

Compliance Assessment Report CAR_NRW0037495

Permit being assessed: AB3690CP.

For: J M Envirofuels (Barry) Limited, held by JM ENVIROFUELS (BARRY) LIMITED

At: Berth 31 Wimbourne Rd, Barry Docks, Barry, CF63 3DH.

Type of assessment carried out: Report/Data Review, Reason: Other.

On 05/02/2021.

Parts of permit assessed: 3.4.1

NRW Lead Officer: Elysia Lovelock, accompanied by Yeliz Marshall.

Report sent to: Managing Director, Managing Director on 02/03/2021.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
D2 - Incident Management - Accidents, emergency and incident planning	Action only (X)	

Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
D2	FPMP v6 has been reviewed and does not meet the standard required in accordance with FPP guidance (condition 3.4.1 refers). Therefore further compliance will be scored against v5 of the FPMP. The operator would need to revise v6 and submit to NRW for review. Please note this is voluntary and the due date below has been entered for administrative purposes only.	06/02/2021

Action criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

[Report amended at the request of the reporter March 02, 2021]

On 8th December 2020, you provided Natural Resources Wales with your Fire Prevention and Mitigation Plan (FPMP) titled "FPMP Barry V6 Dec 2020". Following review of your FPMP in accordance with Fire Prevention and Mitigation Plan Guidance – Waste Management Version 2 August 2017, as the regulatory officers for the site, I, Officer Elysia Lovelock and Senior Officer Yeliz Marshall have made the following comments and associated updates that are required to the FPMP.

The FPMP guidance sets out what must be in your FPMP, and what should be in you FPMP and what may need to be considered. The comments have been divided into these sections. For the "must" requirements/actions you are required to include these in your FPMP. For the "should" or "may" requirements/actions, please consider these, give alternatives or explain why they may not apply to your operations.

Section 5 - Fire Prevention and Mitigation Plan Contents

Following review of your FPMP it does not contain the following requirements as set out as 'musts' in the above section of the guidance.

- **A site plan –**

Four site plans which are not drawn to scale have been provided in 'Appendix A', including a revised 'storage layout' plan dated December 2020. However, whilst more than one site plan can be included consisting of: location plan, site plan and drainage plans in order to capture all the required information, the plans provided include contradictory information and do not meet the requirements of the guidance and therefore require revision. The required contents of the site plans will be covered in further detail later in this document.

- **The amount and type of waste received daily and how it is managed –**

The FPMP does not specify the amount of waste and type of waste received daily. If waste is not received daily, then the frequency at which waste arrives on site must be specified in the FPMP.

The FPMP outlines how all waste received is managed initially, detailing acceptance procedures followed by how waste is managed collectively on site using the FIFO approach and introduces types of waste received throughout the document, for example, introducing grade 'A' waste at Appendix E having already introduced other grades in the body of the FPMP. Therefore, this content requires summarising and acknowledgement that each waste will be managed differently.

- **The total amount of waste and the types and forms (e.g. unprocessed, shredded, chipped, fines or baled) that are stored on site at any one time–**

The FPMP states: 'the operational requirements for this material will be approximately 10,000 tonnes maximum', however this does not clearly state that this is the total amount of waste that will be stored 'on site at any one time'. Therefore, please clarify

as this must be clearly specified within the FPMP. I note this would be the maximum in accordance with the permit SR2011 No4 which states: 'quantities of waste stored shall not exceed 10,000 tonnes in total at any one time.'

Furthermore, in terms of annual amounts, the annual throughput specified in Table 2.1 of SR2011 no4 permit states: 'No more than 75,000 tonnes of waste shall be accepted at the site in any one year'. However, page 6 of the FPMP states: 'it is anticipated the total amount of wood waste grade B and C and oversize material to be handled will not exceed 85,000 tonnes per annum.' **Please revise this content, as this amount would be in breach of condition 2.1.1 of the permit which states a limit of 75,000.**

In terms of waste types and forms, as advised above, various forms of wood waste are mentioned throughout the FPMP, including 'fines', 'processed material', 'woodchip' and types including 'grade B', 'grade C', 'oversized material' and 'biomass feedstock' and in the Appendix 'iTom System Standard Operating Procedures' 'grade A' is introduced. However, the presence of all materials, forms and types must be clearly specified and summarised in the body of the FPMP, including but not limited to the additions of 'unprocessed' material' and 'rejected material' to ascertain exactly what is stored on site at any one time. This information is required in order to clearly establish the appropriate storage times, suitable locations and appropriate measures required in line with NRW Prevention Plan guidance.

- **How each type of waste will be stored –**

The FPMP states under '5.5 Waste Quantities and Locations': 'stocks will be stored within Maltese Cross configurations' and there will also be one stockpile and 'all storage will be in the open', but does not make any distinction regarding how each type of waste will be stored, therefore please clearly state this in the FPMP.

For example, the revised 'storage layout' (Dec 2020) included in Appendix A does not include the reception bays as still outlined within the FPMP and included on the following site plan: 'JM Envirofuel: Proposed Layout: Product Store (2017)'. Reception bays would likely hold unprocessed or unsorted/unscreened waste wood; therefore, this needs to be clearly stated in the FPMP and site plan(s).

- **The maximum time each type of waste will be stored on site and how it will be managed –**

The FPMP does not recognise the risk associated with storage time for each type of waste. Page 15 refers to a fire risk assessment (see FPMP's appendices) deeming the risk to be 'low'. However, please recognise within the FPMP, as you have for the biomass feedstock material, that storage time also increases the risk associated with each waste type received on site. For example, you have been clear on the storage time of 3 months for the biomass fuel feedstock material. Therefore, the FPMP must clearly set-out a breakdown of the maximum times each waste type will be stored on site and how it will be managed.

It is insufficient to state: 'the stock will be managed to the compliance limits within the designated storage bays (as per FPMP 2017)' and the FPMP must demonstrate a clear method to record and manage the storage of all waste on site. The FPMP mentions the 'first in, first out' approach using the sites management system however, it would be useful to demonstrate this by including an example of the record-keeping, showing exactly how the waste is tracked on site, enabling effective monitoring and management. Therefore, in summary, please consider including a summary of maximum storage times for each waste type/form and the waste management measures in place.

In terms of the storage times in relation to the 'Extended Storage Programme' detailed for the Biomass Fuel Feedstock material, NRW FPP guidance clearly states: **'you may have specific permit conditions that will restrict your maximum storage time. You must ensure you comply with this limit.'** I refer to permit condition 2.1.1. which states: **'The operator is only authorised to carry out the operations specified in Table 2.1.'** Table 2.1 states: **'No waste must be stored for more than 3 months.'** Therefore, in storing for any extended period would result in a breach of permit condition 2.1.1.

Furthermore, I refer to point 8, Titled '3 Month Review' of '6.3.3 Extended Storage Programme' which states: "At the end of the initial extended storage period the stock suitability will be reviewed to ensure that it can continue to be stored safely.", 'Provided that the stock can be safely stored and retains its fuel value JMEL will liaise with NRW and advise that it wishes to retain the stock for a further 3 month extended storage period.' **In notifying NRW after already storing for an extended period would also be in breach of permit condition 4.3.1 (b) which states: 'Natural Resources Wales shall be notified without delay following the detection of: ' (b) the breach of a limit specified in these standard rules,'.**

Please amend the procedures outlined in the FPMP to ensure the operator is compliant with the conditions of the standard rules permit, as any deviation from the limits in the standard rules permit would require the permit to be varied.

For further clarification on storage times, Section 6.2 of the FPMP refers to the incoming feedstock material as low risk. Stating when the material is processed, it becomes a higher risk and the material will be removed from site within 3 months of production. The storage time limit of the permit states '3 months', and does not change depending on what form the wood waste is stored in. For example, if unprocessed wood is received and stored for a period and is then processed and stored for a further period, the overall permitted storage time is no more than 3 months.

An understanding of the permit's limitations must be recognised and communicated accordingly in the documents that set out the procedures that are to be implemented on site, including/but not limited to the FPMP.

