The Contract Heat Treatment Association Newsletter
HOTLINE
Issue No. 99
April 2005

CCAs: the finishing line's in sight

Thanks to the Surface Engineering Association, the campaign to render CHTA members eligible for Climate Change Levy (CCL) rebates, via negotiated Climate Change Agreements (CCAs), is close to a positive conclusion. At last, the ability to reclaim 80% of CCL charge is in sight. Negotiation of the terms gets underway shortly.

Hotline reported in June last year that, under new eligibility criteria, *"Businesses in sectors that meet or exceed a 3% threshold* (on energy intensity) *but fall below the 12% threshold will be eligible to enter an agreement only if they meet or exceed one of … two international competitive tests".*

Since the previous issue of *Hotline*, the breakthrough came in mid-January when, in response to the case put forward by SEA's CEO Dave Elliott, HM Customs & Excise agreed that heat treaters *"meet the international tests by a reasonable margin and as such the sector will qualify for a CCA (subject to agreement, state aids etc)"*.

In early February, this good news was the focus of urgent discussion at CHTA's Management Committee meeting. The next steps, within a short timescale, were for our sector to develop a proposal for milestone targets and to have an initial meeting with DEFRA, the body with which CCAs are made.

It was decided that this effort would be led jointly by Dave Elliott and, on behalf of CHTA, Richard Burslem who, through the pages of *Hotline*, had kept members updated on CCL matters since "the energy tax" first threatened in 1999 (see page 9).

It is vitally important to clarify, before the DEFRA meeting, energy-efficiency targets and the complex question of methods of measurement that are appropriate to all in our rather diverse industry. The support of all CHTA members, many of whom have already supplied SEA with copious HMCE/DEFRA-requested data, is crucial.

Hence the CCL meeting at SEA on March 11th where representatives of some 75% of CHTA member sites availed themselves of the opportunity to influence the terms under which CCAs will be implemented in our sector. The very constructive discussions there crystallised the approach to be adopted at the DEFRA meeting in May.

The preliminary meeting also left members with tight deadlines for further input to be sent to SEA, as detailed in the e-mail circulated from CHTA's Secretariat on 17th March. Members should have already submitted a letter of intent to apply for CCA by the March 24th deadline. Base-year data, using the two forms provided, are due in by no later than 22nd April, as is any supporting evidence to aid negotiation of satisfactory terms with DEFRA.

The next issue of *Hotline* in June is the 100th. We look forward to marking a special edition with extra-special news on the CCA front.

At the CCL Meeting on March 11th: SEA's Dave Elliott (left) and Richard Burslem, CHTA's leader in the final CCA negotiations, flank Roger Haw, newly-appointed CHTA Chairman (see page 3).

Aiding Richard Burslem (Wallwork Heat Treatment) on CHTA's CCA Steering Group are (left) Simon Blantern (Bodycote Heat Treatments) and (right) David Cox (TTI Group).

Ultimately, the sector CCA scheme will be administered by SEA, at a charge of the order of £250/site/annum to CHTA members. The charge to non-members will be six times this amount.

Inside . . .

Challenges met and changes accommodated

***Terry Littlewood** reflects after completing his maximum two-year term as CHTA Chairman.*

When, at the last Management Committee meeting, the Chairmanship of the CHTA passed to Roger Haw, I was asked to prepare a summary of my past two years in the post. Looking back, I believe that the time has been one of "challenges met and changes accommodated", for both member companies and our Association.

Undoubtedly the biggest "challenge" has been Climate Change Levy (CCL). As a Management Committee member in 1999, I well remember when the Government announced the introduction of the "energy tax"; we demanded exemption for our industry, only to be told that the CHTA was too small to be listened to by Government.

It appeared our only way forward was to join forces with other associations, but in most cases this meant giving up our identity and independence, the two things the CHTA most prides itself on. I recall it was the determination of past Chairmen and Management Committee members, to find the right solution, that resulted (with some reservations) in CHTA affiliating with the SEA.

With hindsight, I can now say that this was clearly the right decision. We continue to manage and administer the CHTA independently and yet we have gained access to the "corridors of power" and the guidance and support of the SEA on how best to be heard.

I have never been a fan of red tape and regulations, and have always found it

Terry Littlewood (left) congratulates new CHTA Chairman Roger Haw on his appointment.

frustrating and ultimately disappointing to liaise with Government bodies generally. However, over the past two years, with the support of the SEA's Chairman, Linda Evans, Chief Executive, David Elliott, and the Chairmen of other SEA-affiliated associations, we have not only been heard.

We have also achieved recognition by way of HM Customs & Excise's recent acknowledgement that the heat treatment sector is "energy intensive" and will be granted a Climate Change Agreement (CCA) that will give us exemption from up to 80% of the CCL costs. It is now up to all members to participate actively in that CCA and benefit from recovering 80% of the £1million per annum the CCL has been costing our sector.

In mid-2004 the Management Committee was faced with the biggest change. We were dismayed to hear that Aston University intended to close the Wolfson Heat Treatment Centre, thereby leaving the CHTA with no offices, no centre of excellence, and no secretariat!

Yet again the Association refused to be defeated and, in a very short timescale, suitable arrangements were made. Whilst Derek Close has transferred Wolfson Heat Treatment Centre to the SEA offices, Alan J Hick continues as our Secretary, working from home but using the SEA's headquarters as CHTA's registered address. Structures that had been in place for over thirty years changed "overnight" but Association business has continued as usual. CHTA has been strengthened by the experience.

Happily ensconced in his home office: CHTA Secretary/ Hotline Editor Alan J Hick with understanding wife Lynn.

Whilst such changes and challenges may have been met and overcome during my two years of chairmanship, I claim no personal credit for them. The credit due must go to the strength of the CHTA and its membership, the commitment from past Chairmen and Management Committee members, the support in recent years of the SEA and, undoubtedly, the unwavering belief that our Secretary, Alan Hick, has in the CHTA and its future.

I am sure that your new Chairman, Roger Haw, will soon discover, as I did, that any reservation that he has about the role will prove to be unfounded due to the determination and support he will unquestionably receive from Alan Hick, Management Committee members, SEA officers and, last but not least, the CHTA membership. Although you will not need it, good luck Roger!

Thank you for the past two years. I have found it enjoyable and rewarding. It has been an honour to serve the Association as Chairman and I look forward to continuing to do so as a Management Committee member in the forthcoming years.

CHTA's Management Committee 2004/5. Back row (l. to r.): Alan Whitehouse (Tamworth Heat Treatment), Simon Blantern (Bodycote Heat Treatments), Dave Walker (Beta Heat Treatment), Roger Bird (TTI Group) and Mark Florance (Techniques Surfaces UK). Front row: Terry Littlewood (Expert Heat Treatments), Roger Haw (Flame Hardeners), Paul Handley (Heat Treatment 2000) and Richard Burslem (Wallwork Heat Treatment).

Photographs by Alan J Hick (and Man Ray).

New Chairman targets proper recognition of heat treatment's contribution

New CHTA Chairman
Roger Haw
highlights one of the issues he intends to pursue vigorously during his two-year tenure.

I have always been amazed by the failure of our industry to project the total benefit it provides to the economy. Within our Association, we have a collection of companies that have invested heavily in equipment and training to achieve a level of competence that underpins the success of the engineering industry.

