

Executive Summary of the Case, Critical Factual Evidence and Arguments Contained in the second Witness Statement of Georgina Downs

The following are some of the key points and evidence contained within the 149 page second Witness Statement produced by Georgina Downs in her Judicial Review legal action, *Georgina Downs v Secretary of State for Environment, Food and Rural Affairs*. This second Witness Statement set out the critical factual detail and arguments that provided the basis of Ms. Downs' legal challenge. (NB. Important information is also contained in the various footnotes below, as well as the main text of this summary).

NB. All 6 Witness Statements are now published for the first time on Georgina Downs' campaign website: www.pesticidescampaign.co.uk

Introduction

Pesticides are poisonous chemicals. They enter the air and environment as a result of their application to crops by spraying. Pesticides can, as the European Commission has previously clearly recognized, have various adverse effects on human health, including on the health of rural residents who are exposed to them. These effects may be acute (short-term) or chronic (long-term); and they can be systemic (eg. headaches, nausea, cancers etc.) or local (eg. skin or eye irritation, skin sensitization, irritation of the respiratory tract etc.) For many decades there have been reports of both acute adverse health effects, as well as chronic long-term illnesses and diseases (such as various cancers, leukaemia, non-Hodgkin's lymphoma, asthma, neurological conditions, including Parkinson's disease, amongst others) in rural communities where residents live near pesticide sprayed fields.

Georgina Downs' case and argument has always been that, in summary, the current UK policy and regulations (including current procedures for risk assessment) is flawed, because, in particular, there has never been any risk assessment whatsoever for residents living near sprayed fields, and that, because of UK Government *inaction*, there has been a fundamental failure to protect the health of people (particularly residents) in the countryside from pesticides.

European Directive 91/414 (and UK equivalent legislation) regarding the authorisation of pesticides requires that *before* pesticides are approved for use, risk assessments are meant to be undertaken to establish that there will be "*no harmful effect directly or indirectly*" on human health. This must apply to all the necessary exposure groups, including residents. (For example, a 2006 EC Press Release states, "*A directive of 1991 on the placing on the market of PPPs [plant protection products, ie. pesticides] seeks to prevent risks at source. It requires that a very comprehensive*

risk assessment is carried out for each active substance and for the products containing the substance, before they can be authorised for use.”¹⁾

The case and arguments set out in Georgina Downs’ second Witness Statement, were based on the Government’s very own documents, findings and statements, and showed that the Government has fundamentally failed to: 1) protect public health, particularly residents; 2) act on the evidence of the risk of harm, and further than that, 3) act on the evidence of harm that is occurring; 4) act on its *own findings* of exceedances of the safety limit set for exposure (the so-called Acceptable Operator Exposure Level (AOEL)), in some cases an *order of magnitude higher* (any exceedance of which, under the European Directive, is supposed to lead to authorizations being refused). All of which, as set out in Ms. Downs’ evidence, on the Government’s *own previously stated case*, would lead to immediate action of authorizations being refused (or trigger prohibition if already approved).

Evidence contained within Georgina Downs’ second Witness Statement includes the following:

Evidence and facts relating to the absence of any risk assessment for residents (see paras 2 to 63 [pages 3 to 64] of Ms. Downs’ second Witness Statement)

*There has never been *any* assessment of the risks to health for the long-term exposure for those who live, work or go to school near pesticide sprayed fields

*The current short-term “*bystander*” model used by the Government (which is the only method the Government uses to assess the risks to public health from crop-spraying)² is based on dermal and inhalation exposure from a single pass of a sprayer, based on a person 8 metres from the spray boom, for five minutes only, or even less, as a previous paper by the Government regulators the Pesticides Safety Directorate³ (PSD) in fact shows calculations based on just one minute’s exposure rather than five minutes’ exposure⁴ (see paras 7 and 8a of the second Witness Statement [**pages 6 to 7**]).

*The current “*bystander*” model takes account only of drifting spray droplets and excludes exposure to particles and vapours (see para 56(c) of the second Witness Statement [**pages 48 to 52**]):-

¹Source: <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/06/278&format=HTML&aged=0&language=EN&guiLanguage=en>

² This *bystander* risk assessment is merely a mathematical *predictive* model based on *estimates* and *assumptions* rather than the actual real-life exposures occurring.

³ Recently changed to the Chemicals Regulation Directorate (CRD), but referred to in this summary in most places as the PSD, as that was the name of the agency at the time the witness statements that are referred to in this summary were produced.

⁴ The exposure to spraydrift for five minutes (or less) from the spray cloud at the time of the application *only* from a single pass of the sprayer, is then calculated/assumed by DEFRA to be at that level, only for 5 minutes (or less) each day, over just a 3 month period (or less), see footnote 71 of the second Witness Statement [**page 43**]). Yet residents are repeatedly exposed from various exposure factors and routes to *mixtures* of pesticides and other chemicals, throughout every year, and in many cases for decades.

- This is despite the fact that the hazard associated with the inhalation of fine particles was recognised by the Government as far back as 1975, as a document entitled the *“Safe Use of Poisonous Chemicals on the Farm,”* published by DEFRA’s predecessor, (the Ministry of Agriculture, Fisheries and Food (MAFF)), stated that, *“Possibly the greatest hazard of all arises from the use of aerosols containing specified substances...The special risks involved are: (ii) the danger of inhaling the fine particles produced by the spray and the vapour of the substance,”* and it went on to advise, *“avoid inhaling aerosol particles of any pesticide.”* (See para 56(c)(ii) of the second Witness Statement [page 49]). Ms. Downs points out in para 56(c)(ii) of her second Witness Statement that *“This is obviously impossible in the kind of situation that myself and other rural residents are living in. Also considering these clear statements so long ago, (which show that the Government would have been well aware of the exposure to fine particles), then it is astonishing that the ongoing long-term exposure to particles and vapours for those living in the locality to sprayed fields, has not been incorporated into any risk assessment approach in relation to a residents specific exposure scenario (as obviously there is not (and never has been) any risk assessment for residents).”*
- The MAFF document also recognised the cumulative effects of pesticides as it warned that, *“The repeated use of pesticides, even in small quantities, can have cumulative effects which may not be noticed until a dangerous amount has been absorbed”* (see para 56(h) of the second Witness Statement [pages 56-58]). Ms. Downs points out in para 56(h) of her second Witness Statement that *“Again, considering this clear statement so long ago, (which shows that the [Government] would have been well aware of the cumulative effects of pesticides) then it is again astonishing that there is not (and never has been) any exposure or risk assessment for the ongoing long-term exposure to pesticides for those living in the locality to sprayed fields (as well as others exposed over the longer term, including young children attending schools near sprayed fields etc.)”*
- In relation to vapour, scientific evidence presented in the second Witness Statement points out that volatilization may represent a major dissipation pathway for pesticides applied to soils or crops, accounting for up to 90% of the application dose in some cases, and that volatilization may last for a period of several days to a few weeks (or sometimes even longer), and sometimes exhibits a diurnal cycle. (See para 56(c)(iii) of the second Witness Statement [page 50]).

*The current “bystander” model assumes a body weight of an adult weighing 60kg, which does not cover those of a lower bodyweight, eg. the bodyweight of a new-born baby (that could be present in a home or garden near to pesticide sprayed fields) might be something like one-twentieth of this amount at 3kg (and have a higher breathing rate and smaller airways) and so can have very significantly higher total exposure per kg bodyweight per day. Babies may spend significant amounts of time out of doors, in prams or (for older babies) playing on the ground in gardens. The evidence in the second Witness Statement shows that again astonishingly the

Government does not appear to have made any exposure estimates for babies. (See para 56(i) and (k) of the second Witness Statement [pages 58-61]).

