The Contract Heat Treatment Association Newsletter
CHTA HOTLINE
Issue No. 110
December 2007

Nadcap – outside looking in

***Simeon Collins** (Wallwork Heat Treatment Ltd) reassesses the value of accreditation to the aerospace quality-assurance system that has been the focus of much debate in previous editions of* Hotline*.

Nadcap, along with its administration arm the Performance Review Institute (PRI), has been well known to the heat treatment industry for a number of years. Although many of us within the industry have felt concerned about issues such as cost and bureaucracy, it is important to recognise that there is a positive business impact that such an accreditation can bring to our companies and the wider sector.

To embark on any such accreditation, it must first be seen as a sound investment for a company, in terms of both the financial return and the security it can bring to future business.

For companies that have never been involved in sectors such as aerospace, the business model, to pursue the accreditation and break into a new market, can be justified. However for those companies already servicing aerospace business, the addition of the accreditation is argued to introduce more costs to an already high investment area and disfavours the market's current suppliers.

Commitment

It is indeed true that meeting the high standards required to achieve *Nadcap* accreditation necessitates a significant investment from a company in terms of resources and capital. Staff at all levels, on both the technical and managerial side of business, must be dedicated to pursuing the achievement of accreditation.

When accreditation is awarded, management and improvement of systems must continue. This means, in essence, that any company that is considering such a programme must be fully prepared to invest heavily in employee time at all levels of the business.

Justification

In this day and age, where competition is global and cheap cost centres around the world continue to attract UK businesses to outsource or relocate, increased costs to a company may seem like a cardinal sin in terms of reducing our competitiveness. To understand this, the *Nadcap* business case for the UK heat treater needs to be investigated.

The aerospace market is estimated to be worth some £22billion and supports some 2600 companies in the UK, many of which are in the engineering sector. This creates many thousands of jobs and also many millions of pounds of contract heat treatment. Even with worldwide competition from the cheaper cost centres, this industry still represents a healthy pool of potential business for heat treaters in the UK.

It is the high level of knowledge, training, and technical expertise that allows the UK to continue servicing such an industry. Many suppliers to the primes (first, second and even third tier) all represent high-technology know-how, expertise and good value in this area. This continues throughout the aerospace supply chain, including the heat treatment sector.

Accreditations such as *Nadcap* allow our sector to tap into this branch of industry and use it to replace work that has been diluted due to overseas competition. It is possible to recover financial investment by a company, over a period of time, with a sensible and realistic pricing structure that reflects the investment.

Providing the model is of sound composition, this structure can be employed for further investment in the company, increasing the technical edge in heat treatment and satisfying the customer's future needs.

It must be understood that this is an accreditation with high up-front costs that impact on resources from within the business. However, it brings great opportunities for the company adopting its principles to tap into a new market sector, that may secure trade in a short- to medium-term time-frame, while also being used to distinct advantage in improving product and process quality, training and plant technology.

Warning Shot

Despite the possible advantages for a UK business to move towards such accreditations, it needs to be pointed out that today's markets are global and bring to us, the heat treaters, even more competition.

Right now, the aerospace industry is continuing to set up new manufacturing supply chains in low-cost centres such as China and India; with this comes a subsequent need for high-quality heat treatment. Accordingly, the heat treaters local to these areas are now striving to service this industry, which means a move for accreditations such as *Nadcap*.

Therefore, it is even more important that the UK's heat treating sector raises the barrier of quality, service and technology in order to preserve an already-challenged industry.

