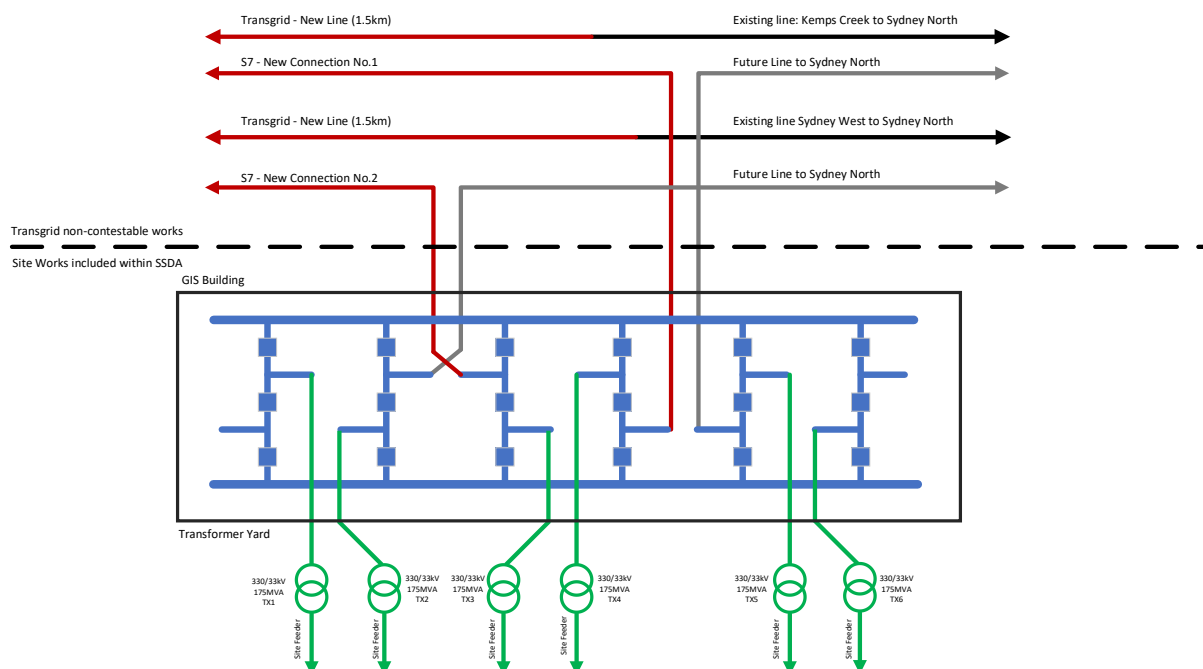


NEXTDC have engaged with Transgrid and Lumea for the early planning of the project connection and it is jointly proposed that the S7 development is to be serviced by two 330kV Transmission lines from Sydney West Bulk Supply point to a new 330kV Switching and substation onsite.

The proposed transmission lines are non-contestable works to be performed by Transgrid. The proposed transmission lines service the new 330kV Switching station, this switching station is not for the sole purpose of the S7 site as it will facilitate the connection of other users to the Transgrid network.

Site Capacity

Concept Schematic



Transmission lines

The Transmission are proposed to be allocated within the existing Transgrid transmission corridor that connects Sydney West to Sydney North.

Existing Transmission towers will need to be replaced to accommodate the additional lines and the project provides provisions for two new connection points at the S7 site which will can be utilised by Transgrid for future connections to the North of the site.



Water

The proposed cooling system for the S7 site is a Hybrid Wet/Dry system. This system utilises water to increase energy efficiency, yet it is not a critical requirement for operation. The design provides for an annualised Water Usage Effectiveness (WUE) of 0.16 L/kWh* *(to be refined based on final chiller selections and available water)*.

The Hybrid Cooling System uses significantly less water than the a conventional cooling tower and the average daily water consumption based on a 70% load diversity will be approximately 5.4432 ML/day.

Infrastructure will be designed to support peak loads, of which the peak design load consumption will be a maximum of 7.785 ML in a 24 hour period at full site maturity.

NEXTDC have engaged with Sydney Water to discuss opportunities for interim supplies for potable water to provide water for the Stage 1 demand as well as recycled water opportunities that may exist from St Marys Advanced Water Treatment Plant.

Furthermore, NEXTDC have engaged coNEXA to conduct a study for possible routes to connect the S7 site to the Recycled Water main being installed for the NEXTD S4 development.

It is expected that the proposed solution will be nominated by the time of SSDA submission.

Back Up Generation

The Proposed Development will require 330 x 3.4MW Diesel Generators. This is a total of 1,122 MW of generating capacity, yet this includes redundant generators and any stranded capacity. The total Generation Capacity that the site will use at any one time is 900MW of capacity.

The Back Up Generators will be tested periodically, yet to ensure emissions meet regulations, the operational plan will provide for;

- Co-ordination of testing with Data Centres within a 5km radius to ensure that the cumulative impact of testing is limited.
- The testing activities, including warm up, testing and cool down, will not exceed 200 hours per year,
- Testing activities will be limited to 12 Generators at any one time, and a maximum of 4 generators per building.

These operating conditions will be considered in the emissions report submitted with the SSDA.

Onsite Fuel Storage Capacity

NEXTDC are still working through the detail of fuel storage, yet it is expected that the site may hold between 24 – 48 hours of diesel to support the facility in a total power outage. The fuel storage to meet these requirements will be between 8,000 and 14,000 kilolitres of diesel.

The final storage amount will be detailed in the SSDA submission.