

# **NSPM-9**

## **Guidelines for Certification of Forced Hot-Air Treatment Facilities (FHAT) for Wood Packaging Material**



**Government of India**  
Ministry of Agriculture & Farmers' Welfare  
Department of Agriculture, Cooperation & Farmers' Welfare  
**Directorate of Plant Protection, Quarantine & Storage**  
**N.H-IV, Faridabad-121001**

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**Endorsement:**

The **Guidelines for Certification of Forced Hot Air Treatment Facilities for Wood Packaging Material** has been prepared by the Directorate of Plant Protection, Quarantine & Storage (Dte. of PPQ&S), Faridabad-121001 for approving Forced Hot-Air facilities (FHAT) for treating wood packaging material so as to meet the requirements of the ISPM-15: **‘Regulation of wood packaging material in international trade’**. This standard prescribes guidelines/ procedures in certification of forced hot air treatment facilities for treating wood packaging material. This standard has been revised in view of technological advancements and recent experiences.

This revised standard is duly approved for adoption and shall come into force from ..... December, 2017.

**(Dr. B. S. Phogat)**

**Plant Protection Adviser**

Directorate of Plant Protection, Quarantine  
& Storage, NH-IV, Faridabad-121001.

Dated : December, 2017.

## **Review & Amendment**

The standard is subject to periodic review by the Plant Protection Adviser and would be updated and revised as necessary. The standard holders should ensure that the current edition of the standard being used.

## **Control & Distribution of the standard**

The master copy of this standard shall be held by the Plant Protection Adviser and the soft copy in pdf format be uploaded on the web site <http://plantquarantineindia.nic.in> under standards for information and use of all the concerned and the public. The standard can be freely reproducible for official use and any alterations and modifications to this standard shall be made only with the written approval of the Plant Protection Adviser. Any enquiries regarding this standard shall be made to the Additional Plant Protection Adviser / Scheme In-Charge, PQ Division, Directorate of Plant Protection Quarantine & Storage, Faridabad-121001.

## INTRODUCTION

### Scope

This document provides guidance for certifying forced hot air treatment facilities for treating wood packaging material to meet the requirements of ISPM-15.

### References

- International Plant Protection Convention, 1997, FAO, Rome.
- ISPM-15: Regulation of wood packaging material in international trade, 2017. FAO, Rome
- ISPM-07: Phytosanitary Certification System, 2016, FAO, Rome
- Guidelines for Regulating Export of Solid Wood Packaging Material, 2004, Dte. of PPQS, Ministry of Agriculture, Government of India.

### Definitions & Terms

Dunnage	<b>Wood packaging material used to secure or support a commodity but which does not remain associated with the commodity [FAO, 1990; revised ISPM 15, 2002]</b>
Dwell-time	The time of holding of treatment after it attains the specified temperature of the treatment
Heat treatment	<b>The process in which a commodity is heated until it reaches a minimum temperature for a minimum period of time according to an official technical specification [ISPM 15, 2002; revised ICPM, 2005]</b>
Mark	<b>An official stamp or brand, internationally recognized, applied to a regulated article to attest its phytosanitary status [ISPM 15, 2002]</b>
Official	<b>Established, authorized or performed by a National Plant Protection Organization [FAO, 1990]</b>
Phytosanitary certificate	An official paper document or its official electronic equivalent, consistent with the model certificates of the IPPC, attesting that a consignment meets Phytosanitary import requirements [FAO, 1990; revised CPM, 2012]
Warm-up time	The initial time taken to attain the specified temperature of treatment
Wood packaging material	<b>Wood or wood products (excluding paper products) used in supporting, protecting or carrying a commodity (includes dunnage) [ISPM 15, 2002]</b>

## OUTLINE REQUIREMENTS:

This standard prescribes the guidelines/ procedures for certification of forced hot-air treatment facilities for treating wood packaging material in accordance with ISPM-15: 'Regulation of wood packaging material in international trade'. As per the ISPM-15, the wood packaging material required to undergo approved treatment such as heat treatment at 56°C for 30 min and marked prior to export. It is, therefore, considered necessary for certification of forced hot air treatment facilities by the Dte. PPQS to facilitate the approved treatment providers. The treatment reduces pest risk associated with the wood packaging material prior to export and affix the marking on treated wood as per the international standard. To meet the requirements of ISPM-15, it is essential to certify the forced hot air treatment facilities to ensure that wood packaging material including dunnage should be treated and marked in consistence with the provisions of ISPM-15.

### GUIDELINES/PROCEDURES FOR CERTIFICATION OF FACILITIES

#### 1.0. GENERAL REQUIREMENTS

##### 1.1. Authority to approve the facilities

The Plant Protection Adviser, Directorate of Plant Protection, Quarantine & Storage, N.H.IV., Faridabad shall be the competent authority to approve and certify the Forced Hot-Air Treatment (FHAT) facilities for treatment of wood packaging material for export to meet the requirements of ISPM-15.

##### 1.2. Application Procedures for certification

The Directorate of Plant Protection, Quarantine & Storage, N.H-IV, Faridabad-121001 will establish a central register of FHAT facilities with approved FHAT Operators as per the format prescribed in **Appendix-I**. All fresh applications for registration of FHAT facility with approved FHAT Operators should be made in prescribed format (**Appendix-II**) to the In-charge, NPQS/ RPQS along with the requisite information as per data sheet (**Appendix-III**), other relevant documents and accompanied by a bank draft for **Rs. 25,000/-** drawn in favour of **Pay & Accounts Officer** towards registration fee.