**See* Hotline *numbers 93, 94, 96, 97 and 100-102 (viewable at www.chta.co.uk).*

Energy crisis?
See page 3

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PROFIT FROM OUR EXPERIENCE

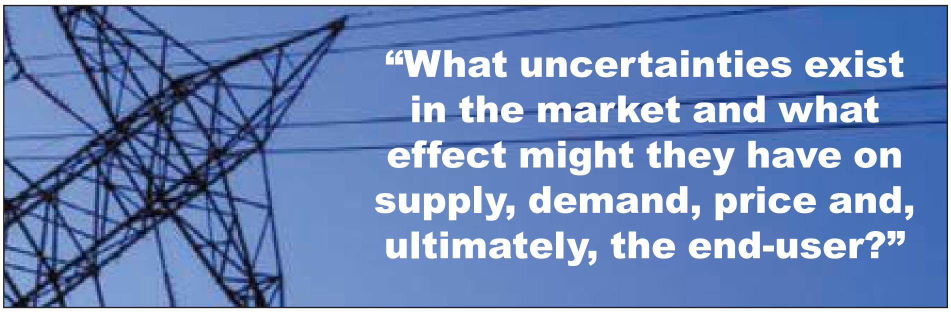
Rising fear of energy crisis this winter?

***CMR Consultants** take a balanced view of recent "scare stories".*

After National Grid's two recent "transmission system warnings" and a surge in gas and electricity wholesale prices, you could be forgiven for thinking that Britain faces a bleak outlook this winter on the energy front. Fears over Norwegian gas flows, news of the delay in the opening of the British Gas (BG) Milford Haven plant and recent media coverage in *The Guardian* have also added to market uncertainty.

However, during Ofgem's winter 07/08 seminar in October this year, National Grid indicated a positive outlook for both gas and electricity markets, with increased import capacity and manageable margins on the electricity grid.

So, with conflicting views, what is the situation and should we worry about an energy crisis this winter?



FORECASTS

As mentioned, National Grid's view of the outlook this winter is positive and they highlight supply and demand issues in their winter consultation report. Whilst we are seeing a year-on-year decline in North Sea gas, improvements to infrastructure and increased imports from Norway and the continent should offset this. Imports of Liquefied Natural Gas (LNG) should commence at BG's Milford Haven plant too, giving a healthier view on gas supply. Electricity demand should also be met under average weather conditions, providing the market makes available enough generating plant.

With the impact of weather on demand, it is the opinion of the Met Office that this winter will see warmer-than-average temperatures but still cooler than last year. The latest demand forecast issued by National Grid reflects this and shows marginal increases from previous forecasts issued in June.

With the above forecasts in mind, it is difficult to agree with *The Guardian*'s views of an imminent crisis this winter; gas supply looks good, electricity margins manageable and demand should be met.

However, the markets have seen a 30% price surge recently and oil has been tipped to hit $100/barrel. This seems to contradict the above and it should be recognised that market conditions are dependant upon many factors; unplanned or unforeseeable events can have significant impacts, for example, on forecasts and predictions.

UNCERTAINTIES

So, what uncertainties exist in the market and what effect might they have on supply, demand, price and, ultimately, the end-user?

Market uncertainty and supply issues have been underpinned and exacerbated by pipeline and terminal problems. Firstly, concerns have been raised regarding Norwegian gas flows, particularly from the Ormen Lange field. Gas is delivered to the UK via the Langeled pipeline which has been fully operational since October. However, import levels have been volatile and down on initial predictions.

Furthermore, the CATS pipeline, supplying around 10% of UK gas needs, was offline earlier this year and Shell have experienced problems with production in the North Sea and the Shell-operated sub-terminal at St Fergus, Scotland.

It has also been confirmed that BG's Milford Haven LNG plant, due to come online late 2007, has been delayed through industrial action by contractor staff and no date for commencement has been set yet.

Whilst certain elements of uncertainty are taken into account by National Grid when forecasting, other elements can't be. Unplanned outages and plant maintenance impact upon generating availability and, recently, *The Guardian* has reported that half of nuclear power stations are closed for repairs. Supplying around 20% of UK electricity, this has the potential for knock-on effects regarding market price.

Bearing the above in mind, it should also be considered that greater imported supply does not necessarily mean economic flow. Imported gas may be utilised in such a way that any extra capacity is exported back to the continent via the interconnector.