There is always a temptation to think about lower prices, when pushed by our customers, rather than discussing competitive prices and value. We are proud of the expertise and service that we offer and we should publicise this fact. There will be a future trend away from "in-house" heat treatment due to the level of investment required when compared with services that can be bought in the subcontract market.

"We are one of the industries helping to keep the world going; we are not contributing to its destruction"

The "Global Warming and Climate Change Debate" provides a perfect illustration of our failure to engage the total issue. We are currently negotiating for a rebate scheme on CCL and the indications are that we will succeed.

Heat treatment is all about making components stronger and more serviceable; its inevitable consequence is that all engineering components are made with less material. If heat treatment was not available, the average gearbox would be four times its size in volume than it is today. The power requirements of the average vehicle, train or ship would be such that the consumption of fossil fuels would be unimaginable.

Heat treatment of engineering components lowers the volume of material used, which lowers the volume of material manufactured, which lowers the energy input into material manufacture and the energy expended in machining of components. The input power to drive machinery is also reduced as a consequence of heat treatment.

Compare all of the above with the relatively small use of energy of the entire heat treatment industry and you will see that we are actually offering a service that is helping to restrain global warming.

We should be getting a subsidy for our efforts in this respect, not paying a levy and trying to get a percentage rebate. We are one of the industries helping to keep the world going; we are not contributing to its destruction.

During my term of office, I intend to project the total benefit of our activities to a wider audience.

CHTA's new Chairman: a profile

Elected at the Management Committee meeting on February 10th*, new CHTA Chairman Roger Haw (Flame Hardeners Ltd) is a mechanical engineer by profession.

Starting his working life at Kirkstall Forge Engineering in Leeds (later to become GKN Axles), he progressed from apprentice fitter to draughtsman, gaining ONC and HND qualifications. Roger then took advantage of GKN sponsorship to study for a degree in Mechanical Engineering at the University of Leeds. Returning to GKN Axles after graduating, he was successively a design engineer and a development engineer.

Later taking a position as projects engineer at George Bray Ltd (Leeds), Roger was responsible for specification, procurement and commissioning of production machinery involved in the manufacture of gas-burner equipment for both the domestic and industrial markets.

In this post, he had his initiation into the world of specialist subcontract heat treatment. The tooling all had to be sent to a local heat treatment contractor.

Following this, he returned to GKN Axles to be Value Engineering Manager, a post which developed into the broader aspect of pushing through any available form of cost reduction or increase of value.

Roger was offered the position of General Manager of Flame Hardeners Ltd in 1976. The fast-moving and very demanding world of subcontract heat treatment has held his enthusiasm and interest ever since.

He believes that his experience of design engineering, production engineering and subcontract heat treatment places him in a unique position. He can analyse his customers' requirements, assess what they really need and, after consideration, tell them realistically what they can actually have. He has a very firm belief that the engineering industry should involve the specialist heat treatment subcontractor at the blank-paper stage of any design.

Roger holds very strong and positive views about the value of the significance of our industry and, following two very "individual" immediately-previous CHTA Chairmen, he hopes to be able to apply is own "Yorkshire Grit" to his term in office.

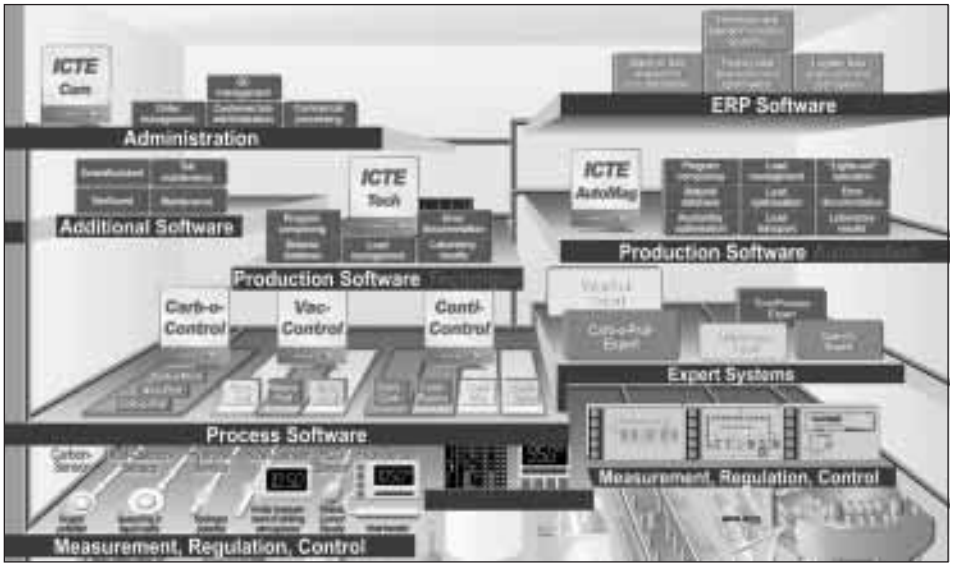
Believing in the positive value of trade associations, in both representing members and providing opportunities for networking, he is also the current Chairman of the British Gear Association, having maintained an interest in mechanical power transmission throughout his career.

**Other CHTA officers elected at the February meeting are: Senior Vice-Chairman: Terry Littlewood (Expert Heat Treatments); Junior Vice-Chairman: Paul Handley (Heat Treatment 2000).*

Software to assist the heat treater

H - Joachim Artz

outlines the capabilities of the ICTE® software family from Ipsen International.



In keeping with its corporate philosophy, Ipsen International supplies not only state-of-the-art furnaces and systems for all kinds of process technologies, but also the hardware and software platforms for automated and non-staffed shifts in heat treatments plants.

Thanks to the close contact maintained with the furnace users and the awareness of what is feasible technically, Ipsen has all the right qualifications when it comes to the development of useful, cost-reducing and, therefore, profitable innovations.

The ergonomic modular structure of the Ipsen software is popular with operators. The menu design, oriented to actual operations, is easy to learn and thus cuts training expenditure.

THE SCOPE

The illustration on this page shows the structure and hierarchy of the Ipsen hardware and software. The function of each level is clearly defined. The foundations were laid by our furnaces, a wide variety of sensors, and control systems that only include standard industrial components. In addition to this relatively broad product portfolio, software packages for a number of different applications have been included in our range for many years.

We distinguish three software areas: processes; production; and administration. All three areas function completely independently and none of them requires any software from either of the other areas. However, all software products communicate with each other and have continuous data exchange when they are combined to form a whole.

The three areas are supplemented by some assistants including the *SchedAssistant* production planning module, a maintenance module and the *TeleGuard* signalling program.

Process software

Specific heat treatment programs are developed for the processes used in Ipsen furnaces and systems, with the information filed in databases. These enable the precise and reliable reproduction of heat treatment processes for similar loads, process simulation and optimisation, consideration of specific customer data and customised treatment of the workpieces. The process software available includes the programs that actually control, monitor and optimise furnace operation as well as record furnace data. These programs include *Carb-o-Control*, *Vac-Control* and *Conti-Control.*

Production software: technique

The production software helps the user to meet the ever-increasing demands on quality (as well as those for precise process control) and reducing costs by means of production flow optimisation. The *ICTE® Tech* process control system, in the production technology section, combines different types of heat treatment systems, featuring widely varying furnace technologies, to form a single logical working group. The program provides the user with support for batch assembly, administers furnace programs and ensures full and seamless recording of all relevant process data.

Production software: automation

ICTE® AutoMag is a production automation module. In addition to the capabilities of *ICTE® Tech,* this software controls fully-automated charge transfer, allowing non-staffed operation for a certain period of time.

