



**DEVON &  
SOMERSET**  
FIRE & RESCUE SERVICE

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Chief Fire Officer

**Mr Tom Dunn**  
**South West Wood Products Ltd**  
**Eclipse Works**  
**Ascott Rd**  
**Meare**  
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**Somerset Command**  
**East Group**  
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Dear Mr Dunn

I am writing to you in my capacity as the East Somerset Group Commander for Devon and Somerset Fire and Rescue Service (DSFRS) in reference to your Fire Management Plan and our response to any potential incidents at your works.

#### **Background**

In response to a request from your company to advise on your Fire Management Plan, Station Manager Phil Picton, who is the Local Risk Manager covering this area, met with you and your Operations Manager to gain an understanding of your processes and risks posed to firefighters and the environment in the event of a fire. Following on from this, a further meeting was arranged to include Environmental Agency (EA) Officers. This ensured all parties understood the priorities and concerns of the others and fostered an environment of cooperation to meet the aims of all concerned.

#### **Fire Service Perspective**

The Fire Service does not have any legislative or enforcement powers over the storage and processing of wood waste other than the Regulatory Reform Order (Fire Safety) which only applies to the buildings onsite and not the outdoor processing areas. However, we do carry out site visits under the Fire Services Act 2004 with a view to improving Firefighter safety by having familiarity with the site, the processes and the risks posed. We will where necessary produce Site Specific Risk Information (SSRI) documents which are available to all crews via on-board mobile data terminals to support our initial actions to work in conjunction with the site owners operators to bring the incident to a satisfactory, safe and timely conclusion. This process minimises the risk to Firefighters, impact on the environment, impact (cost and resources) to DSFRS and impact on the business concerned.

The Fire Service nationally is engaging with the EA in the form of Memorandums of Understanding between the EA and Chief Fire Officers Association (CFOA). These Memorandums are designed to ensure cooperation between the EA, Fire Services and the waste contractor to mitigate harm to the environment in the event of fire.

#### **DSFRS Plan**

We are in the process of producing an SSRI for this site. This will detail;

- Initial actions and considerations for the first appliances in attendance

- Hazards and risks present on site.
- Resources available from South West Wood Products
- Operating protocols with non-fire service personnel
- Environmental protection measures and considerations.
- Contact details for site managers (out of hours).

We will review the SSRI annually and local crews will carry out familiarisation visits as required. In addition DSFRS will arrange with South West Wood Products to carry out joint exercises as required to test the fire plan and reinforce joint working and cooperation.

We will update our plans and make recommendations to the site operator where necessary.

#### **South West Wood Products Mitigating Measures**

South West Wood products have an array of existing, and proposed measures which in our opinion will mitigate the effects of fire on DSFRS and the environment. These measures enhance our plan and are fundamental in a successful early conclusion to a fire at this site.

Existing measures;

- Fire suppression systems on all machinery
- Good housekeeping by moving and cleaning all machinery each day
- Damping down all areas all day every day
- Stock rotation and rapid finished product turnover
- Strict no smoking policy on site
- Regular temperature checking of finished product piles
- Waste wood inspection as it arrives on site
- Firefighting equipment including fire pumps, water bowsers, hoses and branches
- Ample accessible water supply
- 24 hour monitoring of site.
- Large scale machinery to assist in firefighting operations used by trained operators available within minutes of a fire being detected.

Proposed enhanced measures;

- Upgraded CCTV system which links to mobile phones for instant actions
- New temperature probe (6m long) to test temperatures deep into stock piles
- New temperature monitoring and recording regime with trigger points and actions associated with given rises in temperature
- Upgraded pumps and firefighting equipment which is compatible with fire service equipment
- New clay lined containment ditch and lagoon around the site, adequate to capture any water run-off from firefighting
- Access to containment lagoon to recycle any water run-off for further firefighting activities.
- Firefighting training for staff from a reputable training provider



- Emergency Breathing Apparatus training and equipment for staff to enable them to operate machinery in a smokey environment
- Joint training with local fire crews
- Reorganisation of the site layout with a restriction in the size of piles of both waste wood and finished wood chips to manageable and practical sizes.
- Separation of finished product by concrete walls in zone 2 (enclosed area)

#### **Joint Exercise**

Recently, on the 16<sup>th</sup> May 2016, DSFRS and South West Wood products jointly ran an exercise to test and prove the operating protocols between both organisations and to evaluate the practicality of managing a fire in a finished product pile of the new proposed size. I attended this exercise with Station Manager Phil Picton and yourself to evaluate and assess the effects and benefits of working together with machinery on firefighting operations.

It was immediately obvious to all present that using the large scale equipment available, that piles of this size could be dealt with quickly, safely and effectively by working together. We would estimate that we could extinguish a fire in a pile this size in between 1 and 2 hours with minimal amount of water run-off.

#### **Conclusion**

Overall I have been impressed by the cooperation and management engagement shown by South West Wood products to us to develop plans to mitigate the effects of fire on DSFRS and the environment.