- **The location within the site where each type of waste will be stored –**
A number of waste types are mentioned throughout the FPMP and storage has been

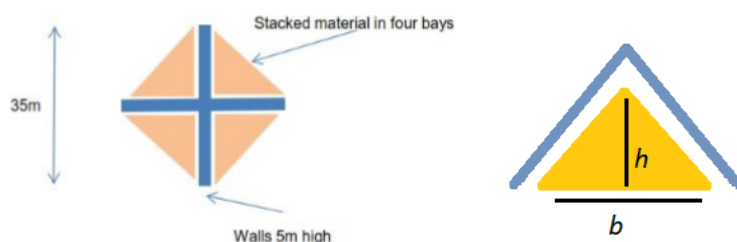
addressed collectively, with there being designated areas for wood reception (not on the revised storage plan) and areas for storage including two Maltese cross configurations, with the new addition of a single stock pile (as shown in the revised site plan included in Appendix A). Yet there is no clarification within the FPMP or site plan on where each type of waste (e.g. unprocessed, shredded, chipped (processed), fines or baled) will be stored. With the site plan dated 2017, only making the distinction between 'QC Passed Product' and 'QC Awaited Product'; a site plan which has been superseded by the revised site storage layout plan dated Dec 2020, which does not provide any such information.

NRW acknowledge that that the layout is dynamic and can change depending on the material on site, however, the FPMP must clearly state the location within the site where each type of waste will be stored.

- **The maximum size of any waste pile (in m³), stipulating the maximum length, width and depth –**

The FPMP details the following measurements of 17.5m x 17.5m x 5m, volume for each quadrant of the Maltese cross configuration being 735m³ and 40m x 15m x 4m for the single stockpile, however, please specify the volume of the single stockpile in m³.

The Maltese cross configuration suggests 'each quadrant' of the Maltese cross would store waste in a triangular prism formation, however page 148 gives dimensions of 17.5 metres square, this requires clarification. If each quadrant is currently storing a volume of waste that is cuboid in shape as opposed to the shape of a triangular prism (as shown on page 10 of the FPMP, extract below), a triangular prism would accommodate half of the volume of a cuboid. Therefore, please be clear on this in the FPMP. To find the area of a triangle, before the volume of a triangular prism can be calculated, you require measurements of the height and the base. The base measurement would be the outward facing edge of the waste and the height would be the depth of the Maltese quadrant, as shown below.



Furthermore, please ensure the continuity of the information provided throughout the FPMP, as on page 8 it refers to wood stockpiles of 750m³, but on page 9 under '5.5 Waste Quantities and Locations', you state each quadrant stores 735m³ and review these volumes to ensure they are based on the correct triangular prism formation.

- **The minimum separation (fire break) distance between waste piles or storage areas –**

On page 9 the FPMP states 'a minimum of 9m between the cross configurations, however, I refer to page 148 of the Standard Operating Procedures SOP (Appendix D) of the FPMP, where you state *'organised in a Maltese cross, with a gap of typically 6-10 metres between each Maltese cross.'* Therefore, please ensure the continuity of the information provided in the FPMP to avoid providing contradictory information as 6m would be insufficient, requiring a distance of 9m plus. Please also cross-reference the relevant part of the SOP in the main body of the FPMP.

Regarding the new free-standing storage area, dimensions of 40m x 15m x 4m with the 12m fire break is sufficient in accordance with the guidance. However, due to sites revised storage layout, the new free-standing storage area and the adjacent Maltese-cross are now adjacent to storage areas for plant equipment and the water tank, therefore details of the separation distances from the water tank and storage area for equipment are required, as well as any reception bays as referenced in the FPMP.

I also note, the supporting BRE Global report research referenced is based on compliance with the Environment Agency Technical Guidance Note 7.01. Maximum piles sizes and separation distances which differ to that of NRW FPP guidance.

- **A clear area must be established around the perimeter of site; this can vary depending on the layout of your site and permitted stack sizes in accordance with the separation distances as illustrated in Table 2 (this must be available at all times and identified on your site plan –**

Please provide clarification in the FPMP and identify on the site plan, as at present there does not appear to be a clear area around the perimeter of the site that is available at all times.

- **The fire prevention techniques used, including management of hotspots (sign of potential self-combustion), monitoring, reporting, recording and actions –**

The FPMP includes fire prevention techniques but does not include information on recording and reporting, therefore please revise accordingly.

It would be useful to highlight the section 'hot spots/fires' as a sub-heading as this includes important information on monitoring and actions and please directly reference Appendix B 'Emergency Action Plan' in the body of the FPMP which details management of 'Hot Spots' found on page 31.

In relation to self-combustion, I refer to '6.8 Self-Combustion Risk' of the FPMP, which states, the risk of self-combustion is low and 'is justified through BRE Global reports – ISO thermal self-heating report Jan15R1 and Fire Spread Report Oct14 (Appendix F) and as detailed in section 6.2 above'. 6.2 does not detail the justification as stated in point 6.8. therefore, please revise the FPMP to include the justification, as indicated in 6.8.

Upon reviewing the Appendices, you reference Appendix 'F' above, however Appendix 'D' refers, therefore please amend.

The BRE Global Reports, Report Number: 136540 included as evidence found small and large wood chips were tested isothermally to determine their self-heating properties. From the critical ignition temperatures recorded the materials were found

to be susceptible to self-ignition. I note, the report found the chips tested would not be classed as materials of self-heating for 'transport purposes as per HSE requirements.' Therefore, this research does not relate to the storage of materials at risk of self-combustion. Therefore, please remove this information as it has not been endorsed or specified in the FPMP or WISH guidance.

Furthermore, '6.8 Self-Combustion Risk', states the risk is low 'owing to how they are **received, processed and removed** from site.' FPMP guidance states many materials can self-combust under certain conditions, and the risk generally increases when materials are **stored** for prolonged periods, whether internally or externally, and in general the smaller the particle size the higher the risk. Therefore, consideration for the risk posed by storage has not been demonstrated here.

Materials that are at risk of self-combustion if stored for more than 3 months include: 'smaller size or graded materials either stored or mixed'. Given that the FPMP details an 'Extended Storage Programme' in order to demonstrate a suitable management system for storage of such material, please acknowledge the risk accordingly in your FPMP in section 6.8 on self-combustion. I refer to this programme to demonstrate that the FPMP does acknowledge in-part that storage time effects the risk but has only acknowledged this for feedstock material. All combustible material present must be acknowledged in order to be managed appropriately. **However, as previously advised, as the permit stipulates a storage time of 3 months, using the 'extended storage programme' as detailed would not be suitable as it would be in breach of the conditions of the permit.**

- **Techniques used to minimise the risk of fire spreading within the site or from the site –**

Page 23 briefly covers the use of loading shovels and 360 grab to reduce the spread of fire and on page 12, the FPMP lists fire prevention techniques used under 'Fire Prevention Measures' and includes some provisions to minimise the risk of fire spreading. However, this section does not differentiate between the measures taken in order to prevent a fire and what measures are used to minimise the risk of a fire from spreading within the site or from the site, therefore, please differentiate between prevention of a fire as opposed to management of a fire.

- **All combustion products and emissions (to air, land and water) from the fire and the emergency response (including the impact on people, critical infrastructure and the environment) and how they will be minimised. Operator needs to recognise the pollution impact of smoke and fire water and impact on environment and people –**

Please revise the FPMP to consider the impact on critical infrastructure.

- **Contact details of sensitive receptors within 1km of your site. To protect sensitive receptors, does the plan include measures that will be used to raise the alarm and to inform local residents, e.g. local school, nursing home etc. These measures will be site specific. Operator may need to check emergency planning procedures with Local Authority –**

Whilst page 7 details some of the 'local receptors' within 1km that would be impacted in the event of a large fire on site, not all key receptors have been included. For reference purposes, Schedule 5 issued in response to v5 includes details of receptors that have not been listed in v6. Therefore, please revise this content. Page 12 states key receptors would be contacted as detailed in Appendix B. The measures that will be used to raise the alarm have been detailed in Appendix B – Emergency Action Plan. Page 32 lists contact details for 'key neighbours' to be contacted in the event of a fire, therefore please ensure to update all the relevant parts of this document to mirror the additional receptors.