In reality, nobody can say that Britain won't suffer from power shortages and soaring prices this winter. Unexpected events such as infrastructure problems and plant outages cannot always be planned for and may reduce supplies. Nobody could have predicted the fire at Rough, Britain's only long-range gas storage facility, in February 2006, which had knock-on implications for the market and, ultimately, the end-user exposed to market volatility.

However, supply and demand is forecast and monitored on a daily basis by National Grid and their view in the winter consultation report takes into account foreseeable factors such as planned outages and maintenance work. They have also said that the earlier transmission warnings were precautionary and did not mean that there was an immediate risk of a power-cut.

ENERGY CRISIS?

So are we going to have an energy crisis this winter? Well, the forecast suggests that National Grid will be able to meet all demand needs this winter, given current and foreseeable circumstances. Having said that, they do also recognise that there is an uncertainty surrounding imported supplies, particularly Norwegian gas, and the price surge in the markets is undeniable and unsettling for industry.

Importantly, when analysing the markets and factors which affect them, it is essential to understand that, whilst it is possible to forecast near-future outlooks, giving an actual outlook ahead of time is impossible.

So, as the end-user, should you worry? If you're in a fixed contract you won't be susceptible to market volatility and, as such, probably not.

However, a flexible contract, more common in large energy users, is subject to market volatility and comes with added risk. In this situation, seeking professional assistance and applying effective risk management strategies – aimed at mitigating the effects of a volatile, unpredictable market – will be invaluable and can help to minimise exposure and risk.

Submitted in November, this article was prepared for Hotline *by energy consultants CMR Consultants Ltd, Acorn House, Clews Road, Redditch, Worcs. B98 7ST (www.cmrholdingsuk.co.uk).*

Capturing the captives

With a diminishing manufacturing base in the UK, the way forward for contract heat treaters has long focused on convincing companies to forgo in-house heat treatment in favour of the undoubted virtues of outsourcing.

CHTA's *Buyers Guide to Contract Heat Treatment* has been underlining the case for in every edition published since the first in 1977:

"Any realistic assessment of "in-plant" treatment costs which takes account of all the factors involved will show that contract treatment offers the most effective option in all but a minority of special situations. By the use of contract heat treatment you can:

- *reduce your capital plant requirements;*
- *release valuable works space for more of your core activity;*
- *avoid the cost of providing the highly-skilled supervision needed to manage today's sophisticated treatments;*
- *achieve greater flexibility in selecting the best treatment for each job;*
- *access new treatments and procedures immediately they are available, without capital cost."*

Noting that *"successful development of outsourcing in the UK is an increasingly significant factor, which will determine the continuing success of CHTA member companies for some time to come", Hotline* 106 more recently expanded considerably on the justifications, in light of modern-day factors such as rising energy costs, quality-assurance/training demands, environmental/H&S constraints and the need for flexibility. *Hotline* 107 followed up with a list of the factors to be taken account of in determining the true cost of in-house heat treatment.

Not surprisingly, the Metal Treating Institute, our counterparts in North America, are spreading the same message, as their recent advertisement reproduced here illustrates. CHTA's good friend M. Lance Miller, CEO of MTI, tells us that it's part of their ongoing campaign to "capture the captives".

TRAINING

Wolfson course marks 30-year anniversary with bumper turnout

Staged almost 30 years to the day after the very first, Wolfson Heat Treatment Centre's 72nd *Understanding Heat Treatment* course in October was attended by 34 delegates, close to the all-time record.
CHTA member companies again supported this important contribution to our industry's wellbeing, represented by 41% of the participants (pictured here).

Now an annual event, *Understanding Heat Treatment* will next take place on October 14-16 2008, again at SEA's Birmingham headquarters. For details, contact Derek Close, Wolfson Heat Treatment Centre, Federation House, 10 Vyse Street, Birmingham B18 6LT (tel: 0121 237 1122; e-mail: *derek.close@sea.org.uk*; fax: 0121 237 1124; *www.sea.org.uk/whtc*).

