Minutes of the 4th meeting of the Working Group on Action to Control Chemicals held on 5th May 2005 in the Globe Room, Rose Court, London.

**Members Present**

| Steve Bailey  
| Steve Binks  
| Robin Chapman  
| David Farrar  
| Tony Fletcher  
| Alastair Hay  
| Rosemarie Hutchinson  
| Len Levy  
| Steve Williams  

**Officials Present**

| Steve Fairhurst (Chair)  
| Nicola Gregg (Secretariat)  
| Mike Costigan (Secretariat)  
| Hayley Keating (Secretariat)  
| John Groves  
| John Cocker  
| Andy Darnton  
| Mike Topping  
| Susy Brescia  
| Peter Ridgway (Item 3 only)  
| Rob Turner  
| Martin Ball (Item 2 only)  
| Julia Soave (Item 2 only)  
| Chris Williams (Item 4 only)  

**Apologies**

| Mark Nieuwenhuijsen  
| Ted Smith  

**Administrative issues**

1.1 The Chairman welcomed everybody to 4th meeting of the Committee. He introduced from HSE, Andy Darnton (Epidemiology and Medical Statistics Unit) and Rob Turner (Occupational Hygiene Unit) to the Committee, standing in for Damien McElvenny and Christine Northage, respectively.

1.2 WATCH secretary Nicola Gregg went through some administrative issues relating to the running of the Committee:

- Annual Declarations of Interest (2005-06) were requested by the end of the meeting.
- The WATCH website is now fully operational. Agendas and papers for this and previous meetings are now available on the site.
- The new version of EH40, based on the “WEL” framework has now been published and copies have been provided to members.
- Expense forms with receipts should be sent to the Secretariat as soon as possible or at the latest within one month of the meeting.

1.3 Adoption of agenda

WATCH Members agreed to adopt the proposed agenda (WATCH/Agenda/2005/2).

1.4 Declarations of interest

WATCH Members declared interests in the items on skin disease in hairdressers (Robin Chapman), styrene (Robin Chapman, David Farrar, Steve Williams) and biological monitoring (Robin Chapman).

1.5 Minutes of the 3rd meeting

Members had agreed the minutes of the 3rd meeting (WATCH/MIN/ 2005/1) by correspondence.
There was a general feeling that the balance of reporting of the different agenda items in the minutes was good.

### Disease Reduction Programme: Skin Disease Project

#### 2.1 Background

The Chairman introduced this item by referring to item 6 of the January 2005 meeting of WATCH, the discussion on HSE’s Disease Reduction Programme (DRP). During the January discussion the concept of Outcome Relationship Mapping was introduced as a tool that is being applied to help identify the pathways to follow in pursuing reductions in ill health across the different Projects within the DRP. WATCH members had suggested that an item for a future WATCH meeting could be an example of how the methodology could be applied to one disease area, and thereby to discuss ways in which the Committee could make a contribution. Consequently, this package was brought to WATCH in May, so members could look at how HSE’s plans for reducing skin disease in hairdressing were developing using Outcome Relationship Maps (ORM). The package included a literature review of the nature, scale and causes of skin disease in hairdressing and information on possible interventions introduced in other EU countries (Annex 1); in addition there was a generic ORM (Annex 2) and the latest version, still under development, of how this is being adapted to produce a more specific ORM addressing skin disease in hairdressers (Annex 3).

#### 2.2 The Chairman reiterated to WATCH members that the principle of DRP work is to identify real and substantial ill health problems caused by chemicals; understand why they are occurring; develop potential solutions to alleviate the problem; and to apply solutions in the workplace and monitor their effectiveness. He pointed out that it was important to ultimately arrive at a position whereby HSE and the Committee shared an understanding of the problem, which would then facilitate WATCH being part of the proposed solutions that emerge.

#### 2.3 Julia Soave (HSE Policy Group and leading the activity on reducing skin disease in hairdressers) and Martin Ball (HSE Industrial Chemicals Unit) were then introduced to WATCH members, Mr Ball to cover any issues arising from WATCH members consideration of Action Point (i), to “Provide views on the conclusions reached in relation to the causes of skin disease among hairdressers (in Annex 1)”, and Ms Soave to address issues arising from WATCH members consideration of Action Point (ii), to “Help HSE to further develop the ORM, particularly in relation to the securing of better control of exposure to the causative agents (Annex 2)”.

#### 2.4 General comments on Annex 1

Martin Ball gave a brief summary of the conclusions reached in Annex 1. WATCH members agreed that Annex 1 presented the issues clearly, bringing out the uncertainties and complexities in the background data, and also the challenges of dealing with a transient workforce.

#### 2.5 A WATCH member observed that establishing a robust evidence base is crucial for identifying appropriate, potentially effective interventions. He was anxious to ensure that key factors were not missed. For example, he suggested further work to try and distinguish between the statistics for allergic contact dermatitis (ACD) and irritant contact dermatitis (ICD); and to better establish the strength of the link between the occurrence and cause of skin disease and the chemicals present in the products workers are actually using at present – contemporary problems might have been caused by chemicals of the past.

#### 2.6 It was suggested that the use of the term “eczema” on the first page of Annex 1 was incorrect. HSE agreed, explaining that the word eczema had been used in order that hairdressers could better understand the type of skin effects that was being targeted.

#### 2.7 Nature and scale of the skin disease problem in hairdressers

Martin Ball’s introduction emphasised that occupational contact dermatitis (OCD), both irritant and allergic, is a problem in the hairdressing industry. The most recent data from EPIDERM, which picks up severe skin problems, shows an incidence rate for new cases of OCD of about 100 per 100 000 workers in the industry. However, it is recognised that this is a considerable underestimate of the actual figure; for example, during the 1990’s the incidence rate in Germany (where more comprehensive reporting systems were in place) was 2000 per 100 000 workers. Information from hairdressing colleges indicates that there is a 30% student dropout rate; it is unclear how much of this is a result of skin disease. Also, published data suggests that up to 70% of workers in the industry

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will suffer some form of skin disease as a result of their work at some time in their career.

2.8 A WATCH member referred to some anecdotal evidence that he was aware of, indicating that junior staff suffered the most skin problems as they were washing hair most of the day, and this was accepted as being part of the job. It was suggested that they didn’t like using gloves as it impaired their ability to check water temperature and consequently they were worried about the effect this could have on the customers’ welfare. This highlighted the general feeling that concerns about health and safety (H&S) in the industry were geared towards the customer rather than staff. It was also noted that there was no particular evidence that skin care is a significant part of hairdresser training courses or NVQ qualifications.

