

Upper House Inquiry Report findings and recommendations as they apply to stationary steam engines, by Debbie Rudder 16.11.22

Noting that the Museum of Applied Arts and Sciences has a very diverse collection, some people have long advocated that it be split into 'arts' and 'sciences'. This concept ignores both the synergy between different parts of the collection and the original complementary meanings of 'arts' (skills) and 'sciences' (understandings) when applied to the making of things.

Recent Directors of the Museum, and NSW Arts Ministers, have revived this unfortunate concept. They have told us that the new Parramatta venue will be a place for 'science and technology' and that the real Powerhouse Museum will be transformed into a 'fashion and design' facility.

Finding 3: That the NSW Government's current plans for Powerhouse Parramatta are more akin to an events centre than a museum.

There is no robust plan for a science and technology museum at Parramatta. Hence the science and technology exhibitions at the real Powerhouse Museum should be renewed but NOT trashed.

Recommendation 5: That the NSW Government publicly and specifically outline its strategy to minimise the risk of damage posed to large and fragile items by moving them from their existing location to Powerhouse Parramatta.

Although no such strategy has been made public, some Transport objects have already been removed to storage.

Three 'iconic' objects currently on display at the Powerhouse Museum were earmarked for display at Parramatta, but they are no longer wanted there. It appears that the design brief for the building did not make clear that access should be provided for such large objects. The modified plan

involves moving these objects TWICE, first to Castle Hill (although another site is being sought for the Catalina) and then back to the Powerhouse, doubling the risk and cost.

But why were just three technology objects (a beam engine, a locomotive and an aeroplane) selected for the Powerhouse Museum, from hundreds of highly significant technology objects? Why were no Australian-made objects selected? And why no Indigenous Australian technology objects?

The Boulton & Watt beam engine

The first of the three 'iconic' objects is the world's oldest existing rotative engine (that is, one that literally turned the wheels of industry). Compared to earlier means of creating motive power, it increased energy efficiency and productivity; along with other steam engines, it led to increased urbanisation. With a few other engines of the same type, it created the nexus between fossil fuel and motive power; thus it sits at the beginning of the graph of increasing carbon dioxide in our atmosphere. Even young children understand this when they visit the exhibition.

Moving this object is not a simple exercise. The engine was made in parts and modified several times over its 102 year working life. It will need to be disassembled before it can be moved. Its mass is 33 tonnes, and the mass of one component, the overhead rocking beam, is 9 tonnes. The object includes timber and iron support beams, plus access platforms and stairs. It was custom-designed for an existing site and built into its original engine house, so it also needs the support of a floor beneath and a wall behind – at great cost if current structures are trashed.

In the 1980s, the engine was partly dismantled and trucked from Ultimo to Castle Hill. All parts (some quite small) were measured, photographed and drawn to scale. A team of experienced engineers rebuilt and tested the engine, partly dismantled it, trucked it to PHM, rebuilt it with all supports plus a new floor and wall and new steam pipes, valves and drains.

In the 1990s, despite all the careful measures taken in the 1980s project, a new conservator noted that the engine was out of alignment. In another complex project, the beam was disconnected and lifted, the attached rods were re-aligned, and it was lowered into place.

It is INCORRECT to claim, as the current Director has: 'we've moved it before, so we can move it again.'

The engine is to be reduced to a 'waypoint' in a trite timeline at Ultimo Fashion Facility. No more stimulation of young minds; no more appreciation of the skills employed in designing and making the engine; no more insight into its progenitors, Matthew Boulton and James Watt; no more understanding or interactivity.

But what date will they pin it to as a waypoint?

1712: the first steam engine

1769: Watt's first engine patent

1784: design project (incorporating new ideas) for this engine

1785: the engine began working in London

1836: its final form, with cast iron beam replacing the wooden one

Last time I visited, a temporary wall was jammed up against the front of the exhibition, so visitors could not see the whole engine, read the labels, or view the graphics. At least someone had placed a video of the working engine where visitors could watch it, but it was still a sad and sorry sight.

Behind the temporary wall is a huge garish fashion exhibition sign, shouting 'ZAMPATTI POWERHOUSE', which will face the engine too closely when the hoarding disappears. It is a tasteless announcement that fickle, inherently unsustainable fashion is the future and that the museum's leaders consider the engine a nuisance.

The Steam Revolution exhibition

This exhibition links the Boulton & Watt engine to the modern world. It tells the story of how steam changed Australian life in the city and the bush. It shows how engine design changed to make steam more useful: more compact engines for workshops and ships; multiple cylinders to improve efficiency; engines on wheels for rural industries and fighting fires; and high speed engines (and highly efficient turbines) to power electricity generators.

The exhibition's location is very apt: the Engine Room of Ultimo Power House, Sydney's first public power station. It has changed little since 1988, and its focus should be broadened from steam to energy by adding internal combustion engines, electric motors, early X-ray tubes, solar cells, working piezo-electric floor tiles, early oil and gas lamps, and highly efficient electric lights and devices. Key working steam engines should remain to attract visitors and stimulate discussion.

Three forgotten 'waypoints'?

Three large (and perhaps inconvenient) heritage features of the building should not be ignored.

1899: two US-made overhead cranes in the Engine Room

1901: bases of two chimneys in the Boiler Hall

1929: Australian-made crane over the Turbine Hall

Recommendation 6: That the NSW Government, as part of the renewal of the Ultimo museum, commit to retaining the Harwood Building in its current form with museum-related uses.

One vital use of the Harwood Building is conservation work on complex technological objects displayed at the Powerhouse or Observatory. Moving objects to and from Castle Hill for conservation would be risky and inefficient.

The Harwood Building is a very valuable asset, sustainably supporting all aspects of exhibition development and changeover as well as object conservation, and should not be diverted to lesser uses.