Administration

The *ICTE® Com* software is specially designed for the commercial and organisational side of the heat treatment shop business. The program provides support for shop administration from quotation management, through receipt of incoming goods, order logging and processing, to quality control management, the dispatch of finished goods and invoicing. A function for data export to popular office applications is an integral part of the package.

Integration

The integrated communication network from the furnace system level (process software) through the process control level (production software) to administration (office management software) ensures all-round transparency and reliability. Intelligent connections between the various customer articles, treatment plan and order processing databases help minimise the amount of effort put into bid management, costing procedures and invoicing.

Ipsen also has solutions for heat treatment shops integrated into larger plants. Using the *ICTE® AutoMag* and *ICTE® Tech* process control software, an interface can be established between the heat treatment department and a higher-level control system. With this configuration, the heat treatment shop is no longer a grey area on the production map, but a transparent processing stage within the overall production system of a large company.

Expert systems

Expert knowledge, especially in the field of metallurgy, is becoming increasingly difficult to find. What happens when this knowledge gradually disappears from a company?

In order to solve this problem, a number of expert systems have been added to the software area. Some of these expert modules are designed to simulate heat treatment processes and perform calculations for complex heat treatment cycles. Others allow users to store the knowledge developed and collect expertise from different disciplines. They provide a learning database. Two examples of expert systems of this type are "*Carb-o-Prof Expert*" and "*Vacu-Prof Expert*".

THE *ICTE*® SOFTWARE FAMILY IN CONTEXT

As a result of many years of intensive co-operation with users, Ipsen has been able to develop a software system with links between the various modules that are probably unique. *ICTE*® *Com*, *ICTE*® *Tech* and *ICTE*® *AutoMag* are basically three software systems that can operate entirely independently. However, they really come into their own when they are combined to provide support for day-to-day work in a number of areas.

Recent examples have shown that the *ICTE*® software family meets all the requirements posed by quality audits. The full recording of all the data of an order, from the receipt of incoming materials through to the delivery of finished goods, ensures highly-effective planning and control. The three diagrams here (A, B and C) demonstrate this point.

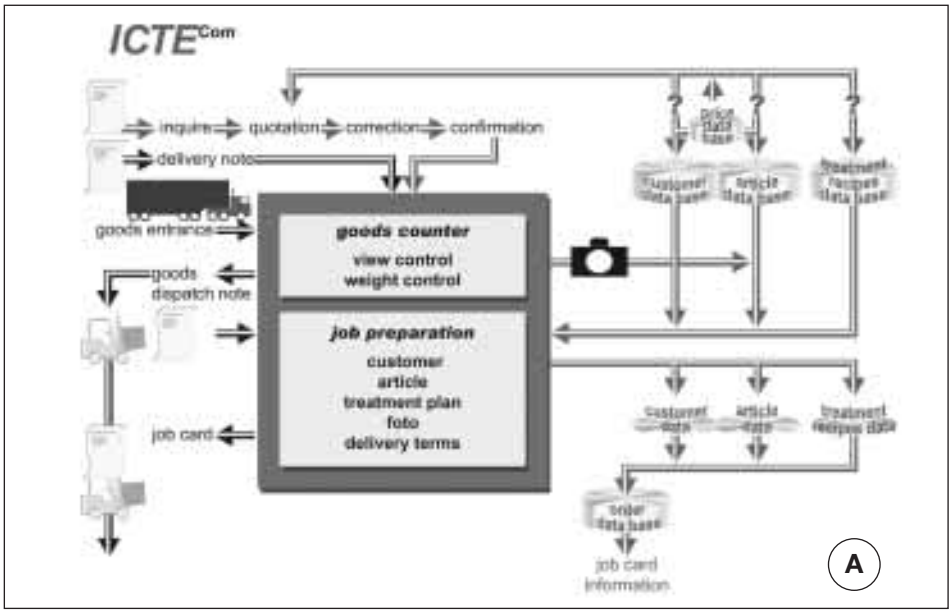
The first illustration (A) shows the starting situation of *ICTE*® *Com*. Workpieces are delivered and taken into stock by the goods inwards department. They are weighed and, if necessary, photographed. Data from the delivery note are entered and the order is registered with the system.

The order data are completed in the scheduling department. In particular, a treatment plan is defined, if this is not already evident from the material properties. All the information required, including delivery time, prices and quality criteria, is stored in a database where it is available for reference at any time. The program features convenient user-friendly input functions, for both one-off and standard orders. The information required for the heat treatment shop is stored in the order database and printed as a work control card.

The material can then be transferred to the heat treatment shop, where *ICTE*® *Tech* and *ICTE*® *AutoMag* take over responsibility for the next steps in the process (diagram B).

Once the material data have been recorded in the order database, they are available for batch assembly within *ICTE*® *Tech* and *ICTE*® *AutoMag*. Using the work control card, the order can be located in a matter of seconds. If materials with similar properties are found, the program assists the user in assembling a batch. In some cases, several orders may be processed in one basket or a single order may be divided between several baskets. This approach ensures optimum utilisation of the available capacity.

Batches that have already been assembled appear in a virtual warehouse. This "virtual warehouse" refers to storage stations in the heat treatment shop shown by the process control system.

