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## Introduction

This note explains, in a little more detail, the information presented at the Institute of Petroleum Workshop held in Wolverhampton on June 26<sup>th</sup>. It follows from a request at the end of the Workshop that I provide more information which would allow those who held inventories of the petroleum preparations covered by the changes to see, as far as possible, what their status would be within COMAH and what we (the CA) would then expect of them.

The note explains how the application of the COMAH Regulations are affected, firstly by amendments to the CHIP Regulations (CHIP3) for preparations (which now need to be classified for their effects on the environment) and secondly, by anticipated amendments to the COMAH Regulations following changes to the Seveso Directive. Guidance is given below on how these changes will affect some establishments and on the steps operators will be expected to take. Examples are also provided showing how the status of the establishments may change within COMAH

## CHIP 3 Classification and Seveso amendments

Amendments to the Chemicals (Hazard Information and Packaging for Supply) Regulations (the so called CHIP Regulations), to be implemented under CHIP 3, came into force on the 30<sup>th</sup> of July 2002. As these amendments require classification of preparations for their effects upon the environment, they may have the effect of drawing establishments holding such preparations in certain amounts (the "qualifying quantities") into the COMAH Regulations. Substances classified as "Dangerous for the Environment" and having the risk phrases listed have the qualifying quantities indicated in the table below:

Risk Phrase	Phrase	Lower Tier	Top Tier
		Quantity in tonnes	
R50	Very toxic to aquatic organisms	200	500
R51 & R53	Toxic to aquatic organisms & May cause long term adverse effects in the aquatic environment	500	2000

However, two amendments proposed to the Seveso II Directive (the Directive from which the UK's COMAH Regulations are taken), will have the effect of relaxing the qualifying quantities for a defined list of petroleum preparations. The first amendment proposes a new, more comprehensive list of named substances, with the following qualifying quantities:

Named substances	Lower Tier	Top Tier
	Quantity in tonnes	
Gasolines and naphthas, kerosines (including jet fuels), Gas oils (including diesel fuels, home heating oils, gas oil blending streams)	2500	25000

In addition, a change in the aggregation rules for application of COMAH is proposed; under this change quantities of “toxics” and “very toxics” will not be aggregated with substances which are “Dangerous to the Environment” (with R50 or R51/R53). The rules currently applying within COMAH aggregate all such substances.

Consequently, establishments could find themselves drawn into COMAH by the “Dangerous to the Environment” classification under CHIP 3, together with the application of the current aggregation rules, and then drop out of COMAH, or change from lower to top tier and back again following changes to the Seveso Directive.

To avoid confusion and promote consistency, the UK CA has agreed a policy which anticipates the effect of the Seveso amendments, and clarifies the requirements for those holding qualifying quantities of relevant substances in the period between the introduction of CHIP 3 and the amendments to the Seveso Directive.

Establishments holding only one kind of preparation should find it relatively simple to determine whether they hold (or anticipate holding) COMAH qualifying quantities of that preparation, and how their status will change. However, for sites holding other substances (whether pure or preparations) with the same classification, or with classifications which mean that they should be subject to the aggregation rules, determining whether they will be drawn into COMAH and at what tier is a little more complex.

### **Petroleum substances**

CONCAWE report no. 01/54 (environmental classification of petroleum substances - summary data and rationale) presents a list of petroleum substances and their proposed classifications under CHIP 3. None of the substances classified as “Dangerous for the Environment” are linked to risk phrase R50. Three substances are classified as R51/53: the Low boiling point naphthas (LBPNS), kerosines and gas oils. Please note that these terms each include a range of petroleum substances (there are 142 LBPNS listed on the

European Inventory, EINECS, for example) which have been grouped for the purposes of classification and labelling.

LBPNS are blended to produce automotive petroleum or gasoline (CAS No. 86290 – 81 – 5). While this may contain small amounts of performance enhancing additives, the vast bulk will be blends of LBPNS, all having the above classification. For the purposes of CHIP classification and hence for determining qualifying quantities for COMAH now CHIP 3 is in force, gasoline will be treated as “Dangerous for the Environment”, R51/R53. Kerosines are mostly used for blending jet fuels although they are also used as domestic heating fuels and solvents. Gas oils are primarily used as fuels, including diesel fuel and for home and industrial heating.

