Before the Auckland Unitary Plan Independent Hearings Panel

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under: the Resource Management Act 1991, as amended by the Local Government (Auckland Transitional Provisions) Amendment Act 2010

in the matter of: The Proposed Auckland Unitary Plan – Topic 039 Hazardous Substances and ITA

Statement of primary evidence of Karen Baverstock on behalf of **Stolthaven Australasia Pty Ltd** (Submitter 5735, FS 3045)

Dated: 18 May 2015

STATEMENT OF PRIMARY EVIDENCE OF KAREN BAVERSTOCK ON BEHALF OF STOLTHAVEN – SUBMITTER 5735 / FS 3045

INTRODUCTION

1 My full name is Karen Leanne Baverstock. I am a Planner and hold the position of Senior Resource Management Planner at Tonkin & Taylor Limited. I have a Bachelor of Resource and Environmental Planning (honours) degree from Massey University and am a full member of the New Zealand Planning Institute.

2 I have over 15 years of experience as a planner. My experience to date spans most aspects of planning including strategic planning, plan changes, plan development and Section 32 analysis, and the preparation and processing of resource consent applications within Auckland and around New Zealand.

3 I have been recently engaged by Stolthaven Australasia Pty Ltd (Stolthaven) to provide expert planning advice in relation to Topic 039 Hazardous Substances of the Proposed Auckland Unitary Plan (PAUP). I am familiar with the PAUP and specifically the provisions relating to Topic 039 to which these proceedings relate.

CODE OF CONDUCT

4 I confirm that I have read the Environment Court's Code of Conduct for Expert Witnesses set out in the Environment Court Practice Note 2014. I agree to comply with this Code. I confirm that the issues addressed in this statement of evidence are within my area of expertise and that I have not omitted to consider any material facts known to me that might alter or detract from my opinions expressed in this evidence.

SUMMARY OF EVIDENCE

5 Stolthaven operates bulk liquids storage facilities at Wynyard Quarter, Wynyard Wharf and Gabador Place in Mt Wellington. There is a desire on behalf of Auckland Council and others to relocate the bulk liquids industry from Wynward Quarter to facilitate the ongoing redevelopment of this area. Therefore the planning provisions in the PAUP are important to Stolthaven's ongoing operations in the Auckland region.

6 The bulk liquids industry contributes significantly to the economy of the Auckland region and beyond. Bulk liquids have a range of hazardous properties which can pose a risk to human health, including fire/explosion risk and risk of exposure to toxic vapours. Given the significant economic and safety implications arising from the storage and handling of bulk liquids, it is important to ensure both the safe and efficient operation of these facilities which includes managing reverse sensitivity effects.

7 The balancing of scarce resources, in this case land, for different uses needs to be addressed in relation to major hazardous facilities such as Stolthaven's site at Gabador Place. Brownfield areas in particular require a multi-pronged regime addressing the manner in which industry operates and measures to avoid, remedy or mitigate adverse effects, as well as the corollary being specific controls to support the ongoing, viable operation of lawfully established industry within a zone which provides for such operation, and broader policy provisions translated into controls to address the matter of reverse sensitivity.

8 Adequate separation distances, in combination with the location and design of hazardous facilities and on site management practices, together form the primary approach to managing risks to people and the environment from hazardous facilities. Prudent land use planning would include maintaining separation between hazardous facilities and activities sensitive to such facilities, both to minimise risk and reverse sensitivity effects and to provide industry with some level of certainty for future use, and manage risk. This is the thrust of Stolthaven's submission/further submissions on the PAUP and in particular the primary relief sought in the form of a hazardous facilities overlay.

Risk and reverse sensitivity in relation to hazardous facilities

9 In the case of hazardous facilities, the level of risk posed by a facility relates directly to the size of the potentially exposed population. If incompatible activities are allowed to establish or intensify in proximity to a site, the risk posed by the site is increased, although the facility itself has not changed.

10 Ultimately an increase in people-intensive activities would require an existing facility to change its operations to reduce the level of risk to acceptable levels. A practical example of this is at Wynyard Quarter, where more hazardous

substances have been moved to storage tanks at the far end of the wharf to maximise the separation distance to cafes and the playground.

11 The policy approach contained in both the ARPS and PAUP RPS provisions recognises that new sensitive activities should be directed away from locating near hazardous facilities where they will be exposed to an unacceptable level of risk and/or where their location will limit operation of the facility (i.e. reverse sensitivity effects). While these provisions generally reflect a robust and balanced policy framework in regards to managing hazardous facilities, they have not been fully translated into the district plan provisions of the PAUP, specifically the two policies within C.5.7 which address incompatible land use solely in terms of the location, design and management of the hazardous facility. In this case the onus is placed squarely on industry to avoid or adequately mitigate adverse effects, including risk, with no recognition of reverse sensitivity effects and their potential implications for the ongoing, viable operation of industry.

12 To address this matter, I support the addition of the following policy (or words to similar effect) to Section C.5.7 to specifically address risk and reverse sensitivity at a district plan level (5737-1):

> *"Require adequate separation distances between hazardous facilities and activities sensitive to hazardous facilities to avoid or adequately mitigate risk to people and property and to avoid reverse sensitivity effects".*

13 In my opinion this appropriately gives effect to the higher order RPS provisions as well as the broader suite of objectives and policies at an RPS level which sets out a very clear and strong direction in relation to reverse sensitivity effects[1].