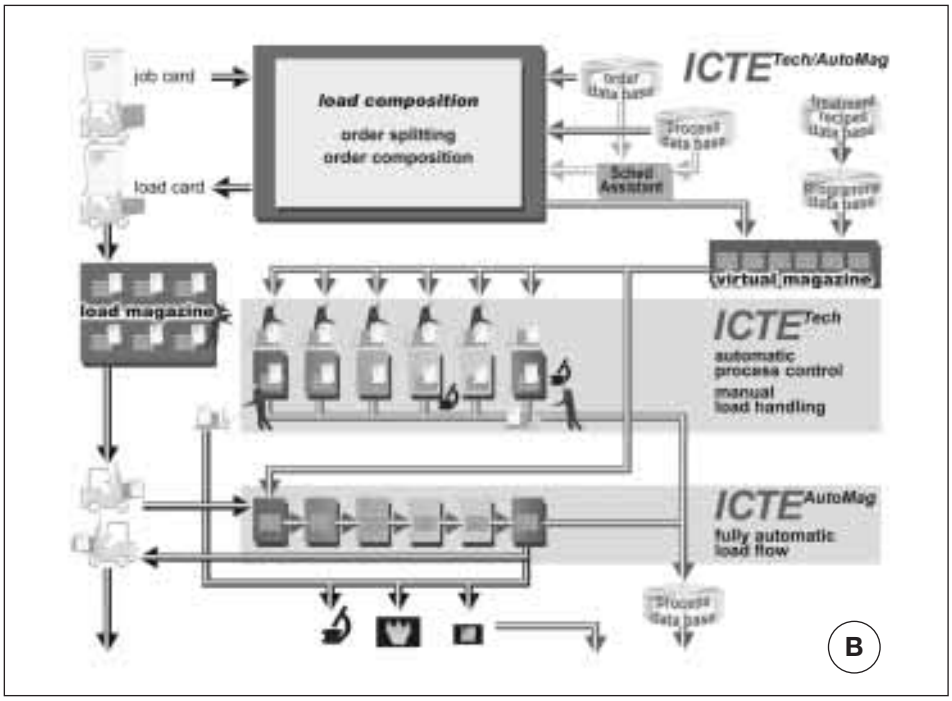


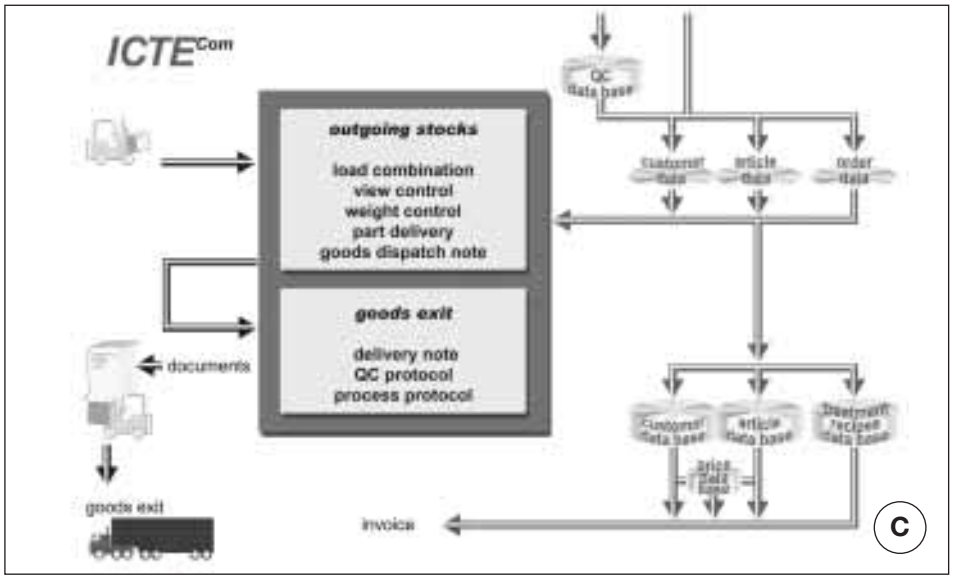
From the virtual warehouse, the batches are transferred to *ICTE*® *Tech* or *ICTE*® *AutoMag* with barcode support. *ICTE*® *AutoMag* is then in a position to complete the entire heat treatment process consisting of several stages. The process setpoints required by the furnaces are transmitted to the relevant units, which are controlled separately, by *ICTE*® *AutoMag.* Depending on the features installed, treatment parameters may also be transmitted to processing equipment by *ICTE*® *Tech*, in which case the furnaces must be charged manually by operations personnel. Whichever of the two programs is used, processing equipment of a variety of types may be grouped together to form one logical unit.

All the data relevant for treatment are recorded in a process database without any gaps. This database can be used for printing treatment and quality reports at a later stage.

Following the successful completion of heat treatment, responsibility for the charge is transferred back to *ICTE*® *Com* (diagram C). The completed orders are assembled for delivery in the outgoing goods warehouse and the documents required by the customer are compiled.

Invoices can be issued using the extremely flexible price database which forms part of the system. A single basis, which can be adapted for specific customers and orders, is used for all prices. Various quantity discounts can also be taken into consideration.





NEW MODULES

SchedAssistant

Intended to assist users with day-to-day capacity scheduling tasks, *SchedAssistant* displays all the batches registered by *ICTE® Tech* or *ICTE® AutoMag* in the form of a Gantt chart. Charges which have been scheduled for treatment or are already in the course of processing are clearly shown by bars in different colours. Users can change the scheduling of batches to comply with delivery deadlines and processing requirements and ensure optimum deployment of the plant capacity available.

If the user infringes certain conditions which have been defined, for example delivery deadlines, the system issues a warning. The user is then responsible for deciding on the action which is required.

TeleGuard

When dealing with complex plant, critical situations must be signalled rapidly and reliably. How can a user make sure that signals reach operations personnel effectively? Ipsen International also has a solution to this problem in the form of *TeleGuard*.

This signalling system, which is currently unique, is capable of transmitting a voice message to a land line or mobile phone via a Euro-ISDN telephone line. It requires the recipient to confirm receipt of the message, ensuring guaranteed delivery. If confirmation is not given, the message is sent to an alternative recipient. All the signals concerned can be compiled to form groups. These groups are then assigned texts which can be recorded by the users concerned themselves.

MORE INFORMATION

Ipsen International has a strong team which is committed more than ever before to providing a software family precisely tailored to meet the needs of heat treatment plants. Through the combination of the experience and knowledge of furnace users with the know-how and expertise of the Ipsen team, a singular software family, *ICTE®*, has been created with exceptional flexibility, ready for adaptation to the particular needs of any heat treatment plant.

For more details, visit http://www.ipsen-international.com/en/3240.htm.

Beta Heat Treatment

No.1 in fluidised-bed heat treatment of tools

CHTA-member Beta began life in 1989 as a subsidiary of German company Schwing Verfahrenstechnik. It was set up principally to offer a subcontract heat treatment service to a selection of local drop-forging companies, whilst acting as a "showroom" for marketing the range of fluidised-bed furnaces under the Schwing (UK) Ltd banner.

The directors at that time had a wealth of experience in subcontract heat treatment, using salt baths and sealed-quench furnaces, but had ambitions to change to newer technology. These ambitions were realised with the birth of Beta Heat Treatment and the installation of fluidised-bed furnaces.

The selection of fluidised beds was a bold one at the time, as there had been a history of problems with fluidised-bed installations; the technology was sound but the engineering had been flawed. After an in-depth investigation into potential suppliers and various process trials, carried out on behalf of the forging companies, the decision was made to install the Schwing equipment.

Beta's philosophy was to offer a high-quality service, with fast turn-round times, at an affordable price to the customer. This approach proved successful. Since that time, the business has grown by expanding the customer base into new sectors and new geographical areas, resulting in a reduced emphasis on the original drop-forging companies.

In 1996, the business was purchased from Schwing and continued life with new UK-based owners, Clayton Holdings Group Limited, under the chairmanship of Mr. Chris Clayton. The changeover saw the installation of additional fluidised-bed heat treatment furnaces, to increase capacity, and a larger fluidised-bed cleaning furnace to meet the ever-growing demand for the cleaning of tools, from the plastics industry, and paint jigs from local surface finishing companies.

It is safe to say that Beta are now firmly established as a leader in the heat treatment of tool steels. With a throughput of about 100 tonne of tool steel every month, the company specialises in hardening, tempering, nitriding and nitrocarburising, especially for those parts where distortion is critical.

In later years, through Beta's sister company Clayton Thermal Processes, the group developed its own range of fluidised-bed furnaces, all of which were tried and tested within Beta.

In February 2000, the group companies were among the first in their field to gain ISO 9001:2000 approval, raising the credibility of Beta as a subcontract heat treater and Clayton Thermal Processes as a furnace supplier.

2001 saw a further growth at Oldbury when Beta was doubled in size to provide more room for heat treatment and furnace manufacture. With an eye on the increasing demand for quality control, Beta incorporated a new laboratory in the expansion, including facilities for metallurgical sample preparation, hardness and microhardness testing, and a microscope with computer software for metallurgical reporting. The laboratory has since been equipped with a dedicated semi-automatic hardness-measurement machine for the testing of tubes, heat treated on behalf of a defence contractor.

The new facility was opened in July 2001 by the CBI's Mr (now Sir) Digby Jones, a long-time friend of Chris Clayton.

With the increasing number of new customers and growth within existing clients, Beta recognised the need to install additional plant. Larger-diameter furnaces manufactured within the group were installed in 1999 and 2002. With a diameter of 750mm and 1700mm deep, these enabled loads of 1.5-2 tonne to be processed.

