

BPMA SUSTAINABLE ENERGY STRATEGY

MINUTES OF TECHNICAL AND TRAINING MEETINGS HELD ON THURSDAY 22nd FEBRUARY 1 AT THE BPMA OFFICE WEST BROMWICH

ATTENDEES

Steve Schofield – BPMA
John Veness - BPMA
Charles Gaisford – AEA Energy
George Robson – Flowserve
Dave Bristow – KSB Ltd
Peter Cunningham – Chemquip
Mark Trevaskis – ITT Lowara
Adrian Mettem. – Stuart Turner
John Hughes – Mono Pumps
Maurice Yates – AEMS
Ivor Rhodes – ACE Cranfield
David Seymour – Grundfos
Calvin Pope - Grundfos

APOLOGIES

Brian Austick – BA
John Fraser – JF
Alex Onslow – Sterling Fluid Systems
Graham Patterson – ESPA Pumps
Alan Thompson – Calpeda
Les Tindall – ITT Goulds
John Bower - Flowserve

TECHNICAL MEETING

3 Achieving volume pump inclusion on ECA list was an agreed objective Action - Develop labelling proposals or other alternative method of pump differentiation for input into the EUP consultation process for pumps and review feasibility and desirability of extending labelling for high volume pumps.

3a- Update on Status on Voluntary Circulator Labelling Programme – DS

Dave Seymour presented the background to the Circulator Labeling Programme and went through an example of LCC selection showing a 40% reduction in cost for a higher efficiency labeled pump. It was reported that although there was a sign up by a number of companies who had high efficiency pumps available, these were not promoted and in many cases labels not attached. First cost in many cases continued to be the deciding factor.

As the foundation was in place with acceptance levels and proven savings, it was felt that progress could be made to request the inclusion of this technology onto the ECA scheme. It was agreed to form a subgroup of circulator manufacturers to push this forward and Dave Seymour volunteered to chair the group.

A meeting call notice will be sent out – Action JV

(Post meeting note – JV has downloaded 9 questions to be answered in application from ECA website - see appendix 1) – the information for the first stage application does not seem onerous and a draft submission will be prepared and circulated for comment – action JV

3b-Update on latest Europump - EuP position and Systems approach initiatives – SS

Steve Schofield presented the current status on defining the criterion for setting a minimum standard of performance to allow CE marking to the EuP directive. Steve reported that there was strong support to push ahead with this but that tens of thousands of data points now had to be collected to allow data analysis.

With regard to the intended Europump systems approach, Steve reported that there was little support for this while the EuP work was underway and that a proposal would be made to the March meeting of the Europump Council that the systems approach be put on the backburner until October when the EuP workload would have reduced.

3c-To report on status of data collection for labelling – JV

JV reported that as the EuP initiative was now gaining momentum that the data collection had been stopped. It was agreed that all who had inputted would be approached and asked if they were happy for the curve developed for ESOB at 2900rpm to be circulated to those who inputted for reference. – Action JV

4 Update on UK MTP status – Targets for reduction by 2010 and 2020. - CG

Charles Gaisford advised that DEFRA had now handed down a target for motor energy reduction by 2020 of 16TWh and that this flowed through to a reduction of 6-7TWh for pumps.

Charles showed a spreadsheet where expected reductions in Energy over the period had been separated between the following categories

- Current Activities
- Building Regulations
- Pump Certification
- EuP Minimum Standard
- ECA
- Pump Labelling

It was agreed that once the UK pump energy by industry market study had been completed that a meeting would be called to work on verifying/agreeing these energy splits as being credible and deliverable. – Action JV

JV presented an overview of the requirements for fans within the building regulations and asked if there would be an agreement to a similar approach for pumps in heating and cooling systems in buildings – It was agreed to include this as an agenda item in the Circulators/building services subgroup meeting.

For fans

What does Part L state?

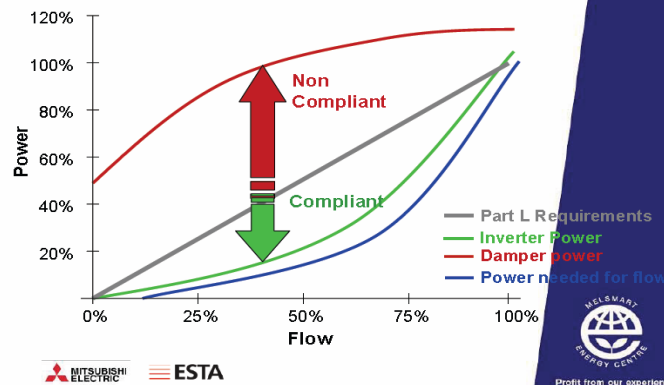


“... the system should be capable of achieving a specific fan power at 25% of design flow rate no greater than that achieved at 100% design flow rate.