14 In addition, consistent with Section 75(1)(b) of the RMA specific reference to incompatible land uses and reverse sensitivity in the proposed new policy more fully implements Objective 1 of C.5.7. The fact that, within the broader framework set by the RPS, the finer-grained land use pattern is governed by the

[1] E.g. Policy 12 of B.3.1 (mediated version). Also refer notified PAUP provisions: B.2.3 Development capacity and supply of land for urban development - Policy 7; and B.3.2 Significant infrastructure and energy (within the context of the IHP's interim guidance on Topic 012) – Objectives 2, 3 and 6 and Policy 7).

district plan also supports the inclusion of a provision regarding incompatible land uses and reverse sensitivity effects. The overlay approach proposed by Stolthaven would then find support from such a policy.

Overlay sought by Stolthaven

15 In submission number 5375-5 Stolthaven has sought the inclusion of a Hazardous Facilities - Sensitive Activity Restriction overlay around its Gabador Place site. This is to ensure that the ongoing operation and potential expansion of this facility is not restricted by the close proximity of activities sensitive to such a facility and to ensure that the adverse effects of an incident or emergency scenario on activities sensitive to hazardous facilities are appropriately avoided, remedied or mitigated. Similar to the track change version of the SAR overlay[2], the hazardous facilities overlay would apply an additional consent requirement to the establishment or intensification of people-intensive activities within the overlay.

16 While I consider that further work is required to prepare the precise form of the overlay provisions and supporting information as required by Section 32AA of the Resource Management Act 1991 (RMA), I have attached to my evidence the text of the overlay provisions as they might look in the Unitary Plan. At this stage my evidence is focused on the planning principles behind the overlay and what it seeks to address.

17 I do not consider that zoning by itself adequate addresses risk and reverse sensitivity for a number of reasons which I have expanded on below. While I understand that an overlay approach to managing hazardous facilities is not common within New Zealand, I understand from Mr Metson that overlays are used as a standard management tool both in Australia and further afield. Mr Metson has discussed in his evidence the approaches taken at Coode Island and Buncefield. A further example is the Emergency Management Overlay sought by Wiri Oil Services Limited (WOSL).

18 The SAR overlay also provides a useful and analogous approach in that separation distance is a fundamental mitigation measure for both the amenity

[2]Attached to the evidence of Mr Wyatt on behalf of Auckland Council in relation to Topic 035 Air Quality

effects of dust and odour and the risk posed by hazardous facilities. In addition, the SAR overlay extent (500m) has been determined on the basis of 'the median separation distance of all industrial separation distances reviewed in other jurisdictions in Australasia' rather than a site-specific assessment of particular industries and their effects[3]. This is broadly similar to the generalised approach proposed by Stolthaven as outlined in Mr Metson's evidence.

19 If the separation distance of 500m provided for in the SAR overlay is considered appropriate to protect against the amenity effects of dust and odour (which do not pose a significant risk to human health), then at least a similar separation distance would seem reasonable to mitigate the potential human health impacts of a fire or explosion or other accidental release of hazardous substances to air.

20 Based on the analysis set out in my evidence below and acknowledging that further supporting work is required, I consider an overlay approach to managing hazardous facilities is nevertheless consistent with good practice and prudent land use planning and should find support in principle.

SCOPE OF EVIDENCE

21 My evidence will address the following matters:

i. Risk and reverse sensitivity (5375-1 and 5375-13)

ii. A definition of activities sensitive to hazardous facilities as it relates to the recommended new policy regarding incompatible land uses and reverse sensitivity in C.5.7 (5375-2)

iii. Land use planning for hazardous facilities, including the overlay approach sought by Stolthaven in its primary submission (5375-5)

22 Stolthaven has also made a number of further submissions in relation to the above matters. I will refer to these where relevant in the body of my evidence.

23 Mr Airey has provided evidence regarding the relocation of the bulk liquid storage facility from Wynyard Quarter. As identified by Mr Airey in his evidence

[3] Statement of primary evidence of Louise Fleur Wickham on behalf of Auckland Council. Air Quality – Regional and District Objectives and Policies. 9 February 2015. (Topic 035). Paragraphs 7.4 and 7.5

and attachments to that evidence, the primary viable relocation options for Stolthaven are Gabador Place in Mt Wellington and the eastern port area. However while the eastern port area is a viable alternative relocation this is entirely dependent on Ports of Auckland Limited. By comparison, Stolthaven has a lease on the Gabador Place site which includes enough land for both current operations and any future expansion. My evidence therefore focuses on the hazardous substances provisions of C.5.7 of the PAUP particularly as they relate to Gabador Place.

INTRODUCTION

24 Stolthaven is an independent terminal service operator providing storage and handling facilities to customers for their bulk liquid raw materials and products. In Auckland, Stolthaven operates bulk liquid storage facilities at 51 Hamer Street, Wynyard Quarter, 120 Hamer Street, Wynyard Quarter, and 25-27 Gabador Place, Mt Wellington. The nature of the activities undertaken at Gabador Place and Wynyard Quarter, and the significant contribution the bulk liquids industry makes to the economy of the Auckland region and beyond, is outlined in Mr Airey's evidence.

