

Alexanders Timber Design Limited
Portland House, Harbour Road, Troon, Ayrshire

Permit Variation

Permit Number: PPC/A/1133571

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1 Non-Technical Summary of Determination

Provide a non-technical summary of the process and determination

This permit variation application is for the addition of a second timber treatment autoclave at the Alexanders Timber Design (ATD) site, along with the necessary infrastructure. The new autoclave will process an additional 150m³ of timber per day and will treat the wood to Use Class 1, which is for internal use and kept dry. The treatment process involves:

- Storing untreated timber.
- Loading the timber onto a trolley winch system.
- Moving the timber into the pressure treatment vessel.
- Sealing the vessel and introducing a water-based preservative.
- Treating the timber for about 50 minutes to allow shallow preservative penetration.
- Removing the chemical using a pump and opening the vessel.
- Using a trolley winch to remove the treated timber.
- Drying the timber on a rack.
- Packaging and storing the treated timber before dispatch.

The treatment uses low pressure, and the preservative chemical Protim ME7 as detailed in within the application documentation.

The treatment chemicals used on site are water-based and classified as Relevant Hazardous Substances (RHS) because they contain biocides and/or fungicides, which can harm the environment if released.

The treatment area has an impermeable surface, a ramped inlet, kerbed perimeter, and containment sumps to capture all treatment solutions under normal and abnormal conditions. Wood preservative deliveries are made by bulk tanker within the bunded area, and chemical tanks have high-level alarms and volume indicators. Anti-foam is delivered in sealed, labelled containers. Timber treatment chemicals are stored in a bunded area, and treated wood only leaves the site once it's dry and drip-free, as per draft SGN 11 guidelines.

The main environmental risk is the potential release of chemicals or residues to soil, groundwater, or water sources. Controls to prevent this include impervious flooring, kerbs, bunding, and the operation of the process in a covered area.

Glossary of Terms

ATD	Alexanders Timber Design
BAT	Best Available Techniques
BREF	Best Available Techniques Reference Document
BAT-C	Best Available Technique Conclusions
DAA	Directly Associated Activity
ELV	Emission Limit Value
CO	Coordinating Officer
STU	Stationary Technical Unit
WTBREF	Best Available Techniques (BAT) Reference Document on Surface Treatment Using Organic Solvents including Preservation of Wood and Wood Products with Chemicals

2 External Consultation and SEPA's response		
Is Public Consultation Required? (if no delete rows below)		Yes
Advertisement Check:	Date	Compliance with advertising requirements
Edinburgh Gazette	16 Feb 2025	Yes
Officer Checking advert:		
No of responses received	0 (Zero)	
Summary of responses and how they were taken into account during the determination:		
No response received		
Summary of responses withheld from the public register on request and how they were taken into account during the determination:		
No response received		
Is PPC Statutory Consultation Required? (if no delete rows below)		Yes
Food Standards Agency:	Consulted 20 Jan 2025:	
Health Board:	NHS Ayrshire and Arran, Consulted 20 Jan 2025. Response 29 Jan 2025: We have no public health concerns in terms of the emissions from this installation.	
Local Authority	South Ayrshire Council, Consulted 20 Jan 2025. Response 03 February 2025: After reviewing the attached documentation, we have no comments in regards to this application.	
Scottish Water	Not consulted, no discharge to sewer.	
Health and Safety Executive	Not consulted.	
NatureScot	Not consulted.	
Discretionary Consultation required? (if yes provide justification and details below, otherwise delete row)		No
Enhanced SEPA Consultation required? (if yes provide justification and details below, otherwise delete row)		No
"Off site" consultation required (if yes provide justification and details below, otherwise delete row)		No
Transboundary Consultation required? (if yes provide justification and details below, otherwise delete row)		No
Is Public Participation Consultation Required? (if yes provide justification and details below, otherwise delete rows below)		Yes
STATEMENT ON THE PUBLIC PARTICIPATION PROCESS The Pollution Prevention and Control (Public participation)(Scotland) Regulations 2005 requires that SEPA's draft determination of this application be placed on SEPA's website and public register and be subject to 28 days' public consultation. The dates between which this consultation took place, the number of representations received and SEPA's response to these are outlined below.		
Date SEPA notified applicant of draft determination	23/09/2025	
Date draft determination placed on SEPA's Website	23/09/2025	

Details of any other 'appropriate means' used to advertise the draft. Seek advice from the communication department	
Date public consultation on draft permit opened	23/09/2025
Date public consultation on draft permit consultation closed	
Number of representations received to the consultation	
Date final determination placed on the SEPA's Website	
Summary of responses and how they were taken into account during the determination:	
Summary of responses withheld from the public register on request and how they were taken into account during the determination:	
REMOVE THIS BOX FROM ANY VERSION OF THIS DOCUMENT TO BE PLACED ON THE WEBSITE OR PUBLIC REGISTER. RETAIN IN THE VERSION FOR THE WORKING FILE.	

3 Administrative determinations
Determination of the Schedule 1 Activity
There is no change to the Schedule 1 activity permitted on the site.
Determination of the Stationary Technical Unit to be permitted
The stationary technical unit will increase in size with the addition of the second timber treatment autoclave along with its supporting infrastructure.
Determination of Directly Associated Activities
The directly associated activities will be reviewed to include the supporting infrastructure for the second timber treatment autoclave.
Determination of Site Boundary
With the addition of the proposed new process, the installation boundary currently shown in Section 1.2 of the current permit (including both the Stationary Technical Unit (STU) and all Directly Associated activities (DAAs)) will be varied.