2.9 Concern was expressed about the under-reporting of incidence rates by EPIDER; it being noted that incidence/prevalence figures from other sources differ by orders of magnitude. More cases were apparent in Germany as there was a “no fault compensation scheme” for reporting skin disease; it was felt that the German statistics were probably reliable. However, they were not in a form to establish a causal link between particular chemical exposures and skin disease. Another WATCH member commented that all those involved in the German study evaluating the effect of the intervention strategy adopted had a pre-employment skin examination. He questioned how this might have affected the results; for example, were those who appeared to be atopic given special advice?

2.10 A WATCH member asked if the scale of the problem of skin disease in hairdressing could be put into some sort of overall context, for example, as a proportion of the overall burden of occupational ill-health in the UK workforce? HSE replied that the number of cases was relatively small, given the dominance of stress and musculoskeletal disease in such figures. On this note, another WATCH member asserted that in a chemical factory, incident reporting suggested that, each year, 1% of a well-informed workforce might suffer a caustic burn. The WATCH member suggested the incidence figures for hairdressers were low compared to this and questioned if the scale of this problem justified significant, priority effort?

2.11 Causes of skin disease in hairdressers

Martin Ball explained that a number of issues that could be responsible for skin disease in hairdressers had been identified through a review of the scientific literature and from information gathered from other sources, for example, from the organisations involved with the hairdressing industry and from educational programmes such as NVQs:

- **Chemicals**: Some of the chemicals present in hairdressing products could be responsible for causing ACD. The most commonly identified were para-phenylenediamine (PPD), glyceryl thioglycolate and ammonium persulphate and these were reported as being responsible for 50% of all of the positive patch test results in hairdressers with skin disease.

- **Wet working**: Wet working can increase the chance of suffering ICD, particularly among trainee hairdressers who are more likely to be involved in wet work. It is reported that undertaking “wet working” tasks in general for more than 2 h/d markedly increases the chances of developing OCD.

- **Use of PPE**: It is reported that most of those involved in wet working don’t wear gloves. Only about 10% of workers use gloves while hairwashing, primarily because “the customer wouldn’t like it”. Water and shampoo are not considered by such workers to be harmful chemicals. However, gloves are used when dyeing a customer’s hair, but this is to prevent colouration of the skin rather than to prevent potential skin reactions occurring.

- **Knowledge and training**: While hairdressing courses contain information on H&S, most of the emphasis appears to be directed at the customer. Very little emphasis appears to be placed on preventing OCD. In addition, the retention of such information by the students is believed to be low.

- **Management behaviours**: It appears that salon managers exert great influence on what is deemed to be good practice within a particular salon. There is a need to enhance the concern about of skin disease among managers; some take it seriously while others view it as part of the job.

2.12 In discussion, there was general agreement among WATCH members with the prediction that a range of severity of skin disease would be found among hairdressers from a slight redness of the skin to severe ACD. It was judged that the distribution of these effects is likely to be such that there will be
a relatively small number of severe cases and a long tail of less severe/milder cases. It seemed to
WATCH members likely that the less severe end of the scale may be a result of wet working, while
the more severe end may be due to skin sensitising chemicals. WATCH suggested that the role of
wet working in combination with exposure to chemicals is an area that may need further investigation.
To assist with this, WATCH members felt it would be beneficial to have a more detailed assessment
of the various work practices in the hairdressing industry and the different chemicals involved in each
of these.

2.13 A WATCH member felt that there was also a need to differentiate between wet work-related
dermatitis and chemical-related dermatitis, in searching for potentially effective remedial action. It was
suggested that a targetted remedy for each may lead to maximum benefit, for example, using after-
care creams following wet working. However, he cautioned that one would have to ensure that an
individual’s skin was not sensitised to one or more components of these products.

2.14 HSE pointed out that in a hairdressing college, accredited as a Centre of Excellence for hairdressing
training by HABIA (Hairdressing and Beauty Industry Authority), the students do not wear gloves for
shampooing, contradicting the “good practice” advice of HABIA. However, they do dry their hands
well immediately afterwards, using clean fresh towels each time, and then apply skin care creams. As
the college does not have much of a drop-out rate because of skin problems, it appears that this risk
management approach may warrant further attention. A WATCH member suggested that allergic
reactions will be facilitated when hands are wet and be less likely to arise when hands are dry,
consequently, this above regime, in which hands are properly dried and treated, could help to reduce
the risk of sensitisation to chemicals in the hairdressing environment. WATCH members agreed that
proper hand drying was likely to be a key factor in the prevention skin problems arising from wet
work. A word of caution was voiced by one WATCH member who noted that the constant provision of
clean dry towels for hand-drying will have additional cost implications for the industry, which might be
a factor influencing the extent of adoption of this approach.

2.15 Another WATCH member suggested that the issue of wet work and contact dermatitis could be
considered in other industries (for example food, healthcare) to investigate whether there are any
parallels with hairdressing.

2.16 A different WATCH member advocated investigating the formulation of some of the products used in
the hairdressing industry, as they may not conform to the stipulations of the Cosmetics Directive. A
particular issue could be products at the cheaper end of the market; some smaller companies will
have less sophisticated production strategies than large multi-national companies and therefore may
not always have been as diligent in ensuring that their products will not produce skin disease. HSE
responded that it is aware of the anecdotal evidence asserting that it is the cheaper hairdressing
products that can cause skin problems.

2.17 A WATCH member noted that the results of diagnostic patch-testing reflect past exposure that may
not be relevant to current exposures in hairdressing. This may mean it is necessary to look at
formulation trends in hairdressing products, to ensure that one is focussed on eradicating current and
future problem substances, rather than the problems of the past.

2.18 Results of other countries’ intervention strategies

Martin Ball explained that two, rather similar intervention strategies have been undertaken in
Germany (starting in the 1990’s) and more recently in The Netherlands (starting in 2001). During the
1990’s incidence rate of skin disease in German hairdressers was ten times higher than the
EPIDERM figures for the UK. The German Authorities set out to improve stakeholder engagement
and introduced legislation aimed at reducing the incidence rate. This strategy involved the removal of
glyceryl thioglycolate from hairdressing products, reducing the amount of wet work, increasing glove
usage and increasing the level of understanding of the workforce of the potential skin problems that
are associated with hairdressing. It is also thought that the behaviour of salon managers was
influenced as they became more aware of the issues. A 90 % reduction in the incidence rate of skin
disease among German hairdressers has now been achieved; it is claimed that this has been
achieved via the strategy. It appears that the effect has occurred as a result of the combination of
interventions employed rather than because of any single factor. The Netherlands has not yet
published an evaluation of the success of their approach. These intervention strategies provide a
number of starting points from which HSE can develop an intervention strategy for the UK.