25 As described in the evidence of Mr Metson, bulk liquids have a range of hazardous properties which can pose a risk to human health, including fire/explosion risk and risk of exposure to toxic vapours. It is difficult to quantify the risk posed by a hazardous facility or define "safe" separation distances, as this will change over time depending on the nature and scale of substances stored. However, prudent land use planning would include maintaining separation between major hazardous facilities such as bulk liquids terminals and people–intensive activities. Other than some limited requirements in the Wynyard Quarter precinct outlined below, the PAUP currently contains no provisions for establishing and maintaining appropriate separation between hazardous facilities and people–intensive activities.

26 A prudent approach to land use planning, both to minimise the risks to people and to avoid reverse sensitivity effects on their facility, is the thrust of Stolthaven's submission/further submissions on the PAUP and in particular the primary relief sought in the form of a hazardous facilities overlay (Topic 039). Similar to the track change version of the Air Quality - Sensitive Activity

Restriction (SAR) Overlay[4], a hazardous facilities overlay would apply an additional consent requirement to the establishment or intensification of people-intensive activities within the overlay. It effectively provides for an additional layer of assessment and scrutiny through the resource consent process. I will return to the overlay proposed by Stolthaven in more detail later in my evidence.

BACKGROUND

Zoning of Gabador Place facility and surrounds

27 Stolthaven's bulk liquids facility at Gabador Place is zoned Minor Port in the PAUP. This zone applies to both the Coastal Marine Area (CMA) and the adjacent land at the site. The activities (rules), controls and assessment criteria of the Light Industry and General Coastal Marine zones also apply on land and in the CMA, respectively, unless otherwise specified in the Minor Port zone activity table.

28 The Minor Port zone provides for the integrated, safe and efficient operation and development of identified minor ports in the Auckland region. The introduction to I5.2 specifically recognises the roles these facilities play in creating and supporting business opportunities and providing for the social and economic well-being of Auckland. The policy framework generally seeks to enable marine and port activities subject to avoiding, remedying or mitigating adverse effects, and otherwise directs activities which do not need to locate within such a zone to other areas of Auckland. This is reflected in the more permissive rules relating to marine and port activities, and the discretionary and non-complying activity status for other activities.

29 The provisions of both the existing Business 5a zone and the proposed Minor Port zone largely recognise and provide for Stolthaven's existing bulk liquids facility at Gabador Place, noting they do not address risk minimisation and reverse sensitivity effects relating to 'people-intensive' activities beyond the zone itself. The only exception of note is one of the Business 5a zone policies[5]

[4]Attached to the evidence of Mr Wyatt on behalf of Auckland Council in relation to Topic 035 Air Quality

[5] 8.6.5.1 Policies: "*By requiring the establishment and maintenance of buffer areas between activities within the zone and any adjacent residential or open space zones".*

which requires buffer areas to ensure that adverse effects within the zone or on adjacent residential and open space zones is avoided or reduced to an acceptable level. However the buffer area requirements are imposed on a hazardous facility through the consent process when it is established, and there does not appear to be any rules which explicitly seek to protect and maintain adequate buffer areas.

30 Land immediately surrounding Gabador Place is primarily zoned Business 5 and Business 5a in the Auckland City Council Isthmus District Plan 1999 (Isthmus District Plan). To the south there is some Business 4 zoning which effectively serves as a transition to the Residential 5 zoning further to the south. The Residential 5 zone reflects a low intensity area characterised by detached homes, mainly low rise (1-2 storeys) and at lower densities (1-2 units per site). The relevant permitted activity standard in relation to density is one residential unit per 500m^2 of gross site area.

31 Land across the Tamaki River is primarily zoned Main Residential in the Manukau City District Plan (Manukau District Plan). Residential development up to a density of one household unit per 400m^2 net site area, and for sites greater than 1000m^2 net site area up to a density of one household unit per 300m^2 site area, is allowed in this zone.

32 Within the PAUP residential land to the south and across the Tamaki River from the Gabador Place bulk liquids facility is predominantly zoned Mixed Housing Suburban interspersed with some small pockets of Single House zoning. The Mixed Housing Urban zone is the most widespread residential zone proposed in Auckland with density controls that allow a moderate level of intensification. The permitted activity threshold for this zone is up to three dwellings per site, with a maximum intensity of one dwelling per 200m^2 net site area subject to specific site requirements. While I have not analysed the implications of the PAUP zoning in any detail, a preliminary review suggests that the intensity of residential development could approximately double under the relevant provisions.

Wynyard Quarter provisions

33 Stolthaven operates bulk liquids facilities at two locations within Wynyard Quarter as identified in Mr Airey's evidence. Stolthaven (operating as Marstel Terminals Ltd) actively participated in the hearing process for the Wynyard Quarter Plan Changes (2007-2010). A key issue for the Plan Changes was the proposed development of this area to provide for more people-intensive activities (cafes, hotels and entertainment facilities) in close proximity to the existing bulk terminals.