- **How safe access to the site for fire and rescue services and other emergency responders is achieved –**

Page 23 details 'Access for Emergency Services' as the main gate on the south of the site referring to Appendix A – Site plan 'drawing title: JM Envirofuels Proposed Layout – Fire Emergency' (2017). However, as the storage layout has been revised, please ensure all site plans provide information that is consistent and contemporaneous. Please also refer to Appendix B in the section 'Access for Emergency Services', as page 30 of Appendix B also includes 'Firefighting Services – Access Routes'.

You must include these requirements in your FPMP.

ACTION: The above requirements of the guidance must be included in a revised FPMP.

The guidance requires that you 'should' also include actions to be taken should a fire occur, such as the following.

- **Recycling firewater if it is not hazardous and it is possible to reuse –**

It is not clear whether in the event of a fire, recycling firewater would be the intention, as if it cannot be recycled due to contaminants which the FRS may decide to be the case, the FPMP does not address how the site intends to ensure that it does not contaminate the site's water supply/provision. As the FPMP states that runoff will be controlled and managed through the use of sustainable drainage systems and water harvesting for re-use at the wood waste facility but it does not explain what is meant by 'harvesting for re-use', or if this applies in the event of a fire. Nor is it clear how/if the presence of firewater would compromise the water provision on site, as it appears that the water tank holds the site run-off. The FPMP needs to address how the site's water supply is protected, as page 8 states: 'the tank has no outlet to prevent contaminated water entering surface water (e.g. following a fire). All waste storage areas will drain to the tank.' And if the site's water supply cannot be protected in order to ensure containment of firewater in the event of a fire, the FPMP needs to demonstrate how other available sources of water (that have been mentioned) are accessed in the event of a fire, including proof of any authorisations that are in place and the logistics involved i.e. in crossing the freight trainline (should the line be in operation when access is required).

- **Separating unburned material from the fire using heavy plant.**

- **Using soil, sand, crushed brick and/or gravel (if smoke is threatening local communities) to help suppress the fire, although you can only do this when:**
 - groundwater vulnerability is low
 - agreed as a part of a firefighting strategy by the FRS and supported by NRW
 - contaminated material is removed and legally disposed of as soon as it is safe to do so

ACTION: You shall consider these actions in your FPMP. Where any of these requirement/actions have not been included, give alternatives or explain why they may not apply to your operations.

Section 5 - Site Plan

Following review of your site plan, it does not contain the following requirements as set out as 'musts' in the above section of the guidance.

- **Layout of buildings –**

The four site plans are not drawn to scale. The site plans provided must be drawn to scale with dimensions of the site and include all buildings, stacks and bays, in order to demonstrate that the site can physically accommodate the volumes of waste suggested without compromising access/safety.

The reception bays and the weighbridge have not been identified on the revised plan and the plan must show access points, fire exits & location of utilities of the buildings on site.

There are four site plans that form Appendix A, some of which contain outdated and contradictory information. Whilst more than one site plan can be included as previously mentioned above, consisting of: location plan, site plan and drainage plans, in order to capture all the relevant information required, they must not contradict one another. For example, the revised site plan for the 'storage layout' (Dec 2020) included in Appendix A does not include the reception bays, as still outlined within the FPMP and included on the following site plan: 'JM Envirofuel: Proposed Layout: Product Store (2017)'. The Product Store layout (2017) also does not reflect that the area numbered '12' which would now be an additional free-standing storage area for waste as shown in site plan 'storage layout (Dec 2020)'. Information contained within the site plans must be contemporaneous, omitting any information which is no longer relevant.

- **Any areas where hazardous materials are stored on site (location of gas cylinders, process areas, chemicals, piles of combustible materials, oil and fuel tanks) –**

The revised storage layout plan (Dec 2020) does not show any areas where hazardous materials are stored i.e. rejected loads and it does not include the reception bays which would temporarily likely store piles of unscreened/unprocessed combustible materials. Furthermore, no distinction has been made of where

processed and unprocessed material are stored. The infrastructure and stores layout plan (Oct 2017) show the location of oil and fuel tanks, however, please clarify whether the locations have changed given the recent revamp of the storage layout (Dec 2020). Therefore, please revise to include the location of gas cylinders (if applicable), process areas including the weighbridge, chemicals, piles of combustible materials and clarify which plans are now relevant, as the locations of potential ignition sources on site would be relevant in the event of a fire, and information is required to include where treatment/processing activities occur on site in relation to that of hazardous materials.

- **Any watercourse, borehole or well located within or near the site –**

Please ensure this information is included on the site plan. For example, the site plan Drawing Title: 'Fire Emergency' lists 'sea water access' in the key but does not show the body of water (the docks) located within or near the site on the site plan.

- **Areas of natural and unmade ground –**

This information must be included in the site plan and noted in the FPMP if there is no natural or unmade ground that could be affected by the site's operations. Table 1 on page 38 states a potential pathway in the event of 'failure to contain firewater' could be 'absorption to ground' therefore please indicate this receptor appropriately within the body of the FPMP and on the site plan.

- **The location of plant, protective clothing and pollution control equipment and materials –**

The revised storage layout provides the location for 'Plant Maintenance & Storage Area' however it does not specify that it's the location for: protective clothing and pollution control equipment and materials. This information must be included.

- **Drainage systems, foul and surface water drains, and their direction of flow and outfall points –**

The revised plan shows the location of the pump and interceptor have changed since the 2017 plans but does not show the drainage systems, foul and surface water drains, and their direction of flow and outfall points. The Fire Emergency plan (2017) shows a key mentioning 'ABP SW Drainage' and contained site drainage but the location in relation to the plan has not been referenced. The blue arrows suggest direction of flow, but this is an inference that has been made and is not clear from the 2017 plan.

I also note that you have been advised previously that the gully adjacent to the freight train line has also not been included on the site plan.

- **The location of drain covers, and any pollution control features such as drain closure valves and firewater containment systems –**

The locations of pollution control features have not been included in the site plan and must be included. This information on the site plan would also assist in clarifying the sites containment strategy which has been reviewed later in this document and is unclear from the information within the FPMP (for further comments, please refer to relevant section below).

- **Location of "off-site" emergency information pack with site plan –**

The 2017 Fire Emergency site plan shows the location of the 'Emergency Info pack' on site but the plan does not show the location of the 'off-site' emergency information pack on the site plan. This information must be included in the site plan.

- **Location of key receptors such as critical infrastructure, schools, hospitals, residential areas, workplaces, protected habitats and rivers within 1km of the site –**

Whilst I note 'Figure 1: Site Location and Receptors' on page 6 of the FPMP and the information listed on page 7, this information plus additional information must be included on the site plan. Furthermore, this is information that has been provided previously as part of the review of v5, as the FPMP did not include details of *all* the receptors within 1km and is information that has not been included in v6 therefore, please refer to the Schedule 5 for further details.

- **Compass rose showing north and the prevailing wind direction –**

The revised storage layout (Dec 2020) does not include a compass rose showing north or the prevailing wind direction. (I note the 3 other plans have a compass rose but no prevailing wind direction). This information must be included on all site plans.

You must include these requirements in your site plans.

ACTION: The above requirements of the guidance must be included in a revised FPMP.

Section 6 – Common causes of fires and preventative measures

The FPMP should consider where applicable the common causes of fire, some will not apply, others *need* to be included.

- **Arson or vandalism –**

Whilst FPMP states there is site security (Monitored via 24hr CCTV) and fencing to reduce potential for arson and vandalism. As the site is open at the southern point (David Davies Road). The site cannot be fully enclosed due to the freight train line.

ACTION: Please revise the FPMP to include what measures will be in place to ensure that the public cannot access the site, from all access points.

- **Ignition sources –**

The site plan (Appendix A) does not include a dedicated area where shredding will take place. The site layout plan should also demonstrate that there is space to do this.

ACTION: Please revise the FPMP to include this information.

- **Discarded smoking materials.**

ACTION: Please revise the FPMP site plan to include the smoking area.

- **Hot loads deposited at the site –**

The FPMP does not include procedures used to move temporarily stored waste from the quarantine area to allow hot loads to be moved to this area, as adding hot loads to other quarantined waste may still cause fire.

ACTION: Please revise the FPMP to include this information.