4 Introduction and Background
4.1 Historical Background to the activity and variation
Alexanders Timber Design has held the current Part A permit on its Troon site permit since 2016. The site currently features a single vessel ('autoclave') for the pressure treatment of timber. The treatment process applies chemical preservatives to wood to protect it against degradation while in use. The existing treatment process can treat approximately 100m ³ of timber per day.
4.2 Description of activity
The activity is as described in the Pollution Prevention and Control (Scotland) Regulations 2012, SECTION 6.6, Timber activities, PART A Preserving wood or wood products wood with chemicals, other than exclusively treating against sapstain, in an installation with a production capacity of more than 75 m ³ per day.

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4.3 Outline details of the Variation applied for

The ATD site at east of Harbour Road, currently has two permitted activities: timber treatment (regulated under Part A of the PPC Regulations) and timber framing (regulated under Part B). The Part B activity has been moved to new premises in Irvine, and an application to surrender the Part B permit has been submitted to SEPA.

The site will have two wood preservation processes after the changes:

1. Existing process: Uses an autoclave with a capacity of 13.176m³, already approved under SEPA permit PPC/A/1133571.
2. New process: A new autoclave, part of this application, will add a capacity of 38.750m³. (Note: for the purposes of calculating capacity SEPA use throughput in 24 hours period based on use class 4 timber.)

This permit application also includes the necessary infrastructure for the new autoclave. The new process will treat an additional 150m³ of timber per day, processing it to 'Use Class 1' (BS EN 599-1), for wood intended for internal use and which will be kept permanently dry. The new treatment system will use a low-pressure process, like the existing system.

The treatment chemicals on site have also changed with the introduction of Protim ME7 to replace AC500 due to improved performance.

The pressure treatment autoclave proposed, and as described within the applications supporting documentation, is compliant with WTBREF BAT 36.

ATD currently holds Part B PPC permit PPC/B/1003234 for manufacturing timber framing at the Harbour Road site. However, an application has been submitted to SEPA to surrender this permit after relocating the business to Irvine. The new Irvine premises operate under PPC permit PPC/B/5008165, issued in early 2024.

4.4 Guidance/directions issued to SEPA by the Scottish Ministers under Reg.60 or 61.

None

4.5 Identification of important and sensitive receptors

There are no Special Areas of Conservation, Special Protection Areas, National Nature Reserves or Ramsar sites within 10km of the ATD Troon site.
The nearest SSSI is at over 2 km to the southeast of the site.
The nearest housing is located in Craig Road, approx. 270m from the southeast boundary of the site.
Troon Harbour is immediately to the East of the site
Troon Park, about 200 meters west of the site

5 Key Environmental Issues

5.1 Summary of significant environmental impacts

The proposals for the new treatment system are like those already in operation on the site. Given the lack of odour from the treatment chemicals, air emissions, and relatively low noise levels for the new process described within the application, there will be no significant impact from the proposals contained within this application. Where relevant BAT references are included in the sections below with a full list of the relevant BAT requirements and the sites compliance with BAT recorded in Section 5.10.

5.2 Emissions to Air

Point Source emission to air:

Both the current and new treatment processes use water-based, solvent-free chemicals with no significant air emissions. The key step, chemical impregnation, still occurs in a sealed, pressurized autoclave. The new system will have no directed air emissions, and overall site emissions to air will remain unchanged.

Fugitive emissions to air:

There is the potential for fugitive emissions from the drying of the treated timber, but these are minimal due to the aqueous nature of the treatment chemicals.

The site also has procedures in place when operating the process to minimise potential for emissions to air from the treatment process.

Site procedures dictate that all drip drying of the chemical occurs internally within the bunded treatment area and both the existing and new treatment processes are equipped with racks to allow drying of wood before it is moved to storage.

The described processes are discussed more fully below in Section 5.10 of this document and demonstrate compliance with the requirements of Surface Treatment Using Organic Solvents including Preservation of Wood and Wood Products with Chemicals (2020).

Odour:

Both the current and new treatment processes use water-based, solvent-free chemicals, so they do not produce strong odours like solvent-based processes or creosote.

The main step, chemical impregnation, takes place in a sealed, pressurized autoclave, which remains unchanged from the existing process and has process controls to minimise emissions as outlined in the section on Fugitive Emissions to Air. When the new system starts, there will be no directed odour emissions and no change in odour levels is expected.

As such WTBREF BAT conditions 31 and 32 do not apply in this instance and no special permit conditions are needed beyond standard controls for odour.

5.3 Emissions to Water

Point Source Emissions to Surface Water and Sewer:

Treatment chemicals contain biocides and fungicides, so no process water is discharged, and surface water must remain uncontaminated.

Both the existing and new processes operate in fully sealed concrete bunds with no connections to sewers, drains, or water systems.

Point Source Emissions to Groundwater:

There are no point source emissions to groundwater from the site.

Fugitive Emissions to Water:

The site drainage system is designed and maintained to prevent any discharge contaminated with treatment chemical to surface waters.

Both treatment processes are undertaken entirely within a bunded enclosure located within the main process building. The treated timber is placed on a drying rack for approx 60 minutes to drip dry. The rack is located above a bunded area, so any chemical drips will fall into the bund.

