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Hangar 4 Development Review

Introduction

RAS Ltd have been requested by MAG, on behalf of Threadneedle Curtis Limited, to consult on a potential development at Hangar 4 near Manchester Airport. The development is close to the airport's fuel storage facility, and as such, parts of the development may be within the planning consultation zones for the site set by the Health and Safety Executive (HSE). As part of the planning application process, the initial development concept must be reviewed against the hazard zones around the fuel storage facility to demonstrate that the regulations have been given due consideration.

The following is an extract from the Site Location Plan drawing (020993-RPS-SI-XX-DR-A-9209) showing the potential development at Hangar 4.

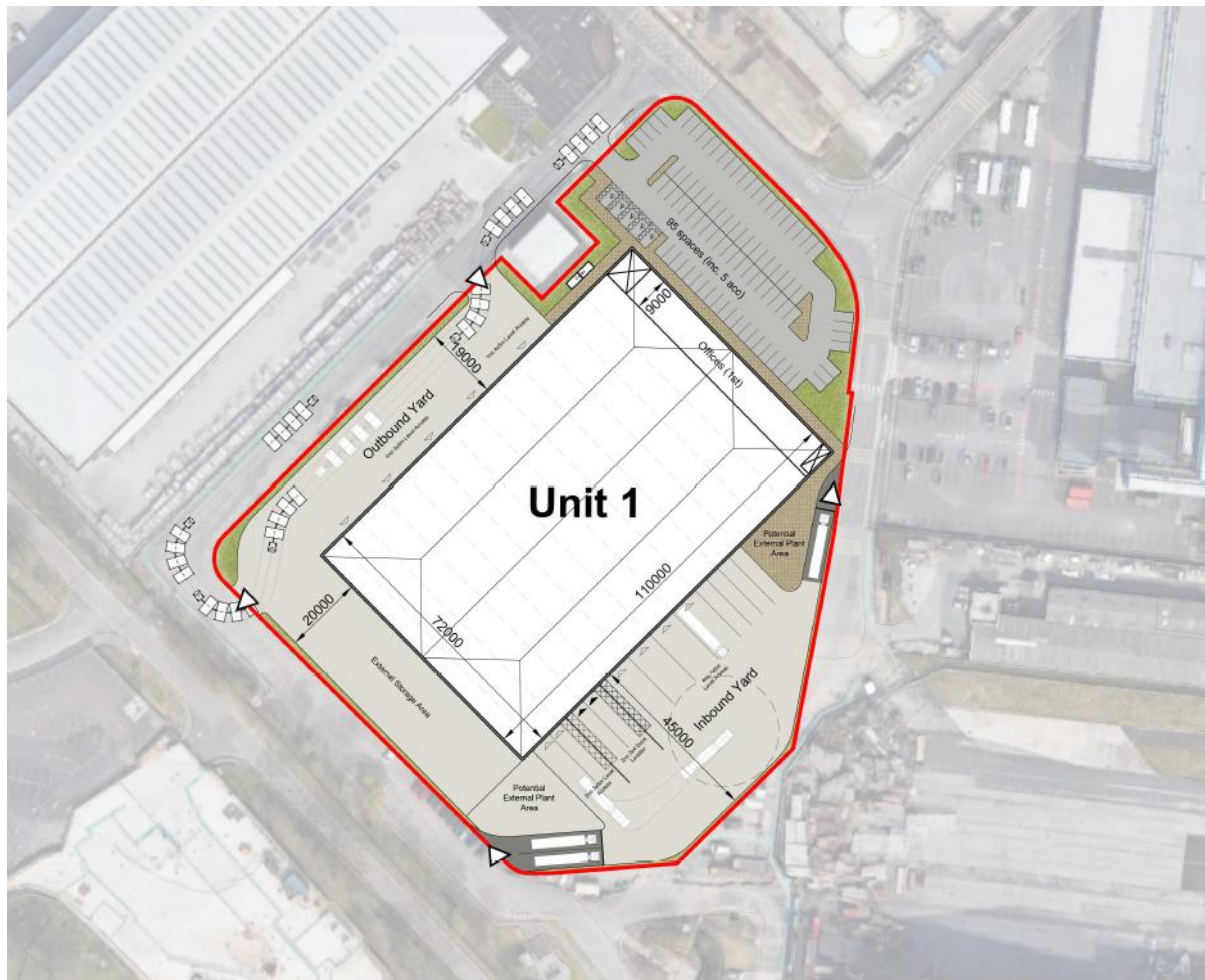


Figure 1 Extract from the Site Location Plan drawing (020993-RPS-SI-XX-DR-A-9209)

