

## **JOINING INSTRUCTIONS – 3rd INTERNATIONAL EARLY ENGINES CONFERENCE –**

### **SUMMERLEE MUSEUM OF SCOTTISH INDUSTRIAL LIFE - 22-24 MARCH 2024**

Hello Everyone – The purpose of this note is to provide all the information you may need to be fully prepared. The IEEC3 agenda and running order summary is included in this note.

#### **SOME HEADLINES:**

#### **EXCURSIONS ON THURSDAY 21 AND MARCH 25**

The details of these are contained in a separate note, it's worth noting that:

- Thursdays excursions are via shared cars lead by David Hardwick (costs to be shared amongst passengers by personal arrangements) - please let me know A. If you are driving to Summerlee and B how many spare seats you have. The conference doesn't start formally until the following day so we can access the Museum only during normal opening hours of 10.00-16.00 on the same basis as the public.
- Mondays excursion is on a hired 49 seater coach lead by Steve Grudgings (costs will vary depending on passenger numbers – indicative £25/head – TBC on the day!)
- Whilst every reasonable care will be taken, individuals are expected to take reasonable care for their personal safety during visits on Thursday and Monday.
- We have not made arrangements for the afternoon of Sunday 24 March and whilst delegates may choose to visit the National Museum of Scotland to visit the Caprington Colliery Engine, it has not been possible to arrange access other than that normally available to the public.

**INCLUSION** – We are again determined that IEEC3 is an exemplar of excellent personal networking, and for its genuine inclusion and welcome for everyone. We may have delegates travelling from Europe and China as well as lengthy journeys from parts of the UK and we want everyone to ensure all attendees feel included and welcome.

**INFORMATION EXCHANGE** – If you haven't already done so, please raise any questions or requests for information for posting on the web site via Chris Jones ([Admin@earlyengines.org](mailto:Admin@earlyengines.org)) Feel free to bring posters, flyers, publications or anything else you want to draw attendees attention to – if you want a dedicated table please let us know!

**BOOKS AND PUBLICATIONS** – Moore Books will have stocks of books to tempt us all with and our sponsors AIA, NMRS and SGMRG are also likely to have publications for sale and there are likely to be others. They may not all be enabled for card payment so it would be a good idea to bring cash or a cheque book (if you still have either!!)

**ENGINES ON SITE AND ACCESS TO THE MUSEUM** – There is no shortage of engines at Summerlee and arrangements are being made to provide guided tours of:

- The Farme Colliery Newcomen Winder (Sunday PM)
- The Industrial History Store (Friday AM and Saturday Lunch Time)
- Summerlee Ironworks Industrial Monument (Sunday PM)

Details of these are included in the running order. Access to Summerlee Museum is free and we extend our grateful thanks to Justin Parkes and Lou McNair for hosting us.

**CAVEATS** – We obviously intend that the event runs as planned but ask for your understanding if we need to make last minute alterations to running orders and/or papers.

### **DAY 1 FRIDAY 22<sup>nd</sup>**

Summerlee Museum will be open as normal and directions to IEEC3 will be clearly signed at the main entrance from where you will be directed to a dedicated registration desk. Your name badges and additional materials will be distributed when you register.

We have been given a dedicated space for IEEC3 upstairs in the Museum but this is not secured or lockable, book sales and related stands will therefore be located in the lockable room in which food and refreshments will be served.

Timings and Running Order for the Conference are:

09.00 Facilities open and accessible for organisers and exhibitors

10.30 Registration Desk opens

10.45 First Tour of Industrial History Store (C30 minutes) – meet at Registration Desk

11.00 Refreshments

11.30 Second Tour of Industrial History Store (C30 minutes)–meet at Registration Desk

12.00 Buffet Lunch

12.45 Welcome and Opening of the Conference

12.55 Agenda, Logistics and Housekeeping

13.00 – 13.40 History of the Farme Colliery Engine – Justin Parkes full paper lays out the history and operational context for this unusual winding engine serving Farme Colliery from 1810 to 1916. The paper also describes how it was saved from the scrapman and moved to Summerlee and the challenges therein. This will be followed by a short paper from Mike Potts on issues concerning the engines design, specifically its manual operation We hope some parts of the engine will be accessible to delegates during the conference.

13.40-14.10 History of the Caprington Colliery Engine – Ellie Swinbank, Senior Curator of Technology at National Museums Scotland (NMS), presents the work of Geoff Hayes, whose engineering expertise was essential to the reconstruction of this engine in its current location at NMS. This paper describes what is known of its working life, its preservation and its current interpretation.