The bunds are sealed and have no connection to any drainage system. The sealed bunding eliminates the possibility of any contaminated surface run-off water. Any spills are handled in accordance with the site's spill kit procedure. All waste chemical or water pumped out of the bund is handled by an external waste removal contractor as a hazardous waste, with appropriate management controls in place. Cleaning water is not reused at the site.

This control mechanisms used on site and as described within the application are in line with the requirements of WTBREF BAT 47 and are discussed in Section 5.10 of this document.

5.4 Noise

The timber framing activity Part B PPC permit PPC/B/1003234 which generated most of the site noise and shared the site with the treatment process has already been relocated from the site, an application has been submitted to SEPA to surrender that permit.

The new treatment process will introduce some noise, mainly from the vacuum pump used to remove chemicals from the autoclave.

The noise generated will be comparable to the existing treatment process, but quieter than the former timber framing activity, reducing overall noise at the ATD site.

The nearest noise-sensitive area is Troon Park, about 200 meters away.

An Environmental Noise Impact Assessment was conducted in 2016 when a Combined Heat and Power plant was installed on site, that report provided in support of this application. A new noise assessment will be carried out once the new treatment process is operational to identify changes.

As such, no special permit conditions are needed beyond standard controls for noise and SEPA believe the activities comply with WTBREF BAT 53.

5.5 Resource Utilisation

Water use

All treatment chemicals are water-based. The system is fully closed, recovering unused liquid back to storage tanks. Any spills or drips from drying are collected in bunds and pumped back to storage.

Water use on site will increase proportionately in line with the increase in production capabilities.

Energy use and generation

The new wood treatment process will increase total energy use but will be more efficient, using less energy per cubic meter of wood treated.

Energy Use Comparison:

Existing Process: Uses 13 kWh per cycle, treating 13.824 m³ of wood → 0.94 kWh/m³

New Process: Uses 15 kWh per cycle, treating 21.6 m³ of wood → 0.69 kWh/m³

Revised Energy Use:

Quantity of Wood Treated (m ³ /year)	Specific Energy Use (kWh/m ³)	Total Energy Use (kWh/year)
24,893.344 (existing process)	0.94	23,399
25,000.000 (estimated) (new process)	0.69	17,250
49,893.344(total)	0.81	40,649

Overall, the new process improves energy efficiency despite a slight increase in total energy consumption.

Within the process itself variable pump control is not needed because pressure is managed by the overall control system, not the pump. Pumps turn off when the setpoint is reached to save energy. If pressure drops below the setpoint, controls reactivate the necessary pumps to restore it.

From the information provided with regards to the on site processes the existing resource utilization condition within the permit is sufficient for monitoring and review of energy use.

Raw Materials Selection and Use

The following raw materials are used within the process.

- **Pre-treatment timber** is natural, inert, and not hazardous. The timber arrives pre-packaged and stays in its packaging. The site tracks raw materials using purchasing records and process control systems.
- **Treatment chemicals** are delivered in bulk and stored in sealed bunded areas, preventing environmental contamination. The chemicals are non-solvent-based, so they don't cause hazardous emissions or odours. This is in line with the requirements of WTBREF BAT 32 and 41
- **Water** is stored in bunded areas, like the chemicals.
- **Anti-foam** is stored in bunded areas, as with the chemicals.

Treatment process

- **Separation of wood in packs by spacers.** Spacers are not used since for Use Class 1 impregnation of timber requires only 1mm of penetration of the treatment chemical into the wood surface is required. ATD's operational experience shows that this can be reliably achieved without the use of spacers. This reduces the waste generated by the process.
- **Optimised positioning of shaped wood pieces.** Positioning of wood packs is undertaken to allow the required 1 mm impregnation of treatment chemical.
- **Securing wood packs.** Wood packs are secured in the treatment vessel.
- **Maximisation of the wood load.** Wood loads are maximised in the treatment vessel. In any case, unused treatment chemical is returned to the batch storage tank after treatment has occurred, eliminating waste.
- **Treated timber** is stored in the stock yard and undergoes drip drying within the bunded treatment area. After transfer, it is unlikely to leach chemicals. The timber is kiln-dried, making it absorbent and less likely to release chemicals. Rainfall on the wrapped timber poses no concern. This is in line with the guidance provided in WTBREF BAT40

As such the description of the on site activities in relation to raw materials, and their use, complies with BAT and are described fully in Section 5.10 below.

5.6 Waste Management and Handling

Waste Minimisation

Wood preservation chemicals are reused in the process, by directing them back to storage vessels after use in the autoclave.

The treatment process itself produces no wood waste as no spacers are used in the autoclaves.

The wastes generated from treatment includes occasional contaminated solution, sludge, and cleaning water, these are bulked on site and disposed of approximately once a year by licensed hazardous waste companies, with records maintained.

The above practices are demonstrative of WTBREF BAT 42 and are described fully in Section 5.10 below.