### **Aggregation rules**

Before CHIP 3 came into force on 30<sup>th</sup> July, sites involved in production, processing and storage of the above petroleum preparations could be brought into COMAH by (a) being within the definition of “Automotive petroleum and other petroleum spirits”, with qualifying quantities of 5000 tonnes (lower tier) and 50 000 tonnes (top tier) or (b) because in the case of kerosines, they were classified flammable or highly flammable. The gas oils were not covered.

Since automotive petroleum and kerosine have the same kind of hazard (flammability), should the amounts of each individual substance not reach the relevant qualifying quantity, the aggregated amounts should have been calculated to determine whether the total amount of those substances held qualified the site for COMAH (and in which tier). A more detailed explanation of the aggregation rules is presented in “A Guide to the Major Accident Hazard Regulations 1999” in a description of the application of Schedule 1 of the Regulations.

Now that CHIP 3 is in place, automotive petroleum, as a named substance, will retain the qualifying quantities in (a) in the paragraph above. However, since automotive petroleum/gasoline/LBPNS are also classified as “Dangerous for the Environment”, R51/R53, the amount held should be used in calculating the aggregate amount of material with that classification held on the site. If there are other, toxic materials on site, these should also be included in the calculation (the petroleum preparations listed above are included on the grounds of danger to the environment, not toxicity to human health; the T notation reflects classification as a Category 2 Carcinogen). Depending upon the hazards presented by the materials on site, it may be necessary to carry out separate aggregation calculations, covering flammability, toxicity and danger to the environment. As noted above, the Seveso amendments will remove the requirement in the current COMAH Regulations to aggregate substances that are toxic with substances that are dangerous to the environment. This will have the effect of reducing aggregated amounts.

For example, an establishment holding 1000 tonnes of diesel and 20 000 tonnes automotive petrol (gasoline)

The establishment was (prior to 30<sup>th</sup> July 2002) lower tier, as the stock of gasoline was greater than the lower tier qualifying quantity (5000 tonnes) for automotive petrol etc. but less than the top tier qualifying quantity (50000 tonnes). Since diesel is not considered flammable (and “Dangerous for the Environment” for preparations didn’t apply before 30<sup>th</sup> July) no further calculation was necessary.

Since CHIP 3 came into force, the substances should be aggregated (they both meet the criteria for Dangerous for the Environment R51/R53) in determining whether the site holds qualifying quantities.

The amount of each substance held is divided by the relevant qualifying quantity. In the case of automotive petroleum, 5000 and 50000 tonnes, the qualifying quantities for the named substance. For diesel, 500 and 2000 tonnes, the qualifying quantities for “Dangerous for the Environment”, R51/R53. If the result of the aggregation is greater than 1, the establishment qualifies at that tier.

The sum is  $20000/5000 + 1000/500 = 6$   
or  $20000/50000 + 1000/2000 = 0.9$

In the above case, the establishment is clearly lower tier (result 6) but just below top tier (result 0.9).

However, if the holding is 1500 tonnes of diesel, the second calculation becomes

$$20000/50000 + 1500/2000 = 1.15 \text{ (i.e. qualifies for top tier)}$$

When the Seveso amendments come into force, both substances fall within the list of “named substances” (gasolines, gas oils); the total holdings of named substance are 21000 or (in the second case) 21500 tonnes respectively, above the new lower tier qualifying quantity (2500 tonnes) but below the new top tier (25000 tonnes).

### **Applying COMAH following CHIP 3 and Seveso amendments**

**1. An establishment currently outside COMAH, becomes lower or top tier following CHIP 3, the Seveso amendments take the establishment back outside COMAH.**

<b>COMAH STATUS</b>		
<b>Pre July 30<sup>th</sup> 2002</b>	<b>CHIP 3 Outcome</b>	<b>Seveso Outcome</b>
Outside COMAH	Lower Tier	Outside COMAH
Outside COMAH	Top Tier	Outside COMAH
<p>For such establishments we will:</p> <ul style="list-style-type: none"> <li>(i) apply immediately the general duty to prevent major accidents;</li> <li>(ii) require you to inform the competent authority immediately if a major accident happens;</li> <li>(iii) require notification of your site by 30/7/2003.</li> </ul>		

COMAH applies to these establishments until the Seveso amendments are in place. The CA wants to ensure that these establishments follow good practice in that operators understand the hazards they have on site and take steps to ensure that major accidents don't happen. Although COMAH will only apply temporarily, preparing a MAPP provides for a systematic way of achieving the general duty.