34 Risk issues associated with the bulk liquids industry were traversed in detail during the Wynyard Quarter Plan Change hearing process. Through this process, additional assessment criteria for risk-sensitive activities[6] located in proximity to hazardous facilities were incorporated into the Wynyard Quarter precinct provisions of the PAUP. These can be summarised as follows:

- Additional requirements around limited notification if the written approval of the relevant hazardous industry owner or operator has not been obtained. The exception to this is where it can be clearly demonstrated that the activity/proposal is located outside the toxic injury risk contour.

- Additional matters of discretion including the location, extent, design and staging of buildings, design occupancy, risk to the activity from adjacent storage and use of hazardous substances, emergency response processes and reverse sensitivity effects.

- Assessment criteria specific to risk-sensitive activities located within specified sub-precincts and in particular whether any unacceptable levels of risk can be avoided or mitigated based on, amongst other things: the location of the development with respect to industrial hazard sources; detailed design occupancy information including design occupation numbers, the predominant and most vulnerable age demographic, hours of operation, estimated mean and maximum occupancy times, etc.; methods for advising occupiers of the development of potential safety

[6] Includes dwellings, visitor accommodation and worker accommodation, offices (generally and those accessory to marine and port activities), community facilities, education facilities, entertainment facilities, food and beverage, retail, maritime passenger operations, public amenities, commercial services.

risks; building design methods for avoiding or mitigating occupant risk resulting from exposure to toxic vapour, thermal radiation and explosion debris from offsite hazard sources.

35 The outcome of the Wynyard Quarter Plan Change hearing process was influenced by the perception that the bulk liquids industry would shortly be vacating this area. Therefore I understand the provisions for managing risk and reverse sensitivity are not ideal from Stolthaven's perspective. However the Wynyard Quarter provisions have been extensively canvassed and litigated during the earlier plan change processes and Stolthaven has not sought to challenge them being carried over into the PAUP.

HAZARDOUS SUBSTANCES RISK AND REVERSE SENSITIVITY – POLICY PROVISIONS (5375-1 and 5375-13[7])

Reverse sensitivity in relation to hazardous facilities

36 Reverse sensitivity[8] commonly results from people involved in the newly established activities complaining about the effects of existing activities in an area, for example noise or odour effects. As a consequence, the existing activity is constrained or needs to change its operation to accommodate the expectations of new neighbours.

37 In the case of hazardous facilities, the level of risk posed by a facility relates directly to the size of the potentially exposed population. If incompatible ('people-intensive') activities are allowed to establish or intensify in proximity to a site, the risk posed by the site is increased, although the facility itself has not changed. There will be a point at which the risk posed by a facility is considered unacceptable and operations will need to change or be curtailed due to these reverse sensitivity effects. There is also the possibility that people purchasing or

[7] While not coded to 039, this submission point is relevant to the broader discussion set out below in that Stolthaven sought amendments to the PAUP to adequately recognise and provide for their operational and development requirements, including provisions to provide for the continued efficient operation of existing hazardous facilities and to enable the expansion of existing, or establishment of new, hazardous facilities in appropriate locations.

[8] PAUP definition: *"The potential for the operation of an existing lawfully established activity to be constrained or curtailed by the more recently establishment of other activities which are sensitive to the pre-existing activity".*

establishing properties or businesses will, once they realise the nature and potential risk associated with major hazardous facilities, seek to make operations difficult.

38 As I have set out above, ultimately an increase in people-intensive activities would require an existing facility to change its operations to reduce the level of risk to acceptable levels. A practical example of this is at Wynyard Quarter, where more hazardous substances have been moved to storage tanks at the far end of the wharf to maximise the separation distance to cafes and the playground. Another possible impact may be that a site can no longer store certain, more hazardous, substances.

39 To address this matter, Stolthaven sought the addition of the following policy (or words to similar effect) to Section C.5.7 to specifically address risk and reverse sensitivity at a district plan level (5737-1):

> *"Maintain adequate separation distances between hazardous facilities and people-intensive activities to mitigate risk to people and property and to avoid reverse sensitivity effects".*

40 Stolthaven also sought a definition of 'people-intensive activities' to support this new policy (5737-2). The Oil Companies[9] made a separate submission suggesting a definition of 'activities sensitive to hazardous facilities' (submission number 5682-31) which Stolthaven supported through the further submission process. These submissions have been coded to Topic 065 Definitions and will be heard at a later date. However I consider that the terminology proposed by the Oil Companies is more appropriate in that it is consistent with other definitions within the PAUP (including 'activities sensitive to discharges to air', 'activities sensitive to noise' and 'activities sensitive to transmission lines). I will rely on this definition below and in the proposed new policy contained in Attachment 1 to my evidence.

[9] Z Energy Limited and BP Oil NZ Limited, Mobil Oil NZ Limited and Wiri Oil Services Limited (WOSL).

Policy framework

41 Objective 1 of Chapter B6.4 of the RPS[10] specifically recognises and provides for the social and economic benefits associated with hazardous substances. This objective also seeks to ensure that land is used and developed in a manner which seeks to protect the environment and human health from the adverse effects of hazardous substances, and minimise the risk associated with hazardous substances.