Course delegates from CHTA members. Standing (l. to r.): Craig Shepherd (Tecvac), Nick Jones, Brian Rollinson (both TTI), Mathew Buchanan (Tecvac) and Phil Guest (TTI). Seated: Course chairman and speaker Derek Close (Wolfson Heat Treatment Centre) and Emily Love (TTI).

Standing: Pawel Danielewicz (TTI Group), Luke Collins and Steve Crook (both Wallwork Heat Treatment), Vick Shaw (Zotic), Lawrence Odell and Karl Housley (both TTI). Seated: Yao Lu (Wallwork), course speaker Alan J Hick (Contract Heat Treatment Association) and Yvette Aston (TTI).

DIARY

January 21-22 2008
SURFACE ENGINEERING FOR AEROSPACE & DEFENCE
Orlando, Florida, USA
www.asminternational.org/surfaceengineering/

January 31 2008
CHTA PUBLICITY SUBCOMMITTEE
Birmingham, England

February 6-7 2008
SOUTHERN MANUFACTURING & ELECTRONICS EXHIBITION
Thorpe Park, Surrey, England *www.industry.co.uk*

February 7 2008
CHTA MANAGEMENT COMMITTEE
Birmingham, England

March 5 2008
BIFCA Technical Series:
BURNER TECHNOLOGY & SELECTION
West Bromwich, England *www.bifca.org.uk*

March 19 2008
BIFCA INDUSTRY SAFETY & STANDARDS SEMINAR
West Bromwich, England *www.bifca.org.uk*

March 31- April 4 2008
THERMIC 2008
Paris, France
France's thermal processing exhibition is one of ten trade shows at *Industrie Paris 2008: www.industrie-expo.com*

April 22-24 2008
SUBCON 2008
Birmingham, England *www.subconshow.co.uk*

May 1 2008
CHTA PUBLICITY SUBCOMMITTEE
Birmingham, England

May 6-9 2008
HIP '08
Huntington Beach, California, USA
9th international hot isostatic pressing conference: *www.hip2008.com*

May 7-9 2008
INNOVATION IN HEAT TREATMENT FOR INDUSTRIAL COMPETITIVENESS
Verona, Italy *www.aimnet.it/echt2008.htm*

May 8 2008
CHTA AGM / CHTA MANAGEMENT COMMITTEE
Solihull, England

May 14 2008
BIFCA Technical Series:
IMPROVING FURNACE OPERATION AND DESIGN THROUGH THE USE OF THERMAL MODELLING
West Bromwich, England *www.bifca.org.uk*

May 25-28 2008
2ND INTERNATIONAL CONFERENCE ON HEAT TREATMENT AND SURFACE ENGINEERING OF TOOLS AND DIES
Bled, Slovenia *www.imt.si/icht/*

2008 CHTA MEMBERSHIP FEES

In line with inflation, the annual CHTA membership fee for a single-site company is increased to £570+VAT next year. For multi-site companies, the additional fee will be £144+VAT per extra division.
The 2008 fees will shortly be invoiced on behalf of CHTA by SEA/BJGFF.

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:

Surface Engineering Association

ENERGY

CCAs extended

SEA's ***Dave Elliott*** *provides an update…*

We have now entered the next 'milestone period' in the Heat Treatment Sector Climate Change Agreement. This runs from 1st October 2007 through until 30th September 2008. At the end of this period, you will need to report your performance to the SEA for the compilation of the sector report.
All participants should have received a hard copy of the milestone reporting form, along with their invoice for this period. Electronic copies will be provided and it is hoped that you will be able to report your performance on-line via the SEA website; further details will be provided at a later date.
It is vital that you monitor your performance carefully during this period, as you may need to enter into emissions trading to ensure that you meet your target. If participants have any queries regarding their agreements, then they should e-mail *dave.elliott@sea.org.uk*.
You may have seen the announcement in the Pre-Budget Report that Climate Change Agreements are to continue until 2017. This is obviously very welcome and Defra have already begun making plans to address this issue. The current agreements continue in force until 2013, with the last target period in 2010.
Defra plan to draw up proposals to replace the current agreements with a more streamlined version, which they hope will be easier to administer. The new agreements should be in place around 2010 to allow a smooth transition and preparation for the next target period in 2012.