Beta has been privately owned by its Chairman and Directors since 2003 and is now the largest fluidised-bed contract heat treater in the UK, possibly in Europe.

The customer base at the outset was principally the Midlands area. It has now expanded to encompass major clients spreading from Yorkshire to the South Coast, aided by the addition of more services; for example, a dedicated line for small tool treatment and the processing of Formula 1 engine parts.

The latest expansion, this year, saw the opening of a dedicated "cleaning" centre in which Beta carries out the cleaning of a variety of items, including machine parts for plastic moulders and extruders, jigs and components for surface coaters, and the removal of cores from castings for the foundry industry.

From a green-field site 16 years ago, the company has grown to be a major player in the heat treatment of tools for a wide variety of customers: quite an outcome for such a bold decision in 1989!

AUSTEMPERED DUCTILE IRON PRODUCTION GROWING FAST

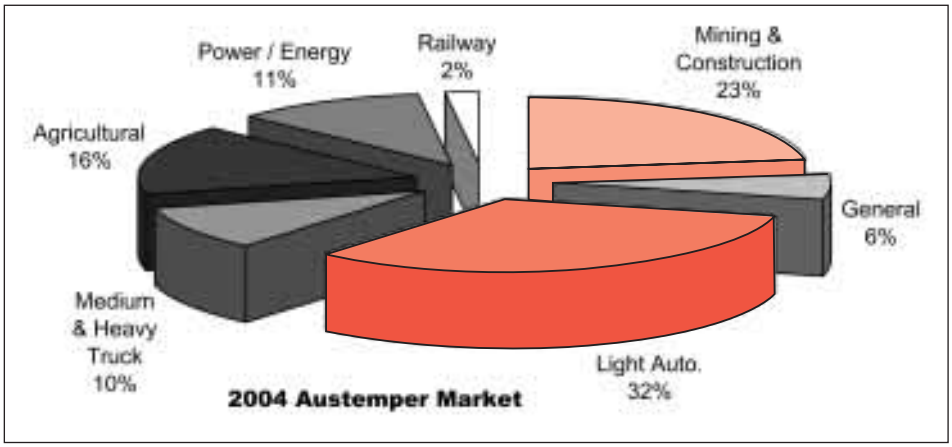
European production of austempered ductile iron (ADI) castings expanded significantly in 2004, according to specialist heat treaters ADI Treatments Ltd.

Speaking from the factory in West Bromwich, Managing Director Simon Day said that the CHTA-member company's throughput had grown by 30% over 2003 levels. Part of the increase was as a result of new business from continental foundries.

Mr Day added that other major ADI producers have experienced growth in the region of 30% and that total UK production now stands at about 6000 tonne per annum. From contact with ADI overseas associates, he was also able to estimate the volumes produced in mainland Europe and the rest of the world at 14,000 and 70,000 tonnes respectively.

Mr Day spoke confidently about the future for ADI materials in Europe: "Our USA partners have seen steady growth for more than 10 years and our market in Europe appears to be following the same path. We are expanding our production capacity by more than 50% in the coming months to meet demand from new customers in the wind-turbine and automotive industries".

ADI Treatments Ltd operates special austempering furnaces utilising controlled-atmosphere and sealed-quench technology. The company is happy to advise on the suitability of austempered irons and steels for customer applications.



The markets for austempered ductile iron in 2004, as seen by ADI Treatments Ltd.

WALLWORK BURY GAINS BS EN 9100 AEROSPACE APPROVALS

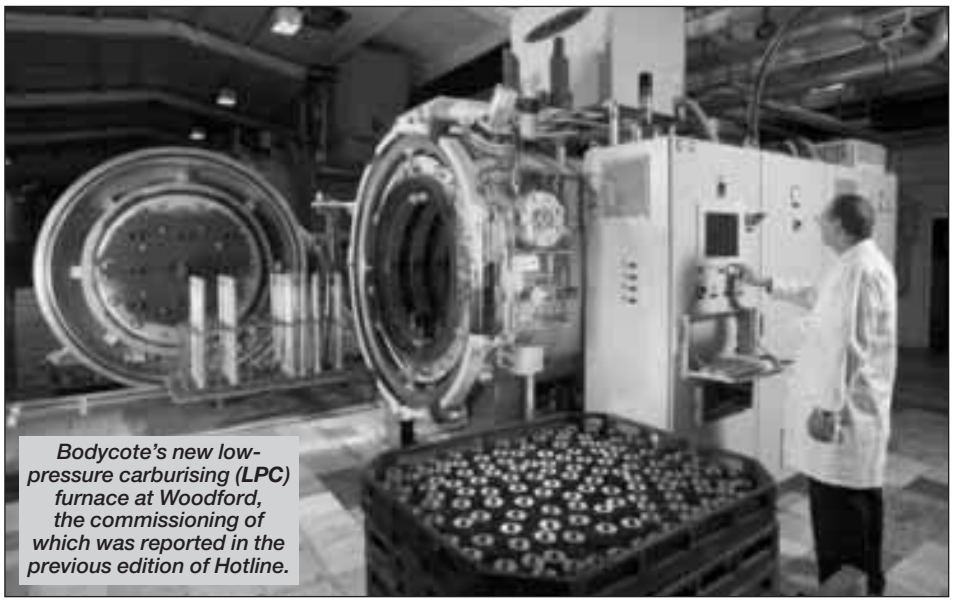
Aerospace heat treatment specialist Wallwork Heat Treatment Ltd of Bury has been awarded full BS EN 9100 accreditation to cover heat treatment and allied processes for aerospace components.

BS EN 9100 is a significant extension to ISO 9000 accreditation that covers over 80 additional stringent standards in terms of process, operation and verification specifically related to aerospace work.

At the presentation of the BS EN 9100 certificate (l. to r.): Ken Welch and Peter Carpenter of Wallwork Heat Treatment with BSI's David McLean.

"BS EN 9100 complements our other formal accreditations and approvals at the Bury site, including those already awarded by BAe Systems" said Wallwork Director Peter Carpenter. "This marks a significant achievement for our standards team, led by Ken Welch, who have all worked hard with BSI to meet all the process developments required for the new standard."

The new standard covers all major aspects of heat treatment at Bury, including vacuum carburising. "It has also led to an investment in internal organisation," added Peter, "to ensure that not only are our processes controlled, but also that our selected team of aerospace specialists is fully trained to administer the appropriate procedures to meet the standard of BS EN 9100."



Bodycote's new low-pressure carburising (LPC) furnace at Woodford, the commissioning of which was reported in the previous edition of Hotline.

TECVAC WINS NADCAP APPROVAL

Cambridge ultra-hard coating and heat treatment business Tecvac Ltd has been awarded Nadcap accreditation. The high-level quality standard introduced by prime aerospace manufacturers, including Boeing, Rolls-Royce, Airbus and United Technologies, Nadcap applies to Tecvac's ultra-hard wear- and erosion-resistant coatings.

"Tecvac is believed to be the first business in Europe to achieve this standard for specialist aerospace PVD coating processes," said John Rushforth, Operations Director at Tecvac.

"As part of the accreditation process, Tecvac carried out a complete overhaul of all quality and production systems at Cambridge. In addition, the company has just completed the first phase of investment in new PVD and PACVD processes, valued at more than £1million, to expand facilities to meet the needs of the aerospace, biomedical and high-end automotive engineering businesses," commented Peter Carpenter, a Director of Tecvac's parent company Wallwork Heat Treatment Ltd.