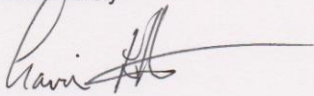
Whilst I cannot deduce exactly what the impacts of a fire would be due to amount of variable factors that exist, I am satisfied that South West Wood Products and DSFRS will have done everything possible to reduce the impacts of a fire at this site. The plans which have been drawn up, your Fire Management Plan and our SSRI will ensure a continuity of actions and continued effective cooperation.

The availability of powerful machinery means that unaffected waste and product can be moved with ease to prevent it becoming involved. The machinery is also capable of moving affected products to enable quick and effective extinguishing of the fire.

When these types of fires become drawn out and protracted this is generally because we did not have access to appropriate machinery and/or water sources. Both of these factors have been adequately addressed at your site.

Providing all the existing measures and the proposed measures are implemented and maintained I am confident we could jointly deal with any incident on your site effectively and efficiently with the minimal amount of impact on our resources, the environment and your business continuity.

Yours sincerely



**Gavin Ellis**  
Group Commander – East Somerset



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### **ECLIPSE WORKS SITE FIRE PLAN VISIT 23.04.2016**

Good Afternoon Tom

Thank you for inviting me to the site earlier today, to undertake and assess the fire plan that has been developed by Land and Mineral Management.

As discussed, the document details an extremely comprehensive and sound assessment of the fire risks at the site and the environmental impacts that these could pose if not properly managed.

The document in itself is clearly a good starting point and I was also pleased to see that you already have a rigorous and proven method of undertaking fire prevention at the site. I was also pleased to see a local fire officer going through the plan alongside you. Local authority help and knowledge of the site is extremely important should they ever need to make access to the site in an emergency.

The observations that I have made whilst visiting your site, will I hope, help to add further detail to the fire plan, to ensure that you are fully compliant with all of the agencies that oversee your operations.

On arrival at site I was encouraged to see a good level of Health and Safety not only promoted, but enforced, to ensure that all visitors and contractors know of their responsibilities whilst operating or visiting the site. As I mentioned this ultimately sets out your stall as a conscientious business and encourages others to follow your example.

#### **Section 1 Site Analysis and Storage Operations**

The site is a complex operation, and from the outset I could see from your paperwork and the site plan that a clear loading and unloading strategy is followed, this clearly reduces the

risks of self combustion which is one of the principal hazards of processed and un-processed wood sitting for long periods of time without being moved.

The environment agency as I am sure you are aware recommends that processed wood chippings do not sit for any longer than 3 months, looking at your processing paperwork you are currently importing between 3000-4000 tonnes weekly. Your exporting figures are similar and sit also around 3000-4000 tonne mark. This would mean that on average per week you are turning around between 75% and 100% of all imported un-processed wood. This speed in turnaround means that the chances of self-combustion are very low, however I was encouraged whilst at the site to see that a system of probing is still in place and a detailed record of when this is happening is being kept.

When questioned on what would happen if a hotspot or spontaneous combustion occurred I was presented with an extremely robust plan of action within the fire plan. The site manager and leading staff were able to talk me through all of their actions and the ways in which they would extinguish the fire in a controlled and well-managed way.

By assembling an experienced team and thinking through your actions the likelihood of fire spread would be minimal alongside other measures that are already in place.

### **Suggestion**

All staff should go through a period of training in the ways of spotting a spontaneous combustion and practice the different ways of raising the alarm, and also the processes that need to be followed and the techniques needed to extinguish the fire. It is important that all staff go through mock scenarios to ensure that in a real situation they are able to act swiftly and effectively. It also means that if a member of staff who is a key decision maker is off-site, somebody else will be able to step into their shoes.

It would also be advisable to invite the local fire service to undertake an exercise with you to ensure that you are all aware of each other's actions and responses. The fire services knowledge and expertise in extinguishing fires will also reassure agencies that oversee your operations that you are working to reduce any environmental impact in the unlikely case of a fire breaking out.

When undertaking training and for post training analysis, I would suggest filming the scenario in order to work out how long your response will take and the timeline in achieving a fully extinguished fire.

## Section 2 Examples of good practice

As has already been noted the process of sampling and probing processed wood is already well established and documented.

I observed as well, that you have a very good system in place to ensure that un-processed wood is being constantly kept wet by means of a tractor sprinkler system. This process as I am sure you are aware works two fold in:

1. Helping to ensure that un-processed wood stays damp and lowers the chances of it combusting when it is processed.
2. That it helps to keep the dust down on the site, which in itself could constitute a clear safety hazard in drier seasons by:
  - Reducing visibility causing a possible vehicle accident, which could lead to a fire.
  - Ensuring that the machinery on site is less likely to develop faults or become fire risks due to clogging up of components again leading to fire risks.
3. All vehicles on site are regularly maintained and have their own fire suppressant systems, auto cut offs and a system of shut down 1 hour before the end of the day to allow them to cool and be cleaned by high-pressure air hoses. This is further evidence of a good fire management system and another example of good practice.