*The *bystander* exposure assessment is predominantly based on exposure to only one *individual* pesticide at any time, which is a fundamentally flawed approach considering that agricultural pesticides are rarely used individually, but are commonly sprayed in mixtures (cocktails) – quite often a mixture will consist of 4 or 5 different products mixed together. Each product formulation in itself can contain a number of different active ingredients, as well as other chemicals, such as solvents, surfactants and other co-formulants (some of which can have adverse effects in their own right, even before considering any potential synergistic effects in a mixture(s)). The existing *bystander* model does not factor in the additional exposures which someone will receive if exposed to a mixture of pesticides at the same time. Various studies have shown that mixtures of pesticides (and/or other chemicals) can have synergistic effects.⁵ (See para 56(g) of the second Witness Statement [pages 54-56]).

*The former Chairman of the Government’s Advisory Committee on Pesticides (ACP), Professor David Coggon⁶, has also taken the position that exposure to mixtures is “*principally a concern for operators*” and “*not the exposure of members of the public*” – but the evidence in Ms. Downs’ second Witness Statement shows that this is completely unsupportable, as in a *realistic* residents exposure scenario, residents will be exposed to *mixtures* and combinations of pesticides over the long-term. (See para 56(g) and footnote 90 of the second Witness Statement [pages 54-56]).

*Paragraph 56 of Ms. Downs’ second Witness Statement [pages 43-61], details the exposure factors and routes that are not covered by the bystander risk assessment model, (but which would all be relevant for the exposure scenario of residents). These include:

- (i) exposure through oral ingestion and via the eyes;
- (ii) inhalation and dermal exposure outside the five minute time frame;
- (iii) exposure at less than eight metres from the sprayer;
- (iv) long-term exposure to pesticide particles, droplets and vapours in the air in the hours, days, weeks and months after application(s);

⁵ A few examples include: 1) a study published in “*Toxicology*,” in January 2002 entitled, “*Interactions between pesticides and components of pesticide formulations in an in vitro neurotoxicity test*,” by J.C. Axelrad, C.V. Howard, W.G. McLean; 2) a study published in March 2009 entitled, “*Parkinson’s Disease and Residential Exposure to Maneb and Paraquat From Agricultural Applications in the Central Valley of California*,” by Sadie Costello, Myles Cockburn, Jeff Bronstein, Xinbo Zhang, and Beate Ritz; 3) Frawley JP, Fuyat HN, Hagan EC, Blake JR, Fitzhugh OG., Marked potentiation in mammalian toxicity from simultaneous administration of two anticholinesterase compounds. *J Pharmacol Exp Ther.* 1957;121:96-106; 4) Olgun S, Gogal RM, Jr., Adeshina F, Choudhury H, Misra HP. Pesticide mixtures potentiate the toxicity in murine thymocytes. *Toxicology.* 2004;196:181-195. (NB. A number of other studies are referred to within Georgina Downs’ sixth Witness Statement in a section entitled “*Combined/synergistic effects, accumulative toxicity.*” The sixth Witness Statement was submitted after the Court of Appeal hearing in response to a Witness Statement submitted by DEFRA on the second day of the hearing).

⁶ Now the Chairman of another Government advisory committee, the Committee on Toxicity (COT).

- (v) exposure to pesticides in pollen, dust (including, but not limited to, harvest dust) and soil;
- (vi) exposure to pesticides transported from outdoor applications and redistributed into an indoor air environment;
- (vii) exposure to pesticides in precipitation or via reactivation;
- (viii) exposure to pesticides from long-range transportation, (as studies have shown pesticides found miles away from where they were originally applied, eg. see paras 72 to 80 of Ms. Downs' first Witness Statement [**pages 14-15**] for examples of such studies, including a Californian study that found pesticides located up to 3 miles away from the treated areas, and calculated health risks for rural residents and communities living within those distances);
- (ix) exposures to mixtures of pesticides (and other chemicals that may be in the formulation(s)) and any potential synergistic effects;
- (x) exposures due to previous or subsequent spraying events (on the same or different days), and cumulative effects;
- (xi) exposure of babies and children;
- (xii) exposure of other vulnerable groups including pregnant women, the elderly, those who are already ill or disabled, and those taking medication (and where any interactions or synergistic effects between pesticides and the medication must be taken into account);
- (xiii) multiple exposure scenarios (where one individual's exposure takes place not only at home but also elsewhere – eg. at school, playground, office, or other buildings situated near sprayed fields. These are all realistic long-term multiple exposure scenarios that have not been accounted for in the Government's existing approach, which is again astonishing. It is not uncommon for a child to live near sprayed fields *and* attend school near sprayed fields as well, which obviously increases the level of exposure to an even higher level. Children are particularly vulnerable to the effects of pesticide exposure because their bodies cannot efficiently detoxify chemicals, as their organs are still growing and developing. Also when children are exposed at such a young age they will obviously have a longer lifetime to develop long-term effects after any exposure).

***Therefore the Government's *bystander* model does not and cannot address residents who are repeatedly exposed, to a multitude of exposure factors and routes, to *mixtures* of pesticides and other chemicals, throughout every year, and in many cases, for decades. This means that there has never been *any* risk assessment of the specific pesticide exposure scenario for rural residents or others exposed over the longer term, (including young children attending schools near sprayed fields) as residents have a completely different exposure scenario compared to bystanders, as residents exposure is long-term, chronic and cumulative.**

*In January and July 2003, Paul Hamey from the PSD prepared two papers (that were submitted for the ACP's consideration at the January and July 2003 ACP meetings), that considered a *limited* number of additional exposure estimates other than that already relied upon (that is, the five minutes, at eight metres, spraydrift only model etc.) **Ms. Downs' second Witness Statement exposes for the first time in a detailed analysis (prepared specifically for the purposes of the legal proceedings) of the Government's very own figures and findings how the PSD papers themselves flatly contradict the Government's assertion that its bystander model protects residents.** For detailed analysis of the papers, see Ms. Downs' second Witness Statement at paras 12 to 36 [pages 10 to 35]. The following are some key points:-

The January 2003 PSD paper:

- (i) **Exposure at less than eight metres:** dermal exposure at one metre from the sprayer was found to be up to about eight times that expected at eight metres under the current model, and airborne levels were found to be similarly increased. PSD clearly acknowledged that "*closer to the sprayer bystanders may experience higher exposures than currently predicted*". Yet despite this, the bystander exposure assessment was not modified (see para 14 [page 11]);
- (ii) **24-hour air exposure (inhalation only):** the PSD paper acknowledged that "*Direct measurements of long-term bystander exposure, for example for a bystander living adjacent to a treated area, have not been made in the UK*" and that the "*current assessment approach considers both dermal contamination and potential inhalation exposure from the spray cloud at the time of application only*" even though "[*a*fter the spray cloud has passed there may potentially be further exposure to pesticide that volatilizes from the crop or soil surfaces." Both German and Californian data on 24-hour air levels (which is to vapour *only* and excludes exposure to droplets and particles in that time-frame) that were considered in the PSD paper produced estimated 24 hour exposures in excess of the Government's current estimated systemic exposure (from exposure at eight metres for five minutes). But again, no change was made to the current model (see para 15 [pages 12 to 14]);
- (iii) **Harvest dust (inhalation only):** estimates in the PSD paper of exposure by inhalation of harvest dust showed that in just six and a half minutes of breathing such dust, a person would experience exposure equal to the current maximum daily 24-hour exposure estimate (on the five minutes (or less) at eight metres model). Someone breathing such dust for one hour would suffer exposure almost ten times that of the *maximum daily exposure* in the current *bystander* model. Yet DEFRA did not alter its exposure model, nor did it give any further consideration to this specific exposure factor subsequently (see para 16 [pages 14 to 16]);
- (iv) **Exposure of children following drift into gardens:** the PSD paper estimated the systemic absorption (from dermal and oral exposure (excluding inhalation)) of a toddler (weighing 14.5kg) playing for two hours on surfaces adjacent to sprayed fields to be about sixty nine times higher than the estimated systemic exposure using the current bystander assessment model (ie. from exposure to spraydrift for 5 minutes from the single pass of the sprayer at 8 metres). But once again, despite this significant finding, of toddlers exposure from playing on surfaces adjacent to sprayed fields over just that *limited* two hour period *only* (and for oral

and dermal absorption only, not inhalation), DEFRA did not make any change to its *bystander* model (see para 17 [page 16]).