"While the process of accreditation to this new standard is, as it should be, very rigorous," continued John Rushforth, "our electron-beam evaporation technique,

Tecvac's Nadcap-winning team (l. to r.): Chris Osborne, Philip Stan (Production Manager), Alan Hunneyball (Senior Technician), Stephen Edge and James Hodson.

used for our PVD coatings, produces a highly-consistent defect-free very smooth coating. This facilitated much of our validation work.

"This accreditation covers all the flying parts currently coated at Tecvac, including wear-resistant coatings, for both titanium and steel aerospace bearings, and erosion-resistant coatings to increase the life of gas-turbine blades. Tecvac already coats flying parts for several of the prime aerospace suppliers throughout the world, and is constantly finding new applications for the latest ultra-hard coatings.

THE FIRST BODYCOTE JOINT VENTURE

Bodycote has merged its PVD business with that of IonBond, to form a world-leading international supplier in the provision of PVD services to all sectors of engineering. Customers will benefit from a greater range of coatings services available from service centres in twelve countries. The new joint venture employs over 600 people, including many highly-qualified and experienced staff with leading-edge expertise in the development and application of the latest coatings.

Please send your news items for Hotline 100 by e-mail to:

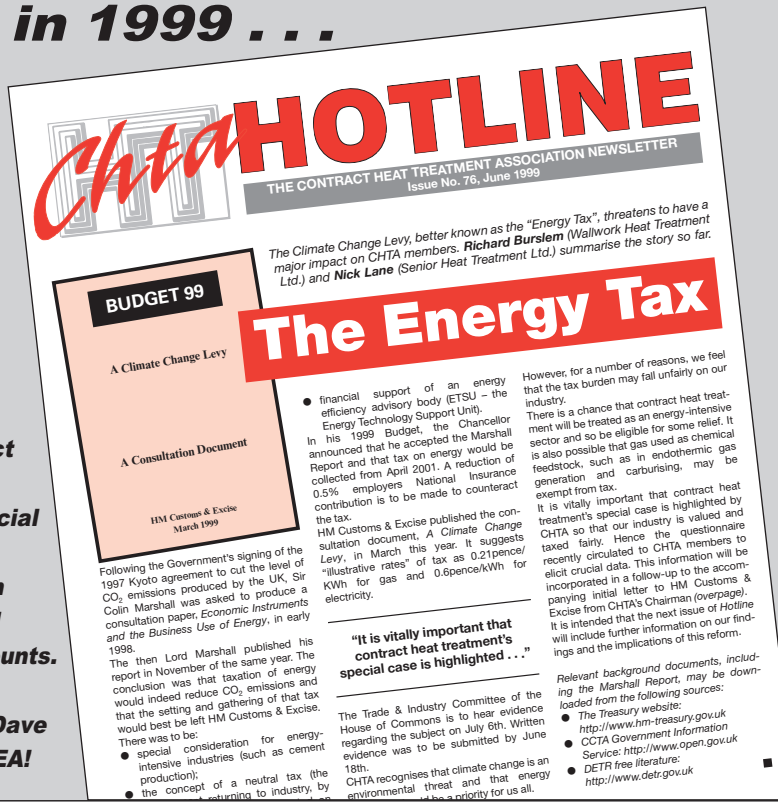
mail@chta.co.uk

Deadline: 31st May

Hotline's first encounter with CCL in 1999 . . .

It's been a long hard slog, but contract heat treatment's special case has finally been highlighted where it counts.

Well done Dave Elliott at SEA!



CHTA HOTLINE

THE CONTRACT HEAT TREATMENT ASSOCIATION NEWSLETTER
Issue No. 76, June 1999

The Climate Change Levy, better known as the "Energy Tax", threatens to have a major impact on CHTA members. ***Richard Burslem*** *(Wallwork Heat Treatment Ltd.) and* ***Nick Lane*** *(Senior Heat Treatment Ltd.) summarise the story so far.*

BUDGET 99

A Climate Change Levy

A Consultation Document

HM Customs & Excise
March 1999

The Energy Tax

Following the Government's signing of the 1997 Kyoto agreement to cut the level of CO_2 emissions produced by the UK, Sir Colin Marshall was asked to produce a consultation paper, *Economic Instruments and the Business Use of Energy*, in early 1998.

The then Lord Marshall published his report in November of the same year. The conclusion was that taxation of energy would indeed reduce CO_2 emissions and that the setting and gathering of that tax would best be left HM Customs & Excise. There was to be:

- special consideration for energy-intensive industries (such as cement production);
- the concept of a neutral tax (the

- financial support of an energy efficiency advisory body (ETSU – the Energy Technology Support Unit).

In his 1999 Budget, the Chancellor announced that he accepted the Marshall Report and that tax on energy would be collected from April 2001. A reduction of 0.5% employers National Insurance contribution is to be made to counteract the tax.

HM Customs & Excise published the consultation document, *A Climate Change Levy*, in March this year. It suggests "illustrative rates" of tax as 0.21pence/KWh for gas and 0.6pence/kWh for electricity.

"It is vitally important that contract heat treatment's special case is highlighted . . ."

The Trade & Industry Committee of the House of Commons is to hear evidence regarding the subject on July 6th. Written evidence was to be submitted by June 18th.

CHTA recognises that climate change is an environmental threat and that energy

However, for a number of reasons, we feel that the tax burden may fall unfairly on our industry.

There is a chance that contract heat treatment will be treated as an energy-intensive sector and so be eligible for some relief. It is also possible that gas used as chemical feedstock, such as in endothermic gas generation and carburising, may be exempt from tax.

It is vitally important that contract heat treatment's special case is highlighted by CHTA so that our industry is valued and taxed fairly. Hence the questionnaire recently circulated to CHTA members to elicit crucial data. This information will be incorporated in a follow-up to the accompanying initial letter to HM Customs & Excise from CHTA's Chairman (overpage). It is intended that the next issue of *Hotline* will include further information on our findings and the implications of this reform.

Relevant background documents, including the Marshall Report, may be downloaded from the following sources:

- *The Treasury website: http://www.hm-treasury.gov.uk*
- *CCTA Government Information Service: http://www.open.gov.uk*
- *DETR free literature: http://www.detr.gov.uk*

Defining the heat treatment sector

One of the tasks of the 11th March CCL Meeting was to agree an all-encompassing definition of the sector activity for which CHTA/SEA is applying to DEFRA for a CCA. After some discussion, the wording on the right met with unanimous approval. Based on CHTA's website / hard-copy Buyers Guide, the processes listed are as shown in the table below.

