

OCCUPATIONAL ASTHMA AND SENSITIVITY TO CHEMICALS

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INTRODUCTION

In 1991, The Society of Radiographers produced a survey and guidance on how to prevent symptoms of occupational asthma occurring from exposure to fumes to X-ray processing chemicals. In 1997, the Society carried out the same survey, which showed that, although the situation in trusts with regard to health and safety is improving, it still leaves much to be desired.

This publication is designed to update representatives and members on the current situation regarding exposure to processing chemicals and to provide a comprehensive guide to how occupational asthma can be prevented.

BACKGROUND

What is occupational asthma?

Work-related asthma is the fastest growing occupational disease, which at its worst can kill and for many sufferers causes permanent disability. A recent TUC report showed that one in three workers suffering from occupational asthma had to give up their job because of their condition. Other statistics from the report are:

- work-related asthma accounts for nearly a third of a million days every year lost through work-related illness in Great Britain
- workers run a one in 250 risk of work-related asthma - this currently gives a total of at least 150,000 sufferers in Britain
- work-related asthma is on the increase, with a new sufferer added to the list almost every hour and a quarter
- sufferers find that, on average, their asthma limits their activity on more than two hundred days every year and almost half of all work-related asthma sufferers experience shortage of breath when walking
- compensation cases for occupational asthma are growing faster than for any other work-related disease and damages in an individual case could cost companies as much as half a million pounds

The TUC is pressing for the law on work-related asthma to be strengthened. The Disability Discrimination Act has been used successfully to prevent asthma sufferers losing their jobs, but prevention is still based on the general and often misunderstood COSHH Regulations.

Radiographers and occupational asthma

Since the 1980s, radiographers have been aware of health problems among staff working in x-ray departments associated with the environment in which they work. Although it is possible that a worker may enter employment already suffering from asthma, many cases of asthma are actually caused after working with or near x-ray processing chemicals.

Early symptoms include a metallic taste in the mouth, sore throat, headaches, sinus problems and catarrh and these may worsen until the sufferer experiences shortness of breath, tight chest and chest pains - in other words, asthma. Asthma occurs when the muscles surrounding the bronchial tubes contract and cause the airways to become narrower - at the same time the lining of the tubes becomes inflamed and phlegm is produced.

The type of occupational asthma caused by processing chemicals is an acquired allergic reaction, where the body's defence mechanism develops a violent reaction - sensitization - to the chemicals. Sensitization can happen after a single extreme exposure, or the sufferer may have previously worked months or even years with the substances before the onset of symptoms. Generally there are three stages to chemical sensitization. These are:

- **pre-sensitization** - where the person is exposed to the chemicals with no apparent reaction occurring;
- **sensitization** - where the body's immune system responds to the exposure; and
- **reaction** - where the sensitized person suffers a severe reaction after even the smallest exposure to the sensitizing chemical.

In the early 1980s the Society began to receive complaints from individual members describing a range of symptoms experienced at work. At around the same time, a radiographer from New Zealand - Marjorie Gordon, who had become sensitized to processing fumes, was beginning to publicize the problem.

In the mid-1980s, the Health and Safety Executive (HSE) remained unconvinced that sensitization was a general problem, believing it to be a rare individual reaction. However, through the Society and other unions publicizing the problem and winning compensation cases, the HSE now recognizes the problems of working with processing chemicals and has issued guidance to prevention of adverse effects on health.

Previous research

There are studies which show the link between adverse symptoms and processing chemical. The connection between cardiac symptoms and the work environment was proven by medically controlled challenge testing on twelve subjects, one of whom was reacting to x-ray film developer (Rea. 1978); an important study (Norback 1988) showed that those working with gluteraldehyde suffered significantly more respiratory symptoms than those who had no contact with the chemical.

Armed with the results of these studies and that conducted among radiographers in New Zealand, the Society conducted its own survey in 1991. There were similarities in the results of the New Zealand and the Society surveys, as the following table demonstrates:

Table 1: Prevalence of symptoms in the UK and New Zealand

Continued or frequently recurrent symptoms	UK % sample suffering	NZ % sample suffering
Headaches	39.4	40
Sore throat	32.8	34
Unexpected fatigue	25.8	35
Sore Eyes	23.4	12
Bad Taste in Mouth	22.6	21
Sinus problems	19.6	30
Catarrh	16.9	15
Painful joints	12.9	25
Mouth ulcers	11.6	13
Skin Rash	10	15
Chest Pains	7.1	5
Breathing difficulties	7.1	9
Nausea	5.7	16

Follow-on survey

It was decided to issue the same survey in 1997 in order to compare the results with those of 1991 and to see whether the situation regarding occupational asthma had improved.

Table 2 shows that the prevalence of most symptoms had decreased since 1991, although the figures remained the same in respect of painful joints, chest pains/breathing difficulties and ear ache/infection. This may indicate that in a number of trusts equipment and working conditions had improved over the six years since 1991.

Table 2 Prevalence of Symptoms

Continued/Frequently recurrent symptoms	% of sample 1991	% of sample 1997
Headaches	39	27
Sore throat/hoarseness	33	23
Unexpected fatigue	26	21
Sore eyes	23	19
Bad taste in mouth	23	10
Sinus problems/nasal discharge	20	17
Persistent cold-like symptoms	18	13
Catarrh	17	14
Painful joints	13	13
Mouth ulcers/lip sores	12	8
Skin rash	10	9
Chest pains/breathing difficulties	7	7
Menstrual disorders	7	3
Nausea	6	4
Ear ache/infection	4	4
Sudden unusual change in eyesight	5	4
Urinary problems	4	2

There are three tell-tale signs that fumes are escaping from the x-ray processing equipment: recurrent chemical smell in the area; leaking chemicals from tanks/pipes; and deposits of crystals on the processor or in the processing area.