The July 2003 PSD paper:

- (i) **Exposure at one metre:** the PSD paper⁷ (despite unwarrantedly discounting potential inhalation exposure⁸) showed estimates of *bystander* exposure at one metre from the sprayer which exceeded the safety limits set for exposure (the AOEL⁹), sometimes by many times over at an *order of magnitude higher*. See Ms. Downs' second Witness Statement, para 20, examples (a) to (j) [pages 17-23]. Yet again, despite this very significant finding, DEFRA failed to modify its bystander assessment, seemingly on the unevidenced and insupportable assertion from a representative of the PSD, Paul Hamey, that "*bystanders are unlikely to stand much closer than 8 metres*" (and that "*any person closer would be more likely to have some involvement in the pesticide application, and therefore be wearing at least overalls*"). The reality is very different, as evidence before the court, including visual materials, showed that pesticides can be sprayed (on a regular basis) only inches away from a house, open window or from a person standing in their own garden, (or a child in a school playground etc.) The Government is well aware of this, as footnote 74 of Ms. Downs' second Witness Statement [page 46] highlights a case reported in the Government's very own monitoring system where a sprayer was within one and a half metres of the boundary of a resident's property. Ms. Downs points out in para 21 of her second Witness Statement [pages 21-23] that, "*If a house or its garden, (or a school or office), is situated less than eight metres from where the sprayer passes, (and in some cases less than even a metre away) then a resident may be exposed at this distance at any time when spraying occurs. Also the spray can enter an open window or airvent and contaminate the inside of the house etc. Clearly a house (or children's school or other building) cannot be moved from its position... Therefore to reiterate the situation of people being a metre or less away from a sprayer is the reality for many people living near sprayed fields, (who of course will not be involved in the pesticide application, and will not be wearing any protective equipment/clothing or "overalls").*" **Very importantly, there were also a number of examples in the July 2003 PSD paper of**

⁷ It should be noted that the PSD paper estimated exposure for a *limited* number of pesticides, but not for all pesticides authorized for use in the UK at that time (and nor has this been done subsequently). See eg. Ms. Downs' second Witness Statement at para 18 [pages 16-17].

⁸ The paper adjusted the potential dermal exposure at one metre (compared with that at eight metres) but did not adjust the potential inhalation exposure, despite the January 2003 PSD papers' finding that at low wind speeds, inhalation exposure was five times higher at one metre than at five metres.

⁹ This is the Acceptable *Operator* Exposure Level (AOEL), which is an exposure limit defined in Annex VI of the EC Directive as "*the maximum amount of active substance to which the operator may be exposed without any adverse health effects*". Any exceedance of the AOEL is supposed to lead to immediate action of authorizations being refused (or trigger prohibition if already approved). The AOEL is expressed as milligrams of the chemical per kilogram body weight of the *operator*. Therefore as argued in Ms. Downs' second Witness Statement, the AOEL is predominantly related to *operators* and as such has *limited* relevance in relation to residents and bystanders (or other non-occupational exposures), as an AOEL can often include use of personal protective equipment (PPE) to bring it down to an acceptable level, which residents and bystanders obviously will not be expected to be wearing while going about their business in their own homes, gardens and elsewhere.

high exceedances of the AOEL at *eight metres* from the sprayer (ie. under the current bystander exposure assessment). An example of this is in relation to the orchard spraying of Dithianon (in Dithianon Flowable) where exposure at 8 metres exceeded the AOEL up to thirty-one and a half times over. It is important to note that the January 2003 PSD paper found that based on drift fallout data from applications in orchards that the drift deposit at 3 metres (the closest distance at which measurements were taken) was “*about 3 times that expected at 8 metres.*” Therefore as Ms. Downs points out in para 20(e) of her second Witness Statement that if going by that finding then the exceedance of the AOEL for Dithianon of up to thirty-one and a half times over (at 3155% of the AOEL), if multiplied by 3 (to give an estimate for exposure at 3 metres) would be almost 95 times above the AOEL. This exceedance could be increased further still if the exposure was at 1 metre away. Yet any exceedance of the AOEL (even just by 1 time over) is supposed to lead to authorizations being refused, or trigger prohibition if already approved. Products containing Dithianon remain approved for use in the UK, including Dithianon Flowable. See Ms. Downs’ second Witness Statement, para 20(e) [pages 18-20].

- (ii) **24-hour inhalation exposure (excluding other routes such as dermal, oral and eyes):** PSD’s calculations showed examples of cases where the 24-hour inhalation exposure *alone* (ie. ignoring all other exposure sources) substantially exceeded the AOEL, either in children or in both adults and children, with exposures for children of up to more than 27 times above the AOEL and even for adults more than twelve and a half times above the AOEL.¹⁰ See the second Witness Statement at paras 22 to 23 [pages 23 to 25].
- (iii) **Children’s dermal and hand-to-mouth and object-to-mouth exposure:** the PSD estimated through these routes *alone*, that are said to be estimated based on a toddler weighing 15kg playing on grass for two hours following drift into gardens (and that excluded inhalation altogether) were found to exceed the AOEL by up to about four and a half times. See the second Witness Statement at para 24 [page 25]. When questioned in 2005 about the cases in the July 2003 PSD paper where exposures for children exceeded the AOEL, a Department of Health (DH) representative stated, “*We would not simply accept an AOEL being exceeded twice in children.*” Despite this, (and despite the fact that there were cases where the exposure for children was estimated to exceed the AOEL many more times than two, (eg. child 24 hour inhalation where the exceedance was more than 27 times the AOEL) the Government has made no adjustment to its current

¹⁰ There are also a number of examples of cases where the 24-hour inhalation exposure (which is to vapour *only* and excludes exposure to droplets and particles in that time-frame) was estimated, by itself, to be very near the AOEL in children (as much as 92% of AOEL) so that there would be a very serious risk of exceeding the AOEL once other exposure factors were taken into account and included in the exposure calculations, and again in some cases the AOEL exceedances could be many times over.

model for bystander exposure (five minutes at eight metres from the sprayer for an adult weighing 60 kg).

- (iv) **Combination of exposure estimates:** it is important to note that the AOEL exceedances were based on each exposure factor *individually*, as the PSD wrongly calculates each factor in *isolation* and has failed to ever calculate exposure factors together in the exposure calculations, (which is obviously essential to do in relation to the overall exposure scenario in totality for residents). As set out in Ms. Downs' second Witness Statement at para 25 [pages 25-26], "*the estimates given in the July 2003 PSD paper show that when combining a number of the exposure factors together, the AOEL for a number of pesticides would be greatly exceeded for children (and even adults)*". Despite this, the PSD continues to knowingly fail to calculate exposure factors together.

