



**News Release:** November 2007 Vector Lifting, Jandakot, WA.

*Pic caption: The operable or movable roof on the new Perth Arena opens or closes within seven minutes and weighs about 320 tonnes.*

### **Engineering challenges aplenty with Perth Arena opening roof.**

When BGC Construction invited Jandakot based specialist lifting firm Vector Lifting to become involved with them in the design and construction of the new Perth Arena there were plenty of opportunities to develop some innovative engineering solutions.

Part of the brief was the movable roof had to operate in winds up to 72 kmh (38m per second), have a 50 year service life, and meet very stringent safety standards.

It also had to be able to withstand winds up to 136 kmh when automatic storm clamps would activate and clamp the movement system if operating.

As well, it needed to open or close in a relatively short time - unlike some of the earlier sports arenas around Australia with similar devices which are far too slow to capitalise on weather conditions for optimum crowd and player comfort.

The broad specifications for the 320 tonne roof designed by Vector comprise two major sections, each on four bogies, each with eight 11kw motors and a genuine state-of-the-art tracking system so there is no possibility of either section slewing off true during its travel on rails from open to close which could cause jamming and delay problems. The operator knows precisely the exact position and tracking of each section at any given moment on screen during the movement.

The travelling speed is 0 to 4m per minute so the whole opening area of 40m x 80m will be achieved from closed or open in less than 7 minutes.

Managing Director of Vector, Les Capelli, said it was a very interesting job to design.

"We've worked on other projects for the WA Government and this is certainly one of the more challenging ones" he commented.

"But it really is gratifying to get business through an invitation from a major corporation like BGC, so I can only feel very happy with the entire team we have here for all having done their jobs well for us to deserve this" he added.



Vector Lifting recently designed the vast 2,000 tonne AMC (Australian Marine Complex) movable shed at Henderson which travels on its own bogies from the concrete hardstand down to the water's edge and back when necessary under its own power. They also designed the massive portal crane which also travels the same distance but independently of the shed which can carry 250 tonne on its three lifts, still believed to be the world's biggest portal crane.

**ENDS**

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