42 This objective is implemented through three policies, with Policy 3 being the key policy direction in terms of land use planning for hazardous facilities. Policy 3 states[11]:

> *Manage the effects associated with use and development of land for hazardous facilities by:*
>
> *a. not allowing sensitive activities to be established near hazardous facilities or areas identified for hazardous facilities if they are likely to be adversely affected by any hazardous facility, or if they have the potential to constrain operation of the hazardous facilities*
>
> *b. not allowing new hazardous facilities to be located near sensitive activities unless adverse effects are avoided*
>
> *c. providing areas for hazardous facilities within Auckland away from sensitive activities so that they may carry out their operations without any unreasonable constraints.*

43 Chapter 16 of the operative Auckland Regional Policy Statement (ARPS) also addresses hazardous substances with Policy 16.4.1 addressing incompatible land uses:

> *The use of land in proximity to existing hazardous facilities shall be controlled:*

[10] Recommended version of Chapter B6.4 attached to the EIC of Larissa Clarke on behalf of Auckland Council (Topic 006 – RPS Natural Resources, 6.4 Land – Hazardous Substances, dated 4 Nov 2015).

[11] Notified version of PAUP on the basis that some changes to Policy 3 were not resolved at mediation and were the subject of evidence for Topic 006 from numerous parties.

(i) *to prevent proposed new activities presenting significant risks to public health and safety;*

(ii) *to prevent new activities imposing significant limitations on existing facilities.*

44 Risk to the health and safety of people is a key concern when considering adverse effects in the context of incompatible land uses. The policy approach contained in both the ARPS and PAUP recognises that new sensitive activities should be directed away from locating near hazardous facilities where they will be exposed to an unacceptable level of risk and/or where their location will limit operation of the facility (i.e. reverse sensitivity effects).

45 Consistent with Section 75(3) of the Resource Management Act 1991, Chapter C.5.7 Managing Hazardous Substances needs to give effect to the RPS provisions. I consider that the RPS provisions outlined above rely on clear directive language and generally reflect a robust and balanced policy framework in regards to managing hazardous facilities. However these have not been fully translated into the district plan provisions of the PAUP, specifically the two policies within C.5.7 which address incompatible land use solely in terms of the location, design and management of the hazardous facility. In this case the onus is placed squarely on industry to avoid or adequately mitigate adverse effects, including risk, with no recognition of reverse sensitivity effects and their potential implications for the ongoing, viable operation of industry.

46 I also do not think it is appropriate to rely on the RPS provisions only in relation incompatible land uses. Read together, the Section 31 'integrated management' imperative of the RMA and territorial authority functions in relation to hazardous substances, along with the Section 75 requirements to give effect to the RPS and to state policies to implement the district plan objectives, support this matter being addressed at a policy level within the PAUP district plan provisions. Also the fact that, within the broader framework set by the RPS, the finer-grained land use pattern is governed by the district plan also supports the inclusion of a provision regarding incompatible land uses and reverse sensitivity effects.

47 In addition, while I agree with Mr Schaffoener in paragraph 10.9 of his evidence that '*the recognition of economic benefits is quite prominently included in the*

Objective[12] *of Chapter C.5.7 of the PAUP'*, I do not consider that this has been adequately reflected in the supporting policies. While the assessment criteria referred to by Mr Schaffoener include consideration of the social and economic benefits of the hazardous facility, this is only for restricted discretionary applications for resource consent. The application to the ongoing viable operation of existing, lawfully established and consented activities in the context of incompatible land uses and reverse sensitivity effects is absent.

48 Specific policy provisions addressing reverse sensitivity is also supported in the Quality Planning guidance note on Managing Hazardous Substances 2013. In relation to reverse sensitivity provisions this guidance notes states that:

> *"The primary issue is whether the residual off-site risks of hazardous facilities are significant enough to raise doubt about the appropriateness of more sensitive land uses activities being located in the vicinity.*
>
> *Where the district contains significant hazardous facilities with residual risks that cannot be completely avoided, the issue of reverse sensitivity should be addressed in the district plan to avoid incompatible land uses occurring. A specific objective in relation to reverse sensitivity effects on existing hazardous facilities may be appropriate. This would be supported by a policy that actively enables existing facilities to carry out their operations without being unreasonably constrained due to sensitive land uses locating near them".*

49 Suggested wording for this new policy is set out below and in attachment 1 to my evidence.

> *"Require adequate separation distances between hazardous facilities and activities sensitive to hazardous facilities to avoid or adequately mitigate risk to people and property and to avoid reverse sensitivity effects".*

50 In my opinion this appropriately gives effect to the higher order RPS provisions outlined above as well as the broader suite of objectives and policies at an RPS

[12] *The risks of hazardous facilities to people, property and the environment are minimised to acceptable levels <u>while recognising the benefits of these facilities</u>*.

level which sets out a very clear and strong direction in relation to reverse sensitivity effects[13].

51 Consistent with Section 75(1)(b) of the RMA, specific reference to incompatible land uses and reverse sensitivity in the proposed new policy also more fully implements Objective 1 of C.5.7 regarding '*recognising the benefits of these facilities*' which is not otherwise reflected within the policy framework of this section of the PAUP.