Outcome of the July 2003 PSD paper: Ms. Downs' second Witness Statement exposes for the first time that the analysis in the July 2003 PSD paper clearly showed that when the PSD did undertake estimates for just a *limited* number of other exposure factors, (that are not currently included in the risk assessment for bystanders), it found 82 examples of exceedances of the AOEL,¹¹ in some cases *an order of magnitude higher, when any exceedance under the EC Directive*¹², should have triggered a ban/prohibition. Yet despite the results obtained, astonishingly the stated conclusion of the PSD paper was that, "*For products applied as sprays, these examples demonstrate that the current approach is protective of longer-term bystander exposure*". Therefore no action was taken to revoke approvals of the pesticides that were shown in the PSD's very own estimates to exceed the AOEL¹³ (despite the requirements of the European Directive, and despite the recognition in the Government's very own case that any exceedance of the AOEL would trigger prohibition). No further estimates were carried out on all the other pesticides approved for use at that time, and nor has this been done subsequently; and no change was made to the bystander assessment model. **Further still, evidence in Ms. Downs' second Witness Statement shows that it seems that Ministers were not even informed of these very serious AOEL exceedances (in some cases by 20*

¹¹ Involving 15 pesticide products. The second Witness Statement shows the breakdown for this consists of:- 40 examples where the AOEL was exceeded at 1 metre and/or in some cases at 8 metres (ie. under the current exposure assessment) – see para 20 [pages 17-23]; 25 examples where the AOEL was exceeded for 24 hour inhalation (to vapour only) – see paras 22 and 23 [pages 23-25]; and 17 examples where the AOEL was exceeded for hand-to-mouth-object-to-mouth exposure – see para 24 and footnote 39 [page 25]. Also see para 31 on page 15 of Ms. Downs' third Witness Statement that refers to this as well.

¹² The Directive clearly specifies that the AOEL must not be exceeded, if it is, then authorizations must be refused, and if the AOEL exceedance is discovered *after* approval, it must trigger prohibition/revocation.

¹³ The PSD has continued to insist that exposure to *bystanders* under the current system is less than the AOEL, eg. in the transcript of the oral evidence session given by the PSD, on the 4th November 2004, (and thus after the July 2003 PSD paper) to the RCEP during the RCEP's crop spraying inquiry, Kerr Wilson, Chief Executive of PSD stated, "*So in the case of the bystander the exposure is much less than the AOEL.*" This clearly was not the case for some of the *limited* number of pesticides assessed in the July 2003 PSD paper where it was estimated that the AOEL would be exceeded and in some cases many times over.

or 30 times).¹⁴ See the second Witness Statement at paras 27 to 30 [pages 26 to 29] and paras 33 to 36 [pages 32 to 35].

*It is clear from the EC Directive requirements that the AOEL must not be exceeded at all. In an ECJ case, *Sweden v Commission*, one of the reasons for Paraquat being withdrawn was that evidence showed that the AOEL was exceeded for operators at 118% (1.18 times above the AOEL), which the ECJ ruled was not in line with the strict requirement of the Directive for the protection of *operators* health. Many of the examples in the PSD paper regarding exposure for residents and bystanders were of a far higher exceedance of the AOEL. See the second Witness Statement at paras 20 to 25 including related footnotes [pages 17 to 26].

***The PSD's estimated exceedances of the AOEL clearly demonstrate that previous calculations and estimates in the current *bystander* approach were wrong and that products have been in use in the UK which have led to bystanders and residents being exposed to levels greatly in excess of the AOEL, on a regular basis, year after year. Therefore the estimates in the July 2003 PSD paper completely undermines the exposure and risk assessment approach that the Government has continued to stand by, as it is clear that these pesticides were approved on the basis of a fundamentally flawed risk assessment.**

***Further still, the evidence in Ms. Downs' second Witness Statement clearly shows that based on its *own figures* the Government knew full well that exposure for residents would be higher when considering other exposure factors and routes, but Ministers, officials and Government advisors merely continued to publicly state that the current system was "*robust*" and provided "*adequate protection*" and took no action at all to change its approach.**

Conclusion (regarding the absence of any risk assessment for residents)

As is clear from what is set out in Ms. Downs' second (and third) Witness Statements, the current assessment model for *bystanders* is inadequate to assess even the exposure of such bystanders, and fails entirely to address the exposure of residents, as the overall exposure a resident receives cannot possibly be calculated if some of the exposure factors are ignored in the exposure calculations, which they currently are. See the second Witness Statement at para 53 [page 42].

¹⁴ For example, in PSD's advice to Ministers, dated 24th March 2004, following the 2003 DEFRA Consultation on no-spray zones, in referring to the estimates of 24 hour air inhalation exposure in the July 2003 PSD paper, the PSD stated, "*Exposure assessments for a large number of pesticides using the worst case Californian value as surrogate data are within the AOELs in all but a very few cases...The ACP reviewed these assessments before they confirmed that the risk assessments applied are robust.*" This failed to inform Ministers not only of the details regarding the exceedances of the AOEL for 24-hour inhalation exposure, but also the exceedances of the AOEL for children playing in the fallout area; in estimates of exposure at one metre, and even in some estimates relating to the current bystander model of 5 minutes exposure at 8 metres, (any of which of course could be in relation to either adults, or babies, children or other vulnerable groups).

The fact that there has never been *any* assessment of the risks to health for the long-term exposure for those who live, work, or go to school near pesticide sprayed fields, is an absolute scandal considering that crop-spraying has been a predominant feature of agriculture for over 50 years. The absence of any risk assessment means that pesticides should never have been approved for use in the first place for spraying near homes, schools, children’s playgrounds and other public areas. Farmers cannot control pesticides once they are airborne (either at the time of application or subsequently) and so the exposure that rural residents and others receive is as a result of the *permitted* use of pesticides. Therefore as exposure for residents cannot be controlled, then it must be prevented altogether by changes to existing policies to focus on eliminating exposure. As the Government’s own advisors, the ACP, have themselves previously said, “*If we thought that current margins of safety for a pesticide gave insufficient protection to neighbours, we would recommend that the use be banned rather than relying on a buffer zone to reduce exposures*”. See the second Witness Statement at para 62 [page 64].

Therefore the most important action that must be taken is to prevent exposure for residents and communities by banning crop-spraying near homes, schools, children’s playgrounds and other public areas. Considering studies have shown that pesticides can travel in the air for miles then the distance of the no-spray area would need to be substantial.

Evidence and facts relating to the adverse effects on residents’ health (see paras 64 to 152 [pages 65 to 112] of Ms. Downs’ second Witness Statement) – The Government has knowingly allowed adverse health effects to occur in residents and others exposed to pesticides, has wrongly accepted the adverse effects as not being “*serious*,” and has fundamentally misled and misinformed the public over the safety of pesticides

*For years the Government, the ACP and PSD, have continuously insisted that pesticides are “*safe*”; that there is “*no health risk*” from crop-spraying in residents’ locality, and that this is merely a “*social*” issue or one of public “*perception*”; and even that those reporting adverse effects are merely *imagining* them. For example: 1) in the accompanying press release at the launch of the 2 DEFRA Consultations’ on crop-spraying in 2003, the then Minister, Alun Michael stated that, “*All the scientific evidence available to us suggests that there is no risk posed to people in the countryside from pesticide spray drift,¹⁵ which is assessed as an integral part of the pesticides approval process*”; 2) More recently, in June 2007, in a briefing to MEPs on the European proposal for a Thematic Strategy on pesticides, the PSD stated that the “*...authorised use in public spaces does not present a risk to human health*”; 3) In its original advice following the 2002 ACP Open Meeting the ACP stated, “*the Committee recognises that many may consider it socially unacceptable to spray right to the boundary of a neighbour’s property*”; and 4) on BBC Radio 4’s Farming Today broadcast on 3rd May 2003 in relation to pesticide spraying near homes, schools etc. then chairman of the ACP, Professor Coggon stated that, “*...its not really a scientific*

¹⁵ Obviously this statement only refers to spraydrift, and not all the exposure factors relevant for residents and others in the countryside, as there is no risk assessment for a residents specific exposure scenario, see above.

matter, it's a social matter." (See para 82 and footnotes 122 to 124 of the second Witness Statement [pages 75 to 76]).