Section 7 – Storage times and self-combustion factors

- **Is the applicant storing materials at risk of self-combustion (see list in guidance)?**

FPMP Page 6 states the total amount of Wood waste grade B and C and oversize material to be handled will not exceed 85,000 tonnes per annum.

As states in the FPMP guidance, the FPMP guidance does not replace any statutory requirements for sites controlled under local acts of parliament, the Regulatory Reform (Fire Safety) Order 2005 or other applicable legislation. It is your responsibility to check which statutory requirements apply to you.

The total volume limit in the FPMP exceeds the maximum volume limit in the site permit.

ACTION: Please revise the FPMP to meet the maximum annual volumes limit in the SRP and add volume limits for unprocessed wood, processed wood and fines in tonnes.

- **If yes, are they storing these in line with Table 1 – maximum storage times?**

FPMP does not include storage time for combustible fines/dusts & very small particle size wastes.

ACTION: Please revise the FPMP to include storage time for combustible fines/dusts & very small particle size wastes.

- **If the applicant is storing materials at risk of self-combustion for longer than 3 months, has the applicant demonstrated additional measures they will take, including monitoring? Guidance states they MUST. -**

The storage times for unprocessed wood in the FPMP exceed the maximum storage times in the SPR permit.

Page 17 Section 6.3.3 extended storage programme discusses additional measures that would be applied if self-combusting materials stored more than 3 months. However, storing these materials longer 3 months is a breach of the operators' current permit limit as explained above therefore must be removed from the plan. If the operator would like to amend their permit to include this option, they will need to apply for a permit variation.

ACTION: Please either apply for a bespoke permit or revise the FPMP to remove references

to the extended storage programme.

Has the applicant *considered* adopting the following fire prevention principles? (Guidance states applicant should consider)

- **Reduce risk factors (e.g. exposed metal content, proportion of 'fines', mixing of materials and heat generated during treatment) –**

There are two conflicting statements regarding use of live monitoring system ITOM as Page 12 seems to suggest this system not yet operational and on Page 15, it states processed material is monitored for temperature using the iTOM probes

ACTION: Please revise the FPMP to clarify what is currently used for monitoring temperature.

- **Minimise stacks sizes (small stacks with appropriate separation are safer than one larger one) –**

Page 148 of the plan states the dimensions of each batch shall be approximately 4 metres high, 17.5 metres square, organised in a Maltese cross, with a gap of typically 6-10 metre between each Maltese cross, which contradicts the statement in page 9 of the plan, where it confirms the minimum distance between the configurations as 9m, which is a minimum separation distance for 17.5metres length in line with Graph 1.

Page 15 states the single stockpile will be 12m away from the Maltese Cross but, the location and purpose of this stockpile in FPMP and the site plan is unclear. Is this the unprocessed wood stockpile?

ACTION: Please revise the FPMP to only use minimum separation distance in accordance with the guidance. And, clarify the location and use of the single stockpile.

- **Control moisture levels -**

FPMP includes the information on monitoring processed material and fines daily with ITOM probes, however, the FPMP does not include measures used to monitor unprocessed wood.

ACTION: Please revise the FPMP to include this information.

- **Store material in its largest form prior to processing e.g. do not undertake preparatory treatments such as size reduction of green waste unless you are intending on submitting the waste to the treatment process immediately. -**

The FPMP refers to "BRE Global reports" on iso thermal self-heating. These reports have not been endorsed by the Fire and Rescue Services in Wales or Natural Resources Wales. Therefore, we cannot accept this as information that can be relied upon to support your proposals on storing waste in excess of the maximum storage times as specified in our FPMP guidance.

ACTION: Please revise the FPMP to remove this information.

- **Detect and control hotspots within stacks (Note: steam is a good indicator of self-heating) –**

It is unclear if daily checking of stockpiles includes unprocessed wood and other waste materials or just processed wood.

ACTION: Please revise the FPMP to include this information.

- **Define the maximum storage time of all materials on site and show how this will be monitored and controlled -**

Page 154 (Appendix E) states Fines storage volume limit to 300m³ but it fails to state the storage time. The FPMP guidance limits the storage times for combustible fines/dusts & very small particle size wastes to 1 month.

The storage time for fines not stated.

ACTION: Please revise the FPMP to include storage time for this information.

Please refer to comments and action under section 6 for storage times regarding unprocessed wood and extended storage programme.

- **Minimise external heating during hot weather by shading from direct sunlight -**
Not discussed in the plan.

ACTION: Please revise the FPMP to include this information

Section 8 – Managing waste material stacks and separation distances

Guidance says MUST be used

- Are stack lengths and separation distances in line with *Graph 1* for general wastes such as RDF, SRF (Refuse derived fuel/solid recovered fuel - various types of fuel derived from wastes using various treatment processes), wood, paper etc.

Page 9 of FPMP states the stocks will be stored within Maltese Cross configurations, 17.5m x 17.5m x 5m, each quadrant storing 735m³ (367.5 tonnes per quadrant, 1470 tonnes per Maltese Cross), 1m freeboard and a minimum of 9m between the cross configurations.

But, page 148 of the plan describes a gap of typically 6-10 metre between each maltase cross, which contradicts the statement in page 9 of the plan, where it confirms the minimum distance between the configurations as 9m, which is a minimum separation distance for the length of the maltese cross stacks in line with Graph 1.

ACTION: Please revise the FPMP to apply minimum separation distances in line with Graph 1 and remove references to separation distance anything below 9m for the maltese configuration stacks with 17.5m length.

FPMP states there will be one single stockpile up to 40m x 15m x 4m and this single stockpile will be 12m away from the Maltese Cross. But, the location and purpose of the single stockpile in FPMP and on the site plan in Appendix A is unclear. Is this the unprocessed wood stockpile?

ACTION: Please revise the FPMP to clarify the location and use of the single stockpile.

Page 12 states quarantine area is configured 9m away from stockpiles and 50% volume capacity of the largest pile either an area on the pad (minimum 25m x 15m), or in one of the storage bays. What is the size of the quarantine area?

Page 25, Appendix A includes four site plans, one of which dated as 03.12.2020 and titled JM Envirofuels Revised Storage Layout. One of the site plans in Appendix A, includes the dimensions of the quarantine area as 20m x 6.4m but in the latest site plans, this was taken out. The dimensions of the quarantine area must be clearly defined. In addition, the earlier site plans have other stockpiles that do not exist. If the operator wishes to have number of site plans included in the FPMP, it must clarify what is still relevant and what is not to avoid confusion.

ACTION: Please revise the FPMP including the site plan to confirm the size and separation distance of the quarantine area and only use minimum separation distance in accordance with the guidance.

As part of the applicants' waste stack management protocol they should *consider* adopting the following general fire prevention and mitigation principles:

- Have availability to adequate water supplies or alternative firefighting methods at all times to fight a fire

Following review of your FPMP, it does not satisfy the requirements as set out in the guidance. The operator must resolve the water availability issues set out in section 20 of this document.

Section 11 – Enclosing Stacks Using Bays and Walls

Following review of your FPMP it does not contain the following requirements as set out as should in the above section of the guidance

- **Evidence that the bays/walls provide a period of 120 minutes of fire resistance**

–

Page 10 of the FPMP briefly mentions the radiated insulation properties of the concrete block system in terms of the design of the storage bays however, further information is required on the concrete blocks/storage bay walls to evidence that the bays/walls can provide the required level of resistance.

- **Evidence that the product specification has been established via an approved stockist to ensure appropriate standard of fire resistance** - Please provide evidence that the concrete blocks are produced in accordance with the current standards and provide the appropriate standard of fire resistance.

The BRE Global Report of Appendix D provides a certificate of test for the concrete blocks used in the research, providing the standard as BS EN12504-1-2000, however this British standard has been superseded and does not relate to the site that this FPMP relates. This information is site specific and is therefore required for the concrete blocks used on site.