Definition of activities sensitive to hazardous facilities

52 In paragraph 16.6 of her evidence, Ms Clarke notes that '*people-intensive activities are not defined in the PAUP and the inclusion of such wording could lead to uncertainty in terms of the application of the policy*'. On this basis I have used the term 'activities sensitive to hazardous facilities' consistent with the definition proposed by the Oil Companies, and similar to the wording used in the RPS provisions of the PAUP such that this terminology is unlikely to result in undue uncertainty. I also note that the Wynyard Quarter precinct provisions identify 'risk-sensitive activities' so the notion of activities which are sensitive to the adverse effects of hazardous facilities is already contained within the PAUP, albeit in slightly different renditions.

Separation distances

53 In paragraph 16.6 of her evidence, Ms Clarke also rejects this policy provision on the basis that: '*separation distance is only one tool which might be appropriate to provide mitigation or treat the risk from the hazardous facilities. I do not see the benefit in limiting a consideration to one such mitigation, where advances in technologies or future innovations may provide alternatives which do not require such a separation to be achieved*.' This is also reflected in paragraph 10.5 of Mr Schaffoener's evidence.

54 In my opinion, adequate separation distances in combination with the location and design of hazardous facilities and on site management practices together

[13] E.g. Policy 12 of B.3.1 (mediated version). Also refer notified PAUP provisions: B.2.3 Development capacity and supply of land for urban development - Policy 7; and B.3.2 Significant infrastructure and energy (within the context of the IHP's interim guidance on Topic 012) – Objectives 2, 3 and 6 and Policy 7).

form the primary approach to managing risks to people and the environment from hazardous facilities. While advances in technologies or future innovations may reduce the separation distance required, Stolthaven has advised that for major hazardous facilities such as the ones they own and operate, risk cannot be fully eliminated and some form of separation distance will always be required.

55 The main mechanism identified to address reverse sensitivity effects in relation to air discharges is through the use of adequate separation distances, indicating this has been accepted as an important tool in relation to managing the effects of discharges to air. I note that the evidence of Council's air quality expert on Topic 035 explains that the proposed mechanism to provide separation distance for air quality (the Sensitive Activity Restriction Overlay) is intended to address both amenity effects and industrial residual air emissions, which are described as including "*episodic unanticipated events and/or accidental or emergency emissions*"[14]. These accidental or emergency emissions to air are a subset of the risk posed by hazardous facilities.

56 Separation distances can be used to avoid locating incompatible activities next to each other, minimise reverse sensitivity issues and provide industry with some level of certainty for future use, and manage risk. While they do not provide an alternative to good on-site management, they are complementary to this. As set out in the evidence of Mr Metson, international best practice includes the use of separation distances in planning for hazardous facilities. The use of separation distances or buffer areas is also supported in various guidelines (e.g. WorkSafe Victoria Information Sheet – Land use planning near a major hazard facility (March 2010), Quality Planning guidance note on Managing Hazardous Substances 2013).

[14] Statement of primary evidence of Louise Fleur Wickham on behalf of Auckland Council. Air Quality – Regional and District Objectives and Policies. 9 February 2015. (Topic 035). Paragraphs 7.4 and 7.5

IMPLEMENTATION METHODS - OVERLAY APPROACH TO MANAGING HAZARDOUS FACILITIES (5375-5)

Overlay sought by Stolthaven

57 In primary submission numbers 5375-5 Stolthaven sought the application of a new overlay, being a Hazardous Facilities - Sensitive Activity Restriction overlay, around existing major hazardous facilities, including the Gabador Place site. While I consider that further work is required to prepare the precise form of the overlay provisions and supporting information as required by Section 32AA of the RMA, I have attached to my evidence the text of the overlay provisions as they might look in the Unitary Plan as a starting point. At this stage my evidence is primarily focused on the planning principles behind the overlay and what it seeks to address.

58 The purpose of the proposed overlay approach is to prevent new activities sensitive to hazardous facilities from establishing close to the bulk liquids storage facility at Gabador Place. This will ensure that the ongoing operation and potential expansion of this facility is not restricted by the close proximity of activities sensitive to such facilities. It will also ensure that the adverse effects of an incident or emergency scenario on activities sensitive to hazardous facilities are appropriately avoided, remedied or mitigated.

59 Similar to the track change version of the SAR overlay[15], the proposed hazardous facilities overlay provides additional objectives, policies and rules that must be considered when assessing a proposal for a resource consent. The overlay comprises two control zones, as follows:

i. Control area 1 is applied to a distance of 250m from the Gabador Place bulk liquids storage facility. This area is subject to the greatest potential risks from emergency scenarios. New activities sensitive to hazardous facilities should be avoided in this area.

ii. Control area 2 is applied to a distance of 500m from the Gabador Place bulk liquids storage facility. New activities sensitive to hazardous

[15]Attached to the evidence of Mr Wyatt on behalf of Auckland Council in relation to Topic 035 Air Quality

facilities should be aware of the risks of establishing within this area and should be suitably prepared, including through the development of appropriate emergency management plans.

60 I understand from Stolthaven that the proposed separation distances in the overlay reflect an estimate of the potential future risk profile of an expanded bulk liquid terminal on the Gabador site, taking into account generally acceptable levels of risk.