Table 3 Hazards in the processing area

Hazard	% of sample 1991	% of sample 1997
Recurrent chemical smell	67	68
Leaking chemicals from tanks/pipes	46	36
Deposits of crystals	25	27

Although there had been a reduction in the percentage of the sample which had noticed chemicals leaking from tanks or pipes, there had been an increase in the percentage which had noticed a recurrent chemical smell and crystal deposits on the processor or in the processing area. In 1991, 67% of the sample had been aware of a recurrent chemical smell - in 1997 this had risen to 68%; similarly, in 1997 27% of the sample had noticed crystal deposits, compared with 25% in 1991. This last area has serious implications, as a leak would have to have been very long standing and maintenance irregular for crystals to have developed.

As in 1991, the sample was grouped according to what percentage of departments noticed a processor problem, to determine whether there was a correlation between perceived processor problems and symptoms experienced in each group. In 1997, as in 1991, a higher percentage suffered symptoms of occupational asthma in departments where problems had been noticed.

The percentages experiencing symptoms have dropped in each category: for example, in respect of departments where over 75% had noticed a chemical smell, 36% experienced headaches in 1997, compared with 45% in 1991; in departments where over 75% had noticed chemicals leaking 42% had experienced headaches in 1997 compared with over 50% in 1991; and where more than 75% had noticed crystal deposits around the processor 44% suffered headaches in 1997, compared with 52% in 1991. This trend applies to all groups in the sample, suggesting once more that there has been an improvement since 1991 - however, as can be seen from the results of the 1997 survey, there are still large numbers of radiographers suffering from symptoms which may be related to breathing in chemicals from x-ray processing equipment.

LATEX SENSITAZATION

Many countries have experienced an increase in latex sensitization due to general exposure to latex, in the form of both medical and non-medical products. The recent concern among health care workers regarding hazards and modes of transmission of various pathogens has led to increased use of barriers against infection. Barriers include gloves, condoms, catheters, elasticated bandages and wound drains. Latex allergy has increased in correlation to increased use of such barriers.

Radiographers often use latex gloves and also latex condoms for transvaginal and transrectal examinations - obviously there is potential risk both to patients and radiographers in such circumstances.

Reactions to latex vary from irritation - a dry and itchy rash, which abates once the barrier has been removed from the skin - to delayed and immediate hypersensitivity. Delayed hypersensitivity is general caused by an allergy to the residues of accelerating agents used in the manufacturing process of gloves. This condition is also known as allergic contact dermatitis and its severity varies greatly, often presenting itself as a red, sometimes blistering, rash on the back of the hands and between the fingers. The reaction occurs several hours after contact, reaching its peak after 24- 48 hours and then subsiding.

Perhaps the most dangerous reaction is immediate hypersensitivity, which is a response to the natural protein residue found in latex. This allergy, sometimes referred to as an Immunoglobulin E (IgE) response, usually produces symptoms within 5-30 minutes of exposure to latex. Symptoms are characterized by local or generalized urticaria and oedema. However, if mucous membranes are affected, rhinitis, conjunctivitis or asthma may result - even respiratory difficulties and anaphylaxis may occur in extreme cases. Once sensitized, future allergic reaction can be caused by latex products with much lower residue levels.

The Society is aware of radiographers who are sensitized to latex, who are unable to work in any environment which contains the substance without experiencing severe breathing difficulties and the very real risk of anaphylactic shock. In those cases, the radiographer must be able to work in a latex-free environment, which means that any gloves, etc, kept within that environment have to be made from substances other than latex. Even floor leveling compounds, which are used frequently in departments when new equipment is being installed, can contain latex, as the following case history shows.

Case history of a radiographer's latex sensitivity

The following is extracted from a letter received at Society Head Office recently:

"I was diagnosed as having latex sensitivity a few years ago.

In March '98 I had an anaphylactic reaction after drinking Aqua Libre. My GP referred me for food allergy testing. Whilst waiting for this appointment I suddenly developed chest problems at work after a latex floor leveling compound was used during the installation of a new CT scanning suite. Lung function tests at the time were down, and I have had intermittent coughing and shortness of breath since.

I was seen for further testing on 1.7.98. Again, I had skin prick tests which included latex. I developed 12mm weals and chest problems, I was given a fast acting antihistamine. At that time it was suggested that it was not safe for me to continue working in a hospital environment. This was a major shock as I was originally referred for food allergy testing - I was quite unprepared to be told this.

I am off work at the moment, pending an appointment to see a chest specialist to confirm, I suspect, a diagnosis of occupationally induced asthma.

Since the laying of the floor and the second lot of testing, I have become much more sensitized. I have had coughing in a room with balloons in it, and whilst accompanying my mother in an emergency ambulance! Latex gloves were in abundance."

The above case history highlights how serious a latex allergy can become.

In many Trusts, managers only appear to be aware of the problems associated with latex after a member of staff has experienced an allergic reaction. In fact, latex is covered by the COSHH Regulations (see next section) and risk assessments should be carried out to prevent sensitization, not to deal with the consequences of it.

The Medical Devices Agency (MDA) has been monitoring the issue of latex allergy for a number of years because of concerns raised by American reports of increased problems among health care workers and patients. However, the MDA in 1996 was unable to find a significant rise in the prevalence of latex allergy in the UK, despite anecdotal evidence to that end. The agency has produced detailed advice to NHS managers in order to reduce the risk of allergic reactions. This advice says:

- local policies should be in place which address the purchase and use of medical gloves
- these policies should address the circumstances under which powdered gloves may be used
- individuals who are sensitized to latex should stop using latex products and should be provided with products made from an alternative material. These individuals should also avoid work areas where latex glove powder particles are likely to be airborne
- purchasers are advised to buy gloves taking into consideration the level of extractable latex protein content.

THE LEGAL PERSPECTIVE

The Control of Substances Hazardous to Health Regulations 1988 (COSHH) cover the control of chemicals, dusts, biological agents (mainly micro-organisms), carcinogens (cancer-causing substances) and respiratory sensitisers (substances causing asthma-type reactions). The Regulations are supported by an Approved Code of Practice (ACOP), which gives practical guidance on compliance with the regulations. Failure to comply with the provisions of an ACOP is not in itself an offence, but a criminal court may regard it as proof that the defendant has contravened the regulation to which the provision in the ACOP related. The HSE is to produce a separate ACOP on asthma, which will be subject to a consultation process in 1999.