- **Evidence that the installation method used is in line with the manufactures recommended installation requirements.**
- **Demonstrate full and frequent stock rotation and how this will be monitored and recorded –**

Page 12 of the FPMP states with the demand required for contracted outlets, the bays will be emptied frequently, with bays being filled and emptied in rotation. However, Appendix G suggests bays are filled and only rotated if an anomaly is identified (as per page 16 which states stock rotation is a remedial action if any anomaly is detected during inspection of this material), which does not suggest there is a full and frequent stock rotation using the 'FIFO' approach. **Appendix G provides evidence that some bays are being filled and stored for up to 16 weeks, in breach of the 3-month storage time of the permit.**

The FPMP states contingency plans are in place to divert wood to other Jack Moody Recycling facilities should the need arise (Appendix F), however based on Appendix G 'Extended Storage Programme Monitoring', please clarify in what circumstances does wood get diverted as opposed to implementing the 'Extended Storage Programme' (which is not suitable for use with the standard rule permit). Appendix F details a 'Disaster Recovery Business Continuity and Risk Management Plan' which on page 158, states 'JM Envirofuels Business Continuity Plan will ensure that processes are in place that will be followed in the event of unforeseen events, likely to cause disruption to normal business activities'. Therefore, please clarify if this is then only intended to relate to circumstances where the site is inoperable as opposed to issues with outlets leading to problems with the sites permitted capacity and storage time, as **the extended storage programme detailed is not suitable for use with the a standard rule permit.**

Stock rotation is again mentioned on page 15, stating that 'processed' material will be removed within 3 months of production to ensure effective stock rotation and that batches will be numbered to ensure FIFO is achieved. However, please be aware that processed or unprocessed, material cannot be stored on site for any longer than 3 months, as storage time is stipulated as a permit condition of the standard rule permit.

Appendix G suggests that the extended storage programme has been used since 2018 and does not evidence effective stock rotation.

In summary, the information provided does not suggest 'full and frequent' stock rotation, therefore please evidence how the site uses the management system to ensure 'the first in, first out' FIFO approach, it may be useful to include a stock rotation report, i.e. the date a load came in with the details including bay number, waste type, tonnage, processed date and date it left site.

Please note, the BRE report included in the Appendices is not evidence in terms of storage, rotation and monitoring, as we do not consider BRE as it is not part of the FPMP or WISH guidance. Furthermore, the report included relates to operations at Berkswell Wood Recycling facility and information should only be included that is

relevant to the FPMP that the site relates, as it is a site-specific document.

- **Ensure protection from the wind –**

The south westerly prevailing wind has been mentioned on page 7 and on page 12 you list 'wind breaks', however, please expand on this within the FPMP i.e. where are they located in relation to the prevailing wind to demonstrate they provide the protection that is required.

- **Demonstrate how you intend to check temperature and moisture content of all the material within a bay so that the entire volume of the pile receives representative checks –**

Whilst the FPMP states temperature and moisture monitoring will occur daily for processed stocks at risk of self-combustion, performed at a depth of 1m, this will not be sufficient to obtain a representative reading of the waste piles core temperature, therefore please elaborate.

- **The construction of the walls in terms of how they offer a thermal barrier and enable cooling –**

I note, the BRE Global Client Report includes information on the concrete blocks used to conduct the research which is illegible in Appendix B of the report. But the FPMP must include information/clarification on the construction of the walls at the permitted site relevant to this FPMP.

- **Demonstrate how you will ensure stock capacity will be managed and controlled –**

As previously mentioned, please elaborate on in what circumstances does wood get diverted to other Jack Moody Recycling facilities as per your contingency plan. It may be useful to include a stock rotation report to evidence how it will be managed and controlled effectively, ensuring that site has the capacity to hold the stock and is compliant with the sites permit conditions, information detailing i.e. the date a load came, current site capacity on arrival, allocated bay number, date screened, waste type, tonnage, processed date and date it left site.

- **Demonstrate how you will ensure segregation of materials –**

Please revise the FPMP to ensure this information is included. The FPMP needs to recognise and clearly distinguish between the materials (types and forms) received and stored on site in the site plan and in the body of the FPMP in order to demonstrate how segregation is maintained.

- **Demonstrate how calculation of flame height and radiation has been taken into account in preventing the spread of fire between piles –**

Whilst the BRE report referred to in the Appendices refers to this as part of the research, the FPMP is a site specific document and the FPMP must be revised to ensure this information has been considered to prevent the spread of fire between piles at the site the FPMP refers, and is detailed within the body of the FPMP.

- **Prevention of brands or lighted material moving outside the bay walls**

- **Prevention of bridging across or around walls**
- **How a 'freeboard' space of 1m at the top and sides of the walls will be physically retained at all times –**

Whilst the FPMP states a 'freeboard' space at the top of 1m, it does not demonstrate 'freeboard' space at the sides of the walls, therefore please revise.

- **Demonstrate how the quarantine area will be used and how materials will be moved during an incident –**

Whilst the revised site plan (Dec 2020) shows a quarantine area, page 13 states 'either in an area on the pad (minimum 25m x 15m), or in one of the storage bays, therefore this information requires revision. Appendix A suggests there is a designated area, but the information contained within the FPMP suggests otherwise, therefore please ensure consistency. The FPMP suggests it is also used to quarantine rejected materials, therefore, please consider within the FPMP how the quarantine area can be used during an incident if already in use, ensure there is a process in place and explain how material will be moved during an incident. And if an area on the pad were to be used, it must be large enough to be able to accommodate 50% of the largest pile, and separation distances would be additional space that is required, therefore please demonstrate availability on the site plan (drawn to scale) for the alternative quarantine area. The dimensions of the area on the pad would also require the proposed height in order calculate if the space could hold the volume required.

ACTION: You shall consider the above requirements/actions on enclosing stacks using bays and walls in your FPMP. Where any of these considerations have not been included, give alternatives or explain why they may not apply to your operations.

Section 13 – Waste Stored in Containers

Following review of your plan it does not contain the following requirements as set out as musts in the above section of the guidance.

- **Ensure waste stored in containers that can hold more than 1,100 litres, are accessible so any fire inside it can be extinguished, for all other containers, appropriate stack sizes apply –**

The FPMP must include information on *all* containers holding waste. For example, please provide information on the 'rejects' container stored on the impermeable pavement. Consider the types of waste being stored i.e. potentially mixed waste and/or hazardous waste, the location and how much waste is being stored in this or/any other container(s) on site. Furthermore, please add the location of this container to the revised site plan. For all other containers holding waste, please refer to the appropriate stack sizes as per Table 2 of the guidance.

You must include this requirement in your plan.

ACTION: The above requirement of the guidance **must** be included in a revised FPMP.

Following review of your FPMP it does not contain the following requirements as set out as should in the above section of the guidance.

- **Ensure shipping containers are stacked no more than 2 containers high and secured with a lock outside of operational hours –**

Please provide details of any storage of shipping containers on site. If this is not relevant, please evidence that this does not apply within the FPMP.

- **Ensure you can move containers as soon as is reasonably practicable in a safe manner to prevent a fire spreading and that there are procedures to allow this to happen –**

Please provide details of the procedures in place to move containers, such as the 'rejects container', if required in order to prevent fire spreading.

ACTION: You shall consider the above requirements/actions on waste stored in containers. For the requirements set out as should in the above section, if you do not have any storage of shipping containers on site, please clearly state this does not apply to your operations within the FPMP.

Section 14 Layout of Waste Stacks on your site

Following review of your FPMP, in addition to stack sizes, storage methods/types and appropriate separation distances, it does not take into consideration the following factors that may need to be taken into account in relation to the above section of the guidance.

- **Location of potential ignition sources on your site –**

Whilst potential ignition sources have been identified within the FPMP, you need to consider the *locations* of these sources on site in relation to the site's specific conditions. The locations of which are also required on the site plan, as this would need to be considered in the event of a fire. For example, on the revised storage layout you have identified the location of the 'fuel tank' and a 'plant maintenance & storage area' however please be clear on what would be stored in this location. Also, please consider the location of the processing/treatment areas in relation to the potential ignition sources identified on site.

- **Location/s of occupied buildings and high-asset value equipment and plant –**

The FPMP needs to consider the location of the weighbridge (as an occupied building) in the event of a fire and may need to consider identifying where the high-asset value equipment is on site. The weighbridge for example has not been included on the revised site plan and page 13 states 'welfare and cooking take place in the canteen

area (within the weighbridge building).'