2.19 WATCH members wondered if the German data could be explored further to elucidate what particular
approaches yielded the greatest benefit.

2.20 A WATCH member asked if there were any measures aimed at controlling for skin disease that are already used in other industries with similar problems or characteristics, as these could provide ready-made practical solutions to try in hairdressing. HSE responded that it is not aware of any formal measures being applied in other, related occupations to check for the early stages of dermatitis.

2.21 Another WATCH member questioned whether awareness of skin disease among managers was really the issue, as it appears that most of those working in the industry will have experienced skin disease? HSE replied that the more experienced managers were more likely to take skin issues seriously as they may have come across the more severe cases, possibly leading to staff leaving the industry; while salon managers with less experience were less likely to have experienced severe skin disease among their workforce.

2.22 Consideration of Outcome Relationship Maps
The Chairman acknowledged that this was the first time that WATCH members had seen ORMs. In HSE’s work on chemicals this is a new approach; the objective is to solve an ill-health problem caused by chemicals and the ORM helps one to work out the best way(s) to do this, rather than the traditional approach of developing risk management proposals for specific individual substances. During this part of the discussion the Chairman asked for the opinion of WATCH members on:

- what are the best directions to pursue on the ORM in order to achieve results (reductions in exposure, risk and if possible, disease) in the next 2 – 3 years?
- the robustness of the linkages that had been made between Annexes 1 (evidence base) and 3 (ORM) and what additional insights WATCH could offer.

2.23 Comments on the generic ORM (Annex 2)
The Chairman firstly asked for comments on the generic ORM provided as Annex 2 of the package.

2.24 A WATCH member commented that it was pleasing to see the generic structure of the ORM as it fleshed out the general concepts that had been discussed at the previous WATCH meeting in January. He asked where the structure had come from and whether comments related to structural matters would be helpful? HSE replied that the generic structure presented in Annex 2 had been developed primarily within HSE, adapting the general approach of ORM to the DRP. The Chairman indicated that comments on the ORMs set out in Annexes 2 and 3 would be welcomed by HSE.

2.25 It was felt by WATCH that clearer labelling in the boxes of the generic ORM was needed to distinguish between those that concerned HSE’s understanding (eg Boxes 17 and 20), and those that concern the understanding of the target audience (eg Box 11).

2.26 Another member felt that Boxes 3 and 4 are in the wrong place and should be relocated, feeding into a number of other boxes (eg 2, 6, 13).

2.27 Referring to Box 11 (“Increased awareness of dangers from hazardous substances”), a member commented that a box before this could be effective information provision, for example on H&S issues or product information. He continued that Box 2 (“Better control of hazardous substances”) is really often more a matter of improving the effectiveness and relevance of the control measures already available, for example, enhancing hairdressers’ use of gloves.

2.28 HSE reminded WATCH that the ORM document sets out outcomes, ie what one is trying to achieve at each stage. In addition to this, there will be other documents that outline how HSE intends to bring about these outcomes.

2.29 In response to it being noted that on the generic ORM there was nothing about measuring baselines or gathering more data to improve baselines, HSE pointed out that this is because for some strands of the activity within the DRP the baseline has already been fixed; however, there are other strands where the first step will be to gather baseline data.

2.30 A different WATCH member asked if one of the boxes should refer to better reporting of cases of chemical-induced ill-health?

2.31 Discussion of the ORM for hairdressers (Annex 3)
Julia Soave then gave a brief presentation on the draft ORM for combating skin disease in hairdressers, to outline the current thinking within HSE. She explained that the industry is non-
unionised, predominantly female, 16 – 35 years old, mobile and largely based in small firms who don’t use computers to search for H&S information. HSE recognises that it cannot achieve everything set out in the draft ORM and is focusing effort on where it is believed improvements of substantial potential benefit can be made quickly. These are the strands of activity involving better training and increased awareness (leading to boxes 2 and 3 on the ORM). As part of this process, work is underway to understand the key influencers on the hairdressing workforce and to develop a better understanding of the culture in the industry to improve engagement between this industry and HSE. In order to establish a better understanding of behaviour in the industry, HSE is to carry out some more general research into establishing what are the barriers to wearing gloves in wet-working industries. A stakeholder analysis for the hairdressing industry has been completed, and HSE is aware of what is currently going on within the industry in terms of H&S. For example, it has emerged that a DVD is available from L’Oreal for its salons, outlining best H&S practice for both customer and employee. HSE is also establishing links with Local Authorities (LAs), as they are the enforcing authority in the hairdressing industry.

2.32 Ms Soave raised the following specific points relating to the ORM for combating skin disease in hairdressing, indicating what HSE is doing and hopes to do:

- To increase awareness of OCD in both trainers and trainees as part of the training/education strand of activity.
- HSE is keen to work with the industry to promote H&S issues; research suggests that there is a need to have the support of a “star” hairdresser to back any campaign, to give it credibility among the workforce.
- There is a need to get appropriate information to the enforcing authorities and to the industry in general. As part of this process, HSE in partnership with the hairdressing industry is developing a poster campaign.
- There is a need to work on the business benefits of better H&S; for example, emphasising the benefits of preventing workers leaving the industry because of skin disease.
- Reinforcement of good practice training and awareness is being undertaken by encouraging industry to promote an existing guide on COSHH issues for the hairdressing industry. In addition Wella has recently consulted HSE on including H&S information on its website.
- HSE would like to derive a list of do’s and don’ts for hairdressers, for example, don’t wear jewellery at work; wear gloves when shampooing etc.
- HSE is considering the idea of using skin protection pledges (similar to the pledges being used in the asthma campaign) between stakeholders and HSE; and the development of a skin care policy by the hairdressing industry.
- Better targeting of enforcement (Box 4) is not something HSE can take forward, itself. However, it is aware that Local Authority Environmental Health Officers are currently discussing initiatives to improve H&S in hairdressing.