Waste Handling		
<p>As indicated on the site layout plan, general waste is stored in a designated area south of the wood treatment area. However, as indicated above, aside from occasional waste chemicals, the process itself is waste-free.</p> <p>The above practices are demonstrative of WTBREF BAT 42 and are described fully in Section 5.10 below.</p>		
Waste Recovery or Disposal		
<p>Empty IBCs are rinsed, and the rinse water is reused in treatment, making them effectively waste-free before collection by an appropriate provider. This is in line with the requirements of WTBAT 41</p> <p>Scheduled cleaning of the new process will only be needed if noticeable deposits form on treated timber or inside the vessel, which could affect operations. In such cases, a tank cleaning company will handle waste recovery and disposal.</p> <p>SEPA considers the waste processes described above are demonstrative of WTBREF BAT 42 (and described fully in Section 5.10 below) and waste management is controlled by a standard permit condition.</p>		
5.7 Management of the site		
Environmental Management System		
<p>The existing permit contains conditions requiring the operator maintain a written management system, Condition 3.1.</p> <p>In addition to this Variation VAR01 to the permit issued in December 2024 contained a condition requiring the operator to complete a review of the EMS against the requirements of WTBREF BAT and to remedy gaps in the required documentation and failings within the system.</p> <p><i>'3.1.6 By 30 June 2025, the Environmental Management System (EMS) must be reviewed against the requirements of WTBREF BAT 1 and BAT 30 of the STS BAT Conclusions. The Operator must produce and implement an action plan to address those improvements required as a result of the review and implement these within a period of 3 months from the end of the review.'</i></p> <p>In May 2024 the EMS was reviewed by an external auditor to assess compliance with BAT requirements for wood treatment and the site's PPC Permit.</p> <p>A copy of the review is included in Appendix C of the documentation supplied in support of the application. The review identified several areas of for improvement within the EMS, ATD have agreed with the review's findings and plan to update their EMS to align with WTBREF BAT 30 by the June 2025 deadline indicated in the existing condition, this will be reviewed by SEPA through regulatory effort at the site.</p> <p>A description of the requirements of BAT 30 and the sites compliance is described fully in Section 5.10 below.</p>		
Accidents and their Consequences		
<p>As previously indicated, the principal risk to the environment is via the release of timber treatment chemicals and consequently the installation is fully contained to ensure that any accidental releases are subsequently controlled.</p> <p>The bulk chemical tank on site is double walled and includes a leak detection device. All tanks associated with the new autoclave are located within an impervious bund and are equipped with level sensors.</p> <p>The timber treatment processes on site are carried out in single-walled treatment vessels with wood-preservative resistant containment, fender and automatic leak detection device.</p>		
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All timber treatment activities on site are undertaken within a dedicated building which has >110% tertiary containment.

The processes and methodologies described above are demonstrative of WTBREF BAT 36.

Closure

ATD does not at present have a written site closure/decommissioning plan in place. This was identified in the review of the sites EMS conducted in May 2024.

However, in the application it states that ATD have accepted the findings of the audit and are committed to compliance with WTBREF BAT by 2025 as described previously and in Section 5.10.

To ensure compliance the operator is required to develop a site closure plan, in accordance with the appropriate guidance. As a minimum this closure plan will incorporate the following:

- Site plans showing underground services and drainage;
- Identification of any change to the site condition report as a result of construction activities between now and the site closure;
- Records of any significant spillages which may have impacted upon the site quality;
- Full technical details of all chemicals used in the process (see section 2);
- The significant residual risks for the operation and future de-commissioning of the plant; and
- Any construction or machinery that will require special techniques for demolition or dismantling.

The existing condition requiring a written management system to include closure requirements is deemed to be sufficient and will be monitored via regulatory effort.

5.8 Site Condition report

The area of land covered by the current site condition report already includes the area of land where the additional treatment tank will be located and no additional sampling points are required as part of this variation.

5.9 Monitoring

Air

There are no changes to the air monitoring requirements on site because of this variation.

Water

There are no changes to the water monitoring requirements on site because of this variation.

Soil and Groundwater

Where PPC installations use produce or release hazardous substances there will be standard conditions imposed requiring regular analysis of soil and groundwater as required by Regulation 23(2)(b) of the PPC Regulations. The frequency of monitoring is dependent on the risk and severity of contamination. The frequency set in the conditions of the existing permit was set considering the condition of the existing infrastructure and the nature of the relevant hazardous substances used.

Groundwater monitoring in the existing permit is set at a frequency of 6 monthly for the parameters: permethrin, tebuconazole, propiconazole and chemical oxygen demand.

With the change in treatment chemical used additional components will be added to this monitoring suite, Bronopol and Thiacloprid.

In addition to this the monitoring frequency for pollutants in groundwater will remain in line with the requirements of BAT 44 at a frequency of at least once every 6 months and in accordance with EN Standards.

Soil monitoring for those parameters remains at a frequency of ten yearly.

A baseline report was submitted as part of the Site Condition Report included with this application and in support of the WTBREF BAT review at the site. It has been reviewed by SEPA and the findings used to inform the operator of the requirement to increase the scope of monitoring strategy with the additional chemical components whilst the monitoring frequency remains as current for the site.

The site uses a combination of the following techniques to minimise potential of emissions to soil and groundwater:

- a. Plant and equipment used for treatment is contained within a bund.
- b. Floor surfaces within the treatment area are impermeable.
- c. High level alarms are included on storage tanks.
- d. There are no underground storage tanks or pipework.
- e. Plant and equipment is regularly serviced and maintained using both internal resource and where necessary, external contractors.
- f. Timber is checked for dryness when leaving the installation and prior to storage.

These provisions are in line with the requirements of WTBREF 46 and are described fully in Section 5.10 below.

Waste

There are no changes to the waste monitoring requirements on site because of this variation.