Midland Oil Refinery Ltd

Reconditioning of quench oil is just one of the services of Hotline's *new advertiser…*

All industrial oils and lubricants have a finite operational life - additive depletion, water ingress and solids contamination reduce their efficiency to a level where replacement is required.

Even when oils are spent, the base hydrocarbon is usually untouched and can be brought back to its original specification by removing tramp water and solids, followed by replenishment of additive packages. The result is clean, dry and sterilised oil with the same performance characteristics as when new, but at a fraction of the cost of buying virgin products.

The comprehensive facilities at Midland Oil Refinery Ltd (MOR) offer a unique combination of technical expertise and practical experience gained through over 50 years of oil reconditioning and recovery (*www.midlandoil.co.uk*). Their activities are by no means restricted to heat treatment quenchants; hydraulic, lubricating, gear, metalworking, turbine, spark erosion and compressor oils are all also ideal candidates for recovery.

Why recover used mineral oils?

The recovery and reuse of spent mineral oil represents the best practical environmental option for the majority of mineral-oil users. Disposal of used oils is becoming increasingly difficult.

The waste oil and landfill directives will continue to make waste oil disposal increasingly problematical and costly. Further legislation is bound to push users to recycle wherever practically possible.

Oil recovery represents an environmentally-sound and cost-effective means of husbanding oil resources and meeting these needs. It can be a significant benefit especially to companies seeking ISO 14000 accreditation.

Recovered oil is reused back in its original application and will have the same performance characteristics as the original oil.

The oil recovery operation

MOR has long experience in the discrete batch recovery of used mineral oils. Used oil is collected in bulk, IBCs (intermediate bulk containers) or 208-litre drums and reprocessed. The oil is dried, sterilised and filtered. This is followed by viscosity adjustment and additive replenishment to ensure that the recovered oil meets the most demanding applications. Recovered oil is returned to the supplier in bulk, IBCs or 208-litre drums.

In the case of recovered quench oils, MOR's laboratory can perform cooling-curve analysis, in accordance with the Wolfson quench test (the basis of ISO 9950).

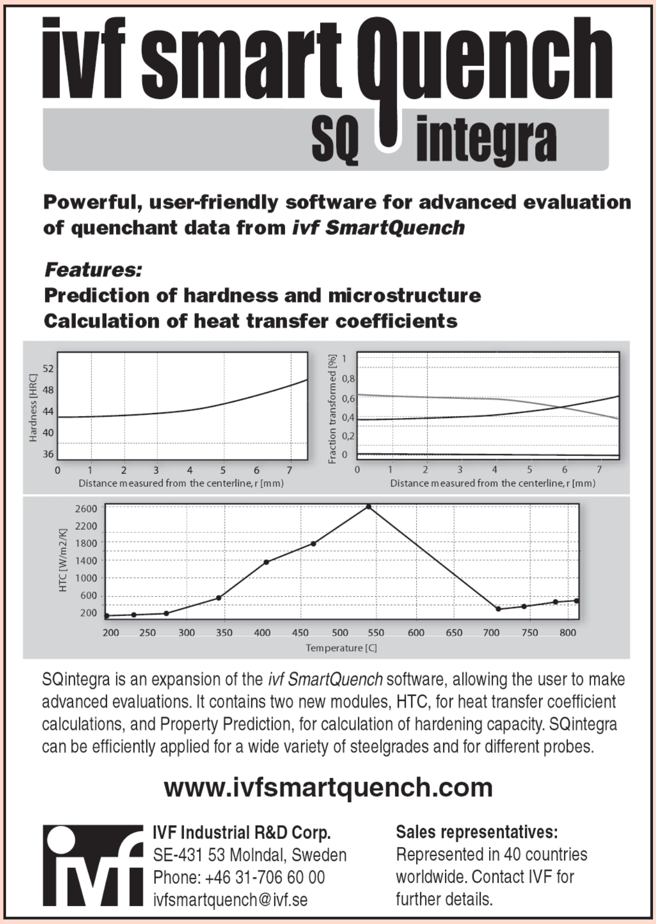
All work is carried out at the company's ISO 9001/2000- and ISO 14001-accredited Halesowen site and is covered by IPPC authorisation.

