

# SGT NEWS



Compiled and published by DMG Business Media Ltd on behalf of the Society of Glass Technology

## GLASS OPPORTUNITIES - THE CHALLENGE OF WASTE MANAGEMENT

The Society of Glass Technology's Spring Meeting, held at the Dunkenhall Hotel, Accrington, from Thursday 14 May to Friday 15 May, attracted a wide UK audience as well as visitors from further afield. The challenges presented by waste management for the many different sectors of the glass industry was the subject of the 1998 conference. A new format was used for the Spring Meeting for the first time. There was a conference dinner after a full programme on the first day and the meeting closed after lunch on the Friday to allow participants plenty of time for their return journey.

### FACTORY VISIT

A visit to Philips Components at Simonstone was arranged for the Wednesday afternoon. The nearby site supplies the front panels for cathode ray tubes used mainly by television manufacturers, but also computer displays. Most of the production is destined for other factories within the Philips group.

### KEYNOTE ADDRESS

Dr Peter Sewell, the Society President and chairman of the first session, welcomed everyone to the conference and outlined the theme of the meeting. The President then informed everyone of the recent death of Mr Neil McDonnell, a former President of the Society, and asked everyone to observe a minute's silence in his memory. Dr Sewell then invited Dr Bill Cook of British Glass to present the keynote address.

Dr Cook's address looked at the role played by British Glass in the tenth year since its formation. The technical services offered are well known, but instead he looked at the Federation side of activities and the active role being played in the establishment of rules, laws, regulations and committees of experts. These activities take representatives from British Glass to meetings with civil servants in London and Brussels, where forthcoming legislation is being drawn up on issues such as pollution control, packaging waste and lead in glass. British Glass' response to the demands placed on its staff has been to train them for the purpose, recognised by the recent Investors in People award.

### CONFERENCE PAPERS

Management of waste takes on a whole new meaning when that waste will be around for tens of thousands of years. Charlie Scales of BNFL manages research and development projects, looking at immobilising nuclear fuel waste solutions with high heat generating active products. He has recently commissioned a full scale continuous waste vitrification process line which processes 25kg of waste/hour. A group using this technology is tendering for contracts from the US government to treat 55 million gallons of nuclear waste.

John Osborn presented an overview of the Glass Batch, Furnace and Refractories Committee clinic discussion meeting on refractory recycling, which included contributions from outside the glass industry.

Hexavalent chromium is the main component that leads to the classification of refractory waste as active or special waste. This costs 66 times more to deposit in landfill. UK landfill costs are £7/tonne, France costs £150/tonne; in Germany it is £300/tonne.

Water used to lubricate flat glass grinding can be recycled continuously using a flocculation treatment as described by Klaus Twelkemeyer of CETCO Europe.

Life cycle assessment is a feature of Integrated Pollution Prevention and Control legislation which may lead to an overall reduction in the total burden on the glassmaker. A holistic approach is taken to the environmental impact of a glass product with the possibilities for conflicting legislation being ironed out, recycling the right amount rather than for its own sake. Mike Nicholas of Lurgi explained the principles.

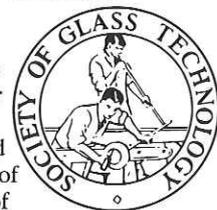
Keith McNeill of VERT described the development of a transportable waste vitrification plant from its beginnings as a demonstration plant at Queensborough, to a working unit in Germany which complies with stringent environmental regulations. The furnace takes any waste stream, including asbestos, and vitrifies it into an inert glass suitable for fabricating floor tiles.

Wasted energy is wasted money and Paul Stevenson of ETSU identified a number of best practices which have produced

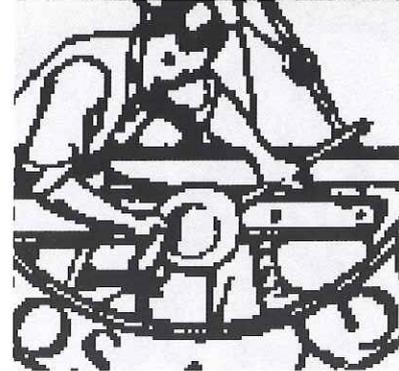
President:  
John F B Clark,  
FSGT.