5.10 Consideration of BAT and compliance with BAT-Cs if appropriate

Where relevant BAT and BAT-C references have been included in the sections above. A concise list of the BAT relevant to the site and how the operator complies is included below.

BATC	Detail	BAT Met?
30	In order to improve the overall environmental performance, BAT is to implement an Environmental Management System (EMS).	Partially: ATD's operations at the Troon site follow an EMS that covers all Glennon Brothers' UK operations. In May 2024, ATD conducted a Gap Analysis of this EMS against PPC Regulations and recognized the need for improvements, which will be made within the timeline in VAR01. The Gap Analysis results are in Appendix C of the application. ATD acknowledges these findings and is committed to improving the EMS to meet BAT 30 standards within the set timeline.
31	In order to prevent or reduce emissions of PAHs and/or solvents, BAT is to use water-based preservatives.	Yes: The site uses the water-based preservative, Protim ME7. Information pertaining to this preservative is included in Appendix A of the application documents.
32	In order to reduce the environmental risk posed by the use of treatment chemicals, BAT is to substitute treatment chemicals with less hazardous ones.	Yes: The choice of treatment chemicals is limited by HSE BPR approval and a small number of UK suppliers. The

		<p>site collaborates with its chemical supplier, Koppers, to select the best option. Protim ME7 replaced AC500 due to better performance, showing the site's focus on using less hazardous chemicals. Treatments are reviewed each year.</p>
33	<p>In order to increase resource efficiency and to reduce the environmental impact and risk associated with the use of treatment chemicals, BAT is to reduce their consumption by using all of the techniques given below:</p> <ul style="list-style-type: none"> a. Use of an efficient preservative application system b. Control and optimisation of the consumption of the treatment chemicals for the specific end use c. Solvent mass balance <p>Measurement and adjustment of wood moisture before treatment.</p>	<p>Yes:</p> <p>Efficient preservative application: The treatment chemical is applied at a concentration of 0.90 kg/m³, as specified by the manufacturer. Any leftover chemical from the autoclave is returned to the batch tank for reuse.</p> <p>Chemical use optimisation: The system controls chemical use based on the wood's end use. Treated wood is classified as Use Class 1 (BS EN 599-1), requiring 0.90 kg/m³. Both existing and new systems are set to this value for efficient use.</p> <p>Solvent use: The treatment chemical is water-based, so a solvent mass balance is not needed.</p> <p>Moisture control: All wood is kiln-dried before treatment. Moisture levels are checked with a moisture meter after drying and during grading. These steps are carried out at the nearby Adam Wilson and Sons facility.</p>
34	<p>In order to reduce emissions from delivery, storage and handling of treatment chemicals, BAT is to use technique (a) or (b) and all of the techniques (c) to (f) given below.</p> <ul style="list-style-type: none"> a. Back-venting b. Capture of displaced air c. Techniques to reduce evaporation losses due to heating up d. Securing delivery connections e. Techniques to prevent overflows during pumping f. Closed storage containers 	<p>Yes:</p> <p>a) Back-venting and air capture: Not required, as both current and new processes use water-based, solvent-free chemicals that don't produce significant air emissions.</p> <p>b) Preventing evaporation losses: Chemicals are stored in closed containers and are not heated, so evaporation does not occur.</p> <p>c) Securing delivery connections: Existing process: Uses IBCs, so no delivery connections are needed. New process: Uses a 2" BSP hose connection with a ball valve and non-return valve to prevent backflow. Trained ATD staff</p>

		<p>supervise all deliveries to prevent spills.</p> <p>d) Preventing overflows: Existing process: Uses IBCs, so overflows are not possible. New process: Bulk tanks have level indicators and are placed in a sealed bund to contain any overflows.</p> <p>e) Closed storage: All chemicals are stored in sealed IBCs or closed bulk tanks. f) Closed storage containers The bulk storage containers and IBCs used for storing chemicals are all closed.</p>
35	<p>In order to reduce the consumption of treatment chemicals and the consumption of energy and to reduce emissions of treatment chemicals, BAT is to optimise the wood charge of the vessel and to avoid trapping of treatment chemicals by using a combination of the techniques given below.</p> <ul style="list-style-type: none"> a. Separation of wood in packs by spacers b. Sloping of wood packs in traditional horizontal treatment vessels c. Use of tilting pressure treatment vessels d. Optimised positioning of shaped wood pieces e. Securing wood packs f. Maximisation of the wood load 	<p>Yes:</p> <p>a) Use of spacers: Spacers aren't needed because Use Class 1 treatment only requires 1 mm of chemical penetration. ATD's experience shows this can be achieved without spacers, reducing waste.</p> <p>b) Positioning of shaped wood: Wood is arranged to ensure the required 1 mm chemical penetration is achieved.</p> <p>c) Securing wood packs: Wood packs are securely fixed in the treatment vessel.</p> <p>d) Maximising wood load: The treatment vessel is fully loaded to maximise efficiency. Any unused chemical is returned to the batch tank, preventing waste.</p>
36	<p>In order to prevent accidental leakage and emissions of treatment chemicals from non pressure processes, BAT is to use one of the techniques given below.</p> <ul style="list-style-type: none"> a. Double-walled treatment vessels with automatic leak detection devices b. Single-walled treatment vessels with sufficiently large and wood-preservative-resistant containment, fender and automatic leak detection device 	<p>Yes: All tanks associated with the treatment process are located within an impervious bund and are equipped with level sensors.</p>
37	<p>In order to reduce emissions of aerosols from wood and wood products preservation using water-based treatment chemicals, BAT is to enclose spraying</p>	<p>N/A: No spraying processes are used on site.</p>