Although COSHH has been in place since 1988, a survey in 1994 by insurance company Eagle Star found that one in four companies had yet to comply with COSHH. This must certainly be true in the NHS, considering how many symptoms are still being experienced by staff working in x-ray departments. A survey of Health and Safety reps in 1997 identified that, although most places had carried out COSHH assessments recently, they had not been done in 22 per cent of respondents' workplaces.

The Provisions of COSHH

COSHH covers substances which can cause ill-health used directly in work, arising from the work (e.g. dusts, fumes and waste products), or substances which occur naturally. It does not cover asbestos and lead, which have their own regulations; substances which are hazardous only because they are radioactive; asphyxiants; at high pressure; at extreme temperatures; or have explosive or flammable properties; biological agents if they are not directly connected with work and outside the employer's control, such as catching a cold from a work-mate.

The key provision of COSHH is the requirement in Regulation 6 for the employer to carry out an **assessment of likely risks to health** to employees arising from exposure to hazardous substances. The purposes of such an assessment, which should be in writing, is so that decisions can be made about measures necessary to control exposure to the substances.

Once the employer has identified a potential risk to health, under Regulation 7 they must make sure that the **exposure to workers is either prevented or minimized**.

Regulation 8 requires employers who provide **control measures** to make sure they are properly used and that every worker should make full and proper use of any control measures provided. Control measures should be kept in efficient working order and good repair, with the employer ensuring that thorough examinations and tests of engineering controls are carried out; in the case of local exhaust ventilation plant this should be done at least once a year. (Regulation 9)

Under Regulation 10, **monitoring of exposure** should be carried out when it is required to make sure that exposure is adequately controlled, particularly when failure or deterioration of control measures could result in a serious risk to health or where it is necessary to demonstrate that a maximum exposure limit (MEL) or occupational exposure limit (OEL) is not exceeded. Records should be kept. From early in 1999, glutaraldehyde will for the first time have a long-term maximum exposure limit of 0.05 ppm over an eight-hour reference period and a short-term maximum exposure limit of 0.05 ppm over a 15-minute reference period.

Regulation 11 requires that, where it is necessary for the protection of the health of employees, the employer should ensure that **suitable health surveillance** is carried out.

Finally, employees must be given **sufficient information, instruction and training** to enable them to know about the risks involved and the precautions which should be taken. They are also entitled to know the results of environmental monitoring and the collective results of any health surveillance. (Regulation 12)

A new initiative from the Health and Safety Executive

In response to the general confusion about COSHH expressed by managers in industry, the HSE, in conjunction with the Health and Safety Commission's Advisory Committee on Toxic Substances (ACTS) have been developing new guidance on hazardous substances, with a view to helping firms comply with COSHH in controlling health risks and protection the health of employees.

The proposed guidance, due to come into force in 1999, is designed to help managers through the risk assessment process by means of a generic model which will set out in a step-by-step fashion the way to successful hazard control. The Health Services Advisory Committee has expressed interest in the initiative and consideration will be given to adapting the process to suit the NHS.

COSHH Risk Assessments - What is required and who should do them?

The HSE publishes a brief guide for employers on the main requirements of COSHH (COSHH - the new brief guide for employers, June 1998) which contains notes on good practice. The guidance sets out steps for complying with the basic legal requirement to carry out assessments as follows:

- look at the work to see which hazardous substances are present. If the substance has been provided by a supplier, there should be a safety data sheet which would identify any risks from the substance
- think about risks the substances may present to employees' health
- where there are significant risks, decide on the action needed to remove or reduce them to acceptable levels, bearing in mind the costs
- if risks are trivial, nothing need be done.

Risk assessments need to be reviewed at regular intervals and when any new equipment or work processes are introduced.

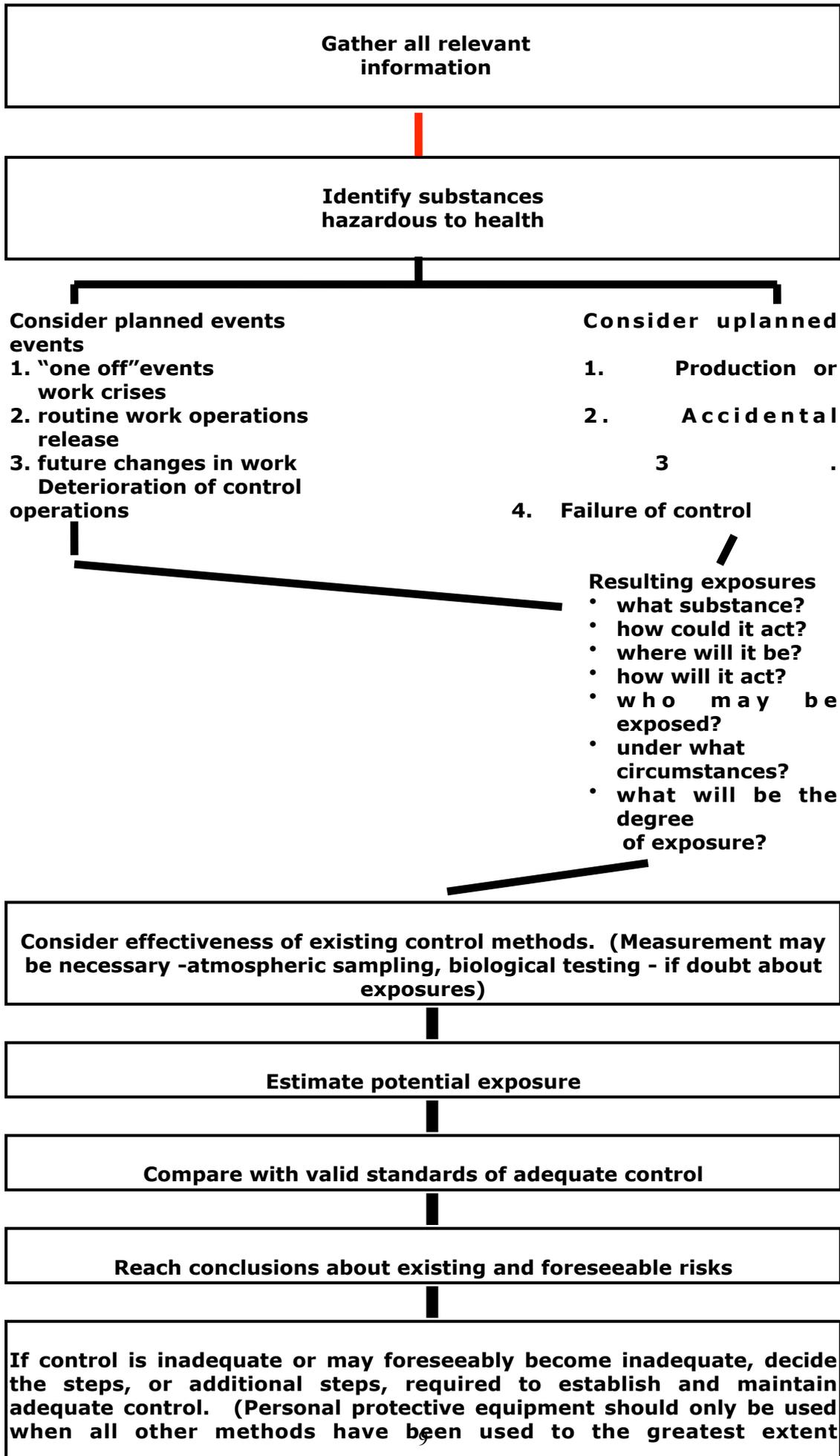
The responsibility for assessments rests with the employer, but the HSE states that some or most of the work can be delegated. However, in all by very simple cases, whoever carries out the assessment will need to:

- have access to and understand the requirements of COSHH and the appropriate ACOPs
- have the ability and authority to get all the necessary information and the knowledge and skill to make correct decisions about the risks and precautions needed.

The HSE believes **"It's a good idea to make sure that relevant employees and any safety representatives are involved in assessments, because they often have useful information that managers don't have. They must also be informed of the results."**

The following flow chart gives a step-by-step guide to making a COSHH assessment.

Steps in Making an Assessment



reasonably practicable and still cannot achieve adequate control - e.g. in an emergency.)



Decide on the need for any further precautions, e.g. exposure monitoring, health surveillance

Identifying hazardous substances

Suppliers are required by law to include safety information on labels and in safety data sheets. (An example of a data sheet in respect of photographic developers is attached at Annex A.) Dangerous substances will be identified by the letter "R" (for "Risk") and a number - for example glutaraldehyde is labeled with the following risk phrases:

- R23/25 Toxic by inhalation and if swallowed
- R34 Causes burns
- R42 May cause sensitization by inhalation
- R50 Very toxic to aquatic organisms

In addition to substances (such as glutaraldehyde) classified in the Chemical (Hazard Information and Packaging for supply) Regulations (CHIP), the HSE publishes guidance such as EH40, which gives information on substances with occupational exposure limits. In evaluating the risks to health, the answers to the following questions need to be combined:

- **what is the potential of a substance for causing harm?**
- **what is the chance of the exposure occurring?** Do people work with it directly; work in the vicinity of where it is handled, used, stored, disposed of, etc; are in the vicinity of accidental spillage; enter an enclosed space where it might be present; disturb deposits of the substance, e.g. during cleaning, and make them airborne; come into contact with contaminated surfaces?
- **how much are people exposed to and for how long?** What is the pattern and total time of exposure during the work period? It is especially necessary to have precise information about the amount or concentration and length of exposure when this occurs routinely very frequently, a high level of exposure can be foreseen at any time and/or a substance has a maximum exposure limit or an occupational exposure limit.

COSHH requires that exposures should be monitored at least once every twelve months unless a formal risk assessment demonstrates that control is adequate. Local exhaust ventilation should be checked every year.

"Competent people"

In some cases, experts will have to be consulted both to measure the air quality and to advise in the case of avoidance or local exhaust ventilation. Trusts' works departments can often be very helpful in the issue of air changes and ventilation - the Society recommends 15 air changes an hour as sufficient to remove any significant risk.

Some suppliers of processing chemicals are also very good at suggesting alternative substances to use in the case of a risk being identified. For instance, Photosol advises that the best procedure is to eliminate glutaraldehyde altogether, but if that is not feasible a lower risk substance containing glutaraldehyde can be provided.

One of the most important tasks to be undertaken is the measurement of substances in the atmosphere. Many trusts use draeger tubes to carry this out, although recent reports suggest that measurement in this way may not be as accurate as first thought and that the only accurate way of measurement is to have a air quality audit carried out professionally. In this instance, a professional body such as the Institute of Occupational Hygienists may need to be consulted (addresses of useful contacts are given at the end of this guidance).

How H&S Reps should be involved

Employers have a duty under the Health and Safety at Work Act 1974, section 2(6), to consult safety representatives on arrangements for measures to ensure the health of employees and on checking the effectiveness of those measures. Apart from this, many Society Health and Safety reps have particular expertise and experience in the area of dangers from chemicals in the workplace. As such, managers will find their involvement of valuable assistance. The HSE says **"In those workplaces where employees' safety representatives have been appointed and where safety committees have been established, employers are very likely to find that their participation in the assessment process will be particularly helpful in the task of gathering useful information and in ensuring the commitment of the employees to the controls established."** (COSHH Assessments, HSE)

IT IS ESSENTIAL, HOWEVER, THAT RESPONSIBILITY FOR CONDUCTING RISK ASSESSMENTS RESTS FIRMLY WITH THE EMPLOYER - AS SUCH, THE SOCIETY RECOMMENDS THAT HEALTH AND SAFETY REPRESENTATIVE CAN ASSIST IN CARRYING THESE OUT, BUT IT SHOULD BE CLEARLY DOCUMENTED WHICH REPRESENTATIVE OF THE EMPLOYER HAS LEGAL RESPONSIBILITY FOR THEM.