## Section 3 Zoning of processed and un-processed wood

The diagram that I have been provided with alongside the visual inspection and explanation by staff on site has painted a picture of a process with a high turnover of finished and un-finished product. The zoning system as detailed on the plans by Land and Mineral show:

- **Zone 1 and Zone 4:** Un-processed wood zone 1 has 8 rows clearly separated by a minimum of 6m side-by-side and 20m end to end. This standard size of firebreak allows for adequate access to the area in the event of a fire and good fire separation to reduce the risk of spread. The likelihood of the fire spreading from row to row is very low due to the systems and the procedures the company already has in place. There are really only 2 main reasons why un-processed wood would be at risk of fire in this location.

1. A vehicle or machinery fire that has not been extinguished by the vehicles fire suppressant system, and then spreads to the un-processed woodpile. Although this is highly unlikely please see suggestions at end of this section to mitigate this risk further.
2. Arson or hostile act. The most likely case for fire in the un-processed zone would be because of an act of arson. Although the security on site to date is adequate, a system of motion sensing CCTV should be installed to detect intruders. (See suggestions at end of section)

In Zone 4 the area here is used occasionally to store a larger amount of un-processed wood in the event of a large order needing to be placed. Again good management and spacing of piles of around 24 meters in separation reduces dramatically the chances of a fire spreading in the unlikely case of an ignition. On the day this pile was being continuously soaked alongside a process of soaking the piles in Zone 1.

- **Zone 2, 5, 6** Storage of processed wood. The area in which the processed wood is currently stored is a large open barn area, and an open area to the south east of the site. The barn in time will become completely open on 3 sides to allow full vehicle access.

The storage here is currently well managed and monitored and this is where the focus of the probing takes place. As mentioned earlier the main areas of concern here is of self-combustion, however a period of around 2-3 months would need to elapse before the de-composition would become such that any heat will be generated.

### **Suggestion**

To protect further Zone 1 and 4 from a possible vehicle fire, which hasn't been extinguished by the vehicle fire suppressants, a mobile trolley unit of 100kg of powdered fire fighting equipment could be stationed within Zone 1 to enable a quicker reaction to a possible vehicle fire, thus slowing or stopping the spread to the un-processed piles.

To further protect Zone 1 and 4 a motion sensing CCTV system should be installed to protect against intruders and people intent on arson. I have noted that this is something that has already been discussed however on the drawings the CCTV units are not located in the correct position and only cover the internal movements of the site. To fully protect and

mitigate the chances of arson, perimeter CCTV needs to be installed covering all possible entries to the site and this needs to be on a 24-hour monitoring call out system. That way any hostile acts can be thwarted and intercepted before they take place.

To protect further Zone 2, 5, and 6 a new system of probing is being devised. Due to the depth of some of the piles within the processed storing area investment in a deeper probe of around 6m will help the site to monitor the centre of the piles and allow for larger quantities to be stored. Alongside this the removal of 3 of the sides of the building at Zone 2 will allow for greater access to the stored piles and further probing to take place, maximising the chances of detecting hot spots earlier and allowing suitable action to be undertaken.

The area between ZONE 1 and ZONE 2 is 45 metres

The area between ZONE 2 and ZONE 4 is 27 meters

The area between ZONE 4 and ZONE 6 is 21 meters

The area between ZONE 2 and ZONE 5 is 27 meters

The spacing between each zone is more than ample in protecting each zone independently from a fire. If a fire were to break out, with the management already in place the fire is unlikely to leave its zone even in the instance of a strong prevailing wind.

The chances of a fire occupying the whole site with the management and fire action plans that are already in place is extremely unlikely, a well controlled system of separation, actions of discovery and a robust fire plan enable me to say with confidence that a fire would be contained and isolated to a very small area.

## **Conclusion**

The operations at Eclipse Works are complex in nature but through a careful and well-managed system they have traded successfully and without incident for the last 6 years.

The processes that they have in place and the competency of the staff are paramount in their continued success. The fire plan document is one of the best I have seen in a number of years and has really covered most hazards and risks that can be found on the site and the ways in which these can be, and are being managed.

I was impressed with the responses that I received when asking questions about the site and the ways in which they would react to minimise damage to not only their stock but also to the wider environment in the case of an uncontrolled fire breaking out.



It is also important to note that the chances of a fire breaking out in the traditional sense is extremely low and that the likelihood of a pile smouldering if left for a long period of time is the more likely case, however with the quick turnaround of processed and un-processed wood the piles are not at risk of sitting for much longer than a week, completely mitigating the chances of self-combustion.

I believe the company at this point is doing all it can to alleviate the risks to the wider environment with its processes and actions, like any organisation it is not infallible and it must continue to be robust in its approach to fire management, health and safety and the environmental impacts of a failure in these processes.

By following the guidance and suggestions reported in this document they will be able to further enhance their operational safety, lessen their environmental impact and further promote their organisation as a responsible business to the legislative authorities.

Ben Limbrick Grad IOSH

Director

First Aid and Trauma Training Ltd

