

Project Profile

SA Power Networks Substation and Transformer Removal Works



Client	SA Power Networks
Location	Various Locations, South Australia
Duration	July 2013 to present
Contract	Lump Sum Construct Only
Cost	Approximately \$250,000 per annum

Project Overview

SA Power Networks operates an electricity distribution network that stretches across South Australia, comprising of 87,000km of high voltage and low voltages power lines with voltages ranging up to and including 66kV servicing over 820,000 customers across an area covering over 178,000 square kilometres. This equates to approximately 1,845 feeders around the State, 399 zone substations, more than 68,000 transformers and over 723,000 stobie poles.

Scope of Work

Since July 2013 McMahon Services has been engaged by SA Power Networks to provide ongoing substation and transformation removal works across their entire network.

Substation and transformer removal works undertaken in the greater Adelaide metropolitan area includes the central business district and the suburbs of Flinders Park, Glenelg North, Green Fields, Happy Valley, Hillbank, Kilburn, Magill, Morphetteville,

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Norwood and Woodville. Substation removal works undertaken in the Adelaide Hills includes the towns of Birdwood, Glencoe, Mannum, Piccadilly, Strathalbyn, Templers, Virginia and Walker Flat. Regional and remote substation removal works has occurred in Blythe, Cleve, Hawker, Kadina, Klein Point, Mount Gambier, Mypolonga, Olympic Dam, Paringa, Polda, Robe, Swan Reach and Wilmington.

Several of the work sites have occurred inside or adjacent to prominent government and commercial buildings with tight access restrictions including the Advertiser Building, ANZ House, Art Gallery of South Australia, Queen Elizabeth Hospital and South Australian Museum.

Work vary from site to site but general consist of the transportation and placement of new transformers, drainage and disposal of both polychlorinated biphenyl (PCB) and non-PCB contaminated oils, transportation and disposal of old transformers, asbestos removal, and the removal of switchboards, pipes, cables, stobie poles, condensers and concrete bunds. By early 2018, McMahon Services had completed works for over 50 transformers, disposed of over 250,000L of non-PCB contaminated oils and 20,000L of PCB contaminated oils. Transformers weighed between 2.5t and 6.5t each.

Many sites required cranes to lift and place transformers, traffic management strategies, and roof removal and reinstatement to access transformer areas.

All works adhered to the requirements of the contract's minimum waste minimisation plan with a waste minimisation target of 80% and a goal of 98%, as well as meeting with the requirements set by the Green Building Council of Australia in their Green Star Rating system. Where transformers or substations could be recommissioned or recycled, they are transported to SA Power Network's Marleston Relay Workshop.

Plant and equipment utilised on each site generally consisted of bin trucks, 25t Franna cranes, semi-trucks, 8t and 13t excavators, bobcats, vac trucks and 45' knuckle boom lifts. Each site has generally been delivered by teams of up to five personnel with works being completed over a few days to a few weeks, depending on the complexity of the works.