***Yet official reports obtained by Ms. Downs for the purposes of her legal case and that do not appear to have ever been released previously to anyone outside of Government departments, officials, and advisors, shows that the Government has continued to issue grossly inaccurate information and mislead residents and the wider public about the safety of pesticides, as the reports show that the Government has knowingly allowed residents to continue to suffer from adverse health effects, year in year out, without taking any action to protect public health.** (See paras 80 to 93 of Ms. Downs' second Witness Statement [pages 74 to 82]).

*The aforementioned reports entitled the *Field Operations Directorate* reports ("FOD Reports"), produced by HSE, are part of the Government's own monitoring system and confirm that the majority of people involved in reported incidents each year continue to be members of the public rather than operators, with most reports coming from residents. (This is not surprising considering workers generally have protection and residents do not). The Government's monitoring system has been widely recognized to give rise to a substantial degree of under reporting for a number of reasons and therefore the number of reports is underestimated and does not in any way represent the full extent of ill-health related to pesticides. (See paras 83 to 84 of Ms. Downs' second Witness Statement [pages 76 to 78]).

*The acute adverse health effects¹⁶ that are recorded throughout each FOD report include rashes, sore throats, burning eyes, nose, blistering, headaches, nausea, stomach pains, burnt vocal chords, flu-type illnesses, aching joints, amongst other effects. These are the same acute effects that are regularly reported to Ms. Downs by rural residents from all over the country. The Government has continued to *wrongly* accept such effects as not being *serious*. Ms. Downs has continued to argue that it is unlawful for the Government to have added in a *qualification* to the standard of the European Directive which requires that pesticides are not approved for use until it has been established that there will be "*no harmful effect*" on human health *at all*. (See paras 73 to 101 of Ms. Downs' second Witness Statement [pages 70 to 87]).

The FOD reports include cases where hospital treatment had been required. For example (as can be seen at para 80(v) and footnote 144 of the second statement on pages 74; 81):

- (i) in the FOD report for the year 2000/2001 a case classified as "*likely*," stated, "*Complainant alleged she was over sprayed with pesticides whilst*

¹⁶ Acute effects are immediate effects that are usually short-term, but that can be mild, moderate or severe effects. Also acute effects can lead to permanent effects, as recognised in the 1990 British Medical Association report (*Guide to Pesticides, Chemicals and Health*, BMA (Edward Arnold) 1990, 1992), that stated that, "*Acute reactions usually occur while the chemical is being used or shortly afterwards. Most acute reactions last only a short time, without long-term complications. However, a few people may suffer permanent damage of some kind.*" None of the cases in the Government's monitoring system are ever followed up to see if the acute effects have resulted in permanent long-term effects, illness or disease.

in her garden. Complainant immediately experienced itching and stinging. Complainant attended her local accident and emergency";

- (ii) another case for the year 2000/2001 stated, "*Complainant alleged spray from spraying operations in an adjacent field drifted onto his property. Within one hour he was experiencing a painful throat, difficulty swallowing, chest discomfort and redness to exposed skin. Complainant was admitted to hospital overnight for observation*";
- (iii) a case classified as "*confirmed,*" in the FOD report for the year 2001/2002 stated, "*Complainant alleged she was over sprayed as she walked past a farm. Suffered from sore eyes and had to attend hospital*";
- (iv) a case in the FOD report for the year 2003/2004 stated, "*Complainant alleged his wife was riding her horse on the public highway when pesticide drift from a nursery made contact with her skin and eyes causing an adverse reaction. Eyes became irritated requiring hospital treatment, diagnosed with chemical burns, requiring further treatment by GP*";
- (v) a case in the FOD report for the year 2004/2005 stated, "*Complainant alleged that farmer had been spraying crops. Inhaled spray and suffered burns to the mouth requiring medical treatment at Hospital.*"

*As Ms. Downs points out in paras 91 and 92 of her second Witness Statement [**page 81**], considering the cases that are detailed in the HSE's FOD reports are submitted to the ACP for consideration, then it contradicts the statement that Professor Coggon, (who was the Chairman of the ACP from 2000 – 2005), made in his article in the April 2006 edition of "*Outlooks on Pest Management*" where he stated, "*...poisoning by spray drift rarely occurs, and seldom if ever is of sufficient severity to warrant hospital admission.*" **Cases detailed in the FOD reports show that Professor Coggon's statements were simply not correct.**

*As Ms. Downs points out in her second Witness Statement, the Government cannot try and excuse adverse effects away by saying that they only occur when pesticides are not used according to the approval, as in a PSD briefing to UK MEPs on the European Parliament's Environment Committee in May 2007, the PSD stated that "***There is no evidence that users are not applying such products in accordance with the approved conditions of use***" and therefore any adverse effects are as a result of approved use. See para 118 of Ms. Downs' second Witness Statement [**page 96**].

***The fact that the FOD reports are not published¹⁷ means that members of the public, including residents, who have reported adverse health effects from pesticide exposure, will not have been able to see that many similar reports have been made and recorded year in year out. This is scandalous, as the FOD reports show that the Government, the ACP and PSD, have continued to completely mislead and misinform residents over the safety of crop-spraying. Further evidence of this can be seen in paras 149 to 150 of Ms. Downs second Witness Statements [**pages 110 to 111**] that details a number of public statements made**

¹⁷ As they are only produced by HSE for the sole purpose of submitting to the ACP for consideration, in relation to each year they are related to.

by the then DEFRA Minister for Food and Farming, Lord Rooker, in July 2006, including that:-

- “We don’t have any direct evidence that people are ill because of pesticides.”¹⁸
- “If there is scientific and medical evidence that pesticides are damaging bystanders and there isn’t any...”¹⁹
- “...there is no scientific or medical evidence that it causes any problem to bystanders. If it was the case they wouldn’t be allowed to spray the pesticide.”²⁰
- “It would not be given approval if it either damaged the crop, the food, bystanders, farmers who live in the countryside as well as others who live alongside farms.”²¹
- “We haven’t got any evidence by the way that there is a direct connection between anybody’s illness in the countryside and pesticides.”²²

The evidence in the Government’s very own monitoring system shows that none of the former Minister’s statements were correct in light of the solid evidence of harm that existed.

*Also critically, by the Government allowing acute effects to be considered *acceptable*, the Government is then *also* allowing the risk of chronic effects,²³ illnesses and diseases, because the risk of chronic effects developing can *increase* when acute effects repeatedly occur as a result of long-term cumulative exposures.²⁴ This has been recognised by the European Commission in important statements that clearly acknowledged that those who are regularly or repeatedly exposed to pesticides, including those living in the locality to sprayed fields, can lead to a number of chronic effects, illnesses or diseases: (see paras 1 and 86 of Ms. Downs’ second Witness Statement [pages 2 to 3 and 79 to 80]). For example, the European Commission has clearly stated that:

¹⁸ Source: BBC News 24 broadcast on 20th July 2006

¹⁹ Source: BBC Radio 4’s PM Programme broadcast on 20th July 2006

²⁰ Source: BBC Radio 4’s Farming Today broadcast on 21st July 2006

²¹ Source: BBC Radio 4’s Farming Today broadcast on 21st July 2006

²² Source: BBC Radio 4’s Farming Today broadcast on 21st July 2006

²³ Chronic effects are long-term effects, illnesses or diseases. Cornell University’s teaching module “*Toxicity of Pesticides*” states, “**Pesticides can: cause deformities in unborn offspring (teratogenic effects), cause cancer (carcinogenic effects), cause mutations (mutagenic effects), poison the nervous system (neurotoxicity), or block the natural defenses of the immune system (immunotoxicity).**” Chronic effects can include irreversible permanent effects. Cornell University’s teaching module “*Toxicity of Pesticides*” states, “**Irreversible effects are permanent and cannot be changed once they have occurred. Injury to the nervous system is usually irreversible since its cells cannot divide and be replaced. Irreversible effects include birth defects, mutations, and cancer.**”

²⁴ Although of course chronic effects can develop even from just one exposure to pesticides, see earlier footnote 16.