Avoiding and Minimizing risk

COSHH requires that if it is reasonably practicable, exposure must be prevented by

- **Changing the process so that the hazardous substance is not required or generated:** for example, there is now the technology available to make radiology a totally digital process, thus eliminating the need for film processing altogether. Although this would take serious investment in both equipment and training, it will almost certainly be cost effective in the long term as the elimination of dangerous asthmagens from the workplace will reduce sickness absence and eliminate the need for compensation claims for occupational asthma. In addition to fully digital processes, dry laser systems use a photothermographic process which eliminates the requirement for processing chemicals.
- **Replacing the substance with a safer alternative:** for example, many suppliers now have introduced glutaraldehyde-free chemicals; or replacing latex gloves with gloves made from an alternative product.
- **using it in a safer form:** for example, chemical mixes now exist with a much lower concentrate of glutaraldehyde, complexed with sulphite to make it less volatile.

However, it is not always possible to eliminate the use of hazardous substances. In these cases, exposure must be adequately controlled by one or more of the following measures:

- **total enclosure of the process**
- **partial enclosure and extraction equipment:** this is the option used by the majority of trusts, with the processor sealed except for when chemicals are replaced, and local exhaust ventilation.
- **general ventilation**
- **using systems of work and handling procedures which minimize the chances of spills, leaks and other escape of hazardous materials:** in many trusts, the possibility of spills is minimized by a system where it is not necessary to handle or pour the chemicals - rather the refill containers fit inside specially designed inlets on the processor.
- **reducing the number of employees exposed, or the duration of their exposure, but only after considering and, where possible, putting into effect the above measures:** in many trusts, it is possible to isolate the processing area, so that staff do not generally need to be exposed to the possibility of inhaling fumes.

IT IS IMPORTANT TO NOTE THAT PERSONAL PROTECTIVE EQUIPMENT (e.g. RESPIRATORS, PROTECTIVE GOGGLES, etc) SHOULD ONLY BE PROVIDED AS A LAST RESORT TO ACHIEVE CONTROL. HOWEVER, THIS SHOULD NOT PREVENT THEM BEING PROVIDED AS A "BELT AND BRACES" MEASURE.

Monitoring Exposure

The HSE says "Monitoring is not a substitute for adequate control, but may be required to ensure that control is adequate." (Preventing Asthma at Work, HSE 1994) COSHH requires that the concentration of hazardous substances in the air should be measured in the following cases:

- where there could be serious risks to health if any control measures failed or deteriorated, for example if the local exhaust ventilation broke down or the waste disposal pipes deteriorated to such an extent that leakage occurred;
- if it cannot be certain that exposure limits are not being exceeded - if there is any question over the accuracy of the measurements last taken, for example if those measurements differed from those previously taken;
- if it cannot be certain that particular control measures are working properly.

A record, which should be available to Health and Safety Representatives, should be kept of any exposure monitoring carried out.

Is Health Surveillance Necessary?

Health surveillance is required under COSHH under the following circumstances:

- where employees are exposed to a substances linked to a particular disease/ adverse health effect **and** it is reasonably likely under the working conditions that the disease/effect could occur **and** it is possible to detect them;
- where an employee is working in one of the processes listed in Schedule 5 of COSHH, e.g. manufacture of certain benzene compounds and likely to receive significant exposure to the substance.

Because glutaraldehyde is known to cause occupational asthma, health surveillance will be necessary. HSE says "For some substances that can cause cancer or respiratory sensitization there is often no level of exposure that can be regarded as completely safe and therefore health surveillance will almost always be required. For exposure to these and other substances, such as skin damaging agents, individual variations in susceptibility and other factors related to the nature of exposure may mean that you can reasonably expect cases of disease even though you may be doing all you can to ensure adequate control of exposure." (Health surveillance under COSHH - guidance for employers, HSE 1990).

The Society believes that, because latex is also known as a cause of dermatitis and other allergic reactions, health surveillance would also be necessary for those who work with latex barriers, such as gloves and condoms.

What is Health Surveillance?

Although the term may sound daunting, it can be used for a wide range of procedures, including:

- collecting, maintaining and reviewing health records, which must be kept
- checks for signs of disease by someone responsible, such as a first aider
- enquiries, inspections and examinations by a qualified person, such as an occupational health nurse
- medical surveillance under the supervision of a doctor.

Health Surveillance should not be a substitute for adequate controls being introduced - it is rather a checking system that the controls are working properly and a warning system if they are not.

The following surveillance measures are suitable for staff working with or near processing equipment:

- Past or present symptoms of respiratory sensitivity should be obtained for baseline information only.
- Evidence of symptoms amongst employees should be positively sought by a properly trained responsible person in accordance with the instructions of an occupational health doctor or nurse who should be involved in training the responsible person and setting up the surveillance system. A screening questionnaire which can be used by that person is attached at Annex B.
- Lung function tests should be carried out before exposure (i.e. on appointment) and regularly thereafter and results should be monitored for any differences.
- Health records should be kept for 30 years each employee subject to the surveillance, to include any conclusions resulting from any other surveillance procedures about the employee's fitness for work. The record must be kept in a suitable form - either a paper or computer record, but it must be available for the employee to have access to.
- All information regarding health surveillance must be available both to the employee concerned and the Health and Safety Representative.

Example of health surveillance in practice - West Dorset General Hospitals NHS Trust

In the above trust, peak-flow lung function tests are carried out annually on all radiographers by occupational health. A report is provided to the Superintendent, with comparative figures from the previous year. If a problem is identified, the employee receives a letter advising them to refrain from performing those tasks which are hazardous, such as opening the processing machinery to replace chemicals.