The plans above will be reviewed against the HSE's consultation zones surrounding the fuel storage facility at Manchester Airport.

HSE PADHI+ Guidance

The development for Hangar 4 may be located within the HSE's consultation zones around the fuel storage site due to its proximity to the site, and if so, the HSE will review the development and give advice based on their guidance set out in the HSE land use planning methodology, also known as PADHI+ (Planning Advice for Developments near Hazardous Installations).

A PADHI assessment requires two key pieces of information:

- the COMAH consultation zone in which the proposed development is located
- the sensitivity level of the proposed development.

Consultation Zones

The Land Use Planning Zones are set by the HSE for sites with the potential to cause a Major Hazard, sites to help them advise on land use planning. These are set based on information in the hazardous substance consent for each site, and a risk assessment carried out by HSE specialists. There are usually three zones; Inner Zone (IZ), Middle Zone (MZ) and the Outer Zone (OZ). The three risk contours represent defined levels of risk or harm which any individual at that contour would be subject to. The risk of harm to an individual is greater the closer to the installation. In each case the risk relates to an individual sustaining the so-called 'dangerous dose' or specified level of harm. A 'dangerous dose' is one which would lead to:

- severe distress to all;
- a substantial number requiring medical attention;
- some requiring hospital treatment; and,
- some (about 1%) fatalities.

The zones are as follows:

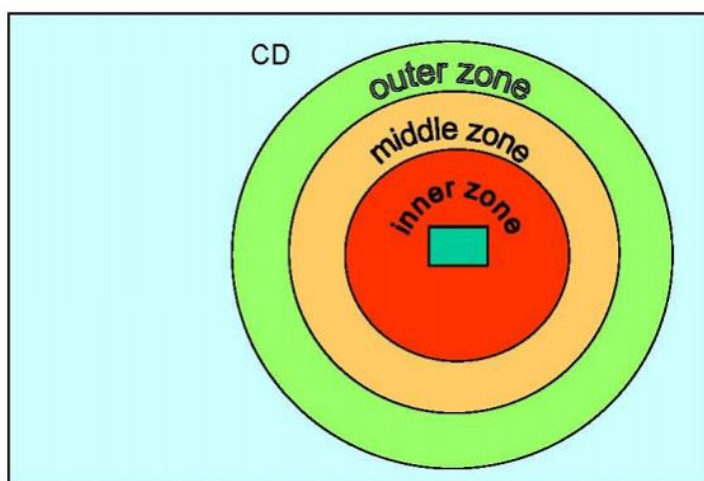


Figure 2 HSE consultation zones

The three contours represent levels of individual risk of 10 chances per million (cpm), 1 cpm and 0.3cpm per year respectively of receiving a dangerous dose or defined level of harm.

Proposed developments within these zones are subject to the HSE advice depending on their sensitivity levels (see below).

Sensitivity Levels

Sensitivity levels within the PADHI guidance are based on a clear rationale to allow progressively more severe restrictions to be imposed as the sensitivity of the proposed development and its occupants increases.

The four levels of sensitivity relevant to this development are identified as follows:

- Level 1 - based on the normal working population (SL1)
- Level 2 - based on the general public (SL2)
- Level 3 - based on vulnerable members of the public (SL3)
- Level 4 - large examples of level 3 and very large outdoor developments (SL4)

These development types are shown in more detail in the Appendix, and full details can be found in the HSE's land use planning methodology. Note, developments that straddle multiple zones will usually be considered to be in the inner most zone that they are straddling unless one of two exceptions applies, either that less than 10% of the area is within that inner most zone, or that only areas of landscaping and car parking are within that zone. This is rule 1 within the HSE PADHI methodology.