	processes, collect overspray and reuse it in the preparation of wood preservation solution.	
38	<p>In order to prevent or reduce emissions of treatment chemicals from pressure processes (autoclaves), BAT is to use all of the techniques given below.</p> <ol style="list-style-type: none"> Process controls to prevent operation unless the treatment vessel door is locked and sealed Process controls to prevent the treatment vessel from opening while it is pressurised and/or filled with preservative solution Catch-lock for the treatment vessel door Use and maintenance of safety relief valves Control of emissions to air from the vacuum pump exhaust Reduction of emissions to air when opening the treatment vessel Application of a final vacuum to remove excess treatment chemicals from the surface of treated wood. 	<p>Yes:</p> <p>a) Door safety interlocks: <i>Existing process:</i> Limit switches confirm the door is closed and locked. Once locked, a signal is sent to the process control system (PCS) to allow operation. <i>New process:</i> Multiple limit switches confirm the door is secure. Only then does the PCS allow the process to start—this applies to both doors.</p> <p>b) Preventing vessel opening under pressure or when filled: <i>Existing process:</i> Built-in catch locks prevent opening when the vessel is pressurised or contains liquid. <i>New process:</i> The door only opens after the process is complete and chemicals are fully recovered into the holding tank.</p> <p>c) Catch-locks on vessel doors: <i>Existing process:</i> Catch locks and clamping arms prevent opening when the vessel contains fluid. Unlocking is only possible when it's safe. <i>New process:</i> The system checks that chemical recovery is complete. If fluid remains, the PCS delays opening. A fork switch confirms liquid is below safe levels, followed by a venting period and manual safety checks before the door can be opened.</p> <p>d) Safety relief valves: Both systems operate without positive pressure, but include a pressure-regulating valve for safety, even though low-pressure use isn't required.</p> <p>e) Vacuum pump emissions control: A liquid ring vacuum pump with a fresh water tank is used. Any fumes are absorbed into the water, minimising air emissions.</p> <p>f) Reducing emissions when opening the vessel: A final vent draws in air to purge fumes before the vessel is opened.</p>

		<p>g) Final vacuum to remove excess chemicals: A final vacuum phase is included in both processes, controlled by the PCS to remove excess treatment chemical from wood surfaces</p>
39	In order to reduce energy consumption in pressure processes (autoclaves), BAT is to use variable pump control.	<p>Yes: Variable pump control is not required as the working pressure is controlled via the PCS system. Pumps switch off once the desired setpoint has been reached, ensuring that excess energy is not used. Control measures are in place if the value drops below the setpoint to reset the required pumps to restore pressure.</p>
40	In order to prevent or reduce the contamination of soil or groundwater from the interim storage of freshly treated wood, BAT is to allow sufficient dripping time after treatment and to remove the treated wood from the contained/bunded area only once it is deemed dry.	<p>Yes: Variable pump control is not required as the working pressure is controlled via the PCS system. Pumps switch off once the desired setpoint has been reached, ensuring that excess energy is not used. Control measures are in place if the value drops below the setpoint to reset the required pumps to restore pressure.</p>
41	<p>In order to reduce the quantity of waste sent for disposal, especially of hazardous waste, BAT is to use the techniques (a) and (b) and one or both of the techniques (c) and (d) given below.</p> <ul style="list-style-type: none"> a. Removal of debris prior to treatment b. Recovery and reuse of waxes and oils c. Bulk delivery of treatment chemicals d. Use of reusable containers 	<p>Yes: a) Removal of debris prior to treatment All timber is sawed and planed before delivery to the preservation process, with all debris removed by a dust extraction system. b) Recovery and reuse of waxes and oils No waxes or oils are used on the wood products either before or after preservation treatment c) Bulk delivery of treatment chemicals The new treatment process includes a bulk chemical tank, into which the treatment chemical is delivered, and a batch tank which contains the diluted working treatment solution. The existing system currently uses IBCs, but the site are investigating</p>

		<p>options to use the bulk tank from the new process to supply the existing process and eliminate the use of IBCs.</p> <p>d) Use of reusable containers</p> <p>As per above, the site is investigating moving operations to bulk tanks only, eliminating the use of smaller containers.</p>
42	<p>In order to reduce the environmental risk related to waste management, BAT is to store waste in suitable containers or on sealed surfaces and to keep hazardous waste separately in a designated weather-protected and contained/bunded area.</p>	<p>Yes:</p> <p>General waste is stored south of the wood treatment area, as shown in the site layout plan.</p> <p>The wood treatment process itself produces no wood waste, as spacers are not used.</p> <p>Preservation chemicals are reused and returned to storage after treatment.</p> <p>When cleaning the treatment vessels, any leftover chemical is removed by a licensed hazardous waste contractor for offsite disposal.</p> <p>Empty IBCs with small amounts of chemical are stored in a bunded area until collected by a specialist contractor.</p> <p>Any waste chemicals from the new process will also be collected and disposed of offsite by a specialist contractor.</p>
43	<p>BAT is to monitor pollutants in wastewater and potentially contaminated surface run-off water prior to each batch discharge in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.</p>	<p>Yes:</p> <p>There are no authorised wastewater discharges from the site.</p> <p>All chemical treatments take place in sealed bunded areas, with no connections to the mains sewer or drainage systems.</p> <p>The site has spill kits and a spill response procedure to prevent any spills from entering foul or surface water drains during transport, delivery, or handling.</p>
44	<p>BAT is to monitor pollutants in groundwater with a frequency of at least once every 6 months and in accordance with EN standards. If EN standards are not</p>	<p>Yes:</p> <p>Routine groundwater monitoring is already required under PPC</p>