- **Escape and evacuation routes around your site and within buildings must not be compromised by stack layout –**

The FPMP does not provide any detail of the escape and evacuation routes in order to establish whether these routes may be compromised or not by stack layout/proposed quarantine areas in the event of a fire/incident. Appendix B which is the Fire Emergency Plan only states that the evacuation procedures are explained at an employee's induction and that regular checks are made to ensure escape routes and doors are not obstructed.

- **Location of flammable and/or hazardous substances kept on site, such as gas cylinder cages, diesel tanks, quarantine areas which may contain non-conforming wastes etc. –**

Consideration for the locations of *all* flammable and/or hazardous substances has not been demonstrated in the FPMP. The Fire Emergency Plan states 'there are no flammable or combustible liquids stored within the wood yard'. However, this is incorrect as the revised site plan shows the location of the 'fuel tank' and must include quarantine areas that may contain non-conforming wastes such as the 'rejects container' mentioned in the FPMP. Consideration for this information must be demonstrated in the FPMP, as in the event of a fire, this information may need to be taken into account.

- **Locations of on or off-site fire hydrants, other water supplies and fire-fighting equipment, ensuring you do not block access to these with your stack layout –**

The site plan contained in appendix A 'emergency plan' (2017) has not been revised to reflect the revised site layout plan (Dec 2020). The FPMP needs to consider the locations of these firefighting facilities on or off-site in terms of access in relation to the new stack layout.

Also, if water from the dock is available, access routes and authorisation needs to be clearly set out in the FPMP. For example, the off-site fire hydrant crosses the freight trainline, therefore access to this facility must be considered if required when the train line is in operation. Furthermore, the free-standing stockpile on the western edge of the site is next to water tank and a Maltese configured storage area is opposite the sites storage area, therefore please consider if these facilities could be accessed safely in the event of a fire in either of these stockpiles. Further information is also required on the water tanks coupling facility for access by FRS in the event of a fire.

- **Proximity and location/s of any infrastructure which may be affected by a fire, such as overhead power lines, major roads, rail lines etc. –**

Please ensure the FPMP demonstrates consideration of such infrastructure, for example there is a freight train line adjacent to the site. Therefore, please provide additional information on page 6/7.

- **Proximity and location/s of any off-site, third party buildings which may be affected by a fire –**

As previously advised by NRW in the schedule 5 in relation to v5, not all have been included in the FPMP of v6 on page 8 and 9, this therefore requires revision.

It is important to also note that opposite the site is berth 9, where ships off load methanol via pipeline to Navigator Terminals, just above the Docks off Hayes Road. Any large wood/waste fires could affect the ship and pipeline when off-loading. The deliveries are frequent and can last 8–12 hours and the ships movements are dictated by the tides. Methanol is toxic, highly flammable and in such quantities would generate an explosion. Any floating embers etc. would be a risk to the ship and pipeline. The ship has fire prevention measures however, in the event of a fire across the docks, you would need to consider how a fire on site may impact on this activity and how you would notify the site so that they could take any necessary action to prevent ignition of the methanol.

- **Permitted amounts of wastes, and types of waste, allowed on site –**

The FPMP needs to reflect an understanding of the permit conditions, in terms of being clear on the permitted amounts and types of all waste allowed on site, as the FPMP has not been clear on demonstrating this. For example, the FPMP states annual throughput of 85,000 which does not conform to the permitted annual throughput of 75,000 and there are multiple waste streams that need to be considered in the FPMP including: metal, plasterboard, fines, processed wood (woodchip), processed wood (shredded) and unprocessed wood.

- **Location of a ‘quarantine’ area, as appropriate to site specifics –**

Whilst the revised site plan shows a quarantine area, page 13 of the FPMP states ‘either in an area on the pad (minimum 25m x 15m), or in one of the storage bays. This information is contradictory, Appendix A suggests there is a designated area, but the information contained within the FPMP suggests it may be used to store rejected loads. However, in the event of a fire, an area must always be available. Therefore, further details must be included as to the availability of space on the pad, ensuring that this space could hold up to 50% of the largest stacks volume with appropriate separation distances and ensure that the position would not compromise access and/or impede firefighting capabilities. Dimensions including proposed height and volumes (m³) are to be included in order to establish suitability.

- **Operational practicalities such as movements of vehicles & designated routes –**

The fire emergency plan shown in Appendix A and detailed in Appendix B do not demonstrate how logistically, in the event of a fire, vehicles would move around the site safely, it does not identify any designated routes or designated areas for emergency vehicles which in the event of a fire, would need to be considered.

- **Stock rotation requirements, seasonality of supply/off-take etc. –**

The FPMP outlines that the site ensures stock rotation using the FIFO approach however as previously explained above, evidence within the FPMP suggests that the

system is not ensuring the level of stock rotation required. In order to demonstrate exactly how waste is tracked on site ensuring it can be effectively monitored and managed using this approach, please consider including an example of such record keeping from your management system within the FPMP, demonstrating that the requirement for stock rotation has been considered, as well as the seasonality of supply and off-take. I note the revised storage layout does not include numbered bays and/or reception bays which were used to allocate a bay to incoming waste to ensure FIFO therefore, please clarify if you intend on changing the procedure and/or update the revised storage layout (Dec 2020) accordingly.

ACTION: You shall include information to demonstrate consideration of the above factors in terms of the layout of waste stacks on your site. Where any of these factors have not been included, give alternatives or explain why they may not apply to your operations.

Following review of your FPMP it does not consider the following requirements as set out as should in the above section of the guidance.

- **Identify the prevailing wind, where fire water will flow and the firefighting strategy that will be used –**

The FPMP states the prevailing wind direction is South Westerly on page 7 and page 8 states, 'the site infrastructure includes a perimeter drainage channel directing water to the sump for pumping and raised concrete kerbs around the site for containment.', 'All waste storage areas will drain to the tank'. The site plan called 'Fire Emergency' (2017) identifies the pump, there are blue arrows but it is not clear whether these represent where fire water will flow, and the plan does not include the prevailing wind direction. I note from the revised layout site plan that the location of the interceptor and pump has changed, therefore this information in the 'Fire Emergency' site plan needs to be revised.

In terms of where fire water would flow, as the FPMP states 'All waste storage areas will drain to the tank', this tank is understood to be the water tank, if so, **a tank that is used for site drainage is not to be used as a suitable water supply and therefore the FPMP requires revision.**

The FPMP should include this information and would be useful to include these on the plans as well as within the FPMP to demonstrate consideration for these factors. Appendix B 'Emergency Fire Action Plan' states 'this plan covers the action to be taken in the event of a fire' however this document only mentions the firefighting strategy in terms of handling 'hot spots', therefore this requires revision. Furthermore, the sites layout must also be considered in conjunction with the firefighting strategy, in order to establish that it is viable with the available space and the space required to be able to move/segregate material as detailed.

ACTION: You shall include the above information on layout of waste stacks on your site. Where any of these requirements have not been considered/included, give alternatives or explain why they may not apply to your operations.

Section 15 Seasonality and Waste Stack Management

Following review of your FPMP it does not contain the following requirements as set out as should in the above section of the guidance.

- **Provide a technical assessment that shows you have confidence that your proposal will be viable in foreseeable market conditions –**

The FPMP should include this information in order to prove the suitability of materials, the resilience of the supply chain and end user outlets.

- **Demonstrate how you intend to manage materials on site which are subject to seasonal variation in demand and/or supply –**

Whilst seasonal variation in demand and/or supply has been briefly mentioned, the information provided is insufficient and requires revision. The FPMP needs to demonstrate how your waste stack management is viable. It may be helpful including an example record from the sites waste management system in order to demonstrate how the site applies the FIFO principles so that wastes are stored for no longer periods than indicated in Table 1, demonstrating consideration for how waste is managed on site in relation to the challenges faced in terms of seasonal variation. For example, you state production is ramped up in the Autumn in preparation for the Christmas close down, therefore please demonstrate how you ensure that this waste over this period is stored for no longer than is specified in the permit to account for this seasonal variation.

ACTION: You shall include information on seasonality and waste stack management. Where any of these measures have not been included, give alternatives or explain why they may not apply to your operations.

Section 16 Monitoring and Turning of Stacks

Following review of your FPMP it does not contain the following requirements as set out as should in the above section of the guidance.

