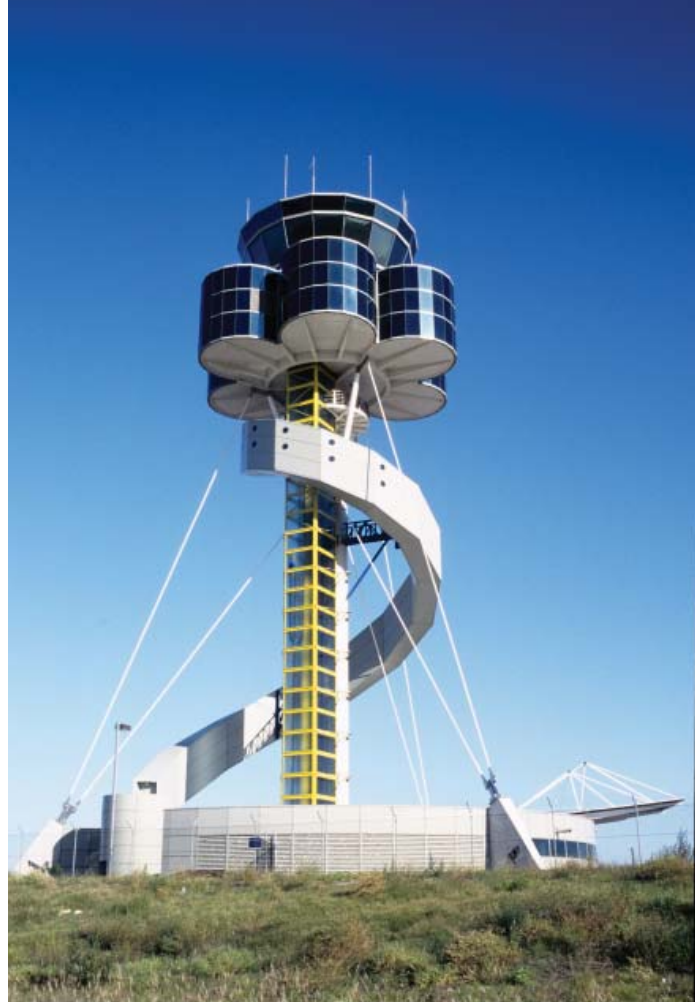


control tower

Sydney Airport Control Tower, Mascot



This unique structure was the result of reassessment of the logic of conventional control tower. It consists of a top 'cabin' with all-round visibility achieved by angled frameless glass. The design has only one central column from which the roof cantilevers, stabilised by stainless steel rods in the glass joints. Above the cabin is the surface movement radar sensor and a corona of aerials and lightning conductors.

Below the cabin is the main deck containing electronic equipment and plant rooms, duty staff rest area, toilets and management office. The six pods of the deck are arranged like a cloverleaf. At the base is a circular building with plantroom, standby generator, uninterrupted power supply, equipment rooms, staff amenities and management offices. The overall height of the structure is 45 metres.



The geometry of the design is based on an equilateral triangle or tri-star plan with a slim precast central column which contains the services and supports a steel-strutted and cantilevered platform. This is braced by post-tensioned steel rods to three points on the base building, which is itself supported on deep piles. The load of the base building thus serves to stabilise the tower. This ensures the most rigid, sway-free structure with the advantage of prefabrication for rapid construction.

To maintain the visual clarity of this stayed-mast structure, the lift runs on the outside of the central column and the escape stair moves in a large spiral well away from it. The effect is a striking one, demonstrating the advanced technology appropriate to its purpose and its associations with aircraft. All of the construction is lightweight, prefabricated and weather-protected, essential for the extreme terrain exposure.

