

In-person and Online meeting

## The Prince of Wales, brand new steam for the 21st century

Presented by

Graham Nicholas, Professional Head of Engineering, A1 Steam Locomotive Trust



The A1 Steam Locomotive Trust is building, from scratch, a re-creation of Sir Nigel Gresley's P2 design. The construction will be illustrated using original engineering drawings and it will be explained how the design has been enhanced using modern computer design and modelling.

Graham Nicholas is a chartered mechanical engineer and a career railway man, with specialism in certification and approval of rail vehicles and experience of rail vehicle manufacture and maintenance in the UK, Europe, North America and China. He has been involved with the A1 Steam Locomotive Trust for approx. 25 years, offering his professional services in a mainly voluntary capacity to support the aims and aspirations of the Trust. With this background, he has become an expert in engineering standards for heritage vehicles running on the national UK rail network.

Wednesday 8<sup>th</sup> of May 2024

Time: 6:00 p.m.

Refreshments from 5:30 p.m. and buffet to follow

The Lancaster Hall Hotel, 35 Craven Terrace, London W2 3EL.

Underground and rail: Lancaster Gate, 5 mins walk (Underground: Central line) Paddington, 10 mins walk (Underground, Elizabeth line, mainline)

Please register for either online or in-person attendance.

*(Please note that for this event it is necessary that you enrol for in-person attendance)*

<https://theweldinginstitute.com/events>

## **Historical background to this presentation on *Prince of Wales* a Gresley Class P2 Locomotive, by the A1 Steam Locomotive Trust. Britain's most powerful steam locomotive.**

The first Gresley class P2 No. 2001 *Cock o' the North* was completed in 1934 by the London & North Eastern Railway (LNER) at its Doncaster works. It was the most powerful express passenger steam locomotive ever built for a British railway. Designed by Sir Nigel Gresley, the Chief Mechanical Engineer of the LNER who also designed the famous class A3 No. 4472 *Flying Scotsman* and world speed record holder class A4 No. 4468 *Mallard*, the class, which was eventually to number six, was constructed for use on the arduous Edinburgh to Aberdeen route. The advent of the streamlined trains in the late 1930s and then the second world war meant that the design was never fully developed and all six were rebuilt as class A2/2 4-6-2 'Pacifics' in 1943/44 by Sir Nigel Gresley's successor, Edward Thompson, following Gresley's premature death in 1941.

The P2SLC will build the 7th member of the Gresley P2 class steam locomotives, No. 2007, *Prince of Wales*. The project will demonstrate how the most powerful class of express passenger steam locomotives to operate in the UK can be fully realised. We will use modern computer design and modelling techniques to enable it to deliver its true potential hauling passenger trains at high speed across the national network.

The name of the locomotive is the 'Prince of Wales' which was approved by the late Queen Elizabeth II. The P2 Steam Locomotive Company is a subsidiary of The A1 Steam Locomotive Trust (a registered charity), the builders and operators of No. 60163 *Tornado*, completed in 2008 and officially named by their Royal Highnesses The Prince of Wales and The Duchess of Cornwall at York station on 19th February 2009.

In much the same way that *Tornado* was constructed as the 50th A1 rather than a replica of the original members of the class, No. 2007 will be the 7th member of the P2 class, likewise allowing for improvements and variations in design. The decision to closely follow the pattern set by *Cock o' the North* means that the locomotive will have the original semi-streamlining and rotary cam valve gear and will look, to all intents and purposes, like No. 2001.

### **Resume of the Lecture Presentation**

The *Prince of Wales* is a re-creation and *not* a restoration of a steam locomotive. The Presentation will cover the reasons why the A1 Steam Locomotive Trust, has decided to build a P2 steam locomotive, including a brief history of the class of locomotive.

The construction will be illustrated using original engineering drawings and the use of new components. Accompanying these illustrations will be a description of the engineering behind the creation of the parts comparing the resources to hand today with those for the original design. The Trust acknowledges that the original P2s had certain weaknesses and No. 2007 will have these eliminated at the design stage.

The management of the Trust, especially the engineering and fund-raising aspects will also be explained. The initial funding concept for the A1 *Tornado* in 1990 was to raise small amounts of money from a lot of people, became our motto 'A New A1 for the price of a Pint' so regular monthly donations were then suggested on the price of a pint of beer. This simple funding process was eventually to lead to almost 3000 Covenantors signing up, many of whom continue to support us on this amazing project! A similar funding concept is being used for the new P2, but the price of a pint has increased somewhat! His Other fund raising initiatives are being used for the P2 and these will all be described.

### **Further information**

Further information is available on the following websites: [www.a1steam.com](http://www.a1steam.com) & [www.p2steam.com](http://www.p2steam.com)

There is also the on-line store for a variety of official *Tornado merchandise*, including DVDs, books, gifts, models & clothing.