14.10-14.40 The World's First Steam Mills (1779-1783): The customers of Wasbrough and Pickard and their mills. Matthew Wasbrough of Bristol erected his first steam mill in 1779 and by his death in October 1781 had erected at least four others in Bristol and the Midlands. Although not a great mechanical success, his partnership with James Pickard of Birmingham meant these engines would be retro-fitted with Pickard's crank & flywheel and some continued working well into the nineteenth century. John Townleys full paper focuses on the entrepreneurial character of their customers and the role these early engines served.

14.40 – 15.20 The Atmospheric engine. Loading and Balancing -Mike Potts full paper explores the practical issues relating to loading and balancing early engines encountered by their owners and operators and the solutions sought to bear. The differing challenges presented by Pumping and Rotative engines will be described and discussed.

#### 15.20– 15.35 REFRESHMENTS

15.35 – 16.05 Early Engines in the Ironbridge Gorge -The shallow mines south of the River Severn were largely self-draining, so it wasn't until the 1750s that steam engines were introduced for use in the booming iron industry. Steve Dewhursts full paper examines the engines in these works and the introduction of small winding engines in the late 1700s in the associated coal and ironstone mines. It will also briefly look at engines built by these works in the late 18<sup>th</sup> and early 19<sup>th</sup> centuries and some technical oddities.

16.05-16.35 Eighteenth century engines in the Ironbridge works. Mike Nevells full paper describes the findings from the largely unpublished excavations of several late 18<sup>th</sup> century pumping engines around the gorge. This will include the site of the Heslop engine at Blists Hill and is intended to provide a more complete picture of all the engines in this the cradle of the Industrial Revolution

16.35 - 17.10 Two enigmatic engine sites in East Lancashire –Richard Matthews double paper describes the findings of his field and desk research concerning the engine house remains at Foxclough Colliery near Colne. This will conclude with a brief account of the surviving Newcomen Engine House at Great Harwood

17.10-17.40 Pre Steam Engines at Culross in the Early Seventeenth Century – Donald Adamsons and Robert Yates full paper sets out the findings of their field and desk research into Sir George Bruces “coal mine under the sea” and its innovative drainage technologies. These include the famous “coal pit under the sea” and the “Egyptian wheel”

18.30 Tour of Museum and cash bar around the Grant Ritchie Steam Winding Engine

19.00 Hot Buffet

20.15 Last Orders

20.45 Closure and Delegates Depart

## DAY 2

8.30 Venue open and refreshments available

09.00-09.05 Welcome, recap day 1 and review agenda for day 2

9.05-9.35 Early Engines in North-East Derbyshire – John Barnatts recent desk and field research cataloguing coal working in North East Derbyshire has identified many previously unrecorded early engines. This full paper lists their locations, operating periods and records of local engine building as well as correcting misinterpretations in other accounts.

9.35-10.05 Engine building in Scotland after 1760 and the contribution of the Carron Company– John Kanefsky's full paper examines the factors enabling the Carron Iron Company to make significant contributions to engine building in the second half of the eighteenth century. John also highlights some previously unrecognised engines and sites.

10.05-10.30 Building a Working Model of the Hawkesbury Junction Newcomen Engine, at one-sixth scale – Richard Lambs short paper sets out why this engine was selected for modelling and describes practical aspects of the design and fabrication processes. The paper also sets out the insights the project provided concerning the issues encountered during Newcomen and Calleys experiments and subsequent developments. An analysis of steam loss in relation to cylinder proportions will also be laid out for a range of engine sizes

10.30 – 11.00 Henry Beighton's Fire Engine Documents -Mike Potts full paper describes the insights and discoveries resulting from his analysis of Beightons documents and how this provides a new understanding of his work in this formative phase of engine development

11.00– 11.20 REFRESHMENTS

11.20 – 11.50 The 1786 Boulton & Watt Engine at John Steins Kennetpans Distillery - a confused story – Bill Whiteheads full paper will describe how, whilst keen to be the first distillery powered by steam, Stein kept changing his mind over the size of the engine required. Stein was fortunate that an engine was available originally built for an American living at the time in London. We plan to visit the Kennetpans site on Monday.

11.50– 12.10 James Twyford –Somersets answer to Agricola? Steve Grudgings and Ian Casteldines short paper is intended as a preamble for a more comprehensive examination of the work of this little known polymath and illustrator of pre steam engines.