The In-charge of NPQS/ RPQS will nominate two officers for assessment within 15 days from the receipt of application. The inspection team shall carry out detailed physical inspection/ audit/ assessment of the FHAT facility / operator and furnish inspection report to the officer in-charge within two days from the date of inspection. The officer in-charge of NPQS/ RPQS will forward inspection report with his recommendations to the Plant Protection Adviser within 3 days. PPA will issue certificate of accreditation within 7 days from the receipt of inspection report. A list of accredited FHAT facilities / operators shall be maintained by DPPQS at national level and updated from time to time

The FHAT facility will be allocated a unique registration number. The registered FHAT facility must record the registration number on all correspondence with the Dte of PPQS, N.H-

IV, Faridabad-121001. The registration of FHAT facility shall be granted **initially** for a period of **two years** and thereafter **revalidated every two years**. Each FHAT Operator shall be issued with an Accreditation Certificate and unique accreditation number and card after successful assessment, which is valid for a period of **two years** initially and thereafter to be revalidated after every **two years**.

The accredited FHAT facility shall apply for revalidation, the facility shall submit the application to the respective **National/ Regional Plant Quarantine Station**. The accredited FHAT facility shall apply for renewal/ revalidation at least 45 days prior to expiry of registration in the same format prescribed in **Appendix-II & III** along with original registration certificate, revalidation fee of **Rs. 15,000/-** in favour of Pay & Accounts Officer with detail of activities undertaken in the past two years in the format prescribed in **Appendix-IX**. Respective NPQS/ RPQS will nominate two officers for renewal audit within 15 days from the receipt of application. The nominated assessment team will conduct review assessment as per procedures laid down in the Standard within 45 days.

For accreditation of additional FHAT Operators, the registered agency shall apply to **concerned NPQS/ RPQS** in same application form as prescribed in **Appendix-II** with a basic fee of **Rs.5,000/-** and such accreditation shall be granted after necessary assessment.

**Note:** The Registration Certificate granted by the Plant Protection Adviser is valid only so long the accredited FHAT Operator is working with that agency or company or organization. Dte. of PPQS should be notified by the registered agency in writing of any changes in arrangements between registered FHAT Facility and the accredited FHAT Operators or changes within the company. The accreditation granted to the FHAT Operator shall be cancelled in the event of leaving the company

## **2.0 SPECIFIC REQUIREMENTS**

### **2.1. Eligibility**

#### **2.1.1. Educational Qualifications**

The FHAT operators seeking accreditation with the Dte. of PPQS shall have passed Matriculation or equivalent from recognized Institution.

#### **2.1.2. Training Requirements**

The eligible operators shall be required to undergo training for a period of at least five days at any of the training institute approved by the Plant Protection Adviser, Dte. of PPQS and should have working knowledge of MS Word, MS Excel and internet operations on computer. The training programme shall be as per the guidelines prescribed by the Plant Protection Adviser and should be structured to impart technical skills and competency in performance of



effective heat treatment operations. The training programme will cover especially the following areas viz.,

- Regulations/National Standards
- Role of Regulating Agencies & Responsibilities of Technical Operators
- General principle of heat treatment
- Correct heat treatment practices as prescribed in the standard.
- Factors contributing to success/failure of heat treatment
- Correct operation of micro-processors
- Correct placement of all sensors within heat treatment chamber
- Proper placement of wooden pallets within the chamber according to the capacity of chamber

The training programme shall include demonstration of right FHAT practices followed by group interactions on specific problems and issues related to FHAT operations. There shall be a pre and post evaluation of training to ensure proper skills are imparted.

## ***2.2 Criteria for nomination of Audit team for assessment of facilities and its operators***

Two technical experts possessing required skill competency in performance of effective treatment operation apart from having skill to operate computer with internet shall be nominated by the **In-charge NPQS/RPQS and shall undertake the assessment of FHAT facilities for accreditation/ renewal of registration.** The technical experts must possess required skill competency in performance of effective FHAT operations and fully acquainted with the provisions of the FHAT Standard and requirements of the accreditation of FHAT facility. The panel of experts after assessment shall submit a report to the **In-charge NPQS/RPQS** in the format prescribed in **Appendix-V** for consideration of registration/ renewal of FHAT facility with accredited FHAT Operator.

## ***2.3. Timelines for conducting of Audit***

Timeline of 45 days period from the date of issue of assessment/nomination letter shall be applied. However, in case of unavoidable circumstances justification of delayed audit is to be furnished by the audit team.

## **3.0. ASSESSMENT PROTOCOL**

### ***3.1. Nomination of PQ Officers for inspection of facilities***

**In-Charge NPQS/RPQS** would nominate two suitable officers not below the rank of Plant Protection Officers of the Directorate for inspection/performance testing/verification of FHAT facilities for certification/ renewal. The nominated officer (s) should verify the facilities and carry out performance testing before making necessary recommendations for certification/ renewal in **Appendix-V**.