How to set oil recovery in motion

One of MOR's team of expert salesmen can collect representative samples of used oil directly from your system or from your oil storage area. These samples are analysed in on-site laboratories to ensure compliance with site authorisation and to determine their suitability for recovery and anticipated yields.

A quotation is submitted at this stage. Quality criteria are also agreed. A trial load is then processed and its performance carefully monitored to ensure complete customer satisfaction. Recovery of used oils can then be undertaken on a routine basis.

ADVERTISEMENTS



Advertising in *Hotline*

Hotline is not just a vehicle for advertising from suppliers to the trade; advertisements from CHTA members are also welcome.

The 2008 single-insertion charges for black-and-white ads are:

- Quarter page (121mm high x 86mm wide): £173+VAT;
- Half page (121mm high x 178mm wide or 254mm high x 86mm wide): £305+VAT;
- Full page (254mm high x 178mm wide): £546+VAT.

For full-colour ads, add an extra £230+VAT to each of these charges.

Advertisers in four consecutive quarterly editions of *Hotline* are entitled to a series rate where all of the above prices are discounted by 20% per insertion.

The deadline for booking ads in March's *Hotline* 111 is February 22nd. For further details, contact *Hotline* Editor Alan J. Hick (tel: 0121 329 2970; e-mail: *mail@chta.co.uk*).

MEMBER PROFILE

Zotic Ltd

***John Blee**, Managing Director of CHTA's new member, describes how a vibrant 21st-century case-hardening company has risen, literally, from the ashes.*

After a catastrophic fire in 2005, a new management team set about the task of reinvigorating 35-year-old Zotic Ltd. The new owners commissioned a complete business process review and implementation of the recommendations was finally completed in December 2006. Since January this year, business has been booming and additional staff are being recruited currently to meet with customer demands.

In addition to an update of the company's ISO accreditation (currently ISO 9001) and quality procedures, we decided to apply to become members of the Contract Heat Treatment Association and the Wolfson Heat Treatment Centre, to further enhance the credibility of our operations and benefit from the invaluable help and support that is available to members.

A health and safety consultant was appointed and a completely new safety and employee-care policy was implemented, together with new plant and equipment particularly relating to fire prevention, fire control and air filtration.

Zotic's marketing strategy is to focus on high-integrity parts by specialising in case-hardening and harden-and-temper, utilising reactive and neutral salt baths. With the option of oil or water quench, Zotic is able to maximise hardness requirements with minimal distortion.

This highly-effective process has been proven over 30 years to give consistent and even results. Where required, the product can be held in a vertical plane, to minimise distortion. In addition, jig tempering in specialised fixtures is available, to maintain and enhance flatness. Vertical-plane end-only hardening is also available.

These processes guarantee that the heat-treated product is clean and contaminate-free, requiring minimum work prior to ongoing treatments such as plating.

A fully-integrated computer production, progress and inspection system has been introduced to replace the previous manual system. This enables work to be tracked through the various processes whilst monitoring non-conformities and customer concessions.

So what does the future hold for our newly-invigorated company? Currently we are preparing a three-year investment programme. This will address the achievement of additional quality standards, as well as further investment in IT, plant and machinery, in order that the progress made in the last twelve months can be replicated in the coming years.