Honorary  
Secretary: Mr W  
Simpson, FIMgt,  
FIM, FSGT.

Honorary  
Treasurer:  
Mr R T  
Montgomery, CA,  
FSGT.



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actual cost savings and explained how any company can emulate them.

Steve Brammer of Premier Refractories described the Drilok concept and the recycling of silica refractories. Drilok refractories have pimples and dimples which aid assembly, dispense with the need for mortar and can be reused after demolition.

It is a shortsighted move to delegate down the management of waste management, according to Derek Norman of Pilkington. The rewards are high if the principles of sustainable development can be taken as company policy from the top down. A good factory will produce 2% in waste. Pilkington's Weierhammer site in Germany has just one tonne of waste for every 3000 tonnes entering the factory.

GTS Duratek and BNFL are bidding for a share of a US\$30 billion contract from the US Department of Defence for the total site clearance of 65,000m<sup>3</sup> of plutonium contaminated waste. Charlie Scales read the paper for GTS Duratek, detailing the design of the DuraMelter intended for the task.

John Stockdale of British Glass described the background and principles behind Integrated Pollution Prevention and Control legislation. By the start of the new millennium, new BREFs (best available techniques reference notes) will be a part of everyone's vocabulary. Local authority supervision of stack emissions looks likely for the foreseeable future.

Analysis of what is going to landfill is the responsibility of the source under the principles of duty of care. Margaret West of Sheffield Hallam University and chair of the Society's Analysis and Properties Committee described the x-ray fluorescence methods used to analyse spent refractories.

David Roberts of VERT described the end uses being explored for vitrified waste. The glass is inert so to send it to landfill would be a waste. Options include: construction, rail and road ballast, ceramic floor tiles, foam glass, abrasives and land reclamation.

Maximising cullet recovery reduces batch costs whatever the scale of production. David Batt-Rawden (ETSU) described these in relation to the small user.

Burgy, the waste left over after polishing glass which consists of 85% sand, 15% glass and some cast iron, comes from the polishing and grinding machines at Pilkington in Doncaster. Even though it is classed as inert, there is still a landfill tax of £2/tonne. Simon Slade has looked at some creative ways of using the burgy in land reclamation and trials have shown it to correct the

pH of acidic spoil heaps.

The final paper was given by Olivier Ortega of Valoref. The company manages and treats industrial waste, producing secondary raw materials and selling reclaimed refractories. With landfill costs rising, reclamation has become a viable business on mainland Europe. When costs and regulation cross the threshold in the UK, Valoref will be there.

## 81ST ANNUAL GENERAL MEETING

The Annual General Meeting was held at the Dunkenhagh Hotel, Accrington, at 4.45pm on Thursday 14 May 1998.

### PRESIDENT

The retiring President, Dr Peter Sewell, proposed that the President-Designate, Mr John F B Clark be elected the new President. This was seconded by Dr D Martlew and carried with acclamation. Peter Sewell then gave the President's badge to Mr Clark and in turn Mr Clark presented Dr Sewell with a Part-President's badge. Mr Clark then took the Chair for the rest of the meeting.

### OFFICERS

Mr W Simpson and Mr R T Montgomery were re-elected as Honorary Secretary and Honorary Treasurer respectively.

### VICE-PRESIDENTS

Mr A Croxall and Mr J Henderson were elected vice-presidents.

### COUNCILLORS

Five nominations were accepted to fill the five vacancies caused by retirement in rotation, these being Dr R J Hand, Mr B W McMillan, Mr J Simon, Mr R Swift and Professor A C Wright.

### REVISED SUBSCRIPTIONS

The proposed rates as listed in the agenda for the AGM sent to members would be effective from 1 January 1999 (see Table I).