“Reasonable provision for ventilation system fans rated at more than 1,100 watts would be to equip them with variable speed drives.”



Conservation of Power using Inverters



5 Review Status of Energy Consumption by Industry Study for AEA – JV

JV Reported scope and status of the work so far

The Objective of this study is to provide a reasoned estimate of:-

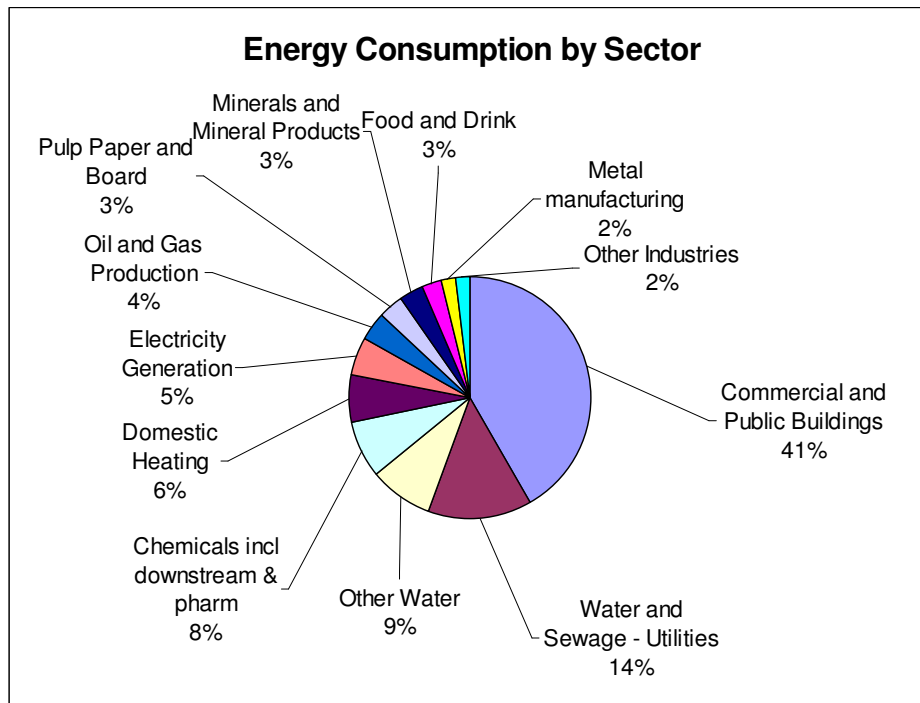
How pump energy consumption is split across commerce and industry and in which sectors there is largest pump energy consumption?

What pump applications are the largest consumers of energy?•

What is the current impact on pump energy consumption by variable speed drives fitted to pumps?

- Stage 1 : Draft Complete
- Stage 2 : Data collection still in process

Stage 1 Preliminary Results



JV advised that there would be adjustment during stage 2 and Buildings will likely reduce slightly but would remain the largest sector to address

JV advised that there had been 5 returns of the input data forms for stage 2 but needs input from ITT Lowara, Sulzer, KSB and SPP to give a fully rounded picture of pump types and applications within the major industries identified in Stage 1.

6 Review Status of Bid Submitted to Carbon Trust Networks Scheme – JV

JV advised that a bid for £140k as part of a £300k project had been submitted to the Carbon trust and that we would know at the end of February if we were successful – project was to cover ;

- **Programme Rollout – Launch Event – Magazine Articles – One hour overview presentations to Institutes & Trade Associations – Brochure – Website update**
- **Pump User Energy Opportunity Education delivered to Pump Users. – 4 one day training workshops around UK**
- **Training of 10 Pump System Auditors**
- **9 Pump System audits - Water-Waste, Buildings and Chemical/Petrochemical-Pharmaceutical Industries**
- **Publication and Dissemination of audit findings and Best Practice – Event and Yearbook**
- **Incorporation of Pump Energy Training modules into Professional CPD's.**

In the event that we were successful JV advised that there was a need for significant member support.

In particular there was a need for 10 members with experience of Water & Waste, Building Services and Chemical/Petrochemical Industry to be available for 3 days auditor training and for 8 days to carry out audits for case studies.