Information about MAPPs is provided in Regulation 5 and Schedule 2 of the COMAH Regulations. A definition of a major accident is provided in Regulation 2. Information to be included in a notification is set out in Schedule 3. The Regulations, Schedules and supporting guidance are given in "A guide to the Control of Major Accident Hazards Regulations" 1999 (L 111).

We will not require a written safety report for those sites which have been brought into COMAH top tier following CHIP 3 and fall outside COMAH when Seveso II is amended.

#### Example

Heating oil was not, pre July 30<sup>th</sup>, a hazardous substance within CHIP. A site holding only heating oil was not subject to COMAH.

Since the introduction of CHIP 3, heating oil is classified as "Dangerous for the Environment" R51/R53. If an establishment holds or is likely to hold 500 tonnes or more, but less than 2000 tonnes, it becomes a lower tier site; if it holds or is likely to hold 2000 tonnes or more, it becomes a top tier site.

After the Seveso amendments come into force, the lower tier and upper tier qualifying quantities become 2500 and 25000 tonnes respectively. If the establishment holds less than 2500 tonnes, it drops back out of COMAH.

**2. An establishment currently outside COMAH, becomes lower or top tier following CHIP 3, the Seveso amendments return the establishment to the lower tier.**

<b>COMAH STATUS</b>		
<b>Pre July 30<sup>th</sup> 2002</b>	<b>CHIP 3 Outcome</b>	<b>Seveso Outcome</b>
Outside COMAH	Lower Tier	Lower Tier
Outside COMAH	Top Tier	Lower Tier
<p>For such establishments we will:</p> <ul style="list-style-type: none"> <li>(i) treat the establishment as lower tier, hence the general duty to prevent major accidents and inform the competent authority if one occurs applies immediately;</li> <li>(ii) the requirement to prepare a MAPP and to provide information for others and to pay fees to the CA for COMAH work apply from 30/7/2002;</li> <li>(iii) notification of the establishment is required by 30/7/2003.</li> </ul>		

We will not require a written safety report for those sites which have been brought into COMAH top tier following CHIP 3 and fall to the lower tier when Seveso II is amended.

#### Example

Extending the example in (1) above, should the establishment hold 3000 tonnes of heating oil, prior to July 30<sup>th</sup> it would have been outside COMAH, following CHIP 3 it is now a top tier establishment and will be a lower tier site following the Seveso amendments.

**3. An establishment currently outside COMAH, becomes a top tier site following CHIP 3 and remains top tier following the Seveso amendments.**

COMAH STATUS		
Pre July 30 <sup>th</sup> 2002	CHIP 3 Outcome	Seveso Outcome
Outside COMAH	Top Tier	Top Tier
<p>For such establishments we will:</p> <ul style="list-style-type: none"> <li>(i) treat as top tier, hence the general duty to prevent major accidents and inform the competent authority if one occurs applies immediately;</li> <li>(ii) the requirement to prepare a MAPP, to provide information for others and to pay fees to the CA for COMAH work apply from 30/7/2002;</li> <li>(iii) the CA must be notified of the establishment, a safety report must be prepared and an on site emergency plan developed by 30/7/2003;</li> <li>(iv) an off site emergency plan will be required by 30/1/2004;</li> <li>(v) information for the public must be prepared by 30/7/2004.</li> </ul>		

#### Example

A site holding 30 000 tonnes of heating oil was, pre July 30<sup>th</sup>, outside COMAH but is top tier following CHIP 3 (top tier qualifying quantity, "Dangerous for the Environment, R51/R53, 2000 tonnes). The site will remain top tier following the Seveso amendments (top tier qualifying quantity for the named substances, 25000 tonnes).

#### 4. An establishment currently COMAH lower tier, remains lower tier or becomes top tier following CHIP 3 but then returns to lower tier following the Seveso amendments.