“Long term exposure to pesticides can lead to serious disturbances to the immune system, sexual disorders, cancers, sterility, birth defects, damage to the nervous system and genetic damage.”

“There are various sources for continuous exposure, like the consumption of polluted water, pesticide residues in food, regular application of PPP over many years, or residential proximity to it and consequently direct exposure via air. People regularly or repeatedly exposed to or working with pesticides, may have a higher risk of incidence of cancer or other chronic diseases, birth defects, cancer in offspring, stillbirths and reproductive problems, skin rashes and disorders, disturbed enzyme and nervous system.”

*The most common chronic long-term illnesses and diseases reported to Ms. Downs by rural residents include various cancers, leukaemia, non-Hodgkin’s lymphoma, neurological conditions, including Parkinson’s disease, ME, asthma and many other medical conditions. Reports of this nature have gone on for decades.

*As pointed out in para 85 of Ms. Downs’ second Witness Statement [**pages 78 and 79**], the Government’s monitoring system generally only considers the *acute* effects of *individual* pesticides and does not, therefore, deal with either (a) chronic ill-health effects or (b) the effects of mixtures of pesticides. Therefore there is no specific monitoring or collection of data on chronic effects, a situation which has previously been criticized in reports such as the Select Committee on Agriculture report in 1987;²⁵ the British Medical Association (BMA) report in 1990;²⁶ and more recently the Royal Commission on Environmental Pollution (RCEP) report in 2005.²⁷

*In the absence of any investigation into the chronic adverse effects reported by residents, then the Government *cannot* say that there is no association between the various chronic effects, illnesses and diseases reported by residents and pesticide exposure, as the Government has no evidence to support that assertion.

*As set out in Ms. Downs’ second Witness Statement at paras 127 to 152 [**pages 100 to 112**], the following are some specific examples of the Government’s repeated *inaction* when faced with, as shown in its own monitoring system, evidence of actual harm (as well as the risk of harm) to human health as a result of pesticide exposure:

- (i) the failure to act on, (or even review), reported cases of irritancy; nor the reported cases of *systemic* or other acute effects, (including cases involving symptoms serious enough to warrant hospital treatment) see paras 127 to 152 of the second Witness Statement [**pages 100 to 112**];
- (ii) the failure to investigate the stated ill health effects in relation to *any* particular pesticide or class of pesticides (or a combination of pesticides), see para 137 of the second Witness Statement [**pages 103 to 104**];
- (iii) the failure to act on, review, (or even monitor or collect data on), reported cases of chronic effects, particularly in residents;

²⁵ Agriculture Committee of the House of Commons, *The Effects of Pesticides on Human Health*, Second Special Report, Session 1986-87, London: HMSO 1987.

²⁶ *The BMA Guide to Pesticides, Chemicals and Health*, BMA (Edward Arnold) 1990, 1992.

²⁷ *Crop Spraying and the Health of Residents and Bystanders*, September 2005.

- (iv) the failure to follow up on cases recorded by HSE's Pesticide Incidents Appraisal Panel (PIAP) as '*insufficient information*'. In any event, no progress can be made on these cases in the absence of a binding requirement on farmers to provide information to the public as to the pesticides sprayed, (see paras 133 to 134 of the second Witness Statement **[page 102]**);
- (v) the failure to act over prior notification cases (as detailed in the Pesticide Incidents and FOD reports), and again, no progress can be made on these cases in the absence of a binding requirement on farmers to provide prior notification to residents as to the pesticides sprayed, (see para 135 of the second Witness Statement **[page 103]**);
- (vi) the lack of feedback from the ACP to HSE's Agriculture and Food Sector in relation to the Pesticide Incidents and FOD reports, (see para 136 of the second Witness Statement **[page 103]**);
- (vii) the lack of information regarding the end classification of cases recorded by PIAP as '*pending*', thus resulting in no means of cross-referencing back to the original incident, (see para 138 of the second statement **[pages 104 to 105]**);
- (viii) the failure to act on (or even follow up) the ill-health incidents reported to the PSD's Approval Holders (the pesticide manufacturers). For example, a summary paper prepared by PSD in 2004 and presented to the ACP for consideration regarding the adverse incident results for 2002, assessed 76 (of the 137) incidents reported by manufacturers as meriting further investigation. The PSD summary paper stated that "*PSD will now be writing to the companies whose products were involved in each of the 76 incidents, to request further information in order to determine what if any action is necessary.*" Yet para 139 of Ms. Downs' second Witness Statement points out that when Ms. Downs asked a representative at PSD what the outcome of this was, "*I was told that PSD did not in fact write to the companies or otherwise follow up on any of these incidents so therefore the PSD did not actually do anything to determine what action was necessary.*" See paras 108, 139 and 140 of Ms. Downs' second Witness Statement **[pages 105 to 106]**;
- (ix) the failure to act on published studies regarding ill-health effects – this applies to studies relating to both acute and chronic effects. In relation to the latter, DEFRA, the PSD and the ACP have on many occasions had their attention drawn to studies finding associations between pesticides and chronic illnesses and diseases, including various forms of cancer, (such as prostate cancer, leukaemia, and childhood cancers), Parkinson's Disease, amongst others. Yet time and time again the conclusion has been that these demonstrate '*no need for any regulatory action*', or '*no need for immediate regulatory action.*'

*Paras 141 to 144 of Ms. Downs second Witness Statement **[pages 106 to 110]** detailed another example of the ACP's inaction, that was specifically in relation to pesticide spraying near schools. In 2005, Ms. Downs had drawn the ACP's attention to a study published in the Journal of the American Medical Association ("JAMA"),

which concluded that exposure to pesticides at schools produces acute illnesses²⁸ among children and school employees, including from pesticides sprayed on farmland near schools.²⁹ The acute effects included irritant effects to the eyes, skin, and respiratory tract, nausea, vomiting, headaches, dizziness, amongst others, which are all the same types of effects that can be seen reported by members of the public each year in the Government's own FOD reports (as well as in the manufacturers adverse incident survey reports). The FOD reports include a number of reports of adverse effects in children from crop spraying around schools in the UK. For example, (as can be seen in footnotes 38, 206 and 209 of the second Witness Statement on pages 22, 107 and 108):

- (i) in the FOD report for the year 2000/2001 one reported case stated, *"Complainant alleged twenty people, mainly school children, complained of nausea and headaches the day after an adjacent field was sprayed. Three of the children suffered vomiting"*;
- (ii) in the 2002/03 FOD report a reported case stated, *"Complainant alleged neighbouring farmer had sprayed his crop in field next to playground during lunchtime whilst children were outside. Several children suffered from headaches and were subsequently sent home. Some of the children complained of feeling nauseous and that the skin around their eyes was sensitive and sore"*;
- (iii) in the 2004/05 FOD report a reported case stated, *"Complainant alleged that children had suffered from sore throats when spray drifted into the classroom through an open window"*;
- (iv) other reported concerns highlighted in the FOD reports regarding crop spraying near schools include, in the 2002/2003 FOD report, *"Complainant concerned that pesticides were being sprayed on fields beside a primary school. Parents worried about any possible risks to health"*; and in the 2004/2005 FOD report it details another school incident by stating, *"Complainant alleged that spraying had been carried out in a field next to a school. Pupil's had complained of a very strong smell. No visible spray drift, but teachers could taste spray in mouth"*;
- (v) in the 2002 manufacturers adverse incident survey results, one reported incident stated, *"Farmer had been spraying a field next to a primary school with a mixture of products according to approval conditions. Weather conditions good and only a light wind. Farmer spraying over 100m (mostly 300-400m away) from school. Several children had detected a chemical solvent smell and two had been sick."*

²⁸ The study was solely related to acute effects and did not include chronic effects, as the authors pointed out in the report that the surveillance methods used were inadequate for assessing chronic effects.