***The TA/DA in respect of nominated Officers for assessment shall be borne by the DPPQ&S and no liability to this effect rest with the treatment providers.***

***3.2. Conditions for transfer of facility from one place to another within a State or from one State to another State***

FHAT facility is allowed to transfer the whole set up of the facility including office and staff from one place to another place within the city/ State or from one State to other State with prior approval of Plant Protection Adviser. However, the facility has to submit necessary documentary proof of facilities at new place along with application for approval. Facility along with premises site will be verified by a team of officers nominated by the PPA before granting approval. The application of transfer should be accompanied with a fee of **Rs.10,000/-**. However, for shifting of agency's office excluding facility and operator within a city from one building to other building, the shifting fee and physical verification of facility are exempted subject to furnishing of documental proof of new premises.

***3.3. Conditions for transfer of accredited operator from one branch to another branch by the FHAT facility***

- (i) Transfer of operator from one branch to another branch of the facility is permitted with the prior approval of Plant Protection Adviser. The application should be accompanied with a fee of **Rupees 5,000/-** only.
- (ii) Further on transfer, the period of validity of operator shall be linked with the validity of branch at which he/she is transferred within the scope of  $\pm$  six months period otherwise, it will be unchanged unless operator leaves the agency to which he is attached.
- (iii) When any facility opens a new branch and transfer the operator from old branch, the agency will be assessed for the basic facilities at new place besides the operator.

***3.4. Qualifying percentage of marks during Assessment of applicant for accreditation under NSPM-09***

The operators will be examined for their technical competence through written, practical and oral examinations. To qualify the test, applicants must secure at least 75% marks in each of the said examination. If any candidate fails to qualify the test, he may appear for the said examination for 2<sup>nd</sup> time but not earlier than 3 months of 1<sup>st</sup> assessment. The qualified operator will be issued with a certificate of accreditation as prescribed in **APPENDIX-VIII**.

### **3.5 Revalidation of registration of agency after expiry of validity period.**

- (i) If a FHAT facility fails to apply for renewal of its registration **45 days** before the date of expiry of the registration a penal fee of **Rs. 10,000/-** will be charged for revalidation of the registration of such facility for another 30 days from the date of expiry. If facility fails to apply within stipulated time, facility shall stand terminated.
- (ii) When a FHAT facility applies for renewal of registration within stipulated time period, but due to the procedural delay, could not get renewal within time, the firm may continue operative work of forced hot air treatment till the receipt of renewed registration certificate.
- (iii) Nominated team will conduct renewal audit within 30 days from issuance of nomination letter. For renewal of the branch with the FHAT operator, audit of past FHAT activities shall carry 50% weightage & 50% for technical competence of the FHAT Operator. Applicants will be examined for their technical competence through written (45/100), practical (45/100) and oral (10/100) examinations. To qualify the test FHAT Operator must secure at least 75% marks in said examination. If any candidate fails to qualify the test, he may re-apply. The details will be recorded in **Appendix-V** and submitted **to concern NPQS/RPQS** along with other requisite formats.

## **4.0. LOCATION, CONSTRUCTION & DESIGN OF FACILITY**

The location, construction and design of the facility should be as per the safety norms and standards prescribed by the concerned local Authority and as per approved engineering design and plans. PPA may refuse the certification if in his opinion safety deficiencies exist at the plant (for example open motors with exposed gears, unprotected fan belts within 6ft from the floor level), exposed control panel or measuring equipments used are substandard and does not guarantee required level of sensitivity and due to phytosanitary reasons.

### **4.1. Minimum Requirements of facility**

The minimum requirements for setting up of forced hot air treatment facility include

- a heat treatment chamber of appropriate capacity, which should be adequately insulated on all sides with rock/glass wool (i.e. a minimum of at least 15 cm thickness) or equivalent to ensure proper thermal insulation.
- heat delivery system (consisting electric heaters/ diesel burner /gas burner /fire wood etc.) with required heat capacity and the blowers to blow hot air into the chamber through a close ended duct with a provision to recycle the hot air
- a motorized damper for exhausting 10% return air to remove moisture from the chamber after 10-15 min of the process time;
- a process control and interlocking system to provide adequate safety of operations;
- a PID single loop Temperature Controller holding a minimum of 6 temperature sensors connected to a paper-less temperature recorder.

- constant uninterrupted power supply source and properly protected from rain.
- electrical Generator to back-up power supply
- a safety alarm system

The list of essential equipments together with the specifications is given in *Appendix-XIII*.

## 5.0. RESPONSIBILITIES OF APPROVED FACILITY

The certified facility is responsible:

- to carry out all treatment operations through a qualified operator
- to report to the PPA/ in-charge NPQS/RPQS of any out of service of the facility for 10 days or more on account of any mechanical and electrical failures or annual maintenance checks or any lay-offs
- to maintain the equipments in good working conditions and periodical calibration of temperature sensors, control instruments and recorders
- to keep the microprocessor/ computer in air condition room to maintain accuracy, if the facility is automated
- to maintain proper records of all treatment operations carried out at the facility including the data logs or temperature record sheets or diskettes
- to ensure that all the treatments of wood packaging material carried out strictly in accordance with the approved protocol specified under ISPM-15 and affix the mark assigned to the facility on treated wood prior to export in line with ISPM-15.
- to store the treated material in separate area
- to abide by the instructions and guidelines issued by the PPA from time to time and extend all the cooperation to the inspecting PQ officers for carrying out performance tests and audit checks.
- to have at least two email ids for correspondence
- to forward monthly detail activities undertaken in the format prescribed in *Appendix-XII* through e-mail on [fhata-dppqs@gov.in](mailto:fhata-dppqs@gov.in) to PPA and concerned NPQS/ RPQS.