Health surveillance - latex allergies

The Society would recommend the following, in line with advice from the Medical Devices Agency:

- Health care workers who regularly use gloves or other barrier methods and show any characteristic symptoms of latex allergy, particularly those who have a history of allergies, should seek advice from occupational health departments.
- Diagnostic tests should be used on all of the above, and on patients with symptoms of possible latex allergy.
- Staff working in high latex exposure areas who are known to be atopic or who have food allergies associated with latex allergy (e.g. avocado, chestnut and bananas) should be particularly cautious when contact is made with latex. If signs of reaction, such as localized itching, oedema, erythema or shortness of

- breath occur, latex contact should be discontinued and the advice of the occupational health department should be sought.
- Health records should be kept, in line with COSHH (see points above) and access should be available to the employee concerned and the Health and Safety Representative.

Information, instruction and training for employees

There is a requirement under COSHH for employers to inform, instruct and train employees about the nature of the substances worked with, the health risks created by exposure to them and precautions which should be taken.

Employers also have a duty to give employees sufficient information and instructions on:

- control measures, their purpose and how to use them;
- how to use personal protective equipment and clothing provided;
- results of any exposure monitoring and health surveillance (without give people's names); and
- emergency procedures.

The Health and Safety Executive says "These are very important duties that sometimes get overlooked. It is no use assessing the risks yourself without making sure your employees understand them too. Also, control measures cannot be effective if workers do not know how to use them properly" (COSHH - the new brief guide for employers, HSE 1996).

It is important that Health and Safety Representatives are consulted about the information, instruction and training to be given to employees.

Pre-employment screening

There are some employers who believe that pre-employment screening will help to eliminate the risk of occupational asthma and have a policy of not employing radiographers with a history of asthma. The Society is opposed to this method of selection, believing that the employer's legal duty of care means that the workplace should be safe to work in for all employees. As can be seen from the foregoing, it is possible to eliminate altogether the risks of occupational asthma in radiographers' workplaces.

The Health and Safety Executive's view on the subject of pre-employment screening is that it should not be used to discriminate in the employment process. Indeed, the Disability Discrimination Act was introduced partly to combat that kind of attitude and the non-employment of asthmatics purely on the grounds of their disability would appear to be illegal under the Act. (However, it must be pointed out that not all cases of asthma will meet the criteria laid down in the Act for defining a disability.) Pre-employment screening, if it is used at all, should only be used to point to areas where certain people may be at increased risk from hazards and to bear those factors in mind when carrying out risk assessments.

The Society is also aware of a growing problem of students who have been subject to pre-placement screening and then denied a clinical placement because of asthma. There have also been cases where students on graduation have been refused employment on the grounds of the likelihood of susceptibility to occupational asthma, given their admitted asthma. It is the Society's belief that universities are shirking their responsibilities under their duty of care to the student for not advocating the student's rights in the employment arena.

It is important to note that the employer is responsible for the health and safety of students who are on placement with that trust. Therefore, if a student becomes sensitized whilst on placement, the responsibility for this will lie firmly with the employer. The Society believes that all workplaces should be safe for anyone to work in - these situations would not then arise.

Employment of staff who develop occupational asthma

Employees who develop occupational asthma during their employment may also be covered by the Disability Discrimination Act, which requires employers to make reasonable adjustments to avoid a disabled employee from being subject to a substantial disadvantage. (However, it must be noted that the Act does not take into consideration the ability to perform the job, merely the ability to perform normal day-to-day activities.) Although the Act does not include a comprehensive list of steps the employer has to take, but it gives the following examples:

- allocating some duties to another person
- transferring the employee to other duties
- transferring the employee to a different place of work
- allowing the employee to be absent from work for assessment, treatment or rehabilitation

Because further exposure to harmful chemicals or latex is likely to produce an acute reaction once a person has been sensitized, it is essential that arrangements are put in hand to ensure that no further contact occurs.

Compensation claims

The Society has successfully helped members with occupational asthma receive compensation for their disability from their employer. Over half a million pounds have been received on behalf of Society members, with the largest settlement being £135,000. However, most cases have settled out of court, with one significant example - that of David Ogden against Airedale Health Authority, which resulted in a settlement in the region of £80,000.

The full judgement is attached at Annex C, but, in summary, the employer in this case was found negligent on the following counts:

- failure to ensure the working environment was safe
- failure to monitor fumes
- failure to provide adequate ventilation
- failure to provide protective equipment
- failure to warn him of the risk of being exposed to fumes
- failure to act upon complaints made in 1987 about heat and fumes.

As such, Airedale Health Authority was found to be in breach of statutory duty under COSHH.

NEGOTIATING FOR IMPROVEMENTS

This section provides information for representatives and members on how to negotiate health and safety improvements in the department regarding management and control of hazardous substances which may cause occupational asthma. It draws heavily on COSHH and also refers to the Management of Health and Safety Regulations 1992 and the Safety Representatives and Safety Committees Regulations 1996.

What rights have Health and Safety Representatives?

Health and Safety Representatives have a number of general legal rights under the Safety Representatives and Safety Committees Regulations in addition to rights which are specific to COSHH. General rights include:

- **the right to inspect the workplace:** a Society Health and Safety Representative has the legal right to make an inspection every three months or whenever there are potential hazards or dangerous occurrences, irrespective of whether hazards are drawn to her/his attention by a member. In carrying out inspections, it is often useful to be accompanied by management in order to simplify the reporting process. However, it is also important that members feel they can approach their representative in confidence regarding health and safety issues. An inspection is a useful way in which to check that hazard controls are in good working order.
- **the right to investigate complaints from members:** if a member or group of members approaches their Health and Safety Representative with concerns over a health, safety or welfare issue, that rep then has the right to investigate the issue.
- **the right to make representations to the employer regarding Health and Safety concerns:** this right is self-explanatory and is essential for negotiating health and safety improvements in the workplace.
- **the right to represent members in consultation with inspectors of the Health and Safety Executive:** reps should ensure they speak to inspectors when they visit the workplace. Additionally, reps can seek advice from inspectors on a health and safety issue at any time. Many reps also contact the inspector if improvements do not occur after the grievance or negotiating procedure has been exhausted.
- **the right to attend meetings of safety committees where s/he attends in the capacity as a safety representative in connection with any of the above functions:** if the trust does not have a safety committee, a request made in writing by at least two safety reps has to be complied with within three months. Safety Committees are very useful fora for raising current health and safety issues and checking on their progress.
- **the right to paid time off during working hours to carry out functions and to undergo appropriate training:** Society reps often experience difficulty with this one because of pressure of work in the department. It is important to know that it is a right, however, and reps should contact their Regional Officer or Society Head Office if they have problems with this.
- **the right to be consulted:** reps should be consulted in good time regarding the introduction of any measure at the workplace which may substantially affect the health and safety of members; arrangements for appointing "competent persons"; any health and safety information employers are required to provide members under the relevant statutory provisions; planning and organization of any health and safety training; health and safety consequences for members of the introduction and planning of new technologies into the workplace.
- **the right to be provided with suitable facilities:** Regulation 4A(2) says "every employer shall provide such facilities and assistance as safety representatives may reasonably require for the purpose of carrying out their functions under ...these Regulations."

IT IS IMPORTANT THAT REPRESENTATIVES ARE AWARE THAT "NO FUNCTION GIVEN TO A SAFETY REPRESENTATIVE ... SHALL BE

CONSTRUED AS IMPOSING ANY DUTY ON HIM (sic)" (Regulation 4) THIS MEANS THAT HEALTH AND SAFETY REPS CANNOT BE HELD LEGALLY RESPONSIBLE FOR ANYTHING ADVERSE WHICH OCCURS WHILE CARRYING OUT REPS' DUTIES.

Specific rights under COSHH include the following:

- **the right to be consulted on COSHH assessments:** the Society would recommend that reps be involved in the assessment process at all stages. The rep's knowledge of health and safety will almost certainly prove invaluable to management during the assessment of risks.
- **the right to be consulted on any "competent person":** reps can often make valuable suggestions as to what qualifications that person should have.
- **the right of access to data sheets and other health and safety information:** if these are not readily available, the employer must make them so on request.
- **the right to have access to results of assessments**
- **the right to be consulted and given information on any control measures proposed:** this should include the reasons for introduction and the use of the measures.
- **the right to be consulted and given information on any personal protective equipment required**
- **the right to receive information regarding monitoring procedures:** this should include any results of monitoring and notification if maximum exposure limits have been exceeded
- **the right to receive information regarding anonymous collective results of health surveillance under COSHH**
- **the right to access individual health records under COSHH**
- **the right to be consulted about instruction, training and information for members.**

HEALTH AND SAFETY REPS' CHECKLIST

- **Have you discovered any problems regarding COSHH controls, such as leakage, during a workplace inspection or from a member?**
- **If so, have you raised the problem with management?**
- **Do you know when management carried out the last COSHH assessment and what the results of that assessment were?**
- **Are you involved with the risk assessment process - are you consulted as to who should carry them out?**
- **Have you access to safety data sheets and other safety information?**
- **Are you consulted and given information on any control measures and personal protective equipment which are proposed?**
- **Do you receive information regarding the monitoring procedure?**
- **Do you receive information regarding results of health surveillance?**
- **Are you consulted about instruction, training and information for members?**

Remember, all the above are your RIGHTS under Health and Safety legislation.

Making sure H&S reps are involved in Risk Assessments

The Society recommends that Health and Safety reps should be involved in risk assessments at all stages, partly because of the level of expertise and training received by union representatives, and partly because two heads are usually better than one. The Institute of Occupational Safety and Health (IOSH) guidelines on risk assessment state "In all cases team consultation is a powerful aid. This can involve an appropriate selection from line management and safety representatives."

It is unlikely that management will refuse to allow a Health and Safety rep to be involved, but if this does happen it is possible to use the trust's grievance procedure to secure involvement, pointing out the rights of a Health and Safety rep under legislation.

On the other hand, management may ask the rep to carry out the risk assessment - this appears to be a common problem within departments, possibly because the head of department has not been sufficiently trained to carry them out or they are aware of the superior health and safety knowledge and expertise of the rep. The Society asks reps to exercise extreme caution if this should happen, as there is a possibility that the person conducting the assessment would be held legally responsible if something should go wrong as a consequence of the assessment. Reps who are asked to carry out risk assessments should:

- point out that it is management's responsibility to carry out risk assessments, but they would be happy to assist
- appeal to the trust's health and safety adviser if the manager feels incompetent to conduct an assessment.

If a representative does carry out a risk assessment, it is imperative that management accepts full responsibility for it in writing prior to the assessment being started.

HEALTH AND SAFETY REPS' CHECKLIST: RISK ASSESSMENTS

Who will carry out risk assessments?

- do they have the appropriate knowledge and understanding of the work involved and the principles of risk assessment and prevention?
- what qualifications/experience do they have?
- what information, instruction and training have they been provided with?
- are outside consultants being used?
- how will employees and safety representatives be involved?

Do assessments cover all the hazards and risks at work?

- have all areas, activities, processes, substances and departments been covered?
- do assessments cover systems of work, supervision, training and the working environment?
- what hazards and risks have been identified?

Do assessments cover all those who could be exposed to hazards?

- are those working outside normal hours covered?
- have those particularly at risk (e.g. those with a history of asthma or who have become sensitized) been identified?
- do assessments look at what actually happens in practice and include non-routine operations such as maintenance?
- do individual assessments need to be carried out for some workers?

Are preventative measures already being used working properly?

- is information, instruction and training provision adequate?

What measures have been identified to prevent or control the risks to health and safety?

- can hazards be eliminated (e.g. replaced by process which does not require chemicals or by chemicals which do not contain the hazardous substance)?
- if not, can they be controlled at source (e.g. by using extract ventilation to remove fumes)?
- if not, (as a last resort) is suitable personal protective equipment being provided?
- is health surveillance necessary?
- have procedures in case of serious and imminent danger been drawn up?