NEW MEMBER

CHTA welcomes another new member:

Workheath Heat Treatment Ltd, Unit 11, Falcon Business Park, Meadow Lane, Loughborough LE11 1HL. Tel: 01509 237635; fax: 01509 237000; e-mail: *workheathsales@aol.com*; contact: Mr Mohamad Mirza, Managing Director.

Market Movements

ANALYSIS OF QUESTIONNAIRE REPLIES RELATING TO 30 CHTA MEMBER SITES

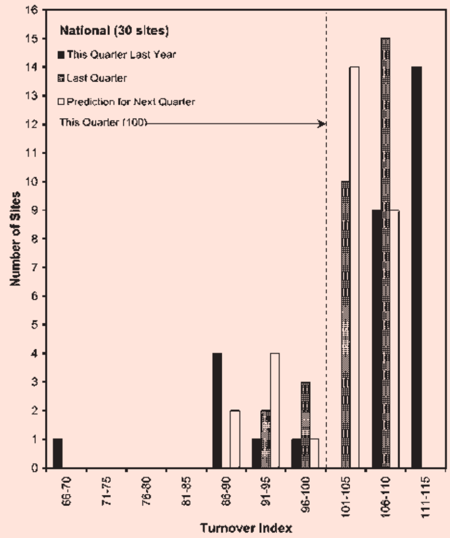
"THIS QUARTER" =

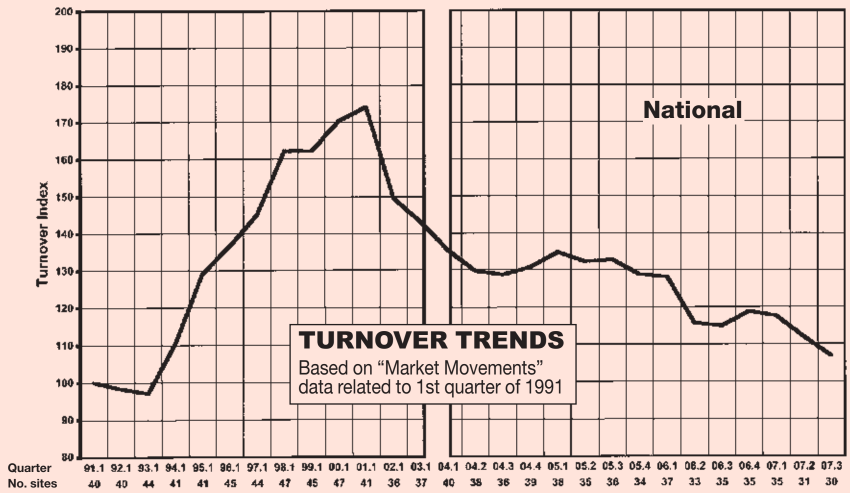
1 JULY – 30 SEPTEMBER 2007

= TURNOVER INDEX 100

National

OVERALL ANALYSIS (30 SITES)	Mean index
This quarter last year	**104.6**
Last quarter	**104.8**
Predicted next quarter	**103.0**





TURNOVER TRENDS

Based on "Market Movements" data related to 1st quarter of 1991

STATESIDE STATS

NORTH AMERICAN HEAT TREAT SALES UP SLIGHTLY OVER 2006 THREE-QUARTER

In the January-September 2007 period, participating members in the Metal Treating Institute's Monthly Sales Statistics Program reported $647.0million in sales, a slight increase of 0.7% over 2006's total of $642.4million.

September billings reached $70.0million, a small decline of 1.2% from September 2006 when sales reached $70.9million. The latest figures for October show sales of $78.4million, a jump of 8.8% over October 2006's $72.0million.

Please send your news items for *Hotline* 111 to *mail@chta.co.uk* by no later than February 29th. Meantime,

SEASONS GREETINGS TO ALL OUR READERS

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