	<p>available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. The monitoring frequency may be reduced to once every 2 years based on a risk assessment or if pollutant levels are proven to be sufficiently stable (e.g. after a period of 4 years).</p>	<p>permits, following the frequency set by Article 16 of the IED.</p> <p>At the time of application, SEPA set the monitoring frequency based on a risk assessment, considering the likelihood of hazardous substances reaching groundwater, using IED-TG42 guidance. The maximum frequency under PPC is every 5 years.</p> <p>This risk assessment, based on the site condition and baseline report, led to permit upgrade conditions. It remains valid and has been used to apply BAT 44, helping determine whether groundwater should be monitored every 6 months or every 2 years.</p> <p>The substances monitored will stay the same. Since the BREF doesn't set soil monitoring frequencies, SEPA's original assessment for soil remains valid, and the frequency will not change.</p> <p>In this case, the original groundwater monitoring was every 3 years, but it will now be increased to every 6 months (see section 6).</p>
45	<p>BAT is to monitor emissions in waste gases with a frequency of at least once every year and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.</p>	<p>Yes:</p> <p>The chemicals used in both the existing and new treatment processes at the site are water-based, and do not contain any solvents.</p>
46	<p>In order to prevent or reduce emissions to soil and groundwater, BAT is to use all of the techniques given below.</p> <ol style="list-style-type: none"> Plant and equipment containment or bund Impermeable floors Warning systems for equipment identified as 'critical' Prevention and detection of leaks from underground storage and ductwork for 	<p>Yes:</p> <p>a) Containment: Both the existing and new wood treatment processes are located in sealed bunded areas.</p> <p>b) Impermeable floors: The floors under and around the processes are made of reinforced concrete with no drainage points.</p> <p>c) Critical equipment monitoring: The process control systems track key parameters like pressure and</p>

	<p>harmful/hazardous substances and record-keeping</p> <p>e. Regular inspection and maintenance of plant and equipment</p> <p>f. Techniques to prevent cross-contamination</p>	<p>treatment time, allowing operators to monitor critical equipment.</p> <p>d) Leak prevention and monitoring: There is no underground storage. All ductwork is within bunded areas. Treatment processes are recorded by the control system.</p> <p>e) Inspection and maintenance: A third-party contractor carries out annual inspections and maintenance. ATD staff perform regular preventive and reactive maintenance as needed.</p> <p>f) Cross-contamination prevention: Dosing systems include solenoid and non-return valves. A ballcock with an air gap prevents the incoming water from contacting stored water.</p>
47	<p>In order to prevent or, where that is not practicable, to reduce emissions to water and to reduce water consumption, BAT is to use all of the techniques given below.</p> <p>a. Techniques to prevent contamination of rain and surface run-off water</p> <p>b. Collection of potentially contaminated surface run-off water</p> <p>c. Use of potentially contaminated surface run off water</p> <p>d. Reuse of cleaning water</p> <p>e. Treatment of waste water</p> <p>f. Disposal as hazardous waste</p>	<p>Yes:</p> <p>a) Preventing contamination of rainwater and runoff: The treatment processes take place inside sealed bunds within the main building, with no connection to any drainage system. This makes the risk of contamination very low.</p> <p>b & c) Collection and use of potentially contaminated runoff: Sealed bunds prevent any contaminated runoff. Any spills are managed using the site's spill procedure.</p> <p>d) Reuse of cleaning water: Cleaning water is not reused on site.</p> <p>e) Wastewater treatment: Any waste chemical or water removed from the bund is treated and disposed of by a specialist contractor.</p> <p>f) Hazardous waste disposal: All chemical waste or water from the bund is treated as hazardous waste</p>

		and managed by an approved waste contractor.
48	In order to reduce emissions to water from wood and wood products preservation using creosote, BAT is to collect the condensates from the depressurisation and vacuum operation of the treatment vessel and from creosote (re)conditioning and either treat them on site using an activated carbon or sand filter or dispose of them as hazardous waste.	N/A Does not apply to installations which do not use creosote.
49	In order to reduce emissions of VOCs to air from wood and wood products preservation using solvent-based treatment chemicals, BAT is to enclose the emitting equipment or processes, extract the off-gases and send them to a treatment system (see techniques in BAT 51).	N/A Does not apply to installations which only use water based treatment chemicals.
50	In order to reduce emissions of organic compounds and odour to air from wood and wood products preservation using creosote, BAT is to use low-volatility impregnating oils, i.e. Grade C creosote instead of Grade B.	N/A Does not apply to installations which do not use creosote.
51	In order to reduce emissions of organic compounds to air from wood and wood products preservation using creosote, BAT is to enclose emitting equipment or processes (e.g. storage and impregnation tanks, depressurisation, creosote reconditioning), extract the off-gases and use one or a combination of the treatment techniques given below.	N/A applies only to installations using solvent based treatment chemicals as well as those using creosote.
52	In order to reduce NOX emissions in waste gases while limiting CO emissions from the thermal treatment of off-gases in wood and wood products preservation using creosote and/or solvent based treatment chemicals, BAT is to use technique (a) or both of the techniques given below <ul style="list-style-type: none"> a. Optimisation of thermal treatment conditions b. Use of low-NOX burners 	N/A Only applicable when thermal abatement techniques are being used.
53	In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to use one or a combination of the techniques given below <ul style="list-style-type: none"> a. Installation of noise walls and utilisation/optimisation of the noise-absorbing effect of buildings b. Enclosure or partial enclosure of noisy operations c. Use of low-noise vehicles/transport systems 	Yes: All treatment activities are undertaken within the main process building, which attenuates the effects of any noise emissions from the process. Forklifts used at the site are electric and hence generate low levels of noise. An Environmental Noise Impact Assessment was completed for the site in 2016 when a Combined Heat and Power plant was installed, the