In the absence of the Honorary Treasurer, Mr W Simpson (Honorary Secretary) reported that the Council had been considering the subscription structure for some time and had decided that the differential between overseas and British Members should be removed, as about half the membership was based outside the UK and should be offered an inducement to

continue with membership and encourage new people to join. Also, the concessionary rate had been merged with the under 25-year old rates to create one lower band, with the aim of increasing younger membership.

### VOTE OF THANKS

John Clark gave a formal vote of thanks to Peter Sewell, the outgoing President. He referred in particular to Dr Sewell's work on reorganisation of the structure of the Society by the setting up of the new committee to give stability and continuity in the future, and praised his dedication. Mr Clark also thanked the staff and others who had helped in his year as President-Designate, and said his position would be made easier by those who had put the Society's finances on a sound footing through investments and careful management. The meeting closed at 5.15pm.

### GLASS OPPORTUNITIES 1999 - CALL FOR PAPERS

The 1999 Spring Meeting will be held at the Tankersley Manor Hotel, Barnsley from 12-14 May. The chosen themes for the meeting are the challenges arising as glass moves from the furnace to the cold end. Key areas include: gob delivery, moulds, hot glass handling, forming, annealing, coatings, and hot and cold inspection.

Speakers are invited to submit abstracts for proposed papers and posters on the above topics, oral presentations will be 25 min in length. Overhead and carousel projection facilities will be provided. The deadline for submission is 1 October and speakers will be notified of their acceptance by the end of October. Full papers are required by the end of December 1998. These papers will be published in *Glass Technology*. Please send submissions to Jill Costello. ■

Table I.

	One journal	Both journals
Concessionary/Aged under 25	£13.00	£18.00
Aged 25-29 years	£38.00	£56.50
Aged 30 years or over	£54.00	£79.00
Retired members	£27.50	£39.00
Collective members	£268.00	



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# SGT NEWS



## STEERING COMMITTEE

The main business affairs of the Society of Glass Technology are now being handled by a steering committee which is directly responsible to council. It is empowered to act on behalf of council within the limits established by resolutions of council and shall give account of its actions at regular council meetings. It is responsible for giving guidance to council on important issues affecting the business of the Society in pursuing its objectives as a registered charity within the United Kingdom.

The steering committee holds at least four meetings each year. Normally, the president takes the chair at such meetings, but in the absence of the president another member of the steering committee will, at the president's invitation, take the chair.

The membership of the steering committee will be the president, the honorary secretary, the honorary treasurer, the immediate past president, or the president designate as appropriate, the chairman of the board of fellows, and the chairmen of the standing committees. The steering committee shall have power to co-opt up to three additional members

whose contributions are deemed valuable and will be free to invite other individuals to attend specific meetings if required. Co-opted members and those present by invitation will not have voting rights.

The steering committee is empowered to conduct business between meetings by correspondence or by telephone contact, provided that appropriate records be kept and incorporated in the business of the next steering committee meeting.

The remit of the steering committee is the general management of the Society, to which end it will receive regular financial reviews and will supervise the activities of the standing committees. A member of the office staff will attend and will take minutes. The calendared meetings will proceed even if all the members cannot be present. In the event of a standing committee chairman being unable to attend a steering committee meeting another member of that standing committee will be nominated to attend instead and to exercise that chairman's voting rights.

### **Standing committees**

Standing committees have been constituted to cover the important areas affecting the Society in pursuing its objectives. These areas include technical activities, finance, corporate activities, membership interests and professional issues. These committees will seek to ensure council has the best achievable guidance in the discharge of its members' responsibilities as charitable trustees.

### **Technical co-ordinating committee**

The remit of the technical co-ordinating committee is to facilitate the formation and termination of technical committees and special interest groups. It seeks to co-ordinate the activities of these groups, with particular regard to international membership and effective communications. Also it will seek to advance the quality and frequency of the Society's conferences, meetings and workshops. The basic

membership of this committee will be the chairmen of the various technical committees who annually nominate a chairman from among their number.