COMAH STATUS		
Pre July 30 <sup>th</sup> 2002	CHIP 3 Outcome	Seveso Outcome
Lower Tier	Lower Tier	Lower Tier
Lower Tier	Top Tier	Lower Tier
<p>For such establishments we will :</p> <ul style="list-style-type: none"> <li>(i) continue to treat as lower tier;</li> <li>(ii) we will require renotification (to reflect the identities and quantities of substances classified as dangerous) no later than 30/09/2002;</li> <li>(iii) the requirement to review and if necessary revise the MAPP applies from 30/07/2002.</li> </ul>		

We will not require a written safety report for those sites which have been raised to COMAH top tier following CHIP 3 and return to the lower tier when Seveso II is amended.

### Example

An establishment holding 10 000 tonnes of automotive petrol and 10 000 tonnes of diesel was, prior to July 30<sup>th</sup>, lower tier on the basis of the amount of petrol alone (10 000 tonnes is above the lower tier qualifying quantity but below the top tier qualifying quantity), diesel was not included in the calculation.

Following CHIP 3, the site is top tier on the basis of the amount of diesel present, 10 000 tonnes against a top tier qualifying quantity (for "Dangerous for the Environment", R51/R53) of 2 000 tonnes.

Following the Seveso amendments, diesel and gasoline are covered within one group of named substances, lower tier qualifying quantity 2 500 tonnes, top tier qualifying quantity 25 000 tonnes. The total volume of substance is 20 000 tonnes, hence the site returns to the lower tier.

The example given under the section headed "Aggregation rules" demonstrates how a holding of 20 000 tonnes automotive petroleum and 1000 tonnes of diesel remains within the COMAH lower tier despite CHIP 3 and the amendments to Seveso.

### 5. An establishment currently lower tier, becomes top tier following CHIP 3 and remains top tier following the Seveso amendments.

COMAH STATUS		
Pre July 30 <sup>th</sup> 2002	CHIP 3 Outcome	Seveso Outcome
Lower Tier	Top Tier	Top Tier
<p>For such establishments:</p> <ul style="list-style-type: none"> <li>(i) we will treat as top tier;</li> <li>(ii) renotify (to reflect the identities and quantities of substances classified as dangerous) no later than 30/09/2002;</li> <li>(iii) review and revise the MAPP with effect from 30/07/2002;</li> <li>(iv) prepare a safety report and an on site emergency plan by 30/07/2003;</li> <li>(v) prepare an off site emergency plan by 30/01/2004;</li> <li>(vi) prepare information for the public by 30/07/2004.</li> </ul>		

### Example

Before July 30<sup>th</sup>, an establishment holding 20 000 tonnes automotive petrol and 20 000 tonnes diesel was COMAH lower tier (lower tier qualifying quantity for automotive petroleum, 5 000 tonnes, top tier 50 000 tonnes, diesel not considered).

Following CHIP 3, the site is top tier on the basis of diesel stock alone, as diesel is "Dangerous for the Environment" R51/R53, lower tier qualifying quantity 500 tonnes, top tier 2 000 tonnes.

Following the Seveso amendments, both automotive petrol and diesel are considered within one group of named substances. There is a total of 40 000 tonnes of substances in that group held in the establishment. The top tier qualifying quantity is 25 000 tonnes. The establishment is top tier.

### **6. If an establishment is currently top tier and will remain so following the application of CHIP 3 and the introduction of the Seveso amendments.**

COMAH STATUS		
Pre July 30 <sup>th</sup> 2002	CHIP 3 Outcome	Seveso Outcome
Top Tier	Top Tier	Top Tier
<p>For such establishments:</p> <ul style="list-style-type: none"> <li>(vii) we will continue to treat as top tier;</li> <li>(viii) renotify (to reflect the identities and quantities of substances classified as dangerous) no later than 30/09/2002;</li> <li>(ix) review (and if necessary) revise the safety report with effect from 30/07/2002;</li> </ul>		

If you have any further queries please do not hesitate to contact me on [anton.wilson@hse.gsi.gov.uk](mailto:anton.wilson@hse.gsi.gov.uk).

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