## 6.0 AUDIT PROTOCOLS

Dte. PPQS shall establish an audit system outlined below to measure the performance of FHAT facility and the accredited operator against the requirements established by the Dte. of PPQS. The audit will be carried out by the specified officers of the Dte. of PPQS based on the following criteria and as per the checklist provided in *Appendix-IV*. At the end of each audit, the auditor shall list out non-conformities under the following three categories:

**Critical non-conformity:** occurs when as the result of collection and analysis of objective evidence it is concluded that the facility has grossly violated the regulatory requirements established by the Dte. of PPQS.

- **Major non-conformity:** A deviation or multiple deviations from the documented procedures that is confirmed through the collection of objective evidence that shows discrepancies or lapses in discipline relating directly to either the Standard and/or regulatory requirements and which may compromise the overall effectiveness of the Accreditation Scheme.

**Note:** - Two MAJOR non-conformities equal to a CRITICAL non-conformity

- **Minor non-conformity:** A deviation from the documented procedures that is confirmed through the collection of objective evidence that shows minor discrepancies or lapses in discipline relating to the Standard and that do not compromise the overall effectiveness of the Accreditation Scheme.

**Note:** - Two MINOR non-conformities equal to a MAJOR non-conformity

Even one critical non-conformity will result in immediate suspension of the FHAT facility and the accredited technical operator from the Accreditation Scheme. One major and up to three minor non-conformities will result in corrective actions and an additional announced audit.

The audit team will notify the FHAT facility and the accredited FHAT operator in writing at the spot about the nonconformities and advise the facility and the accredited operator of subsequent compliance action to be taken by the said facility. The FHAT facility shall submit a corrective action report within 30 days to the **In-charge NPQS/RPQS**, which records and details non-conformities, corrective action and the proposed date for rectification.

### **6.1 Accreditation Audit:**

An Accreditation Audit of a company will take place once the operator has undergone accreditation training and is assessed as being technically competent. Accreditation Audit will continue until the FHAT facility with accredited operator demonstrate technical competency in fulfilling the requirements of the standard and Accreditation Scheme. Thereafter Accreditation Audit shall be replaced by annual random checks.

### **6.2 Un-Announced Audits:**

The Plant Protection Adviser or the officers authorized by him may undertake an un-announced audit / surprise check of the agencies without any prior intimation to the fumigation agency and its accredited Fumigation Operators. The findings of such un-announced audit / surprise check shall be submitted to PPA in format as per **Appendix-XI**.

### **6.3. Reinstatement Audits**

The Plant Protection Adviser or the officers authorized by him will undertake re-instatement audits on convenient date mutually agreed by the FHAT agency and nominated team of DPPQS officers after suspension.

### **6.4. Submission of Audit Reports:**

The audit team will submit the outcome of the audit results in the prescribed format to concerned NPQS/ RPQS in-charge, in the following order, all the pages serially numbered:

- **For Accreditation Audit:**

- Forwarding Letter
- Appendix-V: Assessment Report for Registration / Accreditation
- Appendix-VI: Compliance Agreement
- Organizational Chart
- Treatment Record (Appendix-IX) along with photographs
- Appointment Letter of FHAT Operator
- Qualification and Training Certificate of FHAT Operator
- Calibration Certificate of Equipment
- Evidence for ownership of company premises
- Relevant Bills
- Attendance Register
- Appendix-X: Corrective Action Report (if any)

- **For renewal / reinstatement Audit:**

- Forwarding Letter
- Appendix-V: Assessment Report for Registration / Accreditation
- Organizational Chart
- Treatment Record (Appendix-IX) along with photographs
- Calibration Certificate of Equipment
- Evidence for ownership of company premises
- Relevant Bills for new purchases
- Attendance Register
- Appendix-X: Corrective Action Report (if any)

### **6.5. Audit of Auditors**

Dte. Of PPQS will undertake audit of auditors from each region by randomly selecting the auditors to evaluate the performance of audit. The audit will be based on verifying the audit reports with that of FHAT facility and the FHAT Operator audited.

## 7.0 SUSPENSION AND REINSTATEMENT PROTOCOLS

The Plant Protection Adviser shall immediately suspend for a period of three months the FHAT facility and accredited operator that perform ineffective FHAT operations which includes receipt of notification of noncompliance due to detection of live infestation from the consignment treated by the facility.

In case of other noncompliance, show-cause notice will be served as to why they should not be suspended and if satisfactory reply not received within 15 days the Facility and operator will be suspended. Final decision will be subject to the outcome of investigation.

In the event of **suspension thrice or more within 5 year period** the branch will be **black listed**. **Further provided that the Fumigation Operator will be suspended if two times in a year non-compliance is received in his jurisdiction.**

If during an audit, one or more critical non-conformities and/two or more major non-conformities are found, FHAT facility and accredited operator will be suspended immediately and will be subject to a reinstatement audit.

If during an audit, one major and up to three minor non-conformities are found the FHAT facility and the accredited operators are asked for corrective action within six (6) weeks. If during the follow-up audit, the non-conformities have not been addressed, the facility and the accredited operator will be suspended immediately and will be subject to a reinstatement audit again within six (6) weeks. Re-fresher training of accredited fumigation operator may be necessary.