Finance and corporate affairs committee: is responsible for advising the council in addressing financial issues and to assist the honorary treasurer in discharging responsibilities under the Charities Act. In addition, the committee is responsible for dealing with all matters relating to personnel, office policies and practice, the library and publication activities of the Society. The membership of this committee will comprise the honorary secretary and the honorary treasurer together with a minimum of three senior members of the Society. The honorary secretary will be the chairman of the committee and the honorary treasurer will deputise in his absence.

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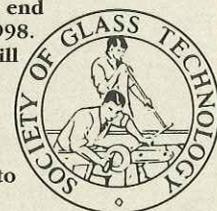
## GLASS OPPORTUNITIES 1999 - A CALL FOR PAPERS

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Speakers are invited to submit abstracts for proposed papers and posters on the above topics. Oral presentations will be 25 minutes in length and overhead and carousel projection facilities will be provided.

The deadline for submission is 1 October. Speakers will be notified of their acceptance by the end of October. Full papers will be required by the end of December 1998.

These papers will be published in Glass Technology. Submissions should be sent to Jill Costello.



### LOCAL SECTION CONTACTS

For details of forthcoming local section events in your area, contact the following. All SGT members and non-members welcome.

**London**  
- Mr P West, United Glass Ltd, Porters Wood, St Albans, Herts AL3 6NY. Tel 01727 59261.

**Midlands**  
- Mr C Baldwin, Stein Atkinson Stordy Ltd, Midland House, Ounsdale Road, Wombourne, Near Wolverhampton WV5 8BY. Tel 01902 324000.

**North East**  
- Mr J Henderson, 44 Woodside Ave, Throckley, Newcastle upon Tyne NE15 9BE. Tel 0191 264 4775.

**North West**  
- Dr D Martlew, Pilkington Technology Centre, Hall Lane, Latbom, Ormskirk, Lancs. Tel 01695 54210.

**Scottish**  
- Mr D A Rennie, United Glass Ltd, Glasshouse Loan, Alloa FK20 1PD. Tel 01259 218822.

**Yorkshire**  
- Miss R M Sales, 20 Blackbrook Drive, Sbeffield S10 4LS. Tel 0114 2306179.

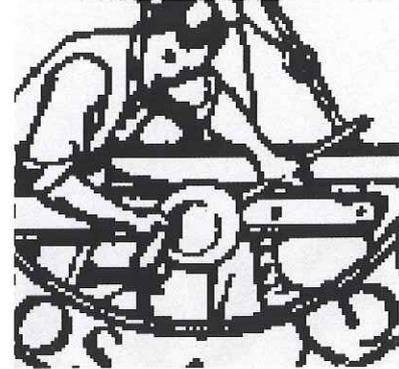
**NORTH AMERICA**  
- Dr A G Clare, School of Ceramic Engineering and Sciences, New York State College of Ceramics at Alfred University, 2 Pine Street, Alfred, NY 4802-1296, USA. Tel 607 871 2392.

**INDIA**  
- Dr J Mukerji, Central Glass and Ceramic Research Institute, PO Jadavpur University, Calcutta 777 032, India. Tel 473 3496.

## CHANGE OF ADDRESS

After more than 45 years at Thornton, 20 Hallam Gate Road, the Society of Glass Technology has moved to Don Valley House, Savile Street East, Sheffield. The change was brought about because of the growing cost of maintaining Thornton as a workplace and the need to provide high quality meeting space. Don Valley House is between the city centre and Meadowhall, it has ample parking and is easily accessible by car and public transport.

The full address is:  
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E-mail sgt@glass.demon.co.uk



### Membership committee

This group is responsible for defining and implementing policies which will maintain and increase Society membership. Publicity matters are germane to this and will form part of the committee's remit, as will consideration of the rights, privileges and benefits of membership enjoyed by Society members. There shall be at least six members representing as far as practicable the geographical spread of the Society membership. The chairman shall be nominated annually by the steering committee.

Each standing committee meets at least three times a year, or more frequently as the nature of the work load demands. The quorum for a meeting of each committee is three. Each standing committee acts as a sub-committee of the steering committee and the chairman will give a regular account of its activities to the steering committee and to council. Standing committees are empowered to conduct business by correspondence or by telephone, provided that appropriate records are kept and such business is considered at the next standing committee meeting. These committees should represent the wide geographical spread of the Society membership. The provision for conducting business by correspondence and by telephone will facilitate multinational membership of these committees.

