

WIND POWER GENERATION

Australia is the answer my friend “blowin’ in the wind”?

By Paul Tuthill, NSW State Manager and Senior Engineering Adjuster, Charles Taylor Adjusting

Wind power now accounts for around 4% of Australia’s power generation. The development of the industry has been controversial, with opposition from politicians and campaigners. Yet, wind generation looks here to stay. Paul Tuthill, looks at the recent history of wind generation in Australia and its outlook for its future. He also considers how to respond when the inevitable accident or engineering failure in a wind farm occurs.

The ubiquitous windpump was a familiar image of the Great Plains, vividly portrayed in numerous Hollywood westerns made during the 50’s and 60’s. Needless to say, the use of wind as a resource has developed considerably since then. With Prime Minister Turnbull’s reversal of his predecessor’s wind power investment moratorium, are opportunities to harness wind power in Australia likely to be reinvigorated?

Wind farms of various sizes can now be found throughout Australia. Their combined generating capacity is approaching 3,700MW driven by advances in wind turbine technology and a more environmentally conscious public searching for cleaner methods of generating power. As a comparison this equates to 5% of the capacity present in the United States which at 66,000MW is an increase of 59,300MW since 2004. Astonishingly China, the now “World Leader”, has increased capacity from approximately 1,000MW to 115,000MW in the same twelve year period!

Wind generation in the States of South Australia and Victoria, which lie in the path of the “roaring 40”s”, equates to approximately 70% of the national total. The locations offering the greatest potential for wind generation fall within coastal regions below the 30th parallel in western, south western, southern and south eastern Australia. However wind consistency is more influential in siting projects than simply ferocity. The wind may blow, but is it doing so during periods of demand? Irrespective of a location’s “star rating” is it an economic location? Consider the investment needed



to overcome the technical difficulties posed by a harsh natural environment and the enormous distances to load centres.

Talking of technology, when I first became involved in dealing with claims involving wind turbines, almost 15 years ago the technology was vastly different to that of today. 200/500KW units were the on-shore norm with 30/40 metre diameter rotors and hub heights of between 30 and 50 metres. Today 2MW to 3MW are standard with 100 meter diameter rotors and hub heights up to 150 meters however these seem like minnows compared to their off-shore cousins with the Enercon E-126 weighing in at 7.58MW and having a rotor diameter of 127 meters. Never to be out done, Vestas are about to roll out their V164 with a capacity of 8MW with a prototype already in operation and a contract inked for the erection of 32 units off the coast of Liverpool, United Kingdom slated for completion during 2017.

Currently accounting for almost 4% of total Australian primary energy consumption, power generation using wind as a resource still has a long way to go. State and Federal initiatives promoting its use will assist. Despite Bloomberg's 2013 announcements that "Australian Wind Energy now Cheaper than Coal" costs significantly exceed those of the more traditional methods of power generation - or do they? We will leave that to the statisticians to argue amongst themselves how to develop matrices to analyse the costs, whether they factor in carbon footprint penalties and arrive at comparable figures that are agreeable to all. Good luck with that.

So what of the lifting of the Abbott government's ban? In June 2015 The Clean Energy Finance Corporation (CEFC), a government organisation tasked with investing to increase the flow of funds into renewable energy, energy efficiency and low emissions technologies, was prohibited from investing any of its AUD10 billion in wind and small-scale solar projects. Funds were to be redirected to larger solar developments and "new and emerging technologies". Good news for the detractors although not a popular announcement to those within the renewable energy sector.

What is it they say about a day in politics? Well six months later, in December 2015, the Environment Minister, Greg Hunt, effectively reversed the ban releasing the shackle on the Federal Government's coffers. This permits the Corporation to invest in any wind projects although they must involve "emerging and innovative" technology. It also seeks to encourage a "focus on off-shore wind technologies". In essence there is a shift in emphasis to encourage on-shore projects to secure their funding from more main stream commercial sources. Nevertheless opportunities for funding from the CEFC will occur for the on-shore market. Indeed, as announced on 9 December 2015, the 240MW Ararat wind farm in Victoria won AUD67 million in financial support from the CEFC.

So where one asks is the future? Growth and future viability of the industry can only be achieved by willingness on the part of producers, State and Federal Government, to proactively tackle the difficulties ahead. With an apparent vacillating political situation in the land Down Under our crystal ball is somewhat cloudy. With five prime Ministers in the space of eight years from both sides of the political landscape we would be foolhardy to forecast the future. Finance aside there remains a body of opposition to wind power generation on environmental and health grounds. Whether you agree or disagree with the concerns raised they cannot be ignored and may influence the ultimate outcome.

What we can be certain of is that progressive developments, such as those that wind generation will experience, do not always go to plan and accidents unfortunately happen. Whether these result from lightning strikes or from a seemingly unaccountable nacelle collapse Charles Taylor Adjusting has a depth of experience to resolve claims for property damage and business interruption. We have developed strong working relationships with power producers and are acutely aware of the intricacies and nuances peculiar to this particular industry and the financial constraints placed upon operation.