12.10– 12.30 Joseph Hateley – Engineer of Bo ness, Bristol and elsewhere, this short paper by Peter King describes what is known of the Engineer and Patentee who worked with Watt.

12.30-13.30 LUNCH (13.00 Optional Industrial History Store Tour (meet at registration desk)

13.30 – 14.00 Early Scottish Engines- David Hardwicks full paper describes a range of previously unknown or inaccurately reported early engines across Scotland. This is ongoing work in progress and concerned with correcting the record and ensuring the numbers and importance of early engines in Scotland is better understood.

14.00– 14.30 An Overview of the History of the Heslop Engine. Together with Hornblower and Thompson, Heslop designed and oversaw erection of a number of successful compound atmospheric engines, many of which were installed in his home area of Cumbria. Mike Potts full paper describes the background to the man, his engines and their modus operandi.

14.30– 15.00 Kelvin Lake, Excavating the Pitchcroft Limestone Mine winding and Pumping engine sites in Shropshire. This paper will lay out Shropshire Caving and Mining Club's work in excavating and interpreting the sites of two engines at Pitchcroft. The winding engine site is believed to have housed a Heslop style engine, while the nearby pumping engine site housed a much larger engine.

15.00– 15.20 REFRESHMENTS

15.20 – 15.50 Precursors to Savery. Anton Howe's full paper will describe engines that exploited atmospheric pressure before Torricelli, including new evidence of William Petty's and Kaspar Kalthoff's experiments in the 1630s and 40s

15.50 – 16.20 The first Boulton and Watt Engines in Central Europe – Peter Konecny's full paper examines the introduction of B&W Engines in Central Europe, describing the contexts for their installations and the challenges faced by the men erecting them.

16.20 – 16.500 Early engines in Europe, their builders and challenges – James Greeners full paper will describe the spread of early engines across Europe, telling the story of the men that did this and the challenges they faced

16.50-17.20 William Sandeman's B&W Engine for Douglasfield Bleach Works, Dundee – John Crompton's paper draws on the B&W Archives to chart the making and building of the engine, and examines the alterations made during its working life and in preservation.

17.20 Venue Closes and Delegates Depart

EVENING AT ATTENDEES LEISURE – THERE WILL BE AN OPTION FOR DELEGATES TO EAT TOGETHER AT A SUITABLE LOCAL RESTAURANT – DETAILS AND LOCATION TBC

## **DAY 3**

08.30 Venue open and refreshments available

09.00 Welcome, recap day 2 and review agenda for day 3

9.05-9.35 The Newcomen Engine in 2020. -Mike Potts full paper describes new materials relating to early engines that have emerged since 2020. These include paintings and drawings, clock and watch faces and photographs, hopefully reminding us all that there is still new (to us) material out there

9.35-9.55 The Polzunov Blowing Engine (Russia)-Mike Potts short paper describes what little is known about the world first twin cylinder blowing engine built for the Pulzunov ironworks in the Ural Mountains in 1766. The engine never worked but a model of it survives.

9.55– 10.25 Boulton and Watt Engine Houses in Scotland – Mark Watsons full paper describes and locates the rotative engines supplied to Scotland by Boulton and Watt, and Fenton Murray and Wood. Seven engine houses or parts thereof are understood to still exist and offer archaeological potential in their walls and foundations.

10.25 – 10.45 The site of the first Newcomen Engine in the West Midlands -Mike Potts short paper examines the various different theories concerning the location of Newcomens first engine in the West Midland and makes the case for which of these are correct.

10.45– 11.00 REFRESHMENTS

11.00 – 11.30 Summary of work so far & open questions concerning the invention of Newcomen's engine - James Greener's full paper examines the areas still requiring resolution relating to the work of Newcomen and those that followed him and suggests some potential lines of enquiry

11.30 – 12.00 New conclusions regarding Engines around Brierley Hill. A full paper by Peter King setting out new discoveries relating to engines around Brettell Lane Brierley Hill

12.30 Closing Address

**NOTE THAT WE HAVE NOT MADE ARRANGEMENTS FOR CATERING – FOOD AND REFRESHMENTS CAN BE PURCHASED IN THE MUSEUM CAFÉ**

13.30 Tour of Farme Colliery Newcomen Winder

14.30 Tour of Summerlee Ironworks Industrial Monument

If you have any other questions please mail [steve.grudgings@btinternet.com](mailto:steve.grudgings@btinternet.com) or call me on 07768381502

**WE LOOK FORWARD TO SEEING YOU AGAIN AT IEEC3**