The Agreed Definition

"Thermal processes applied at a single site, including any directly associated pre and post treatment, with the objective of facilitating the efficient formability of metals or enhancing the service performance of metal components. The processes include the following: …"

CHTA Process List for CCA

- Ageing
- Annealing
- Austempering
- Austenitic nitrocarburising
- Boronising
- Carbon restoration
- Carbonitriding
- Carburising
- Chemical vapour deposition (CVD)
- Electron beam treatment
- Ferritic nitrocarburising
- Flame annealing
- Flame hardening
- Furnace brazing
- Hard facing
- Hardening
- Heat treatment
- Homogenising
- Hot isostatic pressing
- Hydrogen de-embrittlement
- Induction annealing
- Induction brazing
- Induction hardening
- Ion implantation
- Laser treatment
- Malleablising
- Martempering
- Nitriding
- Normalising
- Physical vapour deposition (PVD)
- Precipitation hardening
- Press quenching (/tempering)
- Shot blasting
- Shot peening
- Sintering
- Solution treatment
- Steam treatment
- Straightening
- Stress relieving
- Sub-zero treatment
- Sulf BT
- Tempering
- Torch brazing
- Toyota diffusion process (TD)

- *On-site stress relieving has been omitted from this list because of the necessary site definition.*
- *The Buyers Guide notes that appropriate processes in the above list can be conducted in the following media: Air or products of combustion; Controlled/protective atmosphere; Fluidised bed; Pack; Plasma; Salt; Vacuum.*

Publicity matters

GROWING IMPACT OF CHTA'S WEBSITE

Statistics from CHTA's "webmasters" Sitemakers Ltd indicate the growing impact of our website at *www.chta.co.uk.* In 2004, 41782 visits were recorded, compared with 34006 in 2003. Apart from the home page, the most-accessed areas are:

- "Buyers Guide";
- "Find a CHTA member";
- "Specifying heat treatment" (Datasheets for Non-heat-treaters).

Thanks to the continuing efforts of Sitemakers as website managers, *www.chta.co.uk* scores highly on the major search engines. For example, in December, the search terms "contract heat treatment", "UK contract heat treater" and "contract heat treaters" were amongst those gaining top rating for CHTA's site in *Google, Yahoo!* and *msn*.

WEBSITE PROMOTED

A further effort to increase awareness of *www.chta.co.uk* within the UK engineering community was CHTA's sponsorship of the heat treatment section in the February edition of *Engineering Capacity* magazine. Amongst banners proclaiming the CHTA website address, the lead item in this feature, under the heading "Online Buyer's Guide Aids Specification of Critical Processes", read as follows:

"Heat treatment is a vital aspect of the manufacturing cycle for the engineering sector, yet not well understood by non-specialists looking to specify the various processes. Now a unique website has been set up by the Contract Heat Treatment Association (CHTA) that is intended as an aid for engineers, designers and buyers, to optimise the benefits of over 40 different processes; as well as a guide to sourcing quality services.

Entrusting heat treatment processes to subcontract specialists enables engineering companies to: Reduce capital plant requirements; Release valuable space for more of their core activity; Avoid the cost of providing the highly-skilled supervision needed to manage today's sophisticated heat treatments; Achieve greater flexibility in selecting the best treatment for each job; and Access new treatments and procedures immediately they become available, without capital cost.

Representing the majority of the UK subcontractors in this field, the CHTA is affiliated to the Surface Engineering Association (SEA), and has recently moved its headquarters to: Federation House, 10 Vyse Street, Birmingham B18 6LT (Tel: 0121 329 2970)."

CHTA AT SUBCON: VOLUNTEERS REQUIRED

CHTA will have a presence, as part of the Surface Engineering Association's stand, at the forthcoming *Subcon 2005* exhibition (May 24-26, Hall 17, National Exhibition Centre, Birmingham).

CHTA Secretary Alan J Hick will be there representing the Association. Volunteers from CHTA members, to help man the stand for half a day, should contact him at *mail@chta.co.uk*, by no later than May 2nd, indicating date and morning/afternoon preference.

LET'S MAKE *HOTLINE 100* A BUMPER ISSUE!

The next (June) edition of *Hotline* will be the 100th since publication began back in 1975.

Previous special milestone issues, such as numbers 50 and 60, were bumper editions featuring copious advertising support. Let's aim to at least match this when we reach the century mark!

Hotline probably now constitutes the most relevant regular publication for heat-treatment-related advertising in the UK. Some 1000 hard copies are circulated; it also appears as a down-loadable pdf on CHTA's website at *www.chta.co.uk.* Highly targeted, it offers an attractive advertising medium for both CHTA members and suppliers to our trade.

The very reasonable 2005 single-insertion charges for black-and-white ads in *Hotline* are as follows:

- Quarter page (121mm high x 86mm wide): £140+VAT.
- Half page (121mm high x 178mm wide or 254mm high x 86mm wide): £250+VAT.
- Full page (254mm high x 178mm wide): £450+VAT.

Companies wishing to advertise in *Hotline* 100 should contact CHTA's Secretariat (*mail@chta.co.uk*) by no later than May 27th.

PUBLICITY SUBCOMMITTEE SEEKS NEW MEMBERS

CHTA's Publicity Subcommittee is looking to increase its number in order to inject a fresh flow of ideas and ensure that it represents a consensus of CHTA member views.

Meeting four times a year at the SEA in Birmingham, the current Subcommittee comprises: Gary Coffey (Tamworth Heat Treatment); Peter Cox (Beta Heat Treatment); John Craddock (HHT); Keith Hayward (Controlled Heat Treatments); John Jervis (Bodycote Heat Treatments); and Ian Lacey (Alloy Heat Treatment).

Other CHTA members wishing to volunteer a representative should contact the Secretariat at *mail@chta.co.uk*.

CHTA Secretariat

Items for inclusion in *Hotline* and enquiries about CHTA activities should be addressed to:

Contract Heat Treatment Association
c/o SEA, BJGF Federation,
Federation House, 10 Vyse Street,
Birmingham B18 6LT
Tel: **0121 329 2970** (or 0121 237 1123)
Fax: 0121 237 1124
E-mail: mail@chta.co.uk
Website: www.chta.co.uk

CHTA Secretary and *Hotline* Editor:
Alan J. Hick B.Sc., C. Eng., FIMMM

CHTA is affiliated to:

SEA
Surface Engineering Association

Spread the word by proclaiming your CHTA membership

For use on company letterheads, literature, websites and advertisements, members can download CHTA's logo from the Members Area of the Association's website.

Diary

April 14-15 2005
TOTAL QUALITY IN HEAT TREATMENT PROCESSES
Maastricht, The Netherlands
http://home.wanadoo.nl/infovwt

April 20 2005
ALTERNATIVES TO HARD CHROME PLATING
Dudley, England
Options to be explored at this conference include "heat treatments, PVD, CVD and plasma nitriding": *www.tssea.org*

May 5 2005
CHTA PUBLICITY SUBCOMMITTEE*
Birmingham, England

May 12 2005
CHTA MANAGEMENT COMMITTEE*
Birmingham, England

May 24-26
SUBCON 2005
Birmingham, England
See facing page re CHTA involvement in this exhibition: *www.subconshow.co.uk*

May 26-27 2005
NITRIDING SYMPOSIUM 2005
Montreal, Canada
www.nitriding.info

June 7 2005
INDUSTRY SAFETY & STANDARDS SEMINAR
West Bromwich, England
This British Industrial Furnace Constructors Association event updates on national/international safety standards/directives impinging on furnace technology: *www.bifca.org.uk*

June 8-10 2005
1ST INTERNATIONAL CONFERENCE ON HEAT TREATMENT AND SURFACE ENGINEERING OF TOOLS AND DIES
Pula, Croatia
www.fsb.hr/hdtoip

June 15-17 2005
A3TS 2005
Rheims, France
This *33rd Congress on Heat Treatment and Surface Engineering* of the former ATTT combines conference and exhibition: *www.a3ts.org*

June 20-22 2005
2ND INTERNATIONAL CONFERENCE ON HEAT TREATMENT AND SURFACE ENGINEERING IN AUTOMOTIVE APPLICATIONS
Riva del Garda, Italy
English-language conference plus exhibition: *www.aimnet.it/allpdf/aim_ifhtse.htm*