61 The overlay does not seek to restrict existing activities or those which are provided for as a permitted or controlled activity under the PAUP provisions. This reflects one of the key objectives of the overlay, that the risk associated with any potential incident or emergency scenario at the Gabador Place bulk liquids storage terminal is not increased beyond what is already provided for through the existing zoning provisions within the PAUP. In my view this approach would strike a balance between the efficient development and use of land as a scarce resource and the need to avoid creating unacceptable risk from hazardous facilities.

62 In proposing the overlay, the intention is not to prevent residential intensification but rather to ensure that risk and reverse sensitivity issues are considered where more intensive residential development is proposed within the overlay through a restricted discretionary consent requirement. In this way activities that are allowed to develop in the vicinity of hazardous facilities can be designed in such a way as to avoid or minimise hazardous substance risk to occupiers and to enable appropriate mitigating actions to be taken if an event does occur.

63 In my opinion such an approach is consistent with the agreed mediated outcomes on Topic 013 regarding reverse sensitivity effects on established industry. Council agreed to the addition of new Policy 12 which specifically addresses reverse sensitivity effects and places the onus on sensitive land uses to not establish in close proximity to industrial activities. That agreed Policy 12 reads as follows:

> *Manage reverse sensitivity effects on the efficient operation, use and development of significant infrastructure and established industrial activities, including by discouraging sensitive activities locating in proximity to significant infrastructure and established heavy industrial activities.*

64 As noted above, while further work is required to support the hazardous facilities overlay, in my opinion the overall approach is consistent with good practise and prudent land use planning and should find support in principle.

Zoning to manage hazardous facilities

65 Both Ms Clarke and Mr Schaffoener contend that land use zoning in the PAUP is the implementation method which addresses the location of hazardous facilities along with effects related to reverse sensitivity. E.g.:

> "*In the PAUP as notified land use zoning is the primary method for managing reverse sensitivity effects on hazardous facilities which would serve to discourage more sensitive land uses locating in proximity to a hazardous facility".*
>
> *"Generally the protection of the viability of hazardous facilities from a hazardous substance risk perspective is provided by the zoning pattern which encourages more significant (i.e. potentially more risky) hazardous facilities to locate away from more sensitive land uses, and vice versa."*
>
> [Paragraph 16.3 of Ms Clarke's evidence and paragraph 10.5 and Mr Schaffoener's evidence, respectively.]

66 I agree that the zoning pattern and associated policy framework and rules, including the activity status and assessment criteria, encourages major hazardous facilities towards locating in Light and Heavy Industrial zones, and discourages residential and certain other sensitive activities from locating within these zones, and in close proximity to the Heavy Industry zone (in that the Light Industry zone acts as a buffer to this zone). However in my opinion there is little within the zoning provisions which is specifically designed to discourage more sensitive land uses locating in proximity to a hazardous facility. While zoning addresses the major interfaces between activities, there are still residual issues which need to be dealt with at a more fine-grained scale.

67 In addition, zoning serves as a framework for the policy and rules which direct outcomes within the zones. In the absence of strong policy provisions and/or rules in relation to risk and reverse sensitivity effects, then there is very little protection provided to existing industrial operators. In my view this is the case with the current provisions in C.5.7 and the inclusion of a specific policy to address incompatible land uses and reverse sensitivity effects is warranted. The

overlay approach proposed by Stolthaven would then find support from such a policy.

68 Importantly the approach supported by the Council officers regarding land use zoning relies on accurate zoning as a starting point. However by simplifying the various legacy industrial zones into just two industrial zones (i.e. Light and Heavy), there is a wide range of industrial activities now located in the Light Industry zone, including Stolthaven's bulk liquids facility at Gabador Place, which are not an obvious fit within the Light Industry zone. Stolthaven has submitted that this site should be re-zoned to Heavy Industry to reflect the nature of their activities and to provide for the application of the SAR overlay as an alternative (less-preferred) approach to the proposed overlay (5735-5).

Examples of overlay approach

69 Both Ms Clarke and Mr Schaffoener consider that a sensitive activity restriction overlay is unusual and not part of established planning practise:

> *"The introduction of a 'sensitive activity restriction overlay' around a hazardous facility is not something that is part of established planning practice. Applying a 'sensitive activity restriction overlay' would be even more unusual if it applied only to one selected facility"*
>
> *"As discussed in section 10 of Mr Schaffoener's EIC the application of overlays is unusual as a site specific planning tool in relation to hazardous substances. I am also not aware of any such examples contained within District Plans with which to compare or evaluate the proposed overlay."*
>
> [Paragraph 10.6 of Mr Schaffoener's evidence and paragraph 16.8 of Ms Clarke's evidence, respectively.]

70 While I accept their application to date in New Zealand is limited, I understand from Mr Metson that overlays are used as a standard management tool both in Australia and further afield. Mr Metson has provided specific examples within his evidence. Two further examples within the Auckland region are the Air Quality – Sensitive Activity Restriction overlay (SAR overlay) associated with the Heavy Industry zone, and the Emergency Management Overlay sought by Wiri Oil Services Limited (WOSL).