In terms of targeting the increased elimination of sensitising chemicals in hairdressing products such as PPD, glyceryl thioglycolate and ammonium persulphate, HSE suggested that it should not put much resource into this. If restriction or elimination was to be pursued via the legislative framework, there would be a need to work with other Government Departments (Department of Health, Department of Trade and Industry) to introduce amendments to the Cosmetics Directive. To try and eliminate a chemical such as PPD within 2 years (so there is a perceivable impact on the incidences of OCD in hairdressers that will go towards delivery of the 2007 – 2008 PSA target) is not realistic.

2.33 A WATCH member asked if additional information could be provided to show the thinking behind how one would move from one box to another on the ORM? HSE responded that Annex 3 included additional information for each of the boxes shown in the ORM, to illustrate the different Products that were envisaged to be the basis on which each strand of the overall activity would be progressed.

2.34 Another WATCH member felt that the mapping approach was a good one as it shows all the options available for consideration in seeking to achieve an ultimate objective. However, he cautioned that the potential danger was to try and do everything. There was a need for some sort of prioritisation exercise to decide which route(s) will be the most productive, combined with looking at what resource is available. He suggested that other stakeholders (training colleges, Trade Associations etc) should
be encouraged to take the lead regarding the issues along the training/education strands of the ORM, as sustained effort will be required to deliver reductions in ill-health from such activities, and the awareness and behavioural changes necessary could be built into the norms for ways of working in the industry. It was suggested that this part of the activity could be built on encouraging good practice in the industry, and that WATCH would be able to help characterise what would be realistic and effective as “good practice” for the industry.

2.35 There was general agreement among WATCH members with the opinion that the elimination of skin-sensitising chemicals may well deliver the most important health improvement in the long-term, as exposure to sensitising chemicals is likely to be responsible for the most serious cases of skin disease. It was felt that this is one of the routes that HSE should concentrate its own resources on. HSE reiterated its concern that pursuing this route via legislative means would not deliver reductions in skin disease in 2 - 3 years because any changes to the Cosmetics Directive would require EU-wide agreement which could only be arrived at by a lengthy process. However, HSE conceded that substance elimination could also be pursued on a voluntary, persuasive basis.

2.36 Another WATCH member pointed out that while seeking the elimination of the more severe sensitisers is a useful approach to pursue, the committee should not advocate the removal of all sensitisers from preparations used in the hairdressing industry. For example, individual cases of skin sensitisation to many antioxidant preservatives have been recorded; these substances are essential components of many formulations. Another potential problem with pursuing the elimination route is ensuring that the hazardous properties of beauty/hairdressing products have been properly established; the Cosmetics Directive places severe restrictions on the testing on experimental animals of products coming under its scope.

2.37 A WATCH member made the point that analysing the balance between chemical exposure and wet working in producing skin disease of different degrees of severity would clarify the anticipated benefits of activities Box 2 (“Better control of hazardous substances”).

2.38 It was suggested that the word “effective” should be added to Box 11 of the ORM, ie “Provision of effective information….”, and also that there should be some way of assessing effectiveness in this respect. It was also felt that Box 11 should sit between Boxes 1 and 5, on the ORM.

2.39 The question of whether there was any merit in analysing the situation among beauticians along with hairdressers was raised. It was considered that as beauticians are concerned about image, they would also be concerned about the appearance of their hands. Consequently, they may have practical approaches already in place to protect their hands from the chemical exposure inherent in using beauty products. HSE said that it would look into this. A WATCH member suggested that the concept of “image” was a very important factor to consider and to seek to exploit. Salons would not want to see broadcast any message that hairdressing/beauty products, designed to make people feel good about themselves, may contain chemicals that produce skin irritation or sensitisation, as this may have a detrimental effect on customer attitudes.

[ACTION: HSE to investigate whether control approaches are used by beauticians to prevent skin damage to their hands.]

2.40 A WATCH member asked what real awareness there was in the industry that one end of the spectrum of dermatitis constitutes severe disease? He felt that there may be a lack of understanding among workers about the different types of skin disease (allergic or irritant). They may well be viewed as one and the same and consequently there could be a lack of recognition that the more extreme forms of ACD are irreversible. A starting point to raising the awareness of workers could be to introduce the notion that there is potentially a serious skin disease, ACD, that is caused by over-exposure to sensitising chemicals and that this is the most important problem that needs to be addressed. The risk management measures applied to combatting severe cases of skin disease are also likely to have an affect on the risk of less severe cases.

2.41 The member continued that it should not be forgotten that there is a paying customer in this industry; making them aware of the potential for severe skin disease through chemical exposure in hairdressing products could be a powerful way of achieving an impact, if they believe it could happen to them. A customer that is aware of potential problems will ask questions and make demands on the industry. In addition, it was suggested that more manufacturers could be persuaded to market products that are “sensitiser free”. It could be that, once customers understand the potential problems of skin disease among hairdressers they may not resist the idea of hairdressers using gloves.
2.42 Another WATCH member recommended that more emphasis should be placed on trialling and evaluation of any activities, as this may save money in the long term. The German study involved multiple interventions which led to benefits; however, there is no knowledge about which particular measures were the most effective. He felt that any potential intervention should be piloted, with a structured evaluation of issues of practicability, acceptability and affordability before any intervention was introduced nationwide.

2.43 As a cautionary example, concern was expressed that one could envisage jumping to a conclusion that hairdressers must wear gloves. However, information from a training “Centre of Excellence” suggests that gloves aren’t used routinely here. Hence glove use might not be an essential feature of combating skin disease in hairdressing. The choice of which glove to use is another issue, as some gloves are also known to be capable of producing skin reactions.

2.44 Finally, the Committee noted the need to have empathy for the industry in developing practical solutions that are workable and with which the people in the industry feel comfortable.

2.45 Overall conclusions of the discussion
The Chairman then reflected back to WATCH and gained its agreement on the following positions. In response to Action Point [i]:
• There was a general feeling in WATCH that there is a range of severities of skin disease in hairdressers. It was postulated that the more severe cases may be caused by sensitising chemicals; and that the substantial burden of milder skin disease may be a result of excessive wet working. This would have two significant implications: on the choice of control approach to follow in targeting each issue; and in exploiting the imagery of potentially severe skin problems, which could be utilised to lead to better control and to target messages about the necessity of control.

2.46 In response to Action Point [ii]:
• A number of comments were made on the generic ORM reflecting recommendations for improving the map and for the phraseology used. The word “effective” should be used to emphasise that practicability is a crucial issue.