Planning Outcome

Once it has been determined both the zone in which the development lies and the sensitivity level of the development, the HSE's decision matrix from the PADHI guidance can be used to predict the likely outcome of the planning application. This matrix is provided below:

Table 1 HSE Decision Matrix

Level of Sensitivity	Development in Inner Zone	Development in Middle Zone	Development in Outer Zone
1	DAA	DAA	DAA
2	AA	DAA	DAA
3	AA	AA	DAA
4	AA	AA	AA

DAA = Don't Advise Against development

AA = Advise Against development

Note, the HSE provide advice to the local authority, the local authority will have the final say on whether or not to grant planning permission, but the HSE may 'call-in' the application in if they have exceptional concern.

Development Review

Based on the PADHI guidance, the development would fall within sensitivity level one (SL1), which is based on the 'normal working population', and applies to developments such as offices and warehouses. SL1 is believed to be appropriate as there are expected to be less than 100 occupants in each of the buildings that comprise the development and there are less than three occupied stories

to the buildings. Based on this, no increase to sensitivity level 2 (SL2) would be expected, which equates to there being greater than 100 occupants and there being 3 or more occupied storeys.

As the development is SL1, regardless of which of the three consultation zones the site fell within (inner, middle or outer), Table 1 shows that the HSE's planning advice would be expected to be Don't Advise Against (DAA). However, the zone will be reviewed to ensure that the development is clear on its level of risk.

The fuel storage facility is currently in the process of expanding its storage facilities, and therefore its consultation zones will have been extended accordingly. RAS Ltd have not been provided with these updated zones, but have previously been provided with details around indicative current zones to carry out a similar review of the adjacent warehouse occupied by Dnata. This information is sufficient to also carry out this review of Hangar 4 and any extension of the consultation zones around the fuel farm will not alter the outcome of this review.

The figure below shows the worst case extents of the site's Inner, Middle and Outer Zones in relation to the Hangar 4 development.