- **Ensure staff are trained to detect and manage hotspots –**

Whilst hot spots are explained on page 13 and page 31 (Appendix B) details the process of managing hotspots and page 22 includes a section on staff training, please indicate within the FPMP the training required by staff in order to detect and manage hotspots in the relevant sections.

- **Piles are monitored regularly, and temperature increases and changes in moisture content are minimised –**

The FPMP only refers to daily monitoring of processed wood. Information on

monitoring of all combustible waste types on site should be considered within the FPMP. However, as advised previously within this document, waste should not be stored for more than 3 months, as this would be in breach of the permit and therefore, the extended storage programme which details temperature and moisture monitoring must be removed from the FPMP.

- **Ensure the equipment used to detect temperature and moisture content can operate at any depth throughout the pile –**

The handheld probe and/or iTOM probe used must be capable of operating to the depth of the proposed stack. Therefore, please clarify whether the probe can operate at the site-specific waste piles depths within the FPMP. As Appendix E, '4.1.1 Monitoring Equipment' does not specify this information and '4.2.1 Process validation phase Monitoring Table using the hand-held probe' states that temperature readings are taken 'at a minimum of only **1m below surface**' and moisture content 'at a minimum of **0.5m below surface**'.

ACTION: You shall include the above information on monitoring and turning of stacks/piles. Where any of these measures have not been included, give alternatives or explain why they may not apply to your operations.

Section 17 – Fire Detection

Guidance states the applicant should include the following:

- **When deciding what type of system to install you need to take into account that:**
 - **the fire and rescue service may not be able to enter the building during a fire**
 - **a suppression system may not extinguish a fire, although it may prevent a fire spreading and then allow the fire to be fought effectively by the fire and rescue service**
 - **the water supply to a fire system is reliable and adequate at all times.**

ACTION: Following review of your FPMP, it does not satisfy the requirements for water supply to a fire system as set out in the guidance. The operator must resolve the water supply/availability issues set out in section 20 of this document.

Section 18 – Fire Suppression Systems

Has the applicant considered fitting the following? (guidance states that they SHOULD consider)

Fire suppression systems such as:

- Water monitors/cannons/curtains

ACTION: Please revise your FPMP to include this information.

Section 19 – Firefighting Strategy

Does the applicant have the following resources?

- Available water supply

ACTION: Following review of your FPMP, it does not satisfy the requirements as set out in the guidance. The operator must resolve the water availability issues set out in section 20 of this document.

Section 20 – Water Supplies

Have they considered the following? (Guidance states applicant MUST have adequate water supplies)

- **Has the applicant demonstrated that they will have sufficient water supplies available on their site to manage a worst-case scenario incident -**

The FPMP guidance states you must have sufficient water supplies available to your site for firefighting to take place and to manage a worst-case scenario incident (e.g. one (your largest stack) or more stacks on site are on fire) therefore your water supply requirement in the plan must be based on the largest stockpile. Guidance also states a 300m³ stack of combustible material will normally require an average water supply of at least 2,000 litres a minute for a minimum of 3 hours, consequently, the calculation on page 8 of your plan is incorrect.

ACTION: Please revise the FPMP to include correct water supply calculation based on a worst-case scenario incident (e.g. one (your largest stack) or more stacks on site are on fire) as defined in the guidance.

Page 8 states total storage capacity on site for fire prevention is 1million litres in surface water tank. However, in one of the site plans; the water tank is marked as 1.5million litres but throughout the plan it is stated as 1million litres except on page 8, where it states in brackets that the tank has 33.5% extra/free space storage capacity. It is unclear, how much water is currently in the tank.

ACTION: Please revise the site plan to confirm the size of the tank and how much water it holds.

The plan states that the tank will be filled from surface run-off, along with a 4" mains fed supply to ensure that the tank has sufficient guaranteed water in storage. The tank

has no outlet to prevent contaminated water entering surface water (e.g. following a fire). All waste storage areas will drain to the tank.

The site drainage cannot be used as water supply to fill the tank for water availability as there is no mechanism to decontaminate water and stop fines and litter entering the tank; over time this could accumulate in the tank and create a sludge type material that would fill up the tank which could prevent water being accessed in the event of a fire. In addition, there is no mechanism in the tank to stop drainage water overfilling the tank.

ACTION: Please revise the plan to remove drainage water from the fire prevention water supply strategy.

The revised site plan (Appendix A dated 03.12.2020), shows a pump, interceptor and catch pits and connection point into the tank.

FPMP states that couplings on the storage tank will be compatible with Fire service equipment. However, recent site visits confirmed that this is not the case. Furthermore, there are number of points need to be clarified in the plan to assess if there is adequate water supplies.

- Who owns and operates the above-mentioned infrastructure shown on the revised site plan?
- Where is the 4inch mains connection to the tank?
- How does the operator know, how much water there is in the tank?
- Is the tank fitted with a level indicator and the water main valve is operated to check?
- Couplings not marked on the storage tank, where is the couplings on the storage tank? Without a connection point available, it is not possible for the fire service to access this water.

ACTION: Please revise the plan to include information to provide answers to the above questions.

Page 21 states access to water will be from the 1million litre site tank, a 3inch water main on site and two Fire Hydrants within the site. There is also the availability to abstract water from the Port (subject to consent from the Port Authority and agreement from FRS).

ACTION: Please revise the plan to clarify if there are two water mains on-site one 4 inch as in Page 8 and one 3 inch as in Page 21.

If you propose to use water from the hydrant in the event of a fire, please provide information on the flow rates from the fire hydrant to ensure that they meet sufficient requirements to supply sufficient volume of water.

ACTION: Please revise your FPMP to include this information.

If you propose to use water from the hydrant provide evidence that you have

permission to access this water.

ACTION: Please revise your FPMP to include this information.

If extracting water from the dock is part of the fire strategy for the site, you will need to ensure that a suitable hard standing abstraction point is in place. The FPMP must also consider how the FRS will access the water with the presence of the freight line and the waste stored by the neighbouring site on the berth.

Due to the freight line and the waste stored by the neighbouring site that the FRS may be prevented from accessing the site in this area and therefore maybe prevented from accessing and using water from the dock.

ACTION: Please revise your FPMP to clarify the main supply of water to be used during an incident, providing detailed measures that will be in place to demonstrate that the FRS will have immediate access to this water supply and that this will not be infringed in any way.

The plan states that the run-off will be managed via a pumping chamber and surface mounted 1million litre tank shown on the site layout drawing and as discussed above the run-off is used for water availability.

Page 8 of the plan states the new area for operating is approximately 15310m². Taking a M5-48hr event of 50mm a runoff volume of 7655m³ would be generated at the site.

Calculation for a runoff volume if based on 50mm appears to be incorrect.

ACTION: Please revise the FPMP to include the correct calculation.

Section 21 – Managing Water Run-off

Following review of your FPMP it does not contain the following requirements as set out as musts in the above section of the guidance.

- **The local groundwater and surface water bodies**
- **Any well, spring or borehole within 50m used for the supply of water for human consumption, including private water supplies**

You **must** include these requirements in your FPMP.

ACTION: The above requirements of the guidance must be included in a revised FPMP. Where any of these requirements have not been included, give alternatives or explain why they may not apply to your operations.

Following review of your FPMP it does not contain the following requirements as set out as

should in the above section of the guidance.

- **Detail where run-off goes -**

The FPMP states that all surface waters will drain to a centralised storage facility on the existing site. There will not be any discharges off site. However, clarification on how firewater run-off will be contained is required. Please clarify what is meant by the 'storage facility' and its location on site. Whether this is the water tank (above ground) and/or would be isolated (below ground) in the sump, being clear on how/where it will be contained and if it cannot be contained in the sump, whether this will contaminate the water tank, if there is water still available on site in the event of a fire.

- **Ensure firewater will be contained. Specifying any secondary or tertiary containment –**

The FPMP states the sites infrastructure, drainage and channel system and storage tank will ensure containment of fire water, however further clarification is required.

It is not clear how firewater run-off will be contained in order to prevent contamination of the water provision. The FPMP states 'there are no outlets to allow drainage off site, containment of potentially contaminated firewater will be in the **storage tank** and that firewater run-off will be addressed by the sites infrastructure, 'Water - pad constructed with falls to contain run-off, all run-off collected in **above ground tanks**.' The FPMP also states the tank has no outlet to prevent contaminated water entering surface water (e.g. following a fire). All waste storage areas will drain to the tank.