Important comments on the specific draft ORM for skin disease in hairdressers were that:
• In the opinion of WATCH the elimination of skin-sensitising chemicals route is currently being underplayed; this route may produce substantial long-term gains. If the legislative route is problematic, there is merit in negotiating with industry some sort of voluntary scheme for substance elimination.
• It was felt that external stakeholders rather than HSE should be encouraged to commit resources and take responsibility for the training/education strands of the ORM.
• Trialling and evaluating the effectiveness of individual intervention approaches, before taking them forward nationally, should be considered as an essential step in any plans.

2.47 Views of WATCH on the paperwork and discussion as a model for future WATCH items concerning the DRP
The Chairman then asked for views of members on the degree to which the session worked, it being HSE’s intention that more items of this nature will be brought to WATCH. A WATCH member replied that the discussion had been enjoyable and would like future feedback on what had happened as a result of the WATCH recommendations. The Chairman replied that such feedback would be provided before or at the October 2005 WATCH meeting.

[ACTION: HSE to provide feedback on the impact of the WATCH recommendations on the skin disease in hairdressers strand of activity by the October 2005 WATCH meeting.]

2.48 Another WATCH member suggested that the DRP appears to be an appropriate response to tackling chemical-induced ill-health in the workplace. However, he was concerned that, although WATCH members had made some useful comments, WATCH might not be the most appropriate forum for dealing with some of the issues involved in this type of discussion. He asked whether there were any other HSC/E committees also becoming involved in such items, and/or whether there was a need to
reconsider the balance of skills on the WATCH committee? The Chairman responded that the existence and involvement of other committees is patchy (for example, PIAC is involved in the issue of combating skin disease in the printing industry). In terms of the balance of skills, he suggested that further use could be made of the facility to bring to WATCH ad hoc experts for specific discussions. He concluded by saying that all of the points raised would be reflected on in preparations for delivering items to future WATCH meetings and in setting up appropriate conditions for a WATCH debate.

3 Styrene

3.1 Background

The Chairman began by introducing Susy Brescia and Peter Ridgway (both regulatory toxicologists from HSE’s Industrial Chemicals Unit). Ms Brescia represents HSE/UK in EU discussions within the Existing Substances Regulation (ESR; 793/93) framework; while Mr Ridgway is one of the authors of the colour discrimination review which formed part of this item.

3.2 WATCH members were then reminded of the relevant regulatory history of styrene.

3.3 Styrene and ESR

The work on styrene in which HSE is currently involved is in the context of ESR, the UK being the rapporteur Member State for styrene. There has been a long process of trying to agree the ESR risk assessment for styrene in Europe (WATCH was first presented with a draft version of the human health aspects of the ESR risk assessment document for styrene at its meeting in May 1995). At the ESR “Technical Meeting” in March 2005 most of the hazard profile was finally agreed, with the exception of the mutagenicity and carcinogenicity sections. This position is generally in accordance with the hazard profile which was agreed at WATCH when it was presented to the Committee in January 2001 (WATCH/05/2001).

3.4 The Chairman then referred to paragraph 15 of the cover paper and the issue regarding the position on the mutagenic/carcinogenic potential of styrene. Under the ESR process, other UK Government Departments are consulted in order to agree a shared risk assessment position to take forward into EU discussions. In the case of styrene, the Department of Health (DoH) raised concerns about the soundness of the draft conclusions on the mutagenic/carcinogenic potential of styrene. Consequently, the expert opinion of members of the DoH/Food Standards Agency Committee on Mutagenicity (COM) was sought, on an informal basis. The position in the document now presented to WATCH (the summary of which is in Annex 1 of this package) has now been endorsed by these experts and this is the UK position that will be taken forward for EU discussions. Because an agreed EU position on the mutagenic and carcinogenic potential of styrene has not yet emerged, for the purposes of this meeting WATCH was asked to set aside consideration of these endpoints in relation to the Action Points of the paper.

3.5 Styrene and colour vision

HSE has recently carried out work looking at the effects of organic solvent exposure on colour discrimination. This initially arose as a question concerning styrene, but on further investigation there is relevant literature on a wider range of substances. This review was conducted in 2003 and was completed before WATCH was reconstituted in 2004; HSE decided to publish it in the scientific literature with an implied invitation to comment on the findings, but to date there has been no response.

3.6 Styrene and WELs

With the introduction of the new Workplace Exposure Limit (WEL) framework, styrene has been identified as one of 15 substances that formerly had Maximum Exposure Limit (MEL) status, that HSE has committed to reappraise. It is planned that HSE will take a paper to ACTS in the near future to agree the future plan of action for reappraising the position in EH40 for these 15 substances.

3.7 Discussion on Action Point [i]

The Chairman then asked members to consider Action Point [i] of the cover paper, to address how “the current standing of the EU ESR (Existing Substances Regulation, 793/93) toxicity profile for styrene compares with the current UK occupational risk management position for this substance” (setting aside the as-yet unresolved endpoints of mutagenicity and carcinogenicity). Members were
also asked to initially set aside the colour discrimination issue in addressing this Action Point.

3.8 **Discussions surrounding the existing WEL value**

The Chairman asked for views on the current toxicity profile of styrene in the context of the current WELs (100 ppm, 8h TWA and 250 ppm, STEL) published in EH40; the numerical values of the UK occupational exposure limits for styrene had remained unchanged for around 20 years. Members were asked to focus on what kind of influence the EU-agreed toxicological profile should have on the relative priority given to reappraising the WEL position for styrene.

3.9 A WATCH member pointed out that across the EU occupational exposure limits for styrene are much less than in the UK; for example, 20 ppm (8h TWA) in Germany; 10 ppm (8h TWA) in Sweden. Also, the Unsaturated Polyester (UP) resin industry set up a voluntary agreement in the early 1990’s to work to a limit of 50 ppm (8h TWA).

3.10 A WATCH member said that he recalled that in earlier discussions on styrene the Committee would have preferred to see a limit of 50 ppm (8h TWA), because of reports of findings of chromosome damage in humans; however, he recalled that practicability issues related to styrene exposures during the process of boat building precluded a value lower than 100 ppm. HSE commented that the evidence of chromosome changes in styrene-exposed humans was not robust and certainly insufficient to classify styrene as a mutagen. The Chairman also reminded members that the original basis for 100 ppm being a MEL rather than an OES was concern about the potential for acute CNS disturbance and irritancy at 100 ppm.

3.11 A WATCH member commented that, based on the toxicology, any reappraisal should first consider the need to lower the STEL to protect against acute CNS depression and sensory irritation. If the existing STEL was lowered, then the 8h TWA may also need to be adjusted downwards to remain compatible with the STEL.