JV advised that in the event that the bid was successful that the summary bid would be immediately circulated.

7 Review Energy Article and Webpage update requirements

Review of open items- those highlighted complete – remainder required by end of March

Technical Articles				Web pages		Proposed by
Task 1	Article 1	General Overview/ Introduction	Page 1	Introduction		JV
Task 2	Article 2	Applying Lifetime Costing Analysis	New page			George Robson
Task 3	Article 3	Purchasing an Efficient Pump	Page 5	Purchase an Efficient Pump		Dave Seymour
Task 4	Article 4	Purchasing an Efficient Motor	Page 7	Purchase an Efficient Motor		Eriks Zvaigzne
Task 5	Article 5	Using Variable Speed Drives	Page 8	Use Variable Speed Drives		Brian Austick
Task 6	Article 6	Efficient system design	Page 6	Install an Efficient System		Dave Bristow
Task 7	Article 7	Operating pumps Efficiently	Page 3	Start Saving Money Now		JV
Task 8	Article 8	Centrifugal v Positive Displacement pumps	New page			Lez Warren
Task 9	Article 9	Carrying out an Energy Audit	Page 9	Carry out an Energy Audit		Maurice Yates
Task 10	Article 10	BPMA Events and Training .				JV
Task 11	Article 11	Energy Update and Tools and Downloads				JV

8 Review Status of Development of non intrusive pump auditing strap

Review of progress on partnering for development.

JV advised that contact had been made with NPL who are interested in this project and in putting together a bid to SRC in the October round. – JV and SS to visit to discuss. Peter Cunningham advised that he had contact with Manchester University and this may be another route to development.

JV outlined the Knowledge Transfer Partnership as a route to development where a graduate is placed in a company to develop. £16k a year for 2 years and a University and Company are required.

9 Review Progress of Field Pump Test Standard

To review progress on development of this standard.

There has been no progress to date but Maurice Yates and Peter Cunningham confirmed their continuing interest in working on this project. JV advised that he would send out a meeting call at a time and venue agreeable

TRAINING MEETING

3 Review Status of Elements of the BPMA Educational, Supplier and Auditor Accreditation scheme.

JV overviewed the structure of the Better Pump Practices Scheme Training material – see appendix 2

JV presented a draft of a 1 hour presentation to act as an introduction to the BPPS to be used for major customers, Trade Associations and Professional Institutes. This was clearly too technical and detailed and JV agreed to produce a simpler “taster” and to circulate for comment. – Will be forwarded with copies of these minutes to attendees.

As a post meeting note I propose that the Module 2 Energy Saving Opportunities training material be split into segments and circulated as it is completed to review panels as follows:-

Module 2 –

- Introduction to Pump Energy Saving Opportunities and Life cycle Principles – (SS,GR,CG)
- Lesson 1: Pump Performance and Pump/System matching – (SS,GR,PC,IR)
- Lesson 2: Best Practice System Design – (SS,GR,DB,JB)
- Lesson 3: Selecting an Efficient Pump – (SS,GR, DS,AM)
- Lesson 4: Energy Saving Solutions – (SS,GR, IR,MT,BA,JF)
- Lesson 5: Maintaining Pumps at Optimum Efficiency – (SS,GR, AM,JH)
- Lesson 6: Pump System Auditing, Case Studies and Personal Action Planning – (SS,GR,MY)

Review panel members

Steve Schofield – SS
Charles Gaisford – CG
George Robson – GR
Dave Bristow – DB
Peter Cunningham – PC
Brian Austick – BA
John Fraser – JF
Mark Trevaskis – MT
Adrian Mettem. – AM
John Hughes – JH
Maurice Yates – MY
Ivor Rhodes – IR
John Bower – JB
Dave Seymour - DS

JV appealed for any copies of members powerpoint presentations, graphics, case studies on energy issues to be forwarded to assist in compiling this material.

- 10 Date of Next Meeting – TBA dependent on feedback from Carbon Trust bid and Steering Group Meeting on 8th March**

Appendix 1 – Questions to be completed for application for Technology to be included in ECA list

Suggested technology

Items marked with an * are compulsory.

Technology

Suggested technology

*

Attach documentation

Essential information

Is your product designed for saving energy, rather than generating it?

The Enhanced Capital Allowance (ECA) scheme for energy-saving and investment is focused on improving and developing energy-efficient technologies, relative to current practice, rather than supporting alternative generation. If your product is designed to support a new way of generating energy, please select 'No'.