The registration granted to the FHAT facility and the accreditation granted to operator will be cancelled, if:

- on a reinstatement audit, one or more critical, two or more major or four or more minor non-conformities have been accrued
- they are suspended on three separate occasions within a period of **5 years**

Once an accreditation has been cancelled, before re-accreditation can take place, the accredited operator will be subject to additional accreditation/ refresher training and the FHAT Facility and the accredited FHAT operator will be required to undergo the complete assessment process.

## 8.0 APPEAL AND REVISION PROTOCOL

If the FHAT facility and the accredited operator believe that there were extenuating circumstances in respect to the occurrence of non-conformity, the facility and the accredited operator may appeal against the decision of PPA. Compliance action will remain in place, while the appeal is being considered.

For this purpose, the FHAT facility and the accredited operator shall apply a memorandum of appeal against the decision to the Joint Secretary (Plant Protection), Department of Agriculture, Cooperation and Farmers' Welfare, KrishiBhavan, New Delhi-110001, within seven working days of the communication of decision. The memorandum of appeal should clearly set out the grounds for appeal. Joint Secretary (PP), shall acknowledge the receipt of the appeal within 3 working days and endeavour to make a decision on the appeal in writing within 30 working days of the receipt of all available facts relating to the matter.

Joint Secretary (Plant Protection) may call for all the records relating to the decision from the Plant Protection Adviser for the purpose of satisfying himself to the legality or propriety of any such decision passed by the PPA before any such order JS (PP) thinks fit shall be passed. Further, before any such order is passed, PPA shall be given a reasonable opportunity to be heard and no such order shall be passed after expiry of 30 working days.

## **9.0. APPROVAL OF FOREIGN TREATMENT FACILITIES**

The foreign facilities that are established and duly certified by the competent authority in conformity with the provisions of this standard shall be deemed to be approved and recognized by the Plant Protection Adviser. It shall be the responsibility of the competent authority of exporting country to provide the list of approved facilities to the Plant Protection Adviser, Dte. of Plant Protection, Quarantine & Storage, N.H.IV., Faridabad-121001.

## **10.0. SPECIAL REQUIREMENTS**

### ***10.1. Preliminary Performance Testing***

Fresh applications for registration with DPPQS of FHAT facility, the qualified technical operator of the facility must carry out preliminary performance test in the presence of inspection officer nominated by the **NPQS/ RPQS in-charge**. The nominated officer should verify the facilities and ensure that all the equipments are in working condition and record the observations in the format for Official Performance Tests in Appendix-V and submit to **in-charge NPQS/RPQS**.

The operator should ensure to correct any deficiencies encountered during preliminary performance testing and standardize the equipments performance. Through the preliminary trials, the operator should establish a tentative temperature set point for the heater and chamber, such that the core temperature of wood blocks will attain the approved treatment temperature within a reasonable time. The operator should at least carry out one trial treatment with empty chamber with sensors placed at appropriate positions as well as loaded chamber with wood packaging material such as pallets with sensors placed into the core of wooden blocks placed at different depths. The resulting data of preliminary performance testing should be forwarded to



the concerned NPQS/ RPQS with written comments, as a evidence that the FHAT facility is ready for its official performance test. If in-charge NPQS/ RPQS satisfied of the results, may order for carrying out final official performance test for certification within a maximum period of 15 days from the date of receipt of the trial data.

### ***10.2.Procedures for conducting official performance test for certification***

The official performance test would be carried out by the officer nominated by the e in-charges of NPQS/RPQS for subsequent certification/ revalidation in three stages viz., (1) calibrating the portable sensors; (2) calibrating the permanent sensors installed in the FHAT chamber; and (3) conducting an actual test treatment, which are described in detail below:

#### ***(i) Calibrating the portable sensors***

Using a factory (calibrated) certified glass-mercury thermometer (readable in one tenth of a degree in Celsius) as the standard, compare the readings from each portable sensor to the standard and record any deviation. The calibration process is carried out using a swirling hot water bath at or near required treatment temperature. Any sensor that deviates by  $\pm 0.3^{\circ}\text{C}$  from the standard should not be used for calibration of permanent sensors. If cordless factory calibrated portable sensors are used, they require no further calibration. At least a minimum of three portable sensors would be required to be calibrated for the test.

#### ***(ii) Calibrating the permanent sensors installed in the FHAT chamber***

The calibration of permanent sensors installed in the chamber or used to measure core temperature is done in similar way using the calibrated portable sensors. For this purpose the portable sensors with a zero correction factor may be used instead of certified glass-mercury thermometer as standard against which permanent sensors are compared. The permanent sensors tested should pass the same level of accuracy as that of portable sensors

#### ***(iii) Conducting actual test treatment***

The officers nominated by in-charges of NPQS/RPQS shall carry out actual test treatment by inserting portable sensors into holes drilled in different solid wood blocks up to a depth of 6 cm and positioned at different heights in the chamber loaded with pallets. The exact placement of sensors should be indicated in three-dimensional diagram. The chamber should be closed and turn on the heating system. The readings of sensors should be taken at least once every five minutes during warm-up and every 2 minutes during dwell-time. From the readings determine the warm-up time and run the dwell-time portion of treatment and hold for the minimum time specified by the approved treatment schedule *i.e.*  $56^{\circ}\text{C}$  for 30 minutes. At the end of process review all temperature records from portable as well as from permanent sensors. If the test treatment successful, the nominated officers should initial the log sheet and remove all the portable sensors after the chamber cools down to ambient temperature and submit a report in prescribed format (***Appendix-V***) to in-charge

NPQS/RPQS along with his recommendations for issue of certificate. At least one successful test treatment is required either for certification or recertification as the case may be. If the facility meets the requirements of certification, a compliance agreement (**Appendix-VI**) should be duly signed by the authorized signatory of the facility in the presence of nominated Officer and forward to **in-charge NPQS/ RPQS** to facilitate issue of certificate.