You mentioned in a previous visit that firewater run-off could be captured in the sites drainage system before entering the water tank. Therefore, please clarify if it will be isolated in the drainage system before the water tank is empty and available for containment in the FPMP. As the multipurpose use of the water tank without a facilitate to isolate firewater could present a problem during an incident due to contaminants and the FRS may deem recirculation inappropriate, rendering the sites water provision un-usable once the sites supply becomes contaminated. Therefore, please provide clarification in the FPMP as in the event of a fire, this information will need to be considered for a decision to be made by the FRS.

Please also clarify if the 'above ground' tank referred to is the 'water tank'. If not, please indicate/clarify the location of this tank on the revised site plan, as the only tank on the site plan is the sites water tank.

Page 41 states 'The site will have an impermeable surface, with waste handling areas drained to an **underground storage tank**.' Please clarify whether this is in reference to the sites sump and if it then gets pumped to the tank above ground (i.e. the water tank). If an underground storage tank forms part of the site's containment strategy, please also specify the tanks capacity.

The FPMP is not clear on whether it would be the sites intention to recirculate once it begins to collect in the same tank as the water supply, as segregation has not been

addressed. Therefore, please eliminate any inference that may be taken from this information.

As there is uncertainty surrounding the water provision as detailed above, alternatives such as the dock must be appropriately addressed within the FPMP, including evidence of authorisation and clear procedures on how these alternatives would be accessed in the event of a fire. It is insufficient to state: 'there is also the availability to abstract water from the Port (subject to consent from the Port Authority and agreement from FRS)'. As access to this alternative water supply appears would be accessed by crossing the freight train line, times that this line runs and who should be contacted to ensure the line is free to be crossed in the event of a fire, should be considered in the FPMP.

Details of using tankers to remove excess/contaminated water off site, if the site were to reach full containment capacity, should be included in the FPMP. Page 9 briefly mentions organising tankers to remove excess water from the site should the situation arise however, details of the logistics are required in the FPMP including; contact details, procedures etc.

- **Ensure the measures are suitable, considering the size of the site, the amount of combustible material stored and the firefighting strategy** - To ensure that the measures are suitable, there needs to be clarification within the FPMP. Please establish the sites overall capacity to contain run-off i.e. the maximum amount of water that the infrastructure of the site can retain. The CIRIA document '[Containment systems for the prevention of pollution \(C736\)](#)' states consideration is needed as to the quantities of firewater that are likely to be produced throughout the incident (not just first response), the rate at which runoff will be generated and **how this will be successfully managed and retained for the largest stockpile which would now be the freestanding storage area, however v6 details firefighting water calculations are based on a '(stockpile of 750 m3 for 4hrs) on page 8.**

If the sites intention is to recirculate firewater as part of their containment strategy, which is implied if draining all run-off to the storage tank (which at present, is understood to be the sites water tank), **this is not suitable therefore, please demonstrate a clear understanding within the FPMP that the sites drainage tank cannot be used as the water supply, nor would the sites drainage be considered effective if it were the expectation that it has to be continually full in order to provide the water supply that would be required in the event of a fire.** It is insufficient to state the management in emergency situations and the initiation of the emergency plan – **including the management of fire water**, is the responsibility of the Company Director/Site Manager. Details of the procedures are required. The emergency plan does also not detail procedures regarding the management of firewater. It would likely be deemed unsuitable for re-use by the FRS, therefore other procedures for containment must be in place and detailed in the FPMP.

- **Identify any environmental risk to the surrounding area i.e. groundwater/watercourses/habitats etc.** - This has been highlighted in the

appendices, 'Table 1 – Potential environmental hazards, pathways & receptors', however, please include this with the receptors listed in the body of the FPMP.

ACTION: You shall include information on managing water run-off. Where any of these measures have not been included, give alternatives or explain why they may not apply to your operations.

Section 22 – Designated Quarantine Area

Following review of your FPMP it does not contain the following requirements as set out as should in the above section of the guidance.

- **The location of the quarantine area and the volume of waste that it can hold –**
I note the locations provided and dimensions are inconsistent and therefore require revision. Appendix A identifies a quarantine area of 20m x 6.4m (if outdated, please revise site plan) and shows a location, however, page 13 states 'either an area on the pad (minimum 25m x 15m), or in one of the storage bays.' For operational reasons, it appears you may want to keep the location of the quarantine area flexible. If so, you should identify on your site plan all the areas you could use, as you should keep at least one specified quarantine area clear at all times – unless it is being used in the event of a fire.

Providing a site plan is drawn to scale, it can demonstrate that there would be enough room available to accommodate the room required, also allowing for sufficient separation distances around the perimeter.

Page 13 states that quarantine area allows for '50% volume capacity of the largest pile'. The dimensions provided for the quarantine area(s) do not allow for the volume to be calculated as they do include the proposed height, therefore evidence of this calculation must be included to demonstrate that the designated area(s) could hold 50% volume of the largest pile.

- **Ensure the quarantine area could hold at least 50% of the volume of the largest stack –**
The one stockpile of 40m x 15m x 4m would be the sites largest pile, therefore the dimensions of the quarantine area given as 20m x 6.4m (assuming the height of which would be no more than is permitted by the FPP guidance of 4m, as this has not been provided), this area would not allow for 50% volume of the largest pile. Therefore, please recalculate and revise this content as it may be outdated content as the site plan is dated 2017.
- **Ensure the quarantine area has a separation distance of at least 6 metres around the quarantined waste (this can be decreased if concrete bunkers/walls will be used) –**

Whilst page 13 states a separation distance of 9m away from stockpiles, please clarify what the separation distance would be if an area on the pad were to be used as the quarantine area (identifying all the areas you could use on the site plan).

- **Ensure if material is to be stored temporarily in the quarantine area, that procedures are in place to move the material as soon as is practicable. These procedures should be included in the FPMP –**

Page 15 of the FPMP states 'waste will be removed to the quarantine area for secure storage, prior to off-site removal to an authorised facility'.

If you use your quarantine area to store material temporarily for non-permitted waste or rejected loads, you should make sure you can remove those wastes as soon as is practicable. As in the event of a fire, you must remove those wastes immediately and your FPMP should include details of the procedures you will use to do so. The FPMP therefore requires revision to include the procedures in place to move this material.

ACTION: You shall include information on a designated quarantine area. Where any of these measures have not been included, give alternatives or explain why they may not apply to your operations.

23 – During and After an Incident

The FPMP must have contingency measures in place for dealing with issues during and after a fire. Following review of your FPMP it does not contain the following requirements as set out as must in the above section of the guidance.

- **Diverting incoming wastes to alternative sites during a fire –**
Page 7 of the FPMP mentions diverting waste in the event of plant breakdown/temporary closure of outlets, however, does not state whether this measure would be taken during or after a fire/incident. The emergency response checklist for use during/after an emergency on page 163 also does not detail diversion of incoming wastes to alternative sites during a fire. Therefore, please include this information in the FPMP.
- **Contractors that might be used to assist with additional plant for firefighting techniques, removal of waste material, containment and removal of excess water run-off –**
Please revise the FPMP to include this information.
- **How you will clear and decontaminate the site –**
7.4 Post Incident Actions of the FPMP does not specify how potentially hazardous/contaminated material will be removed/disposed of, it merely states it will be removed. Therefore, please clarify how within the FPMP.

You must include these requirements in your FPMP.

ACTION: The above requirements of the guidance must be included in a revised FPMP.

Non-Compliance Score

Condition 3.4.1 states “The operator shall manage and operate the activities in accordance with a written fire prevention plan using the current, relevant fire prevention plan guidance.” The current FPMP ‘v6’ submitted by the “operator” does not meet the requirements set out in the current, relevant fire prevention plan guidance and NRW do not agree to the use of FPMP v6.

Please be aware, site should continue to operate in accordance with a reviewed and agreed version of the FPMP, until such time that a revised FPMP can meet the standard required by the FPP guidance and has been approved by NRW.

END

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

What are suspended scores?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry and Waste action criteria (used in section 1 and 2):**A: Permitted activities**

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.