*

Yes

No

Do you have a description of your proposed technology?

Please describe the proposed technology category, including a description of your product.

*

Is the technology identifiable as a product?

Will your and other companies' products within the proposed technology have their own, unique model name and number?

*

Is this product defined as 'plant and machinery' under tax law?

Equipment must be classed as 'plant' or 'machinery' to qualify for an ECA. See what does and doesn't fall into these categories at www.hmrc.gov.uk/manuals/camanual/CA20000.htm

*

Yes

No

How long will your product operate before it needs replacing?

Products with an operating life under six months are not eligible for ECAs.

*

Are there any State Aid Compliance issues?

The technology you are proposing should have a wide application across business sectors. A State Aid is aid provided directly by a state, or indirectly through state resources, that can distort competition within the European Community, which is not admissible.

*

What carbon savings can this product provide?

To be added to the list, a technology should offer significant carbon savings over current practice. The likely savings of products will be judged on a case-by-case basis. Please give the most accurate estimate you can of the savings your product will deliver, based on market data where possible.

*

How would adding the technology to the ETL affect its market share?

ECA support for a technology should encourage more companies to invest in it, providing greater carbon savings. Please estimate what the price premium is over conventional products, how much is being spent on this technology now, and by how much this spending would increase if it became eligible for an ECA. If possible, please also indicate what impact this would have on its market share.

*

What is the defined test methodology?

Please indicate any widely used or accepted tests to compare the performance of different products in this area. These are vital to enable the Carbon Trust to determine a minimum qualifying level for support, and will help manufacturers measure performance levels.

*

Other Information

Appendix 2 – Better Pumping Practices Scheme –

- Module 1: Pumping Fundamentals
- E-Learning Modules – 1,2 & 3
- Module 2: Energy Saving Opportunities in Pumping Systems
- Module:3 Pump Auditor Training and accreditation
- Pump System Audit and Implementation support
- New Product Development and certification
- Publication of Guides and Standards
- Continued Education and Dissemination of Best Practice

Module 1 – Current Module

- Lesson 1: The fundamentals of pumps; how they work, their performance characteristics
- Lesson 2: Introduction to basic pump types and performance fundamentals
- Lesson 3: The fundamentals of liquid flow in internal systems, flow resistance and the origins of pressure losses in pumping systems.
- Lesson 4: Pump operating limitations, cavitation, NPSH and Suction Specific Speed, and pumping system flow control.
- Lesson 5: The interaction between pump and system performance characteristics

Module 1 goals

- Contribute to the pump selection process through improved knowledge of the hydraulic performance and behaviour of pumps and their operating limitations,
- Enable recognition of reasons for the selection of pump types.
- Increase understanding of pumping system characteristics and the interaction of pumps and systems for single and multiple pump installations,
- Allow recognition of operating conditions which cause pump and system operating problems,
- Contribute to good practice in the specification, selection, and operation of pumps

Module 2

- Introduction to Pump Energy Saving Opportunities and Life cycle Principles
- Lesson 1: Pump Performance and Pump/System matching
- Lesson 2: Best Practice System Design
- Lesson 3: Selecting an Efficient Pump
- Lesson 4: Energy Saving Solutions
- Lesson 5: Maintaining Pumps at Optimum Efficiency
- Lesson 6: Pump System Auditing, Case Studies and personal action planning

Module 2 goals

- Develop an understanding of pump system energy saving opportunities and the interaction of pumps and systems,
- Allow recognition of operating conditions which cause wasted energy,
- Contribute towards better pump purchasing procedures
- Provide information to allow pump system assessments to be carried out.

Module 3

- Overview: Energy Audit Fundamentals and H&S
- Lesson 1: Preparing for a Pump System Energy Audit – screening – walk through
- Lesson 2: Practical Laboratory Pump Testing
- Lesson 3: Site data collection –Cost – Power - Flow rate – Pressure - Determining Pump required operating conditions.
- Lesson 4: Developing Energy Saving Solutions
- Lesson 5: Writing an Energy Audit report
- Lesson 6: Practical Audit assignment briefing.

Module 3 goals

- Provide the tools to carry out a site energy audit,
- Allow solutions to reduce energy consumption to be developed
- Provide a format for the presentation of audit findings and financial justification
- Prepare you to carry out a site energy audit and to produce an audit report for assessment by the BPMA.
- Provide a route to BPMA auditor accreditation.