## **11.0. ISSUANCE OF CERTIFICATE OF APPROVAL OF FACILITY**

PPA after verification of test report and the receipt of compliance agreement may issue a certificate of approval of the facility in prescribed format as described in **Appendix-VII** and assign the mark and code number to the certified facility for affixing on treated wood as per the ISPM-15.

### ***11.1. Revalidation of the facility and Frequency of Performance Testing***

The application for extending validity of certificate should be made to the **In-charge NPQS/ RPQS of concerned region** at least 45 days in advance from the date of expiry of certificate. A copy of new performance test report carried out by the operator must be furnished with the application along with detail of activities undertaken in the past two years for revalidation of certificate and also whenever the facility has been out of service for 10 days or more. In addition, the permanent sensors installed in the FHAT chamber should be required to be recalibrated daily when chamber is in use and whenever sensors are replaced.

When a facility applies for revalidation of registration within stipulated time period, but fails to furnish detail of activities undertaken in the past two years in **Appendix-XII** and if furnished but, not tallying with the information forwarded on e-mail id [fhata-dppqs@gov.in](mailto:fhata-dppqs@gov.in), such agency shall be immediately suspended.

### ***11.2. Documents & Records to be maintained***

The approved facility should maintain the treatment records as per the format prescribed in **Appendix-IX** and same should be serially numbered and duly signed by the qualified technical operator and preserved in appropriate folder along with prints of data loggers for future reference and necessary verification during audit checks by PQ Officers.

### ***11.3. Monthly reporting of treatments performed***

The certified facility should submit a monthly report (**Appendix-XII**) to PPA/ in-charges of NPQS/RPQS for review of performance of treatments.

## **12.0. REFUSAL OF CERTIFICATION/ DERECOGNIZING OF FACILITY**

PPA may refuse the certification of the facility because of safety deficiencies at the plant or in his opinion the equipments installed does not confer the required level of accuracy. However, in the event of refusal, no refund of registration fee would be made. PPA may de-recognize the certification granted to the facility in the event of the firm

- does not abide by the terms and conditions stipulated in the certificate or
- that it failed to carry out the appropriate treatments in consistent with this standard or
- that it had involved in clandestine affixing of mark without carrying appropriate treatments or
- maintenance of fraudulent records or
- in the event of receipt of notification of repeated non-compliances from the importing countries.

## **13.0 OPERATIONAL REQUIREMENTS**

### ***13.1. Pre-Treatment Procedures***

The authorized operator should determine the moisture percentage of wood packaging material prior to loading in to the chamber. He should position the calibrated permanent sensors at different heights in front, rear & two sides of the chamber as indicated below:

- In case of FHAT chamber that has bottom hot-air delivery, the sensors should be hanged at the level of the top layer of pallet.
- The facility has to identify the coldest point inside the empty heat chamber.
- In FHAT chamber that has top air delivery, the sensors should be placed at the level of bottom layer of pallet.
- In a chamber that has top and bottom air delivery, the sensors should be placed at the level of middle layer of the pallets.
- Two sensors should be inserted to a depth of 5 cm in blocks of fresh wood and placed at appropriate position.

The loading of chamber should not be more than 75% capacity of the chamber.

### ***13.2. Treatment Procedure***

After loading the pallets into the chamber, the door should be closed before switching-on the power supply, heaters and the blowers. The heater switch may be set at maximum heat position so as to attain heater temperature at about 74<sup>0</sup>C. The temperature recorder should be set to record temperature at every five minutes or make continuous pen-line recordings as the case may be, colour coded for each sensor, on a graph paper readable in tenths of a degree in

Celsius. After warm-up period, the frequency of temperature recordings should be increased to once every two minutes. The dwell time would start when core temperature of wood blocks attains the temperature of 56°C. The delivery air must be warmer than the targeted core temperature, but this matter would be left to the discretion of operator. The Dte. of PPQS, would not require any particular temperature set point, because the treatment would be based on core temperature of wood and not on air-delivery temperature. The operator could have the flexibility to change the temperature of delivery of air at various times during treatment as well as blower speed.

### ***13.3. Post-Treatment Procedures***

At the end of process, the chamber should be allowed to cool down gradually to an ambient temperature before the door is opened. It should be ensured under no circumstances the treated wood is mixed up with raw wood or stored along with raw wood packaging material to prevent from cross-infestation.

### ***13.4. Marking of treated wood packaging material***

The treated wood packaging material should be marked as per the mark assigned to the approved facility. The mark should be affixed at visible locations and should be stenciled with the black ink or paint (not washable) as suggested in the enclosure to the certificate of approval.

