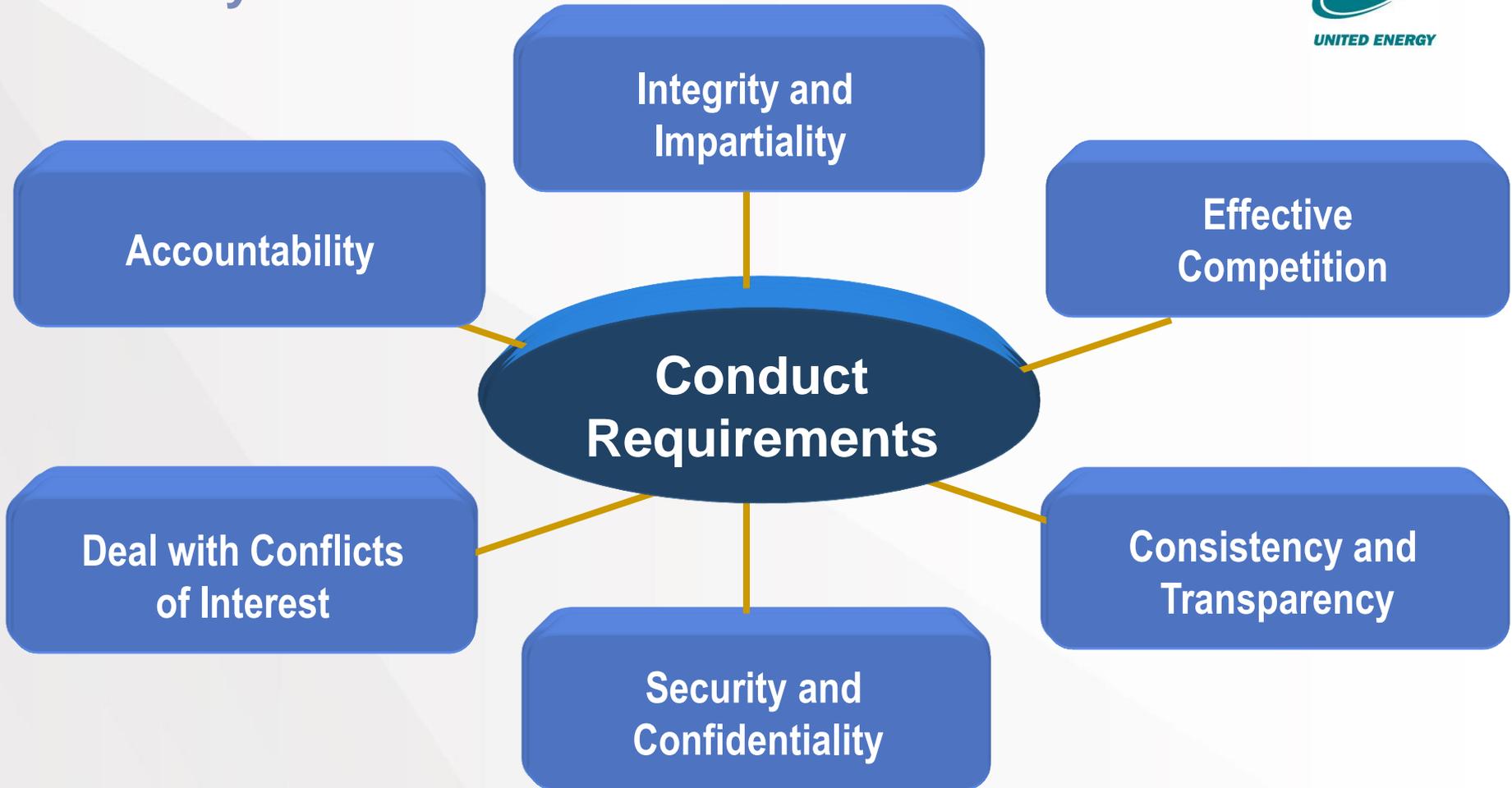
DMC plays no role in the evaluation of responses

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Probity



Overall probity objective to achieve a value for money outcome



Probity Process

Probity framework for the procurement

Commitment to transparency, equity and accountability in selection process

Processes in place to mitigate any potential conflict with the in house bid

All tender documentation made available in an equitable manner to all companies

Procurement staff briefed on their probity responsibilities

All procurement staff and advisors

- Conflict of interest declarations
- Confidentiality arrangements

Methodologies completed before responses received



Probity Expectation of Companies

No collusion in tendering or other anti-competitive conduct

Honest, accurate and complete responses

Responses lodged on time

No approaches to staff connected with the UEMG or its contractors for assistance with bid preparation

No attempts to gain preferential access to decision makers

Continuing disclosure of conflicts or other material matters



Next Steps

We intend to:

- Consult with all interested registered parties, over a three-month consultation period, to identify and further develop viable alternative solutions to address the identified need.
- This consultation closes on Friday 8th July 2016. We invite you to submit detailed written proposals which must be emailed to our tender box at fimtenders@ue.com.au on 8th July 2016 by 5pm (Australian Eastern Standard Time).
- We will assess and evaluate the non-network solution proposals and their ability to address the need.
- We will update registered participants on outcomes of the proposal evaluation by October 2016 at which time the preferred solution will be published in the Draft Project Assessment Report (DPAR).