Have safety representatives been provided (or given access) to a copy of the written risk assessment?

Will planned reviews of risk assessments take place at regular intervals?

Has a plan of action been drawn up for putting into practice the necessary measures identified by the risk assessment?

Access to information

An employer is required by law (SRSC Regulation 4A) to "provide such facilities and assistance as safety representatives may reasonably require for the purpose

of carrying out their functions under ... these Regulations.” The type of information reps may legitimately request copies of or access to include:

- Regulations, Approved Codes of Practice and Guidance
- Results of health surveillance
- Results of past risk assessments
- Results of monitoring exercises
- Any information passed to the employer by the Health and Safety Executive
- Information relating to plans to introduce new equipment or processes into the department
- Accident or incident report forms
- Reports of any action taken as a result of accidents or incidents in the past.

Remember, it is simply not good enough for an employer to present a rep with detailed information at the last minute - the SRSC Regulations stipulate that the information must be provided in good time. Again, the grievance procedure can be used, should management be intransigent.

What to do if management do not act

The grievance procedure can be used to resolved differences between members/ reps and management on health and safety issues, just as it can on other union issues. Each trust should have its own grievance procedure, which sets out the procedure for dealing with members' complaints. Some trusts have two separate procedures, one for individual grievances and one for collective (i.e. affecting a group of members) grievances, sometimes referred to as a disputes procedure.

A procedure should set out the stages that ensure that the rep can take up the case at each level of management. If the grievance is not resolved satisfactorily at the first stage or the complaint is ignored, the next stage of the procedure can be invoked. The stages can be worked up until the procedure is exhausted or the issue resolved. Stages should be bound by time-limits to ensure that the procedure is no unnecessarily delayed to management's advantage.

Some trusts have a special Safety Procedure or the right for reps to by-pass stages in the grievance/disputes procedure to raise urgent or important health and safety issues with the most senior managers that have the authority to deal with them.

It is important that these procedures have "Status Quo" clauses, which prevent management from introducing changes without consulting the union first. Invoking the "Status Quo" clause means that things must stay as they are until the matter is resolved, unless there is a health and safety consideration which means it would be hazardous for this clause to be invoked.

Once the procedure has been exhausted, the safety rep can ask the Health and Safety Executive's inspector to intervene - remember that advice can be sought from an inspector at any time. Often the threat of the safety inspector is enough to get things moving! The local inspector's address and telephone number can be found in the telephone directory under "Health and Safety Executive".

HEALTH AND SAFETY REPS' CHECKLIST: GRIEVANCES

- **is there a trust Safety Procedure or the right for reps to by-pass stages in the grievance procedure to raise urgent issues with the most senior manager?**
- **are the number of stages kept to a minimum?**
- **does the procedure detail which managers have the authority to deal with the grievance at each stage?**
- **ensure there are adequate time limits that are not too unreasonably long**
- **is there a "Status Quo" clause?**
- **in the event of a failure to agree, do you know how to contact your local health and safety inspector?**

What to do if members experience breathing difficulties/become sensitized

Obviously, the ideal situation is for hazards either to be eliminated completely or adequately controlled, with risk assessments and monitoring carried out and reviewed regularly. In practice, this is not always the case. Additionally, there may be an emergency situation, such as a leakage or breakdown of equipment, which may expose members to dangerous fumes.

In a situation where members have complained about symptoms of occupational asthma, an immediate workplace inspection should be carried out to try to identify the source of the problem. Other members of staff should be interviewed to see if there has been a similar effect on them.

If there is an emergency situation, reps should advise members to leave the department and go to a safe place. Contact should be made as soon as possible with the department manager, or the trust's health and safety advisor if the manager is not available, in order to inform them what action you have taken. Management's agreement with the course of action taken is important - although legally Health and Safety reps cannot be victimized for asking members to stop the job in dangerous circumstances, the way it has translated into UK law from the European legislation is far from satisfactory and reps can run the risk of having to go to a tribunal in order to assert this right.

The dangerous area should be isolated until it can be confirmed that the hazards no longer exist.

Although some trusts have very good policies in the event of a member of staff experiencing breathing difficulties, such as making sure they do not work near the processing area, this is not always the case and reps may need to negotiate on the members' behalf for them to be transferred to duties away from the processing room. Reps should always ensure that an incident form is filled out in the event of a member experiencing breathing difficulties.

However, if a member has already become sensitized, it may be more difficult to transfer them permanently onto other duties, depending on the size of the department. It may be necessary for them to be transferred into another department altogether or offered retraining into a different job. Remember that the Disability Discrimination Act should make it difficult for employers to dismiss someone who has developed a disability or to medically retire them against their will (see earlier section).

It must be remembered that asthma is a life-threatening illness and can render a sufferer unable to work because of permanent disability. It may be appropriate in

some cases to make a claim for compensation against the employer - reps should contact their Regional Officer or Society Head Office for advice.

HEALTH AND SAFETY REPS' CHECKLIST

- **Have members complained to you of breathing difficulties or other symptoms of exposure to hazardous substances?**
- **Is there obviously an emergency situation which requires the area to be vacated?**
- **If you have advised staff to leave the area, have they gone to a safe place?**
- **Have you made contact and secured agreement with your actions from the department head and/or the health and safety advisor?**
- **Ensure the area is safe to return to before staff carrying on working there?**
- **Are members of staff with breathing difficulties or other symptoms of exposure to hazardous substances allowed to transfer onto other duties away from the processing area?**
- **Have incident forms been filled in?**
- **Have you received a report on the incident?**
- **Are members who become sensitized able to transfer duties which do not bring them into contact with the processing area? If this is not possible, are they able to be transferred into another department and/or given retraining as appropriate?**
- **Is a compensation claim appropriate?**

Remember, in your role as Health and Safety Representative you have the backing of the law to enable you to carry out your functions and the support of Society Officers, who can advise you when necessary.

E.Ransom/November 1998