August 1-3 2005
4TH ASM INTERNATIONAL SURFACE ENGINEERING CONGRESS
St. Paul, MN, USA
www.asminternational.org/surface

September 14-16 2005
1ST INTERNATIONAL CONFERENCE ON DISTORTION ENGINEERING
Bremen, Germany
English-language event:
www.distortion-engineering.de

September 26-28 2005
23RD ASM HEAT TREATING SOCIETY CONFERENCE & EXPOSITION
Pittsburgh, USA
North America's largest heat treating event returns! : *www.asminternational.org/heattreat*

October 5-7 2005
61ST HÄRTEREI-KOLLOQUIUM
Wiesbaden, Germany
German-language heat treatment conference and exhibition: *www.awt-online.org*

October 20-22 2005
FOUNDRY INTERNATIONAL LONDON 05
London, England
www.mmcpublications.co.uk

November 8-9 2005
INDUSTRIAL FURNACE TECHNOLOGY COURSE
West Bromwich, England
www.bifca.org.uk

December 15 2005
CHTA AGM*
Birmingham, England

April 26-28 2006
3RD INTERNATIONAL CONFERENCE ON THERMAL PROCESS MODELLING AND SIMULATION
Budapest, Hungary
English-language IFHTSE-sponsored event: *www.gte.mtesz.hu/rendez/ifhtse/ifhtse.htm*

June 5-7 2006
FOUNDRY, FURNACES & CASTINGS EXPO
Harrogate, England
The 17th in the series of UK "Furnaces" exhibitions, sponsored by CHTA, will be part of this new event organised by dmg business media: *www.ffc-expo.com*

**Members wishing issues to be raised at CHTA meetings should notify CHTA's Secretary at mail@chta.co.uk.*

HEALTH & SAFETY

CHTA action on health & safety?

CHTA Management Committee member ***Paul Handley*** *(Heat Treatment 2000) seeks member opinion.*

As the CHTA becomes more involved with the SEA, it is apparent that whilst our voice is heard on their Executive Committee, and also to some extent on the Marketing strand, we have very little input on matters relating to Health and Safety.

At a recent meeting of the SEA Health, Safety and Environment Committee, representatives were present from HSE and the Environment Agency, and they were clearly up to speed with the needs of the plating and coating industry and their derivatives. Indeed, it was evident that a Health and Safety Guide produced by the British Surface Treatment Suppliers Association, relating to "Tank-side personnel", was being vetted by HSE prior to publication.

Some months ago, CHTA's Secretariat circulated to members a draft HSE Operational Circular and Information Document regarding safe operation of gas-fired sealed-quench furnaces, inviting comment on what ultimately would guide inspectors. Perhaps this was allowed to fall on deaf ears, but we have an informal relationship with HSE and it will benefit our industry to make use of it.

Perhaps an informal meeting might be arranged with HSE and the Environment Agency so that we can be made aware of problems facing our industry, as they see them, and we can make them aware that there may be more than one solution.

In the past, CHTA activity has been very weighted towards publicity and production of *Hotline*, and rightly so. Recently our industry has moved in unison with SEA towards a Climate Change Agreement: this will, in the early stages, involve members in meetings and discussions, further promoting our association.

Is the time right to consider forming our own Health, Safety and Environment Committee, so that we can react to new requirements before they become enshrouded in legislation, and make a more meaningful contribution at SEA meetings?

Comments please to CHTA's Secretariat at mail@chta.co.uk.

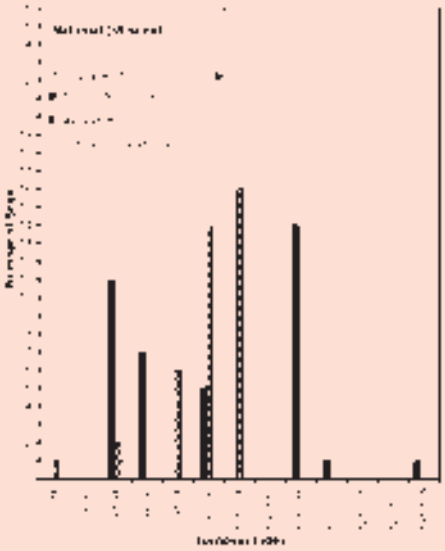
Market Movements

ANALYSIS OF QUESTIONNAIRE REPLIES RELATING TO 39 CHTA MEMBER SITES

"THIS QUARTER" =

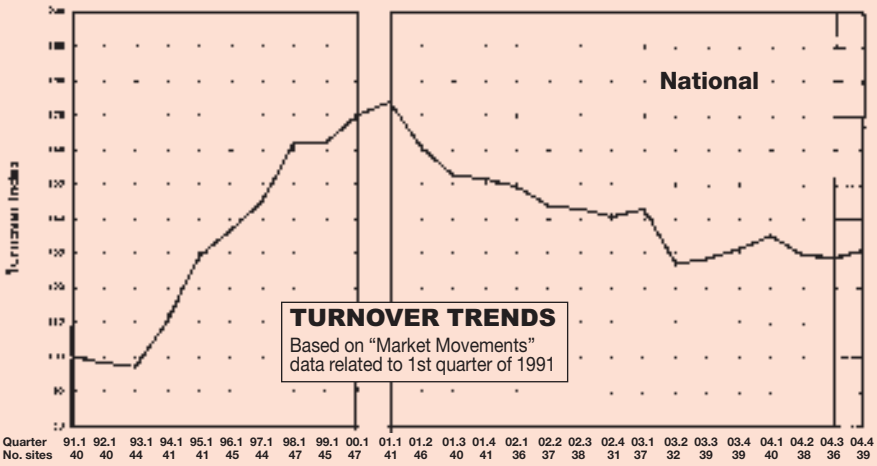
1 OCTOBER – 31 DECEMBER 2004

= TURNOVER INDEX 100



National

OVERALL ANALYSIS (39 SITES)	Mean index
This quarter last year	**99.6**
Last quarter	**98.5**
Predicted next quarter	**102.1**



STATESIDE STATS

A BETTER YEAR FOR AMERICAN HEAT TREATERS

According to returns from participating members of MTI, North American commercial heat treaters posted $74million in sales in December, a rise of 14% over December 2003's total of $64.9million.

For all of 2004, the industry reported $930million in billings, a jump of 14.2% over 2003 when sales tallied $814.1million. Latest figures indicate that billings in January this year reached $79.6million, an increase of 17.5% over the $67.7million of January 2004.

WOLFSON NEWS

"UNDERSTANDING HEAT TREATMENT" COURSE TO RETURN

Continuing to offer heat treatment information and advisory services to industry, Wolfson Heat Treatment Centre is now fully operational from its new home at the Surface Engineering Association.

Filling dual roles as Manager and Heat Treatment Consultant, Derek Close tells *Hotline* that the Centre is planning to resurrect its much-valued *Understanding Heat Treatment* three-day course in October this year. To register an interest, please contact him at: Wolfson Heat Treatment Centre, Federation House, 10 Vyse Street, Birmingham B18 6LT (tel: 0121 237 1122; fax: 0121 237 1124; e-mail: derek.close@sea.org.uk).

Wolfson's Derek Close has the full support of Dave Elliott and his SEA staff, including Diana Blair and CCL manager Neil Kimpton (right).

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