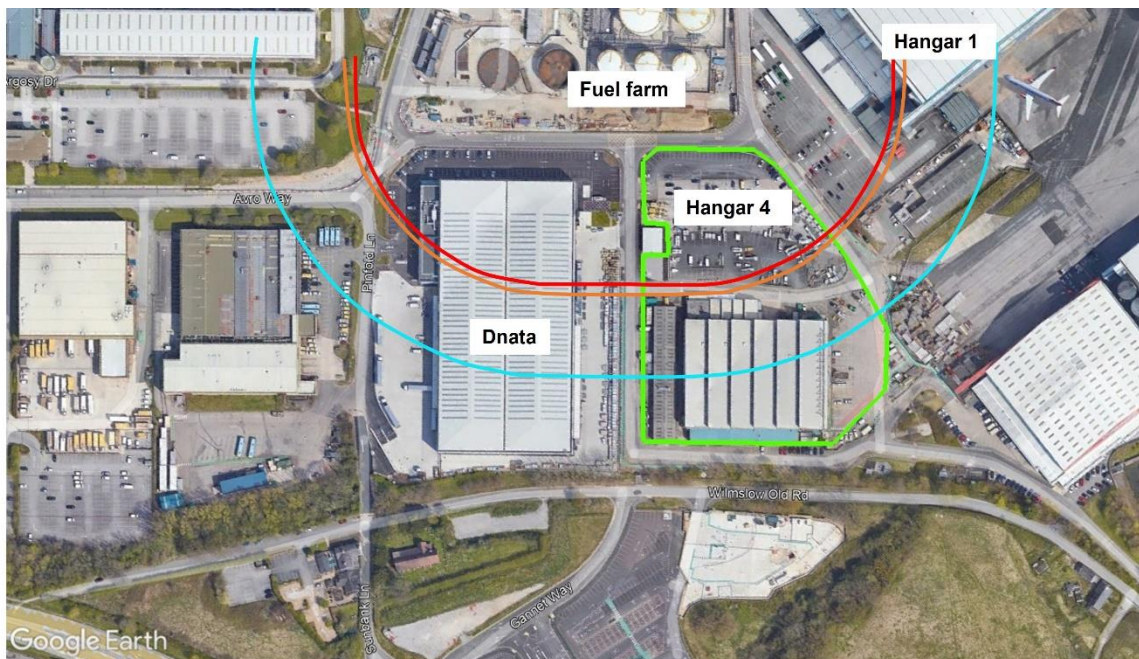


Figure 3 Hangar 4 development (green) with the indicative HSE zones for the fuel farm (Inner Zone in red, Middle Zone in orange and Outer Zone in blue).

The figure above shows that the planned development at Hangar 4 lies within all 3 of the fuel storage facility's consultation zones. As per Rule 1 described above, developments that straddle multiple zones will usually be considered to be in the inner most zone that they are straddling unless one of two exceptions applies, either that less than 10% of the area is within that inner most zone, or that only areas of landscaping and car parking are within that zone. As neither of these exceptions will apply to the development based on the layout provided (drawing 020993-RPS-SI-XX-DR-A-9209), the Hangar 4 development will be considered to be within the Inner Zone. However, based on the sensitivity level of the development being level 1, a Do Not Advise Against (DAA) decision would be expected for a development of this sensitivity within the Inner Zone.

It should be noted that, while a DAA is expected for the development, the risk to the office occupants could be made lower if the development layout was modified so that the offices are moved to the other end of the development so that they are further away from the site.

If the sensitivity level increased from what has been presented within this report due to changes in proposed occupancy levels or an increase in number of storeys, then an Advise Against (AA) decision could be returned by the HSE.

Conclusion

Based on the review above, the development would be expected to be sensitivity level 1 (SL1), meaning that the HSE's consultation advice would be expected to be Don't Advise Against (DAA), regardless of which consultation zone it was within. In this instance, the development being classified within the Inner Zone has no impact on any potential decision from the HSE, unless the development increases to 3 or more storeys, or the occupancy level increases to 100 people or greater. This would mean that the development could be pushed into a more vulnerable sensitivity category, for which an Advise Against decision would likely be returned.

Appendix: PADHI Development Types

The following table describes the various development types which fall into each of the sensitivity categories and are relevant to the Hangar 4 development. These are taken from the HSE's Land Use Planning Methodology (<https://www.hse.gov.uk/landuseplanning/methodology.htm#assessing>). Note, there are additional rules and guidance notes provided in the references which should be reviewed for full context, the below show the only the main types of developments within each sensitivity category.

Development Type Tables

Table 1 Development type: People at work, Parking

DT1.1 - Workplaces

DT1.2 - Parking Areas

Development Type	Examples	Development detail and size	Justification
DT1.1 - Workplaces	Offices, factories, warehouses, haulage depots, farm buildings, non-retail markets, builder's yards, self-storage units	Workplaces (predominantly nonretail), providing for less than 100 occupants in each building and less than 3 occupied storeys - Level 1	Places where the occupants will be fit and healthy, and could be organised easily for emergency action. Members of the public will not be present or will be present in very small numbers and for a short time
	Exclusions		
		DT1.1 x1 Workplaces (predominantly nonretail) providing for 100 or more occupants in any building or 3 or more occupied storeys in height - Level 2 (except where the development is at the major hazard site itself, where it remains Level 1) Self storage units with 3 or more accessible stories Level 2	Substantial increase in numbers at risk with no direct benefit from exposure to the risk

	Sheltered workshops, Remploy	DT1.1 x2 Workplaces (predominantly nonretail) specifically for people with disabilities - Level 3	Those at risk may be especially vulnerable to injury from hazardous events and / or they may not be able to be organised easily for emergency action
DT1.2 - Parking areas	Car parks, truck parks, lock-up garages	Parking areas with no other associated facilities (other than toilets) - Level 1	
	Exclusions		
	Car parks with picnic areas, or at a retail or leisure development, or serving a park and ride interchange	DT1.2 x1 Where parking areas are associated with other facilities and developments the sensitivity level and the decision will be based on the facility or development	