### ***13.5. Compliance checks on prescribed procedures***

The officer nominated by PPA or in-charges of NPQS/RPQS should carry out compliance checks for ensuring that certified facility would meet the requirements set out in this standard in line with ISPM-15, which include monitoring certification and marking systems that verify compliance and establishing treatment procedures including auditing of facilities that apply the measures. Such audit checks/surprise visits should be carried out at least once in every six months period or at any such intervals as may be decided by the PPA. The nominated officer at the end of audit check/surprise visits to the facility should submit a report to PPA of his observations and comments together with the list of non-compliances, if any and preventive and corrective measures to be undertaken.

**APPENDIX-I**

Directorate of Plant Protection, Quarantine & Storage, Faridabad-121001. Register of Forced Hot Air Treatment Facility with Accredited FHAT Operators											
Register Number	Date of Issue	Valid Up-to	Revalidated Up-to	Name of the Fumigation Agency/Branch &Address	Accredited Fumigation Operator	Accredit Number	Date of Issue	Valid Up to	Revalidated Up to	Other Identification Number/ Marks, if any	Remarks

**APPENDIX-II**

<b><i>Application for Certification of Forced Hot-Air Treatment Facility for treating Wood Packaging Material</i></b>				
FHAT Facility /Branch Name				
Address (including Tel/Mobile/ Fax/E-mail)				
General Manager /Branch Manager of the FHAT Facility				
Location of the Facility				
Particulars of Registration/ Licensing Date of expiry of license				
Nature of business carried out				
Construction & Design by (Attach copy of plant)				
<b>Particulars of Technical Operator for whom the accreditation sought</b>				
Name	Applicant's Father Name	Date of Employment	Qualifications	Accreditation training (Dates/ Place)*
<b>*Attach documentary proof in respect of qualifications/ training/ apprenticeship</b>				
Whether the FHAT facility is for its own use or commercial facility?				
Whether separate storage facility is available to store treated wood packaging material?				
Whether the company/ branch is applying for the registration for the first time under Accreditation Scheme?				
Is the application for renewal of registration of FHAT facility? If so give the particulars of Regd. Number/date of issue/valid up to (Attach original Registration Certificate)				
Is the application for revalidation of accreditation of FHAT Operator? If so, give the particulars of accreditation number/date of issue/valid up to (Attach original Accreditation Certificate)				
Particulars of payment of registration/ renewal fee (Name of the Bank & branch/ DD No). (Attach bank draft)				

Additional information, if any			
<p align="center"><b><u>Declaration</u></b></p> <p>I/We declare that the information provided as above is complete and correct in all respects and that the facility has been set-up strictly in accordance with established safety norms/standards of local authority; I/we read/understood the certification requirements of the facility and abide by the terms and conditions of certification prescribed thereof by the Plant Protection Adviser.</p>			
<b>Name &amp; Signature of FHAT Facility owner with Date &amp; Seal</b>			
<b>Name &amp; Signature of FHAT Operator applying for accreditation with Date</b>			
<b>For Official Use by Dte of PPQS</b>			
Application Number:	Date of Receipt:	Acknowledgement Issued:	Initialed by/Date:
Date of Scrutinization:		Deficiencies Communicated:	Initialed by/Date:
Date of Assessment:	Assessed by	Assessment Report Received:	Initialed by/Date:
Registration Number:	Date of Issue/Revalidation:	Registration certificate issued:	Initialed by/Date:
Accreditation Number:	Date of Issue/Revalidation:	Accreditation certificate issued/endorsed:	Initialed by/Date:
<p align="center"><b>Acknowledgement Slip - Directorate of Plant Protection Quarantine &amp; Storage</b></p>			
<b>Application Number:</b>		<b>Date of Receipt:</b>	
<b>Received from M/s:</b>			
<b>along with Bank Draft No</b>		<b>Dated:</b>	<b>on</b>
<b>For Rs.</b>			
<b>Signed by /Date</b>			

**APPENDIX-III**

<b>Data Sheet of Forced Hot Air Treatment Facility (FHAT)</b>		
1	Name of the FHAT Facility	
2	Location of the FHAT Facility	
3	Particulars of construction/ design/ insulation of the facility: (Enclose diagrammatic sketch of the facility)	
4	Housing of FHAT Facility	Open / Covered
5	Storage facility for treated wood packaging material, if any: Yes/No (If yes, capacity in terms of number of pallets)	
6	Interior Dimensions of Chamber (LWH in m)	
7	Loading capacity per cycle (No of pallets & pallet size)	
8	Power Supply & Source	
9	Generator support, if any and particulars thereof	
10	Operation of Facility: Automated / Manual (If automated give particulars of computers & microprocessors & location)	
11	Description of Voltage Stabilizers/ Surge Protectors, if any	
12	Location of Control panel & power distribution: (Supply line diagram)	
13	Description of Process Control/ Interlocking/ Safety Alarm	