71 As noted by Ms Clarke in paragraph 16.4 of her evidence, the SAR overlay is intended to ensure that activities sensitive to air discharges do not locate in this area. Ms Clarke further notes that '*this overlay is based on a consideration of lower air quality amenity and does not reflect consideration of risks posed by hazardous facilities or an accumulation of hazardous facilities within a particular zone or area*'.

72 I agree that the SAR overlay does not explicitly reflect consideration of risks associated with hazardous facilities. However as I have discussed previously, the evidence of Council's expert on this topic suggests that at least a component of risk (unintended emissions to air as a result of an emergency) was considered in determining the need for an overlay. In any case the SAR overlay provides a useful and analogous approach in that separation distance is a fundamental mitigation measure for both the amenity effects of dust and odour and the risk posed by hazardous facilities.

73 I understand WOSL is seeking what it has termed an Emergency Management Overlay which bears a number of similarities with the overlay sought by Stolthaven, although WOSL is further down the track in relation to the information to support the application of this overlay. In paragraphs 10.7 and 10.8 of his evidence, Mr Schaffoener states that the circumstances with the WOSL submission are very different in that the overlay proposed by WOSL is on the basis of a risk contour based on multiple computer-based risk modelling of the specific facility. In Mr Schaffoener's opinion an appropriate overlay for Gabador Place could only be defined on the basis of modelling and analysis similar to that undertaken for the WOSL site.

74 While the extent of an overlay could be determined based on risk modelling, I understand from Stolthaven that this is a very substantial piece of work and would need to be repeated as and when the volume or nature of hazardous substances at the site change. Therefore this approach does not provide any future-proofing, which is of particular concern to Stolthaven given the uncertainty about continuing operations at Wynyard Quarter.

75 In addition I note that the extent of the SAR overlay (500m) has been determined on the basis of 'the median separation distance of all industrial separation distances reviewed in other jurisdictions in Australasia' rather than a

site-specific assessment of particular industries and their effects[16]. This is broadly similar to the generalised approach proposed by Stolthaven in the absence of a detailed site-specific risk assessment, as outlined in Mr Metson's evidence.

76 If the separation distance of 500m provided for in the SAR overlay is considered appropriate to protect against the amenity effects of dust and odour (which do not pose any significant risk to human health), then at least a similar separation distance would seem reasonable to mitigate the potential human health impacts of a fire or explosion or other accidental release of hazardous substances to air. A precautionary approach would suggest that providing a 500m separation distance is preferable to not providing any separation distance on the basis of uncertainty. Such a precautionary approach is supported by Mr Metson's evidence (paragraph 4.5), including the credible scenario of '*an unignited vapour cloud forming due to a spill, the extent of which could reach into the proposed overlay zones at injurious concentrations'*.

CONCLUSION

77 Port activities are an important component of the Auckland economy, including the minor ports that make up the Minor Port zone. As set out in the evidence of Mr Airey, Stolthaven's facilities contributes significantly to the economy of the Auckland region (and beyond). Many businesses in the Auckland region rely heavily on the efficient and uninterrupted supply of bulk liquids to enable their own end use businesses to operate.

78 Consistent with the policy framework established through the RPS and in particular B.3 Enabling economic wellbeing, it is important to safeguard the efficient operation of marine and port activities, including the bulk liquids facility, at Gabador Place. I consider the addition of a new policy to Section C.5.7 to specifically address risk and reverse sensitivity at a district plan level is required to give effect to the higher order RPS provisions and adequately address this issue at a district plan level.

[16] Statement of primary evidence of Louise Fleur Wickham on behalf of Auckland Council. Air Quality – Regional and District Objectives and Policies. 9 February 2015. (Topic 035). Paragraphs 7.4 and 7.5

79 I consider that the matter of incompatible land use and associated risk and reverse sensitivity effects in relation to major hazardous facilities has not been fully investigated through the PAUP process and is not adequately addressed through zoning alone, or within the PAUP district plan provisions. I acknowledge that in part this simply reflects the immense task Auckland Council had before it. Understandably the starting point in many instances has been the status quo which is then supported by a much narrower Section 32 analysis. However the corollary of this approach is that different or innovative ways of approaching issues can be overlooked in favour of business-as-usual.

80 The balancing of scarce resources, in this case land, for different uses needs to be addressed in relation to major hazardous facilities such as Stolthaven's site at Gabador Place. Brownfield areas in particular require a multi-pronged regime addressing the manner in which industry operates and measures to avoid, remedy or mitigate adverse effects, as well as the corollary being specific controls to support the ongoing, viable operation of lawfully established industry within a zone which provides for such operation, and broader policy provisions translated into controls to address the matter of reverse sensitivity.

81 While I consider that further work is required to prepare the precise form of the overlay provisions and supporting information as required by Section 32AA of the RMA, an overlay approach to managing hazardous facilities is nevertheless consistent with good practice and prudent land use planning and should find support in principle.

Karen Baverstock
18 May 2015

ATTACHMENT A

C.5.7. Hazardous Substances

New policy

Require adequate separation distances between hazardous facilities and activities sensitive to hazardous facilities to avoid or adequately mitigate risk to people and property and to avoid reverse sensitivity effects.