²⁹ *"Acute Illnesses Associated with Pesticide Exposure at Schools,"* Alarcon *et al*, 2005. The study was supported by the US Government through the US Environmental Protection Agency and the Centers for Disease Control and Prevention (which employed two of the authors of the study).

*Also ACP members had previously received the video evidence produced by Ms. Downs entitled, "*Pesticide Exposures for People in Agricultural Areas*," which featured just a few examples of some of the reports Ms. Downs has received from residents all across the country. The video included two schools that were immediately adjoining sprayed fields, and where the sprayer could come within a few feet of the school children. Reports of ill-health effects suffered by children following pesticide spraying on the surrounding fields included, skin rashes, eye irritation, sore throats, nausea, vomiting and flu-type illnesses, amongst other things. Also as said earlier, repeated acute effects of this sort for those repeatedly exposed, such as for children attending schools near sprayed fields, could lead to cumulative effects resulting in chronic long-term illnesses and diseases.

However, as Ms. Downs' second Witness Statement details in paras 141 and 144 [pages 106 to 110], despite all this information regarding crop-spraying on fields around schools and reports of adverse health effects in children, when ACP members' considered the relevance of the findings of the JAMA schools study to risk management for pesticides in the UK they concluded that, "...in schools in the UK, pesticides were most likely to be used in kitchens and on playing fields,*" as opposed to agricultural crop fields around those areas. Ms. Downs points out in her second Witness Statement that the ACP's dismissal of the study in just a few sentences was of the utmost complacency, as the ACP would have been well aware of the fact that many rural schools in the UK are located near farmland and that there were reports of adverse health effects detailed in the FOD reports (as well as in the manufacturers adverse incident survey reports). Yet ACP members did not initiate any steps for action to be taken (or even any investigation) in relation to the health risks and associated adverse health effects for schoolchildren in this country.

Conclusion regarding the adverse effects on residents' health

Ms. Downs has continued to argue throughout her campaign and legal case that there has been (and continues to be) an inherent fundamental failure at all levels to protect rural residents and communities from exposure to pesticides. The principle aim of pesticide policy and legislation is supposed to be based on the risk of harm and not that harm has to have already occurred. Therefore the Government should not be exposing people to any risks. Thus, Ms. Downs' case has always been centred on the fact that people are not supposed to be put at risk of suffering *any* harm, (whether it be acute or chronic effects), from exposure to pesticides.

The Government itself is well aware of this fact, as Ms. Downs pointed out in her Witness Statements that the Government has consistently paraded the virtue that if any risk to human health were identified, then there would be rapid action to prevent the authorization and use of pesticides. Some of the previous statements that have been made by, or on behalf of the Government, regarding the action that would be taken if there is a risk to human health are:-

a) In the detailed record for the ACP meeting held on 10th April 2003, then Chairman Professor Coggon stated, "*If there were a documented risk to humans the use simply would not be approved*" (see footnote 288 of the second Witness Statement [page 143]);

b) On BBC Radio 4's Farming Today on 27th February 2003 then member of the ACP, Professor Robert Smith stated, "*If we believed based on the evidence that there was a risk to health then there would be very rapid action*" (see footnote 288 of the second Witness Statement [page 143]);

c) In oral evidence to an EFRA inquiry in 2005, Professor Coggon stated, "*We already apply a very precautionary approach in the regulation of pesticides... We do not wait until there is evidence of an adverse effect before we react to restrict the use of a pesticide; the reverse is true. There has to be positive evidence that there will not be adverse effects before a pesticide is allowed on the market*" (see footnote 194 of the second Witness Statement [page 104]);

d) In a PSD submission to Ministers dated 21st November 2007, then Director of Policy at the PSD, Martin Ward, stated, "*If a link between human disease and a pesticide were considered to be proven or even likely and if the product was still on the market its approval would either be modified to reduce exposures or the approval could be revoked entirely*" (see footnote 194 of the second Witness Statement [page 104]);

e) A Joint Memorandum submitted by DEFRA and HM Treasury to an EFRA inquiry in 2005, stated, "*If there is scientific evidence that use of a pesticide may harm human health, that is considered unacceptable*" and that, "*the system does not trade off the benefits and risks of pesticide use. If the risks are unacceptable, approval for use is refused, whatever the benefits*" (see para 204 and footnote 284 of the second Witness Statement [page 140]);

f) In an ACP press release in February 2006, the ACP stated, "*If we thought that current margins of safety for a pesticide gave insufficient protection to neighbours, we would recommend that the use be banned rather than relying on a buffer zone to reduce exposures*" (see para 62 of the second Witness Statement [page 64]).

Therefore all these statements are on the Government's very own stated case.

However, even though there is a clear health risk,³⁰ (and even further than there being a risk to health, there is, as can be seen in the Government's very own monitoring system solid evidence that residents have suffered harm to their health), no action has been taken by the Government to protect the health of residents and others in the countryside from exposure to pesticides. This is inconsistent with the Government's previous categorical statements regarding the *immediate* action that *would be taken* if there is a risk to human health.

Therefore all the Government's continuous contradictions, that are meticulously set out in Ms. Downs' second Witness Statement, fully exposes the Government's constant shifting of position and language amidst its fundamental failure to act to protect residents and others exposed in the countryside from pesticides.

There has never been any actual evidence to support the Government position of safety to residents, just the Governments own continued assertions. The Government has not assessed residents exposure, and has continued to allow

³⁰ Which has even been accepted by the ACP itself. See paragraphs 152 and 209 of Ms. Downs' second Witness Statement [pages 112 and 143-144].

both acute and chronic adverse effects to occur in residents and others exposed, which of course includes vulnerable groups, such as babies, children, pregnant women, the elderly, people who are already ill and who may be taking medication, amongst others.

Evidence and facts relating to the Government's refusal to introduce any measures to protect people in the countryside from pesticides – Despite repeated calls for action, the Government has continued to refuse to introduce any measures for the protection of rural residents and communities. Yet, as the evidence set out in Ms. Downs' second Witness Statement clearly shows, solid evidence existed for regulations to have been introduced on health and safety grounds.

*Documentation obtained by Ms. Downs under FOI reveals for the first time that the real reason why the Government has so far refused to introduce mandatory measures has been to do with cost implications on the industry (as well as on the Government itself). For example, there is an extraordinary statement in the *draft* Partial Regulatory Impact Assessment prepared by DEFRA's *Chemicals and Nanotechnology Division* in 2006 for Ministers consideration, that stated, "*New statutory measures will require significant reinforcement and extension of existing systems for inspection/penalty regimes and enforcement bodies and consequent increased costs to government. There is a risk that a large number of labour intensive and costly new legal obligations may result in non-compliance. A very prescriptive approach carries risks of civil disobedience action and potentially large number of prosecutions on fairly trivial grounds with consequent implications for the public purse.*" (See footnote 275 of Ms. Downs' second Witness Statement [page 135]).