3.12 It was pointed out that under the new WEL framework, the first requirement for controlling exposure is to apply the principles of good hygiene practice; therefore, the WEL value is an indication of the end-result of the good practice control measures that should be applied, not the driver of the control measures needed. Consequently, it was questioned whether there was any need to change from the current WEL position.

3.13 Another WATCH member referred to the effects on offspring reported in rats exposed to 150 ppm styrene during gestation, and the maternal effects evident in this study, and questioned whether a WEL of 100 ppm was adequate? HSE replied that the foetal effects were minor body weight reductions in the pups accompanied by a slight reduction in maternal body weight (approximately 8%); at exposures of 500 ppm, more significant maternal and foetal body weight reductions were reported and there was also damage to the olfactory epithelium in the dams. The HSE/UK view was that the findings at 150 ppm are secondary to maternal toxicity and hence of no concern; the description in the summary was a compromise to take account of the views of other Member States in EU discussions.

3.14 **Magnitude of occupational exposures to styrene**

HSE commented that its own data and data supplied by CEFIC indicate that in terms of controlling exposure to styrene, the sector involving the highest exposure is the glass reinforced plastics (GRP) industry. A range of 8h TWA exposure values has been reported for this sector, from below 50 ppm up to 300 ppm. HSE has not recently undertaken a detailed evaluation of styrene exposures in the industry, but it is likely that poor control is responsible for the higher exposures. In general, exposures to styrene in other industries are substantially lower; this is supported by biological monitoring data that suggest to HSE that control to less than 50 ppm (8h TWA) is practicable in such industries.

3.15 A WATCH member indicated that in the context of the ESR assessment of styrene the UP resin industry had been challenged to provide a better exposure data set. In gathering the data, it was evident that when using UP resins the use of different technologies leads to different styrene exposures. He suggested that, anecdotally, the problem of higher exposure occurs where open moulding systems are used in smaller workplaces.

3.16 The Chairman asked if, within the new WEL control guidance framework, there is any real difference between the control approach advocated for controlling exposure to 100 ppm and that for controlling to 50 ppm? HSE replied that more work would be needed, particularly in the GRP industry, to assess what degree of control would be secured by applying the specified good practice, before an answer
on styrene could be provided.

3.17 Another WATCH member commented that within the COSHH Essentials approach one control band is associated with an exposure range going up to 50 ppm; exposure above this lies with a different control band, suggesting that there is a change in control technology requirements at 50 ppm. He also questioned why the GRP industry in the UK could not meet a limit of 50 ppm when this industry in Germany is able to; was this a result of different control measures used? HSE replied that in most EU countries the GRP industry controls exposure to below 50 ppm (8h TWA); more work now needs to be done to assess what control measures are being used and what degree of control is reasonably practicable in the UK. A WATCH member pointed out that much of the EU data on styrene exposure is from Denmark, and relates to sail making, where exposures are easier to control, rather than boat building.

3.18 HSE pointed out that future occupational exposure surveys on substances will tend to be focussed on specific areas in which it is believed that there are problems with exposure control. In addition, HSL is carrying out work on the cost of controls which will be used to help form a view on “reasonable practicability” in any future debates on the standards of control expected for an individual substance.

3.19 Discussion on Action Point [ii]

The Chairman then directed members to Action Point [ii] “to assess the effects on colour discrimination reported to arise from occupational exposure to styrene and other organic solvents.” He pointed out that in publishing the review HSE had hoped to trigger some reaction in the scientific community. However, no comments on the review have been received.

3.20 The Chairman asked what the historical purpose for performing colour discrimination tests was? HSE responded that they were developed for those people working as pilots or telephone engineers to check that they could discriminate between different colours, an essential requirement of such jobs. It was speculated that they were used as a test of a person’s suitability for a job, rather than as a measure of any decrement in an individual’s ability, arising from an experience in life.

3.21 A WATCH member pointed out that in the German study (Triebig et al., 2001) elevated Colour Confusion Index (CCI) scores had been reported following styrene exposures of 20 – 30 ppm. He asked why these apparent effects had been discounted, a NOAEL of 50 ppm being reported in the toxicological summary in Annex 1? HSE responded that the consensus of discussions in the EU ESR Technical Meeting was that the increased CCI scores in themselves did not represent an adverse effect; the subjects exposed were not aware of the change and could still perform jobs with a requirement for good colour discrimination. There was more uncertainty about the magnitude and consequences of the potential effects of higher exposure levels.

3.22 Another member asked whether it was likely that an initiative to set an OEL at the EU level would be triggered by the stated NOAEL of 50 ppm for developmental toxicity? HSE replied that this would depend on whether or not the conclusion reached in the ESR risk assessment agreed in the EU for styrene was that there was a necessity to develop a risk reduction strategy for workplace exposure.

3.23 Another WATCH member asked what the colour discrimination tests that was used in these studies entailed. HSE responded that the tests pick up very subtle changes; participants are asked to examine a series of shaded coloured caps and to put them in the correct order, based on shade of colour.

3.24 A WATCH member commented that, whilst the paper was very educational, it was unclear what was the consequence of having poor ability to discriminate between colour shades. In one study, styrene-exposed workers had a mean average age of 38 years, while it was reported that their CCI scores were those expected of 60 year olds. Therefore, the styrene-exposed workers had lost 22 years of “colour discrimination ability”, ie premature ageing in this respect.

3.25 HSE responded that the subjects in the Triebig study were not aware of the phenomenon that was picked up by the test. Also, in another study of colour discrimination a number of printers with elevated CCI scores of similar magnitude to those seen in the Triebig study were still able to perform their jobs which involved careful matching of colours.

3.26 Nevertheless, some WATCH members cautioned concern about ignoring these subtle changes. WATCH asked if a definitive conclusion could be arrived at in terms of reversibility? The HSE authors commented that no clear decision about reversibility could be made based on the data available at
3.27 A WATCH member asked if the colour discrimination changes could progress into a more serious condition? Or could they be correlated with any other effects that were clearly more disabling? HSE suggested that at present the evidence available suggested an answer of “no” to both questions. Another WATCH member commented that he was aware that the Triebig group is conducting another study for the styrene industry in Europe investigating the association between CCI index and neurobehavioural indicators following styrene exposure. These results would be available in early 2006.

3.28 Revisit of Action Point [i] taking account of colour discrimination effects

The Chairman asked WATCH whether it considered that the current occupational risk management position on styrene in the UK is appropriate, now that it had also considered the colour discrimination data.