### The board of fellows

In addition to the standing committees, the board will regulate the award of the fellowship and make awards for service. The board of fellows also takes responsibility for the wider professional and qualifications issues of concern to the Society. In particular the board will advise the steering committee and council on to the continuing professional development of Society members.

### Technical committees

The following are the technical committees of the council of the Society of Glass Technology with the subjects included in their terms of reference.

#### Analysis and properties committee

The chemical analysis and determination of properties of glass and glass associated materials of practical interest to the glass industry.

#### Basic science and technology committee

The physics and chemistry of glasses and related materials and the physical and chemical principles of processes used in the glass manufacturing and glass using industries.

#### Engineering committee

Engineering problems in the glass industry.

#### Glass batch, furnace and refractories committee

Associated with all types of bulk glass manufacture with the following remit: (1) the handling, mixing and melting of raw materials, (2) the design, control, fuel and operation of all types

of furnaces, (3) the materials used for the construction of furnaces and heating appliances, preparation, properties, methods of testing, standards and specifications.

#### Hand-made glassware committee

The raw materials, mixing, melting, forming and processing of hand-made and domestic glassware.

Other Technical Committees may be established by council from time to time. Council may also authorise the creation of special interest groups as recommended by the technical committees. These special interest groups will consist of small numbers of specialists within a given field whose task it will be to focus on a certain area of development, possibly including cross organisation meetings.

There is currently one special interest group, the glass information group. ■

## FIREFLY GLASS

A new glass studio has been set up in the Sherwood Forest Craft Centre, Edwinstone.

Firefly Glass was established by Dan Aston, a finalist in the 1998 Glass Sellers Award. Dan is 26 and studied at Sunderland University followed by a year at Brierley Hill International Glass Centre.

Working with barium crystal glass, Dan's blown and hand made studio glass is available in a wide range of articles, such as vases, bowls and candlesticks, in rich translucent and opaque colours. His Safari range is based on the patterns and colours of zebras, giraffes and tigers.

The opening was performed on 19 June by Councillor A P Hannaford, chairman of Newark and Sherwood District Council, John Clark the Society of Glass Technology President was also present as a special guest.



John Clark, Dan Aston and Councillor A P Hannaford.

## IN PRINT

The October issue of *Physics and Chemistry of Glasses* has peer reviewed papers on: crystallisation of lithium di- and metasilicate solid solutions from  $\text{Li}_2\text{O SiO}_2$  glasses, crystal growth of  $\text{CuBr}_x\text{Cl}_{1-x}$  microcrystals in a viscoelastic borosilicate glass matrix,  $\text{Na}^+/\text{Li}^+$  ion exchange studies in glass rods, short range order in sodium borosilicate glasses obtained via deconvolution of  $^{29}\text{Si}$  MAS NMR spectra, polarising power and polarisability of the  $\text{Ag}^+$  ion in glass and the basicity of silver (I) oxide, formation and properties of lead fluorogallate glasses, density and molar volume of  $\text{Li}_2\text{O SiO}_2$  glasses in relation to their microstructure, formation and properties of alkali scandium silicate glasses, and preparation and infrared and Raman characterisation and electrical properties of  $\text{Li}_2\text{S B}_2\text{S}_3 \text{As}_2\text{S}_3$  based glasses.

The October issue of *Glass Technology* has more papers from the Spring Meeting on the Challenges of Waste Management, the use of synthetic air for combustion in regenerative furnaces by Dr George Mattocks, the winner of the 1997 Glass Sellers Award for Science and Technology, and three peer reviewed papers: the effect of  $\text{N}^+$  ion implantation on microhardness of chalcogenide glasses, continuous fabrication process of glass rod fibres for gradient index rod lenses using double pot crucible, and mathematical modelling and simulation of drawing thin glass sheet from a rectangular preform.

Both issues have extensive surveys of scientific, technical and news sources in the abstracts section.



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