*Yet this was after the very same DEFRA document had recognised that the benefits of implementing measures "*will fall mainly on the public particularly residents living adjacent farmland. These benefits will be in terms of potentially improved quality of life including health. There will also potentially be associated benefits to the public sector in terms of savings on managing health issues.*" (See footnote 277 of the second Witness Statement [page 135]).

*The evidence set out in Ms. Downs' second Witness Statement clearly shows that the Government has continued to base its decisions in relation to this issue on the protection of industry interests as opposed to what is absolutely required as the number one priority of pesticide policy and regulation – to protect public health. For example, it is revealed for the first time in Ms. Downs' second Witness Statement that DEFRA officials advised Ministers in 2006 to introduce mandatory requirements for both prior notification and access to information,³¹ but Ministers did not follow their

³¹ In relation to access to information, documentation formulated for Ministers consideration by DEFRA's *Chemicals and Nanotechnology Division* in 2006 clearly recognized the benefits of direct access as DEFRA officials stated, "*Benefits of direct access to spray records will mostly be for acute exposure where time is potentially critical in terms of determining correct treatment.*" (See footnote 254 of the second Witness Statement [page 127]). Also, the benefits of access to the necessary chemical information in relation to being able to gain the appropriate medical assessment and treatment was also recognized by DEFRA officials in the same document, as the preceding sentence to the aforementioned one stated, "*Benefits are in potentially improved health care from being able to diagnose or eliminate any pesticide related effects on bystander health.*" (See footnote 255 of the second Witness Statement [page 127]). NB. DEFRA, ACP and PSD often incorrectly refer to both

own advisors advice and instead preferred to rely merely on the industry led preference of voluntary action. (This showed just how determined Ministers have been to maintain the status quo). Yet voluntary measures have existed for decades, have not worked (as recognised by Mr. Justice Collins in the High Court Judgment) and are completely unacceptable in this situation, aside from the critical fact that DEFRA Ministers *themselves* had previously given an undertaking in 2004 for mandatory not voluntary access to information, which was thus a stated commitment that was never carried through. (See paras 177 to 186 of the second Witness Statement [pages 126 to 132]).

*Ms. Downs' second Witness Statement also reveals for the first time that DEFRA officials had advised Ministers in June 2006 that, "...voluntary measures can only be used where there is no health risk to residents and bystanders..." As said earlier, in this case not only is there a clear health risk, (which has been accepted by the ACP itself), but even further than there being a risk to health, there is, as can be seen in the Government's very *own* monitoring system, solid evidence that residents have suffered harm to their health. **Therefore DEFRA Ministers and officials were well aware that in the situation where the health risks and adverse effects are already accepted, voluntary measures were not an option.** (See paras 209 to 210 and footnote 290 of Ms. Downs' second Witness Statement [pages 143 to 144]).

*As the evidence set out in Ms. Downs' second Witness Statement clearly shows, solid evidence existed for regulations to have been introduced on health and safety grounds.

*DEFRA has previously stated that there is not supposed to be a trade off when it comes to the risks to health from pesticides with the benefits and that if there is scientific evidence that use of a pesticide may harm human health that is to be considered unacceptable, and that approval for use would be refused, whatever the benefits.

*However, the Government's overall policy and approach is based on an inapt '*balancing*' approach, in which it accepts a degree of damage to human health on the basis that it is outweighed by the (supposed) benefits of pesticide use (eg cost/economic benefits for farmers), rather than on the absolute protective approach required of ensuring that there is *no harmful effect* on human health *at all*. (See paras 195 to 206 of Ms. Downs' second Witness Statement that sets out the evidence of the Government's improper *balancing* approach [pages 136 to 141]).

*Paras 207 to 210 of the second Witness Statement [pages 141 to 144] compared the Government's policy in relation to pesticides with other areas of Government policy and the approach taken to protecting human health. For example, the smoking ban in public places; BSE; asbestos (referred to in Ms. Downs' first Witness Statement at paragraphs 115 to 116); and straw-burning. **The examples show that there is currently a clear mismatch and inconsistency between the Government's long-standing failure to protect people from passive exposure to pesticides and the**

residents and bystanders under just "*bystanders*" as per the statement referred to here. As set out earlier, residents and bystanders are two separate exposure groups and therefore should be referred to as such.

Government's approach in other comparable policy areas that ended in a ban for public health protection.

*In paragraph 222 of Ms. Downs' second Witness Statement [page 148] she states, "As said at the end of my previous Witness Statement, I have been astonished at the Government's complacency and absolute inaction over this issue since I first started presenting my case/arguments at the beginning of 2001. The Government, its agencies and scientific advisors have a legal duty to protect public health and, despite all my efforts over the past seven years, this is not happening with the existing Government policy on pesticides."

Ms. Downs' case and campaign argues that:-

Mandatory measures must be introduced to *finally* protect the health of residents and other members of the public from exposure to pesticides. These measures have to be at Governmental level from changes to its policy so that it is consistent for all rural residents across the country.

Therefore the following mandatory measures need to be introduced into the statutory conditions of use for the approval of *any* pesticide:

- **prohibition of pesticide use in substantial no spray-zones around homes, schools, children's playgrounds, and other buildings where people may be situated (eg. hospitals etc.)**
- **a new legal obligation to give rural residents prior notification before any pesticide spraying in their locality (this needs to be 48 hours' notice, the same as is required for the protection of bees, as Mr. Justice Collins recognised in the High Court Judgment that, "*It is difficult to see why residents should be in a worse position*").**
- **a new legal obligation for farmers and other pesticide users to provide information on the pesticides used directly to residents³² (as third party access is inadequate, especially in the event of an immediate poisoning when getting that information is critical and going through a third party would only add unnecessary and in some cases extremely dangerous time delays)**

³² Footnotes 180 and 183 of Ms. Downs' second Witness Statement [pages 98-99] detail some of the risk and safety phrases and other toxicological information on pesticide safety data sheets, as aside from the warnings of local irritant effects the safety data sheets can also contain warnings in relation to systemic effects, as well as long-term chronic, cumulative and irreversible effects. These are on the actual safety data sheets themselves and are therefore chronic and permanent effects clearly recognised by the manufacturers of the products. Residents and others exposed who are not operators are not currently legally entitled to know this information and therefore will not be aware of the risks and potential adverse effects involved in *any* exposure let alone prolonged repeated exposures from living near pesticide sprayed fields. Therefore mandatory access to information and prior notification requirements should include access to the same information as an operator would see/know/be provided with, such as the hazard symbols and risk and safety phrases on the product label, the safety data sheets and any other associated information.

***Paras 211–215 of Ms. Downs’ second Witness Statement [pages 145 to 147] points out that the prioritisation of non-chemical methods is the only real solution to protect public health and prevent any illnesses and diseases associated with pesticides, for now and for future generations.**

****Please note that the Witness Statement material referred to above is related to the legal case *Georgina Downs v DEFRA* and does not involve any other group or organization. Therefore the only contact for enquiries about the actual evidence and arguments presented in this case is Georgina Downs.**

**Contact: Georgina Downs FRSA.
UK Pesticides Campaign
www.pesticidescampaign.co.uk**

**Tel: 01243 773846
Mobile: 07906 898 915
Email: gdowns25@tiscali.co.uk**

Copyright © Georgina Downs 2009. All rights reserved.