	<p>d. Noise management measures (e.g. improved inspection and maintenance of equipment, closing of doors and windows)</p> <p>e. Noise reduction measures for fans</p>	key conclusions of which are included in Appendix D of this report. To evaluate the changes to the site's overall noise profile, ATD will undertake a new assessment once the new treatment process is operational.
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6 Other Legislation Considered	
Nature Conservation (Scotland) Act 2004 & Conservation (Natural Habitats &c.) Regulations 1994	
Is there any possibility that the proposal will have any impact on site designated under the above legislation? If yes, provide information on the action and justification below:	No
<p>The treatment chemicals used are water-based but contain biocides and/or fungicides, making them hazardous to soil and water if released. However, controls are in place to prevent pollution, and there is no expected significant negative impact on the designated site.</p> <p>The main environmental concern is the potential release of chemicals or residues to soil, groundwater, or water sources. To prevent this, the site uses control systems, impervious flooring, bunding, and operates in a covered area. The site has been treating timber for over 20 years, and the process is a closed system with no emission points. The treatment area is on hardstanding with containment to minimize environmental risks. The treated timber is stored under cover until dry, after which it is moved to the storage area.</p>	
Screening distance(s) used	2 km
Is there any other legislation that was considered during determination of the permit (for example installations that may be impacted by the requirements of legislation involving Animal By Products, Food Standards, Waste, WEEE regulations etc). If yes, provide information on the legislation, action and justification below:	No

7 Environmental Impact Assessment and COMAH
How has any relevant information obtained or conclusion arrived at pursuant to Articles 5, 6 and 7 of Council Directive 85/337/EEC on the assessment of the effects certain public and private projects on the environment been taken into account?
N/A
How has any information contained within a safety report within the meaning of Regulation 7 (safety report) of the Control of Major Accident Hazards Regulations 1999 been taken into account?
N/A

8 Details of the permit	
Do you propose placing any non standard conditions in the Permit?	No
Do you propose making changes to existing text, tables or diagrams within the permit?	Yes

Outline the changes required and provide justification below:		
Proposed Condition Number:	Proposed Change:	Justification:
1.1.4.1	The description of the STU has been amended to include the additional treatment tank	The additional timber treatment tank is added as proposed in this variation application.
1.1.4.2	The description of the STU has been amended to include the chemical storage tank	The additional chemical storage tank is added as proposed in this variation application.
1.1.4.3	The description of the STU has been amended to include the storage of bulk chemicals	The additional bulk chemical storage is added as proposed in this variation application.
1.1.4.5	An additional post treatment timber drying area has been included.	The additional drying area is added as proposed in this variation application.
1.1.5.3	Condition deleted	The storage of dry treated timber is not required within the permit and is not included in other timber treatment permits.
1.2	The site plan has been updated to reflect the changes proposed in this variation	The plan included in the variation includes the modified site boundary and the location of the new treatment vessel
Table 3.1	Bronopol and Thiacloprid have been added to the groundwater monitoring suite	The new timber treatment chemical used on site has additional components to that previously used. Bronopol has been added to the groundwater monitoring suite because of this change. The sampling frequency for the parameters within the table has also been modified to 'every 6 months' in line with the BAT/BREF requirements.
Table 3.2	Bronopol and Thiacloprid have been added to the soil monitoring suite	The new timber treatment chemical used on site has additional components to that previously used. Bronopol has been added to the groundwater monitoring suite because of this change. The sampling frequency for the parameters within the table remains at 10 yearly in line with the BAT/BREF requirements.
Officer:	CO	

9 Emission Limit Values or Equivalent Technical Parameters/Measures	
Are you are dealing with either a permit application, or a permit variation which would involve a review of existing ELVs or equivalent technical parameters?	No

10 Peer Review

Has the determination and draft permit been Peer Reviewed?

Yes

Comments made:

No comments on draft permit.

11 Final Determination

Issue of a Permit - Based on the information available at the time

Issue a Permit – Based on the information available at the time of the determination SEPA is satisfied that

- The applicant will be the person who will have control over the operation of the installation/mobile plant,
- The applicant will ensure that the installation/mobile plant is operated so as to comply with the conditions of the Permit,
- The applicant is a fit and proper person (specified waste management activities only),
- Planning permission for the activity is in force (specified waste management activities only),
- That the operator is in a position to use all appropriate preventative measures against pollution, in particular through the application of best available techniques.
- That no significant pollution should be caused.