3.29 A WATCH member commented that information gaps had been identified by WATCH that precluded reaching a firm conclusion on this question: namely, is there any correlation between CCI scores and other neurobehavioural test results and what does the effect on CCI scores actually mean, in health terms? It was suggested that the need for answers to these questions should be an outcome from this meeting.

3.30 A WATCH member then indicated that the styrene toxicology profile showed clear toxicological effects in the range 100 – 200 ppm and above. The CCI tests show effects with exposures above 20 ppm but these are of dubious clinical significance. He suggested that a proportionate response would be to reduce occupational exposures to styrene to below 20 ppm (8h TWA) if this is reasonably practicable; but if this cannot be achieved, then there is no much concern about possible ill-health with exposures to around 50 ppm.

3.31 Another WATCH member commented that loss of colour discrimination is not desirable and therefore, if levels can be controlled to below 50 ppm then this should be done. He commented that 100 ppm has been the 8h TWA occupational exposure limit for at least 20 years, and in this time it would be expected that progress on controlling styrene exposure to lower levels would have been made.

3.32 The Chairman asked if WATCH felt that an appropriate expression of its view was that the toxicity profile suggested that consideration should be given to the practicability of controlling styrene exposures to below 50 ppm, rather than 100 ppm? A WATCH member commented that the issue was whether, within the new WEL framework, the WEL value should be established directly, from the toxicology data, or should emerge once “good practice” conditions had been determined?

3.33 The Chairman asked WATCH members if it would be worth looking at the colour discrimination test in more detail at the October 2005 meeting, hopefully with an invited ad hoc expert, who could provide information on the potential mechanisms involved? WATCH agreed. A WATCH member asked if the focus could be what the test meant in terms of disability and how does it relate to other cognitive tests?

[ACTION: HSE will try to arrange for a practitioner of colour discrimination tests to attend the October 2005 to help WATCH interpret the results and health significance of the tests.]

3.34 A WATCH member asked if HSE could provide more details on what degree of control of occupational exposure to styrene was deemed to be reasonably practicable by the October 2005 WATCH meeting. HSE replied that it would probably not be able to deliver this by October, as the necessary data would not be available by then. The timing of gathering the exposure data on styrene would very much depend on the relative priority that work on styrene is given by ACTS when it considers the plan for appraising the 15 substances in EH40 that formerly had MEL status.

3.35 Overall conclusions of the discussion

The Chairman then sought and received confirmation from WATCH that it had reached the following positions. On Action Point [i]:

- The EU-agreed toxicity profile for styrene (in which mutagenicity and carcinogenicity endpoints have been temporarily set aside) does not raise an urgent need to modify the current UK occupational risk management position. However, there are features within this toxicity profile that indicate the desirability of controlling 8h TWA exposure to levels below 50 ppm, or even 20 ppm, if this is reasonably practicable. A more thorough occupational
hygiene assessment will be necessary in order to reach a firm conclusion on good practice and reasonable practicability issues.

3.36 On Action Point [ii], the issue of interpreting the results and health significance of colour discrimination tests will be revisited at the October 2005 WATCH meeting. As part of this process HSE will try to arrange for a practitioner of colour discrimination tests to attend the meeting to help.

3.37 It was noted that, by the October WATCH meeting, a decision on what action is to be taken in reappraising the 15 substances (including styrene) in EH40 that formerly had MEL status. The Chairman reminded members that the process by which the good practice/WEL position on any substance in EH40 would be reviewed had not been clarified as yet. Until this is done, the role of WATCH (and that of ACTS) in this context was uncertain.

4 Evaluation of Biological Monitoring

4.1 The Chairman introduced Christine Williams and Mike Topping of HSE’s Policy Group who were responsible for putting this paper together. He then invited comments on the proposed study described in the paper.

4.2 Discussion on biological monitoring in the context of the DRP

A WATCH member asked why it was considered that further development of HSE’s work on biological monitoring would need to be in the context of the DRP? The Chairman explained that, if HSE’s future agenda on chemicals and ill-health was to compromise DRP, statutory work and forward-looking “new and emerging issues”, it seemed that only DRP activity could accommodate biological monitoring. A WATCH member suggested that biological monitoring would enter into consideration whenever the issue in question related to the managing of specific risks.

4.3 The potential for any effect of biological monitoring on the DRP was questioned; and given HSEs other priorities, should HSE be putting any effort into biological monitoring at the present time? More specifically, a WATCH member asked whether biological monitoring will help to reduce incidences of skin disease, respiratory disease and cancer? He felt that biological monitoring may be one of the least effective tools in these areas and HSE should proceed with caution in terms of using biological monitoring in this context. HSE responded that, for example, biological monitoring will be useful for monitoring the effectiveness of controls used to prevent exposure to carcinogens under the Cancer Project of the DRP. In addition, it is a tool with which people can see what is entering their body and the results can then be used to influence behaviour. However, HSE feels that there is a need to evaluate biological monitoring first to see if it is actually meeting these expectations and then HSE can assess where it will add to the arsenal of tools available without causing excessive burdens on industry or workforces. HSE continued that, at present, there are 15 BMGVs in EH40, but there is scope to produce more biological monitoring standards, as the American ACGIH and German MAK Commission systems have done. In addition, HSL has good evidence to suggest that there is a reduction in exposure to substances following the introduction of BMGVs for them.

4.4 A WATCH member commented that, by focussing solely on the potential value to the DRP, HSE could be doing biological monitoring a disservice; it could be used as part of a control strategy for chemicals of interest for reasons other than the three disease areas of the DRP. In addition, if HSE/WATCH is not going to play a primary role in promoting the appropriate development and use of biological monitoring in the UK, who is?

4.5 Comments on the proposed survey of biological monitoring

There was general support among WATCH members for the principles of the proposed study. It would be useful as a fact-finding exercise, to find out how much biological monitoring was being done in the UK, particularly on substances outside of those 15 chemicals with a BMGV in EH40.

4.6 A WATCH member asked for clarification on what the scope of the study was to be? HSE replied that it was to cover biological monitoring and biological effect monitoring, but not health surveillance.

4.7 Another WATCH member felt that the evaluation study would be a check on what was going on now but would not yield much in relation to looking at the way forward for the future. He suggested that biological monitoring will be an increasingly used tool in exposure management and therefore there is a need to look for new opportunities where its use would be relevant. He felt that generic approaches for using biological monitoring were not appropriate, as there are many different factors to consider in contemplating the introduction of a biological monitoring strategy and these will differ from substance...
4.8 A WATCH member reflected that the survey will provide useful information on what is going on now, why biological monitoring is being done, how often, what is its purpose, and what is being done with the results, for example, how do they affect the use of exposure controls? This information can then be used in the context of deciding on the best approach to use in promoting the appropriate application of biological monitoring in the future.

