

# Timber Quality Scheme – Pilot Edition



## Standard Operating Procedures (SOP) for Timber Treatment Plants & Treatment Auditors

The document sets out the processes the timber industry will use to assure timber users, the public (consumers) and the Department of Building and Housing that treated timber used in building and housing meets the requirements of the branded hazard class and is safe and fit for purpose.

C/- Department of Building  
and Housing

Mike.Stannard@dbh.govt.nz

04-470-1031

10/6/2010

## Contents

1	Introduction .....	5
1.1	Background .....	5
	Scheme Rules .....	7
2	Purpose of the Timber Quality Scheme .....	7
3	Structure .....	7
	<b>SOP for Treatment Plants</b> .....	8
3.2	Purpose .....	8
3.3	Compliance.....	8
3.4	Scope and references.....	8
4	System Requirements .....	9
4.2	Record keeping and document control .....	9
4.3	Staff competency, awareness & training .....	10
4.4	Measuring and monitoring equipment.....	10
4.5	Reporting.....	11
5	Technical Requirements .....	12
5.1	Treatment facilities .....	12
5.2	Pre-treatment checks.....	12
5.3	Timber preservation chemicals.....	14
6	Treatment Monitoring .....	14
6.1	Product sampling methods .....	14
6.2	Process control methods .....	15
6.3	Sampling plan.....	16
6.4	Product conformity .....	17
6.5	Investigation and corrective action.....	17
6.6	Retreatment of substandard charges .....	18
6.7	Downgrading.....	18
7	Branding and product handling .....	18
7.1	Branding / product identification .....	18

7.2	Post-treatment handling and storage.....	19
8	Appendix 1 .....	20
9	Appendix 2 .....	21
10	Appendix 3 .....	22
	<b>SOP for Audit Bodies</b> .....	26
11	Audit Scope & Method.....	26
11.1	Audit scope .....	26
11.2	Audit type & frequency.....	26
11.3	Conformity assessment.....	27
11.4	Audit result.....	28
11.5	Audit Reporting .....	28
	<b>Audit Checklist</b> .....	29
	APPENDIX:.....	41
	Draft Scheme Rules (under development) .....	41
12	Roles & Responsibilities .....	41
12.1	Governing Body.....	41
12.2	Audit Bodies .....	42
12.3	Treatment Plants.....	42
13	Treatment Plant Approvals, Suspensions, Terminations.....	42
13.1	Initial Approvals .....	42
13.2	Suspension of approval .....	43
13.3	Termination of approval .....	44
13.4	Reinstatement of approvals.....	45
13.5	Appeals.....	45
13.6	Scheme Brand .....	45
14	Approval of Audit Bodies .....	45
14.2	Maintaining approval .....	46
14.3	Notification of changes .....	46
15	Approval of Treatment Processes & Formulations.....	46
16	Approval of Laboratories .....	49
16.2	Notification of changes .....	50

16.3 Maintaining approval..... 50

16.4 Inter-lab testing programme..... 50

# 1 Introduction

## 1.1 Background

- 1.1.1 As a result of an industry meeting held on 1 April 2009 attended by representatives of DBH, WPA and TIF it was agreed that the process of assuring that structural timber was being presented to the market in an efficacious and safe manner required improvement. As a result industry Technical Committees were established under the leadership of DBH for both timber grading and timber treatment.
- 1.1.2 The Technical Committees were asked to prepare a recommendation based around the concept of a Timber Quality Scheme (the Scheme) which would cover timber treatment and timber grading and auditing practices, as well as a process for “auditing the auditors”.
- 1.1.3 This document explains the purpose and structure of the Scheme and sets out the Standard Operating Procedures (SOPs) for treatment plants and audit bodies.
- 1.1.4 This document was developed on behalf of the Treatment Technical Committee by a small working group comprising WPA, TIF/TPC, DBH and AsureQuality with the assistance of a wide range of technical advisors from individual companies, preservative suppliers and the scientific community.
- 1.1.5 The details of the Scheme Rules, including Governing Body and Audit Body roles and responsibilities, procedures for approving, suspending and terminating timber producers, and approving and auditing audit bodies are under development at the date of this edition (13 September 2010). The initial draft Scheme Rules are included in the Appendix.
- 1.1.6 The Pan Industry Executive Committee agreed on 30<sup>th</sup> June 2010 that the Treatment Plant and Audit Protocol sections of this document could be voluntarily trialed from October 2010.
- 1.1.7 The intent of this trial period is for treatment plants and audit bodies to become familiar with the plant requirements and audit protocol and to test the effectiveness and practicality of these sections. Further improvements will be made at the end of the trial period.
- 1.1.8 The Pan Industry Executive Committee acknowledges that the purpose of the Scheme cannot be achieved until the Scheme Rules are finalized and implemented. Therefore it is important that all stakeholders recognize that during the trial period, the following restrictions will apply to ensure that the integrity of the Scheme is maintained:
  - 1.1.8.1 Audit bodies may not take on any of the functions of the Governing Body as set out in the draft Scheme Rules included in the Appendix.
  - 1.1.8.2 Treatment Plants may not claim conformity to the SOP.

- 1.1.8.3 Treatment Plants may not use the SG grade name convention outlined in the Grading SOP. This is to avoid confusion in the market. “SG” will come into effect when (a) the SOP is cited; and/or (b) NZS3604 is updated.

# Scheme Rules

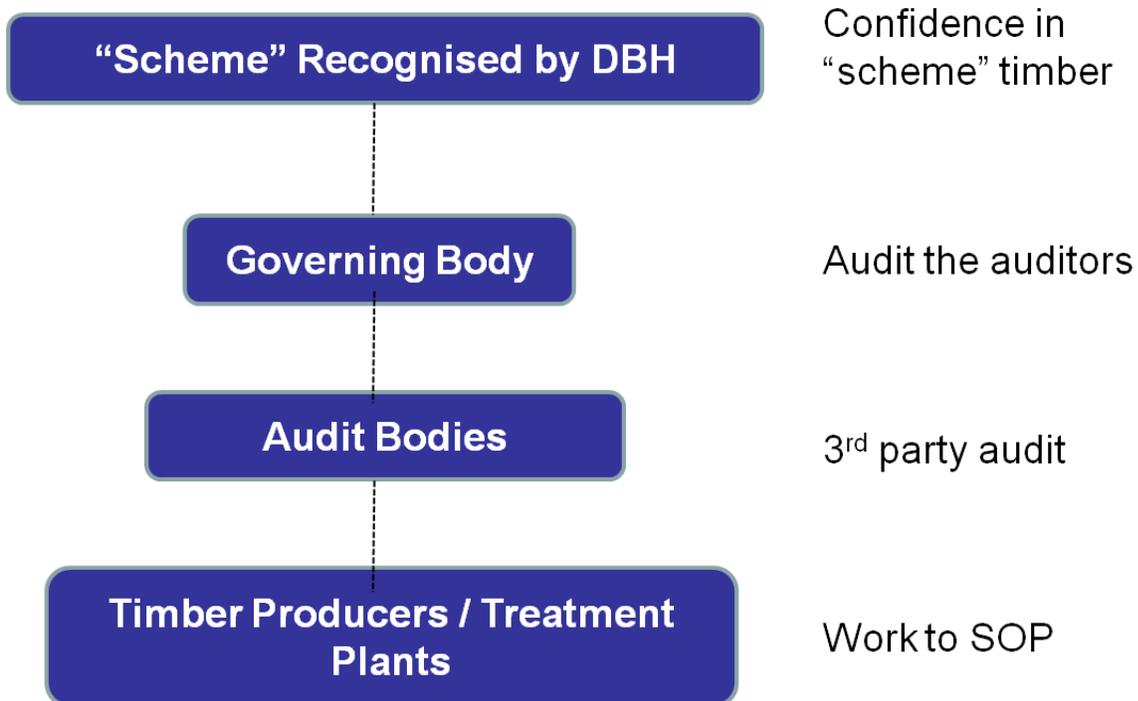
---

## 2 Purpose of the Timber Quality Scheme

2.1.1 To implement a system which provides assurance to timber users, the public (consumers) and the DBH that structural timber used in building and housing meets the required quality standards, is safe to use, fit for purpose and has been produced in a way that ensures the safety of people and the environment has been protected.

## 3 Structure

3.1.1 The Timber Quality Scheme is made up of the three key elements illustrated in the diagram below.



# SOP for Treatment Plants

---

## 3.2 Purpose

- 3.2.1 The purpose of the SOP for Treatment Plants is to ensure that all treated structural timber and treated timber used in building and housing:
- a. Is treated with approved preservative actives and formulations;
  - b. Meets the penetration and retention requirements for the preservative and branded hazard class;
  - c. Is branded so that the treatment plant, hazard class and treatment type can be easily identified;
  - d. Is fit for purpose for the end user (i.e., compatibility with fixings, safe for handling, provides appropriate durability);
  - e. Has been produced in such a way that safety and environmental hazards have been managed.

## 3.3 Compliance

- 3.3.1 To ensure compliance, the SOP will be a source document for the Department of Building and Housing to cite in Building Code Compliance documents.

## 3.4 Scope and references

- 3.4.1 The SOP is based on the following existing legislation, voluntary codes and standards:
- a. Resource Management Act
  - b. Best Practice Guideline for the Safe Use of Timber Preservatives and Antisapstain Chemicals
  - c. Approved Code of Practice for the safe use of timber preservatives and anti-sapstain chemicals (to be withdrawn)
  - d. NZS 3640:2003 - Chemical Preservation of Round & Sawn Timber
  - e. NZS 3602 – Timber & Wood Based Products for Use in Building.
  - f. ASNZ/1605: 2000 (alternative methods of analysis may be required where methods set out in 1605 are redundant / or improved methods are available)
  - g. NZS 3605: 1992 – Timber Piles & Poles for Use in Building
  - h. AS/NZS1604 - Specification for Preservative Treatment

Part 2:2004	Reconstituted Wood Based Products
Part 3:2004	Plywood
Part 4:2004	Laminated Veneer Lumber (LVL)
Part 5:2005	Glued Laminated Timber Products

- 3.4.2 The SOP applies to all treatment plants, including those managed on site by timber producers, as well as custom treaters.
- 3.4.3 All treated timber imported for structural use in building and housing shall meet the requirements of this SOP, including the branding requirements.
- 3.4.4 Conformance to the requirements of the SOP provides confidence that Treatment plants have all the necessary systems and controls in place to consistently produce compliant product that is fit for purpose.

## 4 System Requirements

- 4.1.1 General: treatment plants shall:
  - a. Have a copy of the relevant standards that apply to the products produced or systems being used at their plant.
  - b. Only use treatment processes and formulations that they are approved by the Governing Body to use.
  - c. Appoint an audit body from the approved auditor list.
  - d. Establish and implement day-to-day quality assurance procedures that enable them to consistently produce product that complies with the requirements of this SOP.
  - e. Designate a suitably qualified person to have responsibility for the quality of timber treated on site and for the maintenance of systems to support this.
  - f. Designate a Technical Advisor(s) (TA) who is capable of providing technical advice and support.
  - g. Conduct and document a management review of the quality assurance procedures annually to ensure they remain suitable and effective.
- 4.1.2 Management shall ensure sufficient appropriate human, physical and financial resources are available to ensure that each treatment can be performed effectively (e.g., temporary workers know the procedures for the plant and are competent)
- 4.1.3 Management shall document a list of competent staff with responsibilities for treatment related tasks.

## 4.2 Record keeping and document control

- 4.2.1 Quality assurance documentation shall include procedures for:
  - a. Product identification and traceability
  - b. Segregation of non-conforming product
  - c. Ensuring that the correct treatment information is on the timber
  - d. Training staff
  - e. Operating the plant
  - f. Taking samples

- g. Treatment monitoring
- h. Investigation and corrective action
- i. Randomly selecting the charge when testing related production (Appendix 3, Flowchart 4).
- j. Calibration of measuring and monitoring equipment
- k. Keeping records up to date.
- l. Preparing treatment solutions and determining solution strength
- m. Document control (dates, versions, sign-off/approval)

4.2.2 Records shall be kept for the period for a minimum of 10 years, including:

- a. Reconciliation reports
- b. Steaming charge sheets
- c. Treatment charge sheets
- d. Investigation reports for failed uptake / penetration / retention
- e. Penetration test records
- f. Independent lab reports
- g. Supplementary lab reports
- h. Third party audit reports
- i. Internal audit reports
- j. Heartwood / sapwood test records

### **4.3 Staff competency, awareness & training**

4.3.1 Treatment plants shall ensure staff are competent for the work they undertaken.

4.3.2 Treatment plants shall ensure that at least one approved handler is available on site whenever treatment is being carried out.

4.3.3 Treatment plants shall clearly specify the treatment processes (e.g., pressure/diffusion/dip etc) that each staff member is allowed to perform.

4.3.4 Training must be undertaken by an approved training provider or a competent in-house trainer.

4.3.5 Treatment plants shall maintain training records.

### **4.4 Measuring and monitoring equipment**

4.4.1 The treatment plant shall include a list of the measuring and monitoring equipment used on site in their quality assurance procedures. For example:

- a. moisture meters
- b. refractometers
- c. titration equipment
- d. pressure/vacuum gauges

- 4.4.2 Metering and other measuring equipment should be calibrated annually or as specified by the manufacturer.
- 4.4.3 Metering and other measuring equipment shall be stored, handled and used in a manner that ensures accuracy is maintained.
- 4.4.4 All equipment and consumables used in treatment processes shall be inspected before use to ensure that they meet the specification for the treatment to be applied and are suitable for use.
- 4.4.5 Treatment plants shall have a procedure for repairing equipment that is out of calibration.
- 4.4.6 Treatment plants shall maintain calibration records.

## 4.5 Reporting

- 4.5.1 The treatment plant shall notify the audit body within 48 hours when a product non-conformance occurs in day-to-day operations and/or in the market (e.g., complaints received, or non-complying product found in the market). The final report shall be provided within five working days. If this is not possible, status updates shall be provided every five days until the final report is produced.
- 4.5.2 The treatment plant shall provide the audit body with the following reports:

Report	Details	Frequency
Summary of charges	<ul style="list-style-type: none"> <li>• Hazard classes</li> <li>• Charge number</li> <li>• Volume of timber treated (m3)</li> <li>• Uptake (l or kg/m3)</li> <li>• Solution strength</li> <li>• Calculated retention (e.g., kg/m3)</li> <li>• Number of under charges and reason for undercharge</li> </ul>	Monthly
Reconciliation statements		Monthly
Product non-conformance	What happened <ul style="list-style-type: none"> <li>• Volume of non-conforming timber including packet numbers</li> <li>• Corrective actions taken</li> </ul>	Within 48 hours.  Final report within 5 working days

- 4.5.3 Custom treaters shall also provide non-conformance reports to their customers (timber producers).

## 5 Technical Requirements

### 5.1 Treatment facilities

- 5.1.1 Treatment plants shall maintain facilities and equipment in accordance with the requirements of the Best Practice Guideline for the Safe Use of Timber Preservatives and Antisapstain Chemicals (BPG). While treatment plants are required to comply with all aspects of the BPG, the following sections should be given particular focus:
- a. section 2 (HSE Act, including accident and hazard management);
  - b. section 5 (design and operational requirements);
  - c. section 6 (safety and health requirements);
  - d. section 7 (plant operations); section 10 (disposal of wastes);
- 5.1.2 Treatment plants shall keep a record of maintenance carried out on the plant.

### 5.2 Pre-treatment checks

- 5.2.1 Prior to treating timber, treatment plants shall undertake the following pre-treatment checks:
- a. Confirm the treatment to be applied matches the treatment that is branded on the timber and specified on the documentation;
  - b. Confirm that the treatment is suitable for the species being treated;
  - c. The correct sampling plan is in place to test the conformance of the charge; and
  - d. The treatment plant holds current approval for the treatment.
  - e. Individual packet numbers are recorded for the charge;
  - f. The material to be treated is suitable for the treatment, as defined in the table below.

Defect	Specification <sup>1</sup>											
Decay, fungi, mould, sapstain	All produce shall be free from decay.	<ul style="list-style-type: none"> <li>• Surfaces shall be free from fungal fruiting bodies and extensive dark patches of mould and stain fungi.</li> <li>• Internal brown or orange stains shall be regarded as evidence of decay.</li> <li>• NOTE:               <ul style="list-style-type: none"> <li>(a) The external appearance of the timber does not identify the internal condition of the timber. Delayed antisapstain treatment on produce that has become infected can inhibit surface fungal growth, but will not prevent the continuing development of internal decay. Inspection should include examination of exposed internal surfaces of representative sample pieces which have been length ripped or cross-cut.</li> <li>(b) Sapstain fungi can result in excessive over treatment (e.g., KD timber treated with LOSP)</li> <li>(c) Treatment of sapstained wood with LOSP is not permitted</li> </ul> </li> </ul>										
Insect damage	All produce shall be free of insect attack.	<ul style="list-style-type: none"> <li>• There shall be no evidence that the wood has been penetrated by insect larvae (e.g., holes, insect frass)</li> </ul>										
Bark	All produce shall be free of bark	<ul style="list-style-type: none"> <li>• Free of bark</li> </ul>										
Moisture Content	All produce shall have a MC at or below the maximum specified here.	<table border="1" data-bbox="753 999 1432 1215"> <thead> <tr> <th data-bbox="753 999 1057 1031">Process</th> <th data-bbox="1057 999 1432 1031">Moisture Content</th> </tr> </thead> <tbody> <tr> <td data-bbox="753 1031 1057 1104">Waterborne pressure treatments</td> <td data-bbox="1057 1031 1432 1104">25% or less</td> </tr> <tr> <td data-bbox="753 1104 1057 1136">LOSP</td> <td data-bbox="1057 1104 1432 1136">15% or less</td> </tr> <tr> <td data-bbox="753 1136 1057 1167">Dip/spray</td> <td data-bbox="1057 1136 1432 1167">25% or less</td> </tr> <tr> <td data-bbox="753 1167 1057 1215">Diffusion/hold</td> <td data-bbox="1057 1167 1432 1215">Green-off-saw</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Wood to be steamed shall be in a high state of moisture normally found in living trees. Delays between felling and steaming can cause variations in moisture content within and between pieces which can result in an unacceptable variation in treatment standards.</li> <li>• Produce should be protected from rain wetting prior to treatment to ensure maximum MC requirements not exceeded.</li> </ul>	Process	Moisture Content	Waterborne pressure treatments	25% or less	LOSP	15% or less	Dip/spray	25% or less	Diffusion/hold	Green-off-saw
Process	Moisture Content											
Waterborne pressure treatments	25% or less											
LOSP	15% or less											
Dip/spray	25% or less											
Diffusion/hold	Green-off-saw											
Oil & contaminants		<ul style="list-style-type: none"> <li>• All produce shall be free of oil, contaminants and debris</li> </ul>										

<sup>1</sup> See handbook for photos: Common insects and fungi that affect logs and sawn timber in New Zealand (AsureQuality).

### 5.3 Timber preservation chemicals

- 5.3.1 The name, contact person and contact details of the preservative supplier(s) should be recorded.
- 5.3.2 The details of the preservatives (formulation, actives) used on site shall be recorded together with their technical specification and current MSDS sheets.
- 5.3.3 Treatment plant will check that the certificate of analysis for every chemical delivery includes the test method (this shows that the solution delivered has undergone a full chemical analysis by the chemical company).
- 5.3.4 Treatment plants shall test the working tank treatment solution after each treatment charge to determine concentration (applicable to CCA, Copper Azole, ACQ, Boron). LOSP solutions shall be sampled and sent to an approved laboratory on a monthly basis.

## 6 Treatment Monitoring

### 6.1 Product sampling methods

- 6.1.1 Treatment plants shall take samples in accordance with the procedures set out in NZS 3640:2003, section 3.4 and AS/NZS 1604 parts 2 to 5.
- 6.1.2 In addition, treatment plants shall meet the following requirements when taking samples:
  - a. Take duplicate or triplicate borings if required by the laboratory, and label with the same number.
  - b. Take material that is representative of the charge (including sacrificial samples)
  - c. Ensure samples are free of defects
  - d. Ensure samples are long enough to ensure the lab can process the sample
  - e. Ensure sapwood / heartwood content of the samples are representative of the penetration zone requirements defined in NZS3640 (AS/NZS1604 for LVL / plywood)
  - f. Ensure samples are taken at a minimum of 300mm from the end of the piece (for all sawn timber) and a minimum of 150mm from any knots or defects
  - g. Label each individual sample to ensure the lab can identify each individual sample.
  - h. LOSP: Wrap each sample in tinfoil to avoid cross contamination
  - i. Spray reagent on clean faces (i.e., don't do penetration tests over top of heart/sap tests)
  - j. Sacrificial samples may be used for sampling Engineered Wood Products, instead of taking borings from these high value products. Samples shall be at least 750mm long and a minimum of 300 from either end. Sacrificial samples need to be the same materials.
  - k. Samples are to be inspected for compliance with the penetration and retention requirements of (1) NZS 3640:2003 (for solid wood products); and (2) AS/NZS 1604

Parts 2 to 5 (for relevant reconstituted and glue laminated wood products) and (3) AS/NZS 1605.

- 6.1.3 Penetration: Tests for penetration shall be conducted on site using a suitable reagent as specified in AS/NZS 1605 or approved by the Governing Body. If no suitable reagent is available, penetration shall be confirmed by analysis at an approved laboratory.
- 6.1.4 Retention: Retention tests may be conducted at on-site or preservative supplier laboratories if they are part of the inter-lab comparison programme. Otherwise, they shall be conducted at an approved laboratory. Results shall be expressed in TAE (Total Active Elements).
- 6.1.5 Sapwood / heartwood boundaries should be determined using appropriate spot tests in order to determine whether the sapwood/heartwood penetration requirements of NZS 3640 (or AS/NZS1604 for LVL / plywood) have been met.
- 6.1.6 Any test media such as reagents shall be stored and used in accordance with the manufacturer's specification.
- 6.1.7 All test results shall be recorded and filed on site.

## 6.2 Process control methods

- 6.2.1 Treatment plants shall work with the TA to establish the charge retention for the plant and material being treated. Charge retention shall ensure compliance with the retention requirements for the hazard class in NZS3640 and AS/NZS 1604 parts 2-5.
- 6.2.2 Each site shall complete a charge sheet for every charge of treated timber. The charge sheet shall include the applicable items from the following list:
  - a. Timber species
  - b. Packet number
  - c. Pre-treatment checks
  - d. Treatment process
  - e. Timber size and grade (description e.g., piles, poles, timber etc)
  - f. Volume of timber (m3)
  - g. Hazard class
  - h. Preservative
  - i. L/M3 uptake
  - j. Solution strength
  - k. Calculated retention
  - l. Confirmation that the treatment applied matches the information branded on the timber
  - m. Results of penetration and/or retention samples taken
  - n. Pass / Fail
  - o. % undercharge

- p. Reason for undercharge
- q. Corrective action taken

- 6.2.3 The Plant operator shall monitor each batch by calculating the theoretical retention (solution uptake x solution concentration / wood volume) and comparing it against the target charge retention for the site.
- 6.2.4 Plant operators shall carry out monthly reconciliations, including the following calculations for each preservative:
- a. Stock / Theory = % under / over usage
  - b. Charges / Stock = % under / over usage
  - c. Charges / Theory = % under / over usage

**6.3 Sampling plan**

- 6.3.1 Sites shall work with the TA to develop a statistically valid sampling plan that ensures product released to the market complies with the penetration and retention requirements of NZS3640 and AS/NZS 1604 parts 2-5.
- 6.3.2 The sampling plan shall including the following quality assurance procedures as a minimum:
- a. Check calculated retention against target
  - b. Penetration spot checks
  - c. Reconciliations
  - d. Lab analysis for retention

6.3.3 The minimum sampling intensity for each hazard class is set out below:

	H1.1 / H1.2 / H3.1 / H3.2	H4 / H5	H6
<b>Check calculated retention against charge retention for the site</b>	Every Charge / Run		
<b>Reconciliation checks</b>	Monthly		
<b>Penetration spot checks</b>			
CCA, Copper Azole, ACQ, Boron Pressure Processes	As per Appendix A	As per Appendix B	Every Charge
Boron dip/bath/spray:	Every 400m3 or a minimum of once per treatment run (whichever comes first)	N/A	
<b>Lab Analysis (Retention &amp; Penetration)</b>			

All formulations	Sample 1 charge in every 200 packs or at least once a quarter.	Every Charge
------------------	--	--------------

6.3.4 Notes:

- a. Charge: A discrete batch of timber treated with a given solution at the same time in the same process. For spray and dip processes a charge is the volume of timber in a conditioning chamber.
- b. For house piles a Lab test is required once per week, or every 5<sup>th</sup> charge whichever is the highest frequency.
- c. Samples taken during audits may be used to meet the treatment plants sampling plan if the audit is carried out in the month when the analysis is due.
- d. Appendix 1 & Appendix 2 set out the minimum penetration sampling frequency required.

6.4 Product conformity

6.4.1 The batch/charge is deemed to be compliant if:

- a. On site penetration spot check: if at least 9 out of the 10 samples pass.
- b. Lab analysis (penetration and retention): if at least 9 out of the 10 samples pass penetration; and if at least 9 out of the 10 samples pass retention. Note: if one piece fails penetration, the remaining 9 samples must pass retention.

6.4.2 Treatment plants shall have procedures for identifying and managing product that fails to meet the penetration and retention requirements of NZS 3640.

6.4.3 The batch/charge is deemed non-compliant if:

	Charge fails if:
<b>On site penetration spot check</b> (10 samples tested)	> 1 sample out of ten fails
<b>Lab analysis Penetration &amp; retention</b> (10 samples tested)	> 1 sample out of ten fails penetration; or any of the 9 remaining samples fail retention, where 1 sample has failed penetration >1 sample out of ten fails retention

6.5 Investigation and corrective action

6.5.1 If a charge is non-compliant, treatment plants (and their TA) shall investigate in order to determine the contributing factors and take appropriate action to ensure:

- a. The treatment process is adjusted to rectify the problem;
- b. That the non-compliant charge is isolated and not released to the market until it is deemed to comply.
- c. That related product is tested.

- 6.5.2 If a batch is more than 5% undercharge, treatment plants shall follow the Corrective Action Procedure set out in Appendix 3 of the Treatment Requirements section of this SOP. Note:
  - a. Undercharge: where the calculated retention (based on solution strength, uptake, charge volume) is less than the target value of the charge retention set for the site.
- 6.5.3 Prior to treating subsequent batches in the same hazard class, the treatment plant shall rectify the problem, using the minimum correct actions required in clause 6.5.4.
- 6.5.4 The minimum corrective actions required when a charge is non-compliant are set out in the flowcharts in Appendix 3, including:
  - a. Appendix 3: Flowchart 1: Corrective actions for undercharge of 5% or more
  - b. Appendix 3: Flowchart 2: Corrective actions for Corrective action for penetration failure
  - c. Appendix 3: Flowchart 3: Corrective actions for sample retention (lab) failure
  - d. Appendix 3: Flowchart 4: Corrective actions for testing related production.

## 6.6 Retreatment of substandard charges

- 6.6.1 CCA, Copper Azoles and ACQ – plant operators shall ensure that the timber meets the pre-treatment requirements specified in this SOP.
- 6.6.2 LOSP and Boron – plant operators shall calculate the additional retention required prior to retreating the timber.

## 6.7 Downgrading

- 6.7.1 If a charge fails to meet the penetration and retention requirements of the hazard class, the treatment plant may downgrade the charge to a lower hazard class, provided they can verify that it meets the penetration and retention requirements for the lower hazard class.
- 6.7.2 Existing branding must be obliterated or removed and replaced with the branding for the appropriate hazard class.

## 7 Branding and product handling

### 7.1 Branding / product identification

- 7.1.1 Colourfast dye/pigment shall be used to identify the preservative, in accordance with NZ3640: 2003.
- 7.1.2 All treated structural timber shall be marked with the correct information, as follows, using permanent (black) ink or an indent wheel to ensure that the information is clearly legible in service

Information	Example	Minimum Height of text	Spacing
-------------	---------	------------------------	---------

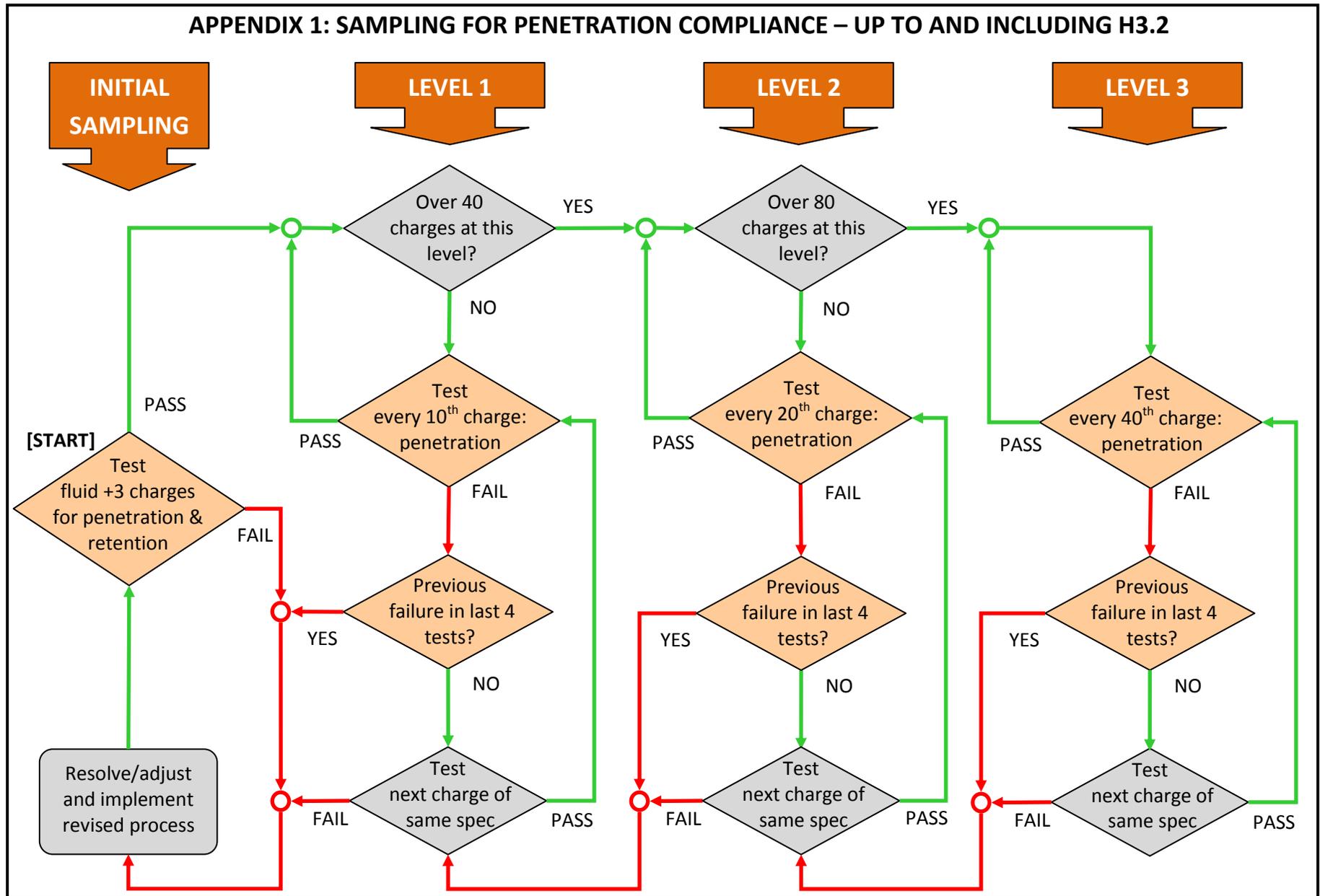
Hazard class (e.g., H1.2)	H1.2	10 mm	≤1500mm centres
Preservative number		10 mm	≤1500mm centres
Treatment plant ID	888	10 mm	≤1500mm centres
Audit Body brand (optional) (a) Grading (b) Treatment	Approved Audit Body Brand Marks		≤1500mm centres
Scheme Brand (optional)	∅ (example only)	10 mm	≤1500mm centres

- 7.1.3 Additional information relating to the verified structural grade shall be branded on the timber as specified in the Grading SOP.
- 7.1.4 Timber Producers shall have a robust procedure for ensuring that the correct hazard class is branded on the timber.
- 7.1.5 All information applied must be totally legible on at least 90% of the product.
- 7.1.6 Rough sawn timber (or timber that can't be edge branded) can be tagged with an end tag. All associated timber documentation such as invoices, delivery dockets etc shall note the timber treatment information listed above.
- 7.1.7 Timber with an Appearance Requirement can be tagged with an end tag where side or edge branding would be unacceptable. All associated timber documentation (e.g., invoices, delivery dockets) shall note the timber treatment information listed above.
- 7.1.8 Plywood and LVL shall be branded in accordance with AS/NZS1604.

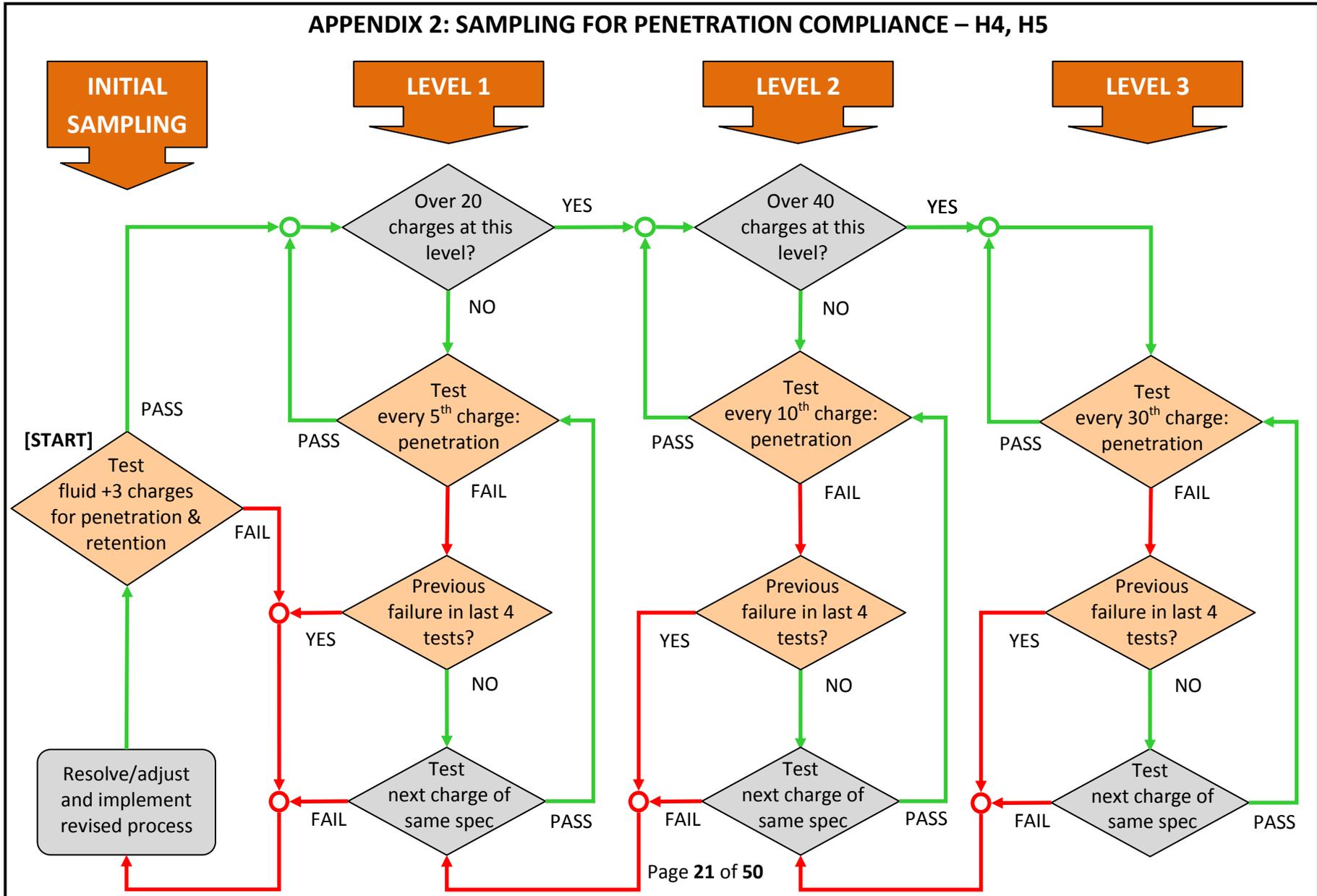
## 7.2 Post-treatment handling and storage

- 7.2.1 Treated timber shall be handled and stored in such a way that it is protected from damage or deterioration.
- 7.2.2 Treatment plants shall comply with the BPG requirements for fixation and flashoff.

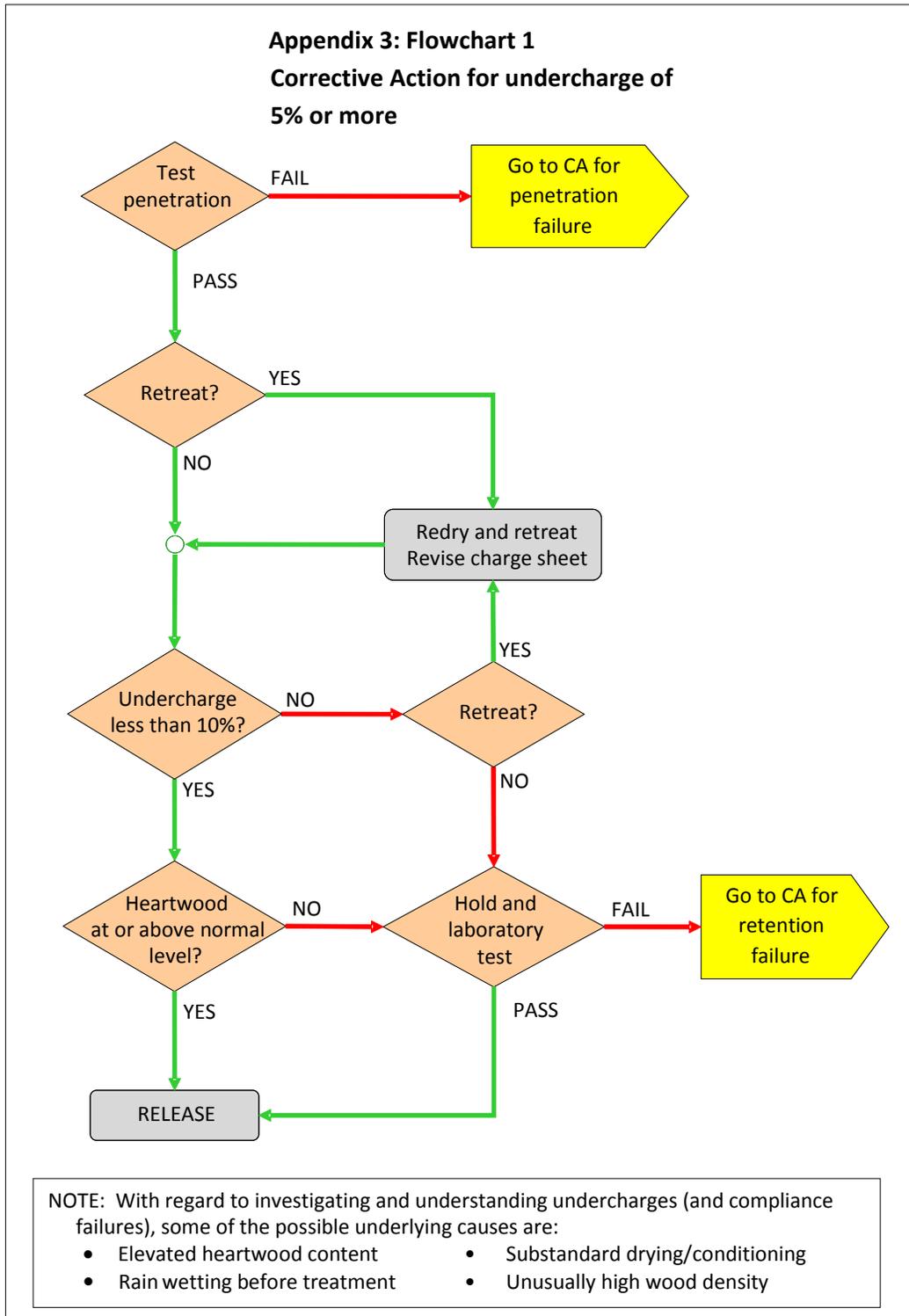
8 Appendix 1



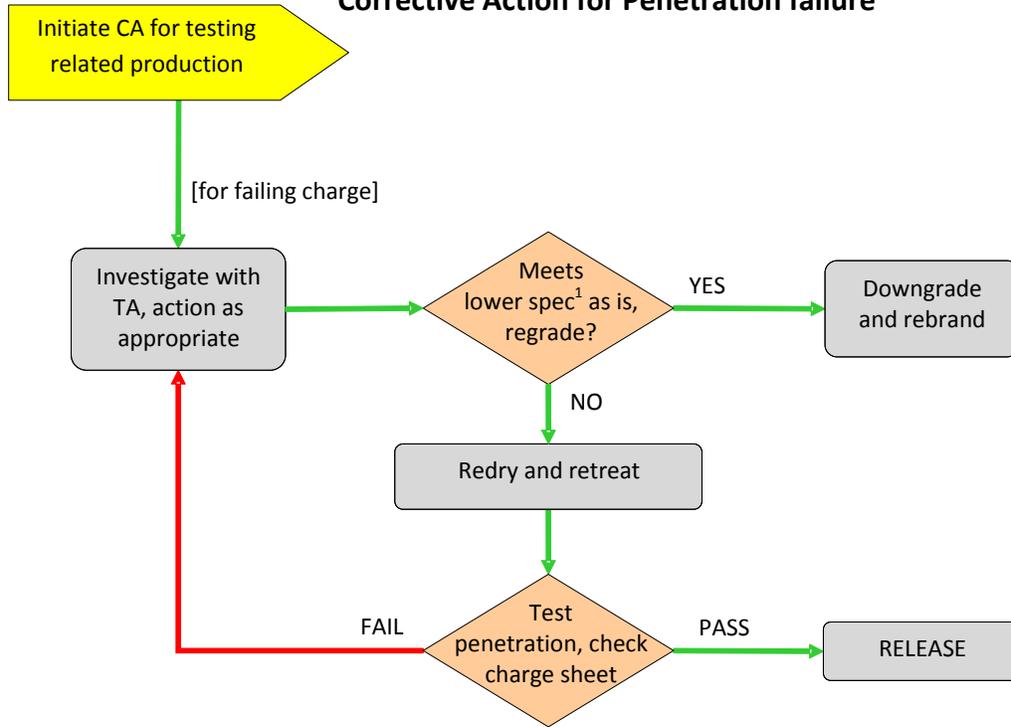
9 Appendix 2



10 Appendix 3



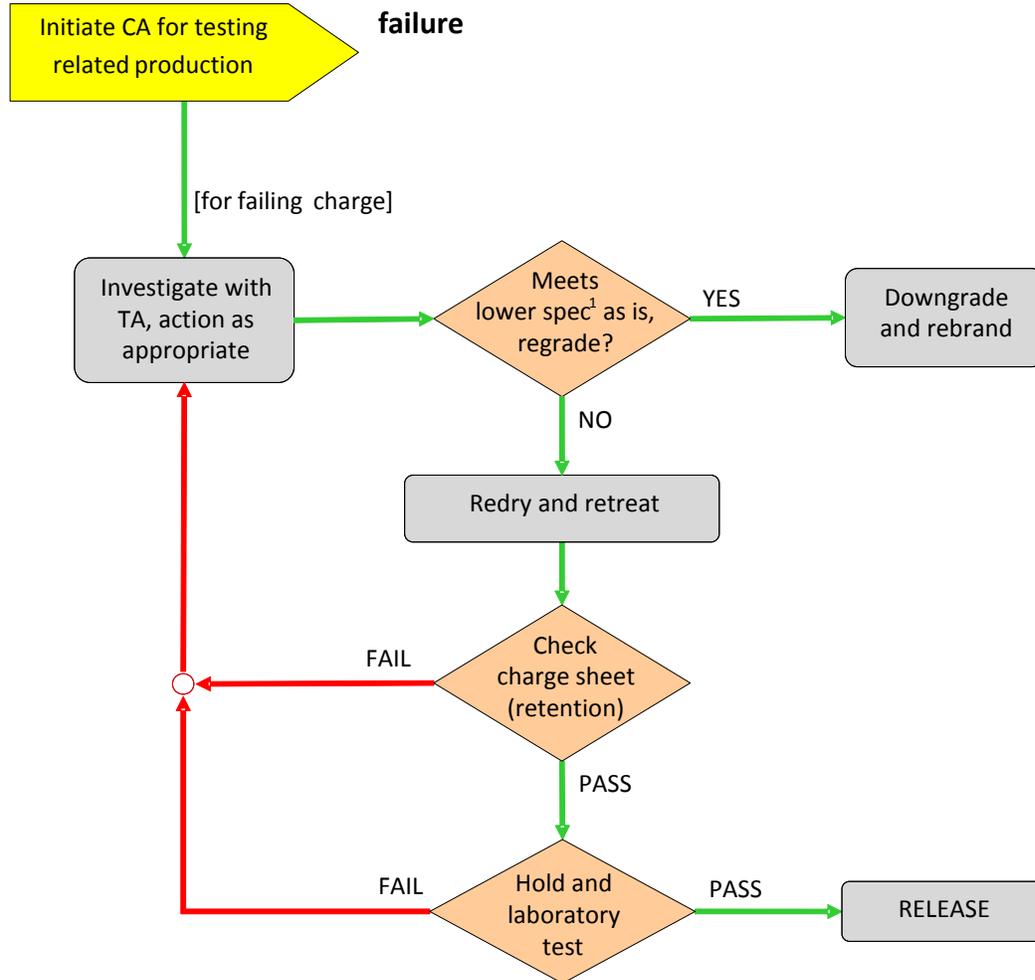
**Appendix 3: Flowchart 2**  
**Corrective Action for Penetration failure**



**NOTE:**

1. To comply with a “lesser” specification treatment, ALL relevant requirements for that specification – penetration and retention - must be met.

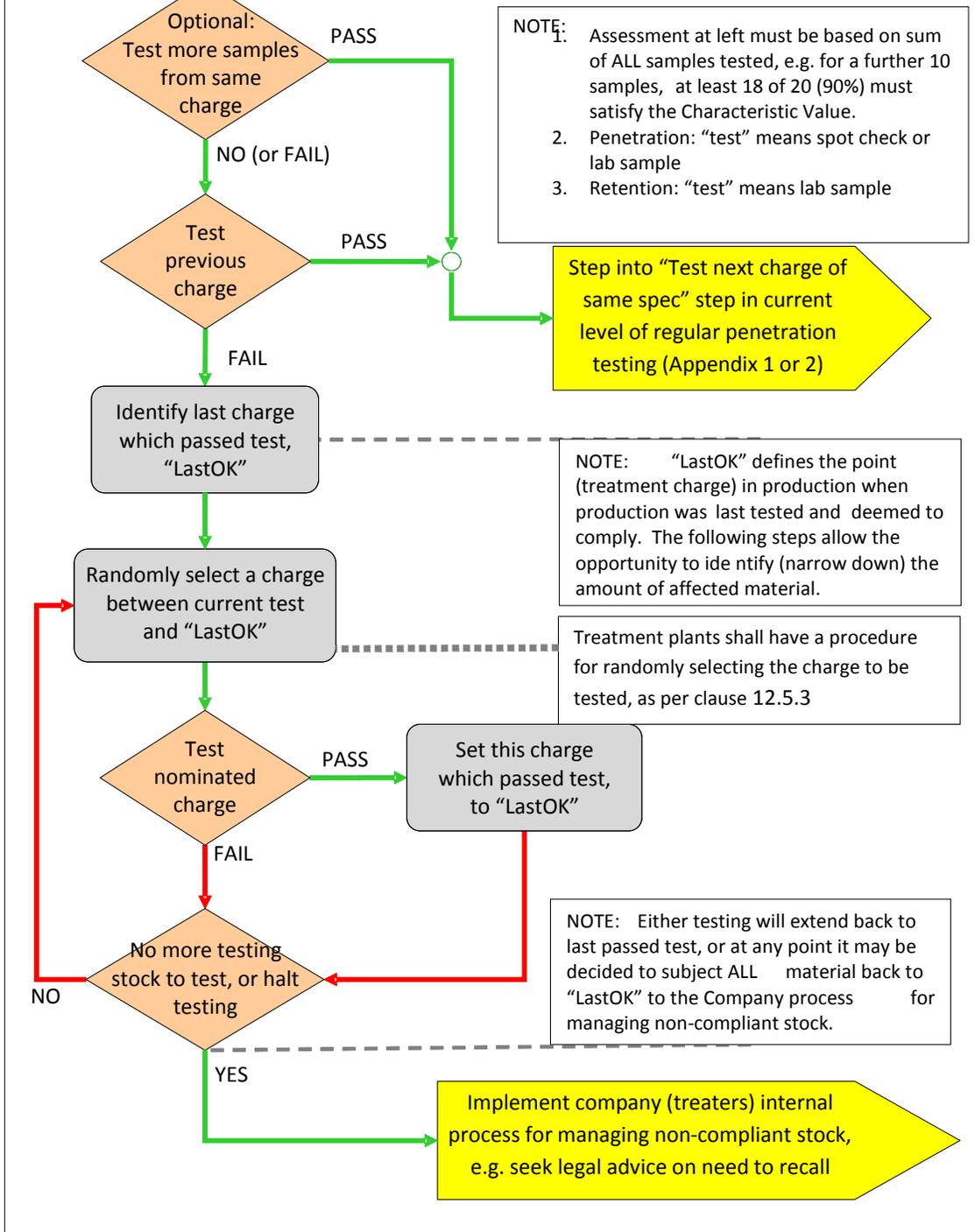
**Appendix 3: Flowchart 3  
Corrective Action for sample retention (lab)  
failure**



**NOTE:**

1. To comply with a “lesser” specification treatment, ALL relevant requirements for that specification – penetration and retention- must be met.
2. Copies of investigative reports to be sent to QA provider (refer text for details).

### Appendix 3: Flowchart 4 Corrective Action for testing related production



# SOP for Audit Bodies

## 11 Audit Scope & Method

### 11.1 Audit scope

Audit type	Scope
Full audit	<ul style="list-style-type: none"> <li>• Systems review</li> <li>• Implementation records review</li> <li>• Sample collection &amp; product testing</li> <li>• Inspection of treatment facilities, equipment &amp; product</li> <li>• Check on progress and effectiveness of corrective actions</li> </ul>
Mini audit	<ul style="list-style-type: none"> <li>• Check on progress and effectiveness of corrective actions</li> <li>• Sample collection &amp; product testing</li> </ul>

11.1.1 As a minimum, the issues included in the audit checklist shall be considered during audits.

11.1.2 The purpose of the systems and documentation review is to provide confidence that the treatment plant is managing day to day operations in a way that ensures product compliance.

11.1.3 Sample collection and product testing:

11.1.3.1 The purpose of sample collection and product testing is to confirm that the products in every hazard class comply with the penetration and retention requirements of NZS3640 and AS/NZS 1604.

11.1.3.2 Audit bodies shall sample every hazard class on site.

	H1.2	H3.1	H3.2	H4, H5, H6
	All processes & formulations			
Send to lab	1 set of samples from all processes & formulations			
Spot check on site	Spot Test all sets of samples on site, prior to dispatching the samples to the lab			

11.1.3.3 If more than 1 sample from a set of 10 samples collected in the audit fail, further samples from the same hazard class must be collected and re-sampled by the audit body. If these samples also fail, the audit body shall suspend the treatment plant from treating in this hazard class until the analysis passes.

11.1.4 As a minimum, the issues included in the audit checklist shall be considered during the inspection of treatment facilities, equipment & product.

### 11.2 Audit type & frequency

11.2.1 Treatment plants shall nominate an approved audit body to audit their system, documentation and product conformance.

11.2.2 Audits will be conducted within three month of the last audit. At least one of the audits shall be conducted with no more than 48 hours notice.

11.2.3 Three of the audits shall be full audits and one shall be a surveillance audit, at the discretion of the audit body.

11.2.4 Treatment plants that pass three consecutive audits with no non-conformances will be eligible for auditing on a six monthly basis, provided they have adequate internal audit procedures.

**11.3 Conformity assessment**

11.3.1 Auditors will assess conformance against each criteria in the audit checklist. If a non-conformance is identified, the auditor shall determine what type of non-conformance it is, using the non-conformance classifications below.

11.3.2 **Examples** of non-conformances are included as a guide in the table below. This table is intended to provide guidance on the kinds of non-conformances that may be considered critical, major and minor. It is not intended as a prescriptive list.

Type of non-conformance		Example Non-conformances	Corrective Action (minimum)
Critical  Product likely to fail	Actions or inactions that lead to the total loss of confidence in the treatment plant’s compliance with the Scheme or will lead to treatments not complying with the penetration and retention requirements of NZS3640.	<ol style="list-style-type: none"> <li>1. Treating without approval</li> <li>2. Using formulations that have not been approved</li> <li>3. Sampling plan doesn’t meet minimum requirements</li> <li>4. Treatment monitoring processes inadequate (e.g., not setting target charge retention correctly; reconciliations not completed / investigated; not completing charge sheets correctly; not completing pre-treatment checks correctly; stock held in tanks matches charge sheet)</li> <li>5. Sample taking methods don’t meet requirements</li> <li>6. Inadequate procedures for dealing with non-conforming product</li> <li>7. Selling non-conforming product</li> <li>8. Flash off and fixation requirements of BPG not being followed</li> </ol>	Investigate and correct within 2 days and notify the auditor of actions taken. Re-audit to confirm compliance (provision of information is not sufficient and re-audit is required).
Major  Product not likely to fail but treatment not done correctly	Actions or inactions that, if not attended to urgently, will lead to the total loss of confidence in the treatment plant’s compliance with the Scheme or will lead to treatments not complying	<ol style="list-style-type: none"> <li>1. Quality assurance procedures for timber treatment are ineffective or not followed</li> <li>2. Incomplete records of treatment monitoring</li> <li>3. Measuring and monitoring equipment not in calibration.</li> <li>4. Operator not competent to carry out designated tasks</li> <li>5. Branding incorrect information on treated</li> </ol>	Corrective action report sent to audit body within 7 working days and audit body assess whether correct action is adequate to ensure

	with the branded hazard class.	timber	conformity.
Minor Treatment not done correctly but product won't fail	Actions or inactions that are not considered to result in the total loss of compliance with the Scheme or lead to treatments not complying with the branded hazard class.	<ol style="list-style-type: none"> <li>1. Branded information not legible</li> <li>2. Treatment plant, facilities and equipment not maintained in accordance with BPG.</li> <li>3. Documentation not correctly completed</li> </ol>	CAR reviewed at next audit

11.3.3 The auditor shall determine the timeframe for closing out corrective actions in consultation with the treatment plant. Timeframes must be within the guidelines set out in the table above.

## 11.4 Audit result

11.4.1 A treatment plant will fail the audit if they incur:

- a. 1 critical non-conformance; or
- b. 2 or more major non-conformances; or
- c. Any 3 non-conformances (e.g., 1 major + 2 minors); or
- d. A non-conformance for the same issue on two consecutive audits.

11.4.2 If the treatment plant fails an audit, they will be required to undertake another audit at their own cost within a 2 month period.

11.4.3 If the producer fails two consecutive audits, an additional audit will be performed within 1 month at the cost of the producer. If the non-conformances are still not resolved, the treatment plant will be suspended from treating timber until the non-conformances are closed out.

11.4.4 If a producer is being audited 6 monthly and they fail an audit, they go back to a quarterly audit frequency.

## 11.5 Audit Reporting

11.5.1 The audit body shall provide a hand written summary of non-conformances at the closing meeting.

11.5.2 The audit body shall send the final audit report to the treatment plant within 5 days of the audit.

11.5.3 Auditor provides Governing Body with a quarterly summary of audits.

# Audit Checklist

---

Criteria	Conforming Y/N	No-conformance type: Critical – C Major – Maj Minor - Min	Auditor Observations
<b>Background information</b>			
Corrective actions from previous audits closed out			
All relevant approvals in place			
<b>General</b>			
Copy of relevant standards kept on site			
Quality Assurance procedures in place and effective for ensuring product conformity			
Suitably qualified person responsible for quality of treated timber and maintenance of systems to support this			
TA appointed			
Quality assurance procedures reviewed annually			

Criteria	Conforming Y/N	No-conformance type: Critical – C Major – Maj Minor - Min	Auditor Observations
<b>General (continued)</b>			
<p>1. Following procedures are included in QMS:</p> <ul style="list-style-type: none"> <li>• Product identification and traceability</li> <li>• Segregation of non-conforming product</li> <li>• Ensuring that the correct treatment information is on the timber</li> <li>• Training staff</li> <li>• Operating the plant</li> <li>• Taking samples</li> <li>• Treatment monitoring</li> <li>• Investigation and corrective action</li> <li>• Calibration of measuring and monitoring equipment</li> <li>• Keeping records up to date.</li> <li>• Preparing treatment solutions and determining solution strength</li> </ul>			
<p>2. The following records kept for minimum of 10 yrs:</p> <ul style="list-style-type: none"> <li>• Reconciliation reports</li> <li>• Steaming charge sheets</li> <li>• Treatment charge sheets</li> </ul>			

<ul style="list-style-type: none"> <li>• Investigation reports for failed uptake / penetration / retention</li> <li>• Penetration test records</li> <li>• Independent lab reports</li> <li>• Supplementary lab reports</li> <li>• Third party audit reports</li> <li>• Internal audit reports</li> <li>• Heartwood / sapwood test records</li> </ul>			
<p>3. The following data is recorded for each charge:</p> <ul style="list-style-type: none"> <li>▪ Timber species</li> <li>▪ Packet number</li> <li>▪ Pre-treatment checks</li> <li>▪ Treatment process</li> <li>▪ Timber size and grade (description e.g., piles, poles, timber etc)</li> <li>▪ Volume of timber (m<sup>3</sup>)</li> <li>▪ Hazard class</li> <li>▪ Preservative</li> <li>▪ L/M<sup>3</sup> uptake</li> <li>▪ Solution strength</li> <li>▪ Calculated retention</li> <li>▪ Confirmation that the treatment applied matches the information branded on the timber</li> <li>▪ Results of penetration and/or retention samples taken</li> <li>▪ Pass / Fail</li> <li>▪ % undercharge</li> </ul>			

<ul style="list-style-type: none"><li>▪ Reason for undercharge</li><li>▪ Corrective action taken</li></ul>			
--	--	--	--

Criteria	Conforming Y/N	No-conformance type: Critical – C Major – Maj Minor - Min	Auditor Observations
<b>Staff competency, awareness and training</b>			
Treatment staff fully trained and competent for their tasks			
At least one approved handler on site when treatment carried out			
Training delivered by approved training provider or competent in-house trainer			
Training records maintained			
Tasks permitted for each member of staff involved in treatment clearly documented and understood			

Criteria	Conforming Y/N	No-conformance type: Critical – C Major – Maj Minor - Min	Auditor Observations
<b>Measuring and monitoring equipment</b>			
List of measuring and monitoring equipment in quality assurance procedures.			
Measuring equipment checked and calibrated annually or as specified by manufacturer			
Stored, transported and used in a manner than accuracy is maintained			
Procedure for repairing equipment that is out of calibration			
Calibration records maintained			

Criteria	Conforming Y/N	No-conformance type: Critical – C Major – Maj Minor - Min	Auditor Observations
<b>Reporting to the audit body</b>			
Reconciliation sheets supplied monthly			
Product non-conformance reports provided within 48 hours.			
Summary of charges supplied monthly			

Criteria	Conforming Y/N	No-conformance type: Critical – C Major – Maj Minor - Min	Auditor Observations
<b>Treatment facilities</b>			
1. Plant, facilities and equipment in good working order:			
2. Safety and environmental hazards managed:			
<b>Pre-treatment checks</b>			
Plant checks that treatment to be applied matches treatment branded on timber and specified on documentation			
Treatment suitable for the species being treated.			
Plant holds current approvals			
Individual packet numbers recorded for charge.			
Material suitable for treatment (free of defects).			

Criteria	Conforming Y/N	No-conformance type: Critical – C Major – Maj Minor - Min	Auditor Observations
<b>Timber preservation chemicals</b>			
Contact details for preservative suppliers recorded.			
List of preservatives used recorded and MSDS sheets on file.			
Certificate of Analysis checked and filed for every delivery.			
Working tank strength checked after every charge to determine concentration (except LOSP – check lab tests done)			

<b>Criteria</b>	<b>Conforming Y/N</b>	<b>No-conformance type: Critical – C Major – Maj Minor - Min</b>	<b>Auditor Observations</b>
<b>Treatment Monitoring</b>			
Samples taken in accordance with 3640 and the additional sampling requirements in the SOP.			
Penetration spot checks carried out correctly and a suitable reagent used			
Test results recorded and filed on site			
Charge retention set for site and validated against NZS 3640.			
Retention tests analysed by approved lab or supplementary lab (if part of inter-lab programme)			
Sapwood/heartwood test carried out correctly.			
Charge sheets completed and interpreted correctly			
Reconciliations completed and interpreted correctly.			
1. Statistically valid sampling plan in place and includes the following: <ul style="list-style-type: none"> <li>• Uptake checks</li> <li>• Reconciliations</li> <li>• Penetration spot checks</li> <li>• Lab analysis for retention</li> </ul>			

<b>Criteria</b>	<b>Conforming Y/N</b>	<b>No-conformance type: Critical – C Major – Maj Minor - Min</b>	<b>Auditor Observations</b>
<b>Product failure</b>			
Procedures in place for identifying and managing non-conforming product			
Procedures for randomly selecting the charge to be tested when testing related production are effective			
Investigation and corrective action procedures in place and working			
Minimum corrective actions taken for non-conforming product			
<b>Retreatment of substandard charges / downgrade</b>			
Meets pre-treatment requirements			
Meets penetration and retention requirements of hazard class			
Branding correct for new hazard class			

Criteria	Conforming Y/N	No-conformance type: Critical – C Major – Maj Minor - Min	Auditor Observations
<b>Post-treatment, branding and product identification</b>			
Treated timber stored and handled in a way that protects it from damage or deterioration.			
Plant complying with BPG requirements for fixation and flashoff			
Treatment information is correctly branded on the timber.			
Effective procedure in place for ensuring treatment applied matches treatment information branded on the timber.			
Brand 100% legible on 90% of product.			
Plywood branded in accordance with 1604			

# APPENDIX:

## Draft Scheme Rules (under development)

---

### 12 Roles & Responsibilities

#### 12.1 Governing Body

12.1.1 The role of the Governing Body is to set the objectives of the Timber Quality Scheme and ensure they are being met.

12.1.2 Governing Body membership shall include:

- a. Independent Chair
- b. Four timber producer representatives appointed from the nominating groups (WPA, TIF)
- c. Two end user representatives (e.g. builders, fabricators, merchants)
- d. Technical expert(s)
- e. A representative of the DBH (ex-officio)

12.1.3 Functions of the Governing Body shall include:

- a. Establish, modify and monitor a series of Standard Operating Procedures (SOPs) to ensure the objectives of the Scheme are met
- b. Determine audit criteria for each SOP
- c. Approve audit bodies to conduct audits under the Scheme
- d. Undertake surveillance to ensure consistency is maintained between audit bodies
- e. Approve laboratories to conduct analyses under the Scheme
- f. Ensure consistency and reliability of laboratories operating under the Scheme
- g. Approve formulations and processes for use under the Scheme
- h. Provide a link to Standards New Zealand (SNZ) for ongoing standards reviews
- i. Undertake public communication pertaining to the value of the Scheme to the consumer
- j. Maintain a public register of approved producers, auditors, laboratories, and formulations
- k. Manage the Scheme brand
- l. Other activities that the Governing Body deem appropriate to undertake to ensure the aims of the Scheme are met.

## 12.2 Audit Bodies

12.2.1 Audit bodies are responsible for:

- a. Assessing the conformity of Timber Treatment Plants to the requirements of this timber treatment SOP.
- b. Maintaining systems and procedures documenting how they will meet the requirements of this SOP.
- c. Reporting on the findings of the audits to the Timber Treatment Plants.
- d. Ensuring non conformances are closed out.
- e. Reporting at the required frequency to the Governing Body.
- f. Making recommendations to the Governing Body relating to the issuance, suspension, termination and reinstatement of Treatment Plant registration.

## 12.3 Treatment Plants

12.3.1 Treatment plants shall:

- a. Maintain systems and practices to ensure product consistently meets requirements of the SOP.
- b. Train staff in the Scheme requirements.
- c. Appoint an auditor from the register of approved Audit Bodies.

## 13 Treatment Plant Approvals, Suspensions, Terminations

### 13.1 Initial Approvals

13.1.1 Treatment plants shall apply to the Governing Body for approval to participate in the Scheme.

This approval process shall include:

- a. Approval of the treatment plant to be a member of the Scheme – approval means that the plant has adequate quality assurance systems and processes in place to consistently produce compliant product; and
- b. Approval for specific treatment processes, formulations, hazard classes, species, and products.

13.1.2 The treatment plant shall submit an application to the Governing Body, along with the application fee and the following details:

- a. The auditor selected to conduct the Scheme entry audit.
- b. The date for the entry audit.
- c. A list of the specific approvals being sought, including preservation processes, formulations, hazard classes, species and product types. For example:

<b>Formulations</b>	Boron
<b>Species</b>	RP
<b>Hazard class</b>	H1.2

<b>Process</b>	Spray
<b>Product type</b>	SW

- d. A commissioning report and process description, as well as lab results from three consecutive charges to demonstrate product compliance for each specific treatment process, formulation, hazard class, species, and product approval being sought.

13.1.3 The audit body shall submit the entry audit report to the Governing Body, along with a recommendation as to whether the treatment plant has adequate systems in place to participate in the Scheme.

13.1.4 The Governing Body will assess the application, consider the auditor’s recommendation and grant approval, deny approval or request further information.

13.1.5 Treatment plants that wish to apply for approval for further specific treatment processes, formulations, hazard classes, species, or products shall (with the help of the TA) submit the information required in Clauses 5.1.2c and 5.1.2d for each approval being sought.

## 13.2 Suspension of approval

13.2.1 A treatment plant’s membership in the Scheme and its approval for specific treatment processes, formulations, hazard classes, species, and products may be suspended immediately for a specified period by the Governing Body for any of the reasons given below:

- a. The treatment plant ceases to be a member of the Scheme;
- b. The treatment plant fails to maintain Scheme membership approval;
- c. Market feedback or laboratory testing indicates product quality and reliability have the potential to bring the Scheme into disrepute;
- d. Actions or inactions of the treatment plant lead to the total loss of confidence in the treatment plant’s compliance with the requirements of the Scheme;
- e. The treatment plant fails to commence corrective actions relating to a critical or major non-conformance for a period greater than one calendar month;
- f. The producer receives a critical non-conformance for the same issue on two consecutive audits;
- g. The treatment plant fails two consecutive audits and the required additional audit.
- h. The treatment plant will immediately remove the Scheme brand from all new products following suspension.

13.2.2 The Governing Body shall issue a suspension notice outlining the reasons for the suspension and the reinstatement requirements within 48 hours of the suspension. The suspension notice shall be posted on the Scheme website.

### 13.3 Termination of approval

13.3.1 The Governing Body may terminate a treatment plant's membership of the Scheme and its approval for specific treatment processes, formulations, hazard classes, species and products with 14 days written notice if:

- a. Falsification of any record is found;
- b. The treatment plant is wrongfully claiming Scheme membership or product approval;
- c. The treatment plant is mislabeling product;
- d. More than 2 critical non-compliances are identified within a 12 month period;
- e. The conditions of reinstatement in the suspension notice are not met;
- f. The treatment plant withdraws from the Scheme.

## 13.4 Reinstatement of approvals

13.4.1 Any treatment plant that has had its Scheme membership or product approval(s) suspended may apply to the Governing Body to reinstate their approval by meeting the conditions outlined in the suspension notice.

## 13.5 Appeals

13.5.1 Treatment plants may appeal against Governing Body decisions to suspend or terminate approvals.

13.5.2 Appeals may be lodged in writing to: <insert details>

13.5.3 The Governing Body shall establish an appeals committee to determine the outcome of the appeal.

13.5.4 The appeals committee shall hear the complaint of the appealing party and the response of the Scheme representatives, either in person, by proxy or correspondence.

13.5.5 A written statement of the appeal findings shall be provided to the appellant, including reasons for the decisions reached.

## 13.6 Scheme Brand

13.6.1 Treatment Plants approved under the Scheme may wish to market / label their product as being compliant with the Scheme. They can do this by marking the Scheme brand/logo on timber produced in compliance with the SOP.

## 14 Approval of Audit Bodies

14.1.1 The Governing Body will determine which audit bodies are approved to audit treatment plants for conformance to the requirements of this SOP. The approval process shall include the steps outlined below.

14.1.2 Audit bodies shall apply to the Governing Body, providing the following information:

14.1.2.1 A statutory declaration stating that the audit body operates independently of preservative suppliers and treatment plants.

14.1.2.2 Documentary evidence of current JAS-ANZ accreditation; or

14.1.2.3 Documented systems and procedures to provide assurance that the audit body can carry out effective, independent audits of the requirements of the Scheme, in accordance with the requirements of ISO-IEC Guide 65.

- 14.1.2.4 Documentary evidence of the competence of each proposed auditor in relation to both auditing and timber preservation, including:
  - a. Qualifications
  - b. Previous work experience
  - c. Audit experience

14.1.3 The Governing Body will assess the applications.

14.1.4 The cost of assessing applicants that do not hold accreditation will be the responsibility of the applicant.

14.1.5 The Governing Body shall decide whether the application should be approved, turned down, or whether further information is needed.

14.1.6 The Governing Body shall keep a register of approved audit bodies and publish it on the Scheme website.

## 14.2 Maintaining approval

14.2.1 The Governing Body shall review the approval status of each audit body on an annual basis.

14.2.2 All auditors will be required to undergo an annual peer review audit by an expert appointed by the Governing Body or a JASANZ accredited auditor.

14.2.3 Audit bodies that are not accredited will be required to have their systems and processes audited on an annual basis at their own cost.

## 14.3 Notification of changes

14.3.1 Audit bodies shall notify the Governing Body if:

- 14.3.1.1 Their accreditation lapses

- 14.3.1.2 They wish to appoint a new auditor for the Scheme

## 15 Approval of Treatment Processes & Formulations

15.1.1 The Governing Body will determine which treatment processes and formulations (including carriers and other additives) are approved for use within the Scheme. The approval process shall involve the steps outlined below.

15.1.2 The applicant shall apply to ERMA for approval of the preservative or variation under the HSNO Act. Following approval, ERMA will issue a substance approval number that goes on the ERMA Register.

15.1.3 The applicant shall then apply to the Governing Body for recognition of a trade name product,

providing the following information:

- d. The ERMA Register number.
- e. The application fee.
- f. The applicable information required under sections below.
- g. A statutory declaration stating that the trade name product is as per the composition provided.

15.1.4 The Governing Body shall forward the ERMA HS6 request form to ERMA to confirm that the information declared in the application matches the Register number provided by the applicant.

15.1.5 The Governing Body will establish a subcommittee to assess the applications.

15.1.6 The subcommittee shall use a tabulated checklist to assess applications, and make recommendations to the Governing Body on whether the application should be approved, turned down, or whether further information is needed.

15.1.7 The Governing Body shall keep a register of approved trade name products, which shall include the trade name and the specification.

15.1.8 If the trade name product uses an existing active(s) or is the same or similar to those being used, the applicant shall submit the following information:

Information	Details
Trade name	Trade name for formulation Specified limits:
Formula	ERMA HS6 request form Confidential statement of formula: <ul style="list-style-type: none"> <li>• components</li> <li>• CAS Nos</li> <li>• %</li> <li>• range %</li> <li>• purpose of each component in formulation</li> <li>• tracers / dyes</li> </ul>
Physical/chemical properties	<ul style="list-style-type: none"> <li>• Form (liquid, solid)</li> <li>• Formulation type (SC, WP, EC)</li> <li>• concentrate or ready-to-use</li> <li>• colour</li> <li>• odor</li> <li>• flashpoint</li> <li>• specific gravity</li> <li>• pH</li> </ul>
Manufacturing location	<ul style="list-style-type: none"> <li>• Location (NZ, overseas)</li> <li>• Name of importing company</li> <li>• Name of manufacturer</li> <li>• Details of accreditation / QA systems of manufacturer</li> </ul>
Hazard class	<ul style="list-style-type: none"> <li>• Proposed hazard classes including retentions</li> </ul>

Species	<ul style="list-style-type: none"> <li>Species the formulation is suitable for</li> </ul>
Efficacy data	<ul style="list-style-type: none"> <li>Summary data; or</li> <li>Data package (depending on approval sought)</li> </ul>
Quality control & analytical methods	<ul style="list-style-type: none"> <li>Solutions</li> <li>Treated timber</li> </ul>
MSDS	<ul style="list-style-type: none"> <li>Safety Data Sheet</li> <li>Product label</li> <li>Environmental, safety and health effects</li> <li>Hazard information</li> <li>Emergency procedures</li> </ul>
Fit for purpose data	<ul style="list-style-type: none"> <li>Effect on structural properties</li> <li>Depletion / leachability</li> <li>Compatibility with glues, paint, fittings</li> <li>Compatibility with other building materials</li> <li>Workability, machinability</li> <li>Flammability</li> <li>Health, safety and environmental impacts of the treated timber throughout the lifecycle, including disposal</li> </ul>
Process	<p>Describe process to be used :</p> <ul style="list-style-type: none"> <li>Dip</li> <li>Pressure</li> </ul>
Additives	<ul style="list-style-type: none"> <li>List additives (e.g., de-foamer, extra concentrate, mouldicide, dye, top-ups) and impacts on efficacy / fit for purpose performance.</li> <li>Permitted variance.</li> </ul>
Tracers & reagents	<ul style="list-style-type: none"> <li>Tracers / reagents suitable for use with this formulation / process</li> </ul>
Stability	RTU and concentrates

- 15.1.9 If the trade name product contains an existing active(s) but is a novel formulation (e.g., LOSP boron; or water based azole), the applicant shall provide the information listed in Clause 7.1.8. In addition, the efficacy data will need to show bioequivalence to the reference preservative.
- 15.1.10 If the trade name product contains a NEW active(s) or is NOVEL treatment system (e.g. CO<sub>2</sub> carrier), the applicant shall provide the information listed in Clause 7.1.8. Additional efficacy data shall be provided including: research reports on efficacy, stability of formulation and working solutions, treatment (evidence of penetration into treated wood using proposed processes, information on approval of formulation elsewhere in world including approved retentions etc) and analytical methods.
- 15.1.11 If the applicant is seeking approval for a new process (e.g., CO<sub>2</sub> carrier), the applicant shall describe the process and provide the information listed in Clause 7.1.8.
- 15.1.12 If the applicant is seeking approval for a wood modifying treatment, the applicant shall describe the process and provide the information listed in Clause 7.1.8.
- 15.1.13 Applicants shall apply to the Governing Body for minor variations to the approval by documenting the proposed variation (e.g. changing manufacturing site, adding a mouldicide, altering tracer level).

## 16 Approval of Laboratories

- 16.1.1 The Governing Body will determine which laboratories are approved for analytical sampling under the Scheme.
- 16.1.2 The purpose of the approval process is to ensure that there is consistency and reliability within and between laboratories analyzing samples under the Scheme.
- 16.1.3 The approval process shall include the steps outlined below.
- 16.1.4 Laboratories shall apply to the Governing Body, providing the following information:
- 16.1.4.1 A statutory declaration stating that the Laboratory operates independently of preservative suppliers, timber processes and audit bodies.
  - 16.1.4.2 Documentary evidence of current IANZ accreditation to NZ ISO/IEC 17025, including identification of the analytical methods used for timber treatment solutions and treated timber/wood products included in the accreditation, for example:
    - a. analysis of preservative concentrates and working solutions
    - b. analysis of treated timber or wood product samples
    - c. determination of wood density (could do wood density through TA lab)
    - d. spot test (colorimetric) for penetration of preservatives
    - e. heart/sap determinations

- f. moisture content
- 16.1.4.3 Procedures used to handle, store and prepare samples:
- a. Sample sizes (timber dimensions and solutions [volume])
  - b. Sample identification
  - c. Sample packaging
  - d. Sample preparation at laboratory
  - e. Accurate sub-sampling (e.g. re-cutting, grinding)
  - f. Avoidance of cross-contamination
- 16.1.4.4 Procedures for record keeping (minimum of 10 years)
- 16.1.4.5 Procedures for reporting analytical test results to treatment plants and audit bodies, including: (1) the method of analysis used; and (2) the detection limits.
- 16.1.4.6 Documentation and procedures relating to participation in the inter-lab testing programme, including:
- a. Evidence that inter-lab testing is being conducted on an annual basis for each preservative / active combination for treated timber
  - b. Reports that demonstrate that consistency and reliability of analytical results is being achieved.
- 16.1.4.7 The Governing Body will establish a subcommittee to assess the applications.
- 16.1.4.8 The subcommittee shall use a tabulated checklist to assess applications, and make recommendations to the Governing Body on whether the application should be approved, turned down, or whether further information is needed.
- 16.1.4.9 The Governing Body shall keep a register of approved laboratories.

## **16.2 Notification of changes**

- 16.2.1 Approved laboratories shall notify the Governing Body if their accreditation lapses.

## **16.3 Maintaining approval**

- 16.3.1 The Governing Body shall review the approval status of each laboratory on an annual basis.

## **16.4 Inter-lab testing programme**

- 16.4.1 The cost of participation in the Inter-lab testing programme shall be the responsibility of the laboratory.
- 16.4.2 The Governing Body shall appoint a Proficiency Laboratory (e.g., AsureQuality) to prepare the reference samples and report results.