14	Specification of Electric Heaters, Nos & Heat Capacity	
15	Specification of Blowers, Nos, Motors & Blower Capacity	
16	Description of ducting & casing of heaters & blowers: (Enclose hot-air flow diagram to the chamber)	
17	Specifications of PID Temperature Controller	
18	Specification of Temperature Sensors, Make, Nos & Distribution: (Enclose three-dimensional diagram indicating the position of sensors)	
19	Specification of Temperature Recorder or Data logger, Make & Sensitivity of Recording	
20	Description of Hot-Air delivery system to the chamber (Top/Bottom/ or Both) /No of Grills & Grill Size)	
21	Description of Recirculation & Exhaust Air System to the chamber	
22	Description of loading system of pallets into the chamber	
<b>Name &amp; Signature of FHAT Facility Authorized Signatory with Date &amp; Seal</b>		

## **APPENDIX-IV**

### **Checklist for Preliminary Evaluation/Testing of the FHAT Facility**

Sl.No.	Evaluation / Testing of Activity	Clause	Yes	No	Critical Status
1.	Isolation of facility from other work areas	4.0			Minor
2.	Separate storage facility for holding of treated material	5.0			Major
3.	Design & construction of the facility followed the standard safety & engineering norms	4.0 & 4.1			Critical
4.	Insulation of the chamber, ducting and casing of heater & blowers	4.1			Critical
5.	Electrical wiring throughout the facility meet the safety code norms including earthing and PVC conduiting	4.0			Critical
6.	If automated facility, whether computers/ microprocessors are located in air-conditioned to maintain accuracy and reliability and installed with surge protectors	5.0			Critical, if computerized
7.	Constant un-interrupted power supply	4.1			Critical
8.	Electrical generator to back-up power supply	4.1			Critical
9.	Process control & interlocking system provided to the facility and checked performance	4.1			Critical
10.	Safety alarm system provided and checked for performance	4.1			Major
11.	Installation of PID Temperature Controller and testing	4.1			Critical
12.	Calibration of permanent sensors before installation in the chamber	10.2 (i) & (ii)			Critical
13.	Installation of time/temperature control switches & testing	4.1			Major
14.	Installation of heaters and checking heating capacity	4.1			Major
15.	Installation of blowers and checking blower capacity	4.1			Major
16.	Checking performance of temperature recorder/data logger and recording frequency	10.2 (iii)			Critical
17.	Check the motorized damper for exhaust air for performance	4.1			Minor
18.	Arrangements for measuring core temperature of wood	10.1, 10.2 (ii), 13.2			Critical
19.	Additional points (ports) in the wall of chamber for insertion of portable sensors for performance testing	10.2			Minor
20.	Check the uniform airflow circulation in the chamber	4.1			Minor
21.	Check the railings of the platform for smooth loading in/unloading out of wooden pallets.	13.1 & 13.2			Minor
22.	Arrangements for measuring moisture content of wood-packaging material	13.1			Major
23.	Control panels/Electric Meters etc., are adequately rain protected	4.1			Major
24.	Installation of fire-fighting equipment at the facility	4.1			Major
25.	Identification of coldest point inside of empty heat chamber	13.1			Critical
26.	Detail of activities being forwarded to DPPQS in the format prescribed as per <i>Appendix-XII</i> .				Major
(Name & Signature of Inspecting PQ Officer with date)		(Name & Signature of Authorised Operator with date)			

**APPENDIX-V**  
**Official Performance Test Report**


1	Name/ location of Facility	
2	Description of Facility	
3	Dates of Inspection	
4	Results of Preliminary Performance Test	
5	Comments of Preliminary Performance Test	
6	Results of Official Performance Test for Certification	
	Results of calibration of portable sensors	
	Results of calibration of permanent sensors installed in the chamber	
	Results of actual test treatment (single cycle)	
7	Name & Designation of Officers associated with testing	
8	Remarks & Recommendations for Certification	
	<b>Signatures of officers Nominated for Testing</b>	
	<b>Name &amp; Designation of Officer</b>	<b>Name &amp; Designation of Officer</b>
	<b>Counter Signature by</b>	
	<b>Name &amp; Designation of Counter Signing Officer</b>	

**APPENDIX-VI**


**COMPLIANCE AGREEMENT**

<b>1. From</b>	<b>2. To</b>  The Plant Protection Adviser Dte. of Plant Protection, Quarantine & Storage, N.H.-IV, Faridabad – 121 001
<b>3. Agreement related to</b> Forced Hot Air Treatment of Wood Packaging material	
<b>4. Applicable Phytosanitary Regulatory Requirements</b> To meet the Requirements of ISPM-15	
<b>5. I/we agree to the following:</b> <ul style="list-style-type: none"><li>• to carry out all treatments through trained/qualified operator</li><li>• to ensure periodical calibration of temperature sensors and maintain the facility in working condition</li><li>• to provide all testing equipments, labour and extend necessary assistance and cooperation to the nominated PQ officers during the visit to the facility for undertaking performance tests/audit checks of the facility</li><li>• to follow all safety requirements or procedures during treatment operations and abide by the instructions and procedures required by the Plant Protection Adviser in the planning, setup and conduct of treatment</li><li>• to carry out heat treatment of solid wood packaging material as per the standards prescribed under ISPM-15 and mark the treated wood as per the code number &amp; marking assigned</li><li>• to maintain record of treatment operations as per format prescribed and preserve data logs for future verification</li><li>• to certify that applicant is not accredited with any other facility and if accredited, No objection Certificate (NOC) from earlier facility has been obtained and furnished</li></ul>	
<b>6. Authorized Signatory</b>	<b>7. Designation</b>
<b>8. Place</b>	<