4.9 A different WATCH member asked whether there was a conflict of interest in HSE’s HSL undertaking the first part of the survey, as this will include institutions that are potentially in competition with HSL to analyse biological monitoring samples? On a similar theme, a WATCH member asked how the survey could eliminate bias, as undertaking biological monitoring is voluntary and therefore those providing the most information in the survey are likely to already have a positive view of biological monitoring? It was suggested that an unbiased view may be obtained by examining the lead (Pb) industry (an option which is excluded in the paper). Biological monitoring is compulsory in this industry and therefore a more balanced opinion of its usefulness might be obtained. In this way one would also get a perspective on the contribution of legislation in enhancing the use of biological monitoring. Another WATCH member suggested it would be interesting to know how many of the 8000 samples HSL has analysed in recent times were for monitoring Pb exposures?

4.10 Members also felt that using a market research company alone is probably not the best way of carrying out such a scientific survey. HSE undertook to consider all of the above points in finalising the design of the survey.

4.11 Overall conclusions of the discussion

The Chairman summed up the discussion. Overall, WATCH agreed that the survey will be helpful and had made a number of good suggestions that could be incorporated into the final design. There was a concern that a market research company was not the most appropriate organisation to undertake the survey. Members were asked to contact Chris Williams with ideas for organisations that would be suitable to carry out this sort of survey.

4.12 In contacting Chris Williams, members could also add any further reflections on the conduct of the survey.

4.13 WATCH members were informed that HSE plans to have the survey completed and the results of both parts of the survey available by the end of 2005. A report of the outcome will be prepared for WATCH to consider at a WATCH meeting in 2006.

[ACTION: WATCH members to contact Chris Williams with ideas on which organisation would be best to carry out this sort of survey, organisations that could be questioned within the survey, and with any further comments on the conduct of the study; all such contributions were requested by the end of June 2005.]

5 The October Meeting (HSL, Buxton)

5.1 The Chairman briefed WATCH members on how the agenda was shaping up for the forthcoming two-day residential WATCH meeting in October, to be held at the Health and Safety Laboratory (HSL) in Buxton. The proposal is that the first day will comprise a tour of the HSL facility, followed by a substantial session in which WATCH will be expanded into a larger group to undertake a structured “horizon-scanning” exercise and an analysis and prioritisation of “new and emerging issues”. The remainder of the meeting would resemble a more typical WATCH meeting.

5.2 By way of background, the Chairman reminded WATCH that part of the remit for all Government Scientific Advisory Committees is to formally consider new and emerging issues (horizon-scanning). Within HSE, specialist groups have been asked to establish “Communities of Practice and Interest” (COPIs), by which HSE specialists should attempt to engage with a wider group of people outside HSE. One of the key functions of a COPI is to survey the relevant field and identify new and emerging issues. The Chairman suggested that the COPI concept and WATCH should be fused together to cover this responsibility. To do this effectively, it is envisaged that additional ad hoc experts will be invited to the relevant part of the October WATCH meeting. WATCH members were asked to send to the Secretariat any suggestions for additional ad hoc members to attend for the “COPI” aspect of the October WATCH meeting, on the first day. In addition any thoughts about items to discuss at the session and on how the session should be conducted would be welcomed.
5.3 WATCH members agreed with the proposed structure of the 2-day October meeting.

6 Matters Arising

6.1 Dr Gregg brought the Committee’s attention to a number of issues:

− As requested at the January meeting a paper on the "Meaning of Indicative" in the context of EU indicative occupational exposure limit values (WATCH/2005/9) has been circulated to members. No additional comments have been received. WATCH confirmed that it was now clear about the position.

− The “Role of WATCH” paper (WATCH/2005/1) has been modified and circulated to ACTS members for comment. The deadline for comments was 6th May 2005 and none had been received as yet.

[Note: subsequent to the WATCH meeting, it has now been confirmed that ACTS has endorsed the paper.]

− The paper on the general principles under which WATCH will address “New and Emerging Issues” (WATCH/2004/12) had been modified and circulated to members. No additional comments had been received. Nicola Gregg confirmed with WATCH that the paper was now agreed.

− Following the failure to agree a BMGV for isocyanates at the January WATCH meeting, key stakeholders met in the previous week in Buxton. At the meeting, it was generally accepted that biological monitoring has a role as part of a balanced risk management strategy for isocyanates. It was concluded that biological monitoring was needed for isocyanates because, particularly in the case of vehicle body sprayers, there are no other means by which to check the adequacy of exposure controls. The delegates felt that issues regarding the BMGV for isocyanates had been clarified as a result of the meeting and if the issue is discussed by WATCH again, there would be a better understanding of what the impact of setting a BMGV would be for the industry. HSE now needed to consider if and when a new paper relating to a BMGV for isocyanates would be presented to WATCH.

− It was noted that the first paragraph of Annex 5 (Methods of Resolving Conflict) of the Annual Report states:

"WATCH members are appointed on a personal basis, even when nominated by stakeholder groups. However, to avoid any public concern that commercial interests might affect the advice of WATCH, HSE has decided that the arrangements that govern relationships between members and the chemicals industry and information on significant and relevant interests should be on public record...."

It is noted that it is not just the chemicals industry and the wording will be amended to read “...industries involved in the manufacture, supply and/or use of chemicals...”

− Paragraph 28 of the Annual Report states:

“Following a NIOSH alert of outbreaks of severe lung disease in workers exposed to diacetyl in the food industry, a WATCH Member raised this as potential concern for the UK workplace. Having contacted various stakeholders, HSE was able to confirm that there was no evidence of diacetyl being used in the manufacture of popcorn in the UK.”

The Chairman commented that further information has now emerged. While there is still no evidence that diacetyl is used in the UK specifically in the manufacture of popcorn, it is now clear that diacetyl is commonly used in food manufacture more generally. HSE is now considering what is the appropriate course of action in seeking to establish the prevailing situation in the UK and its appropriateness. WATCH will receive an update from HSE as soon as possible.

7 Date of next meetings

7.1 The next meeting is October 5 & 6th in Buxton.

8 AOB
8.1  There were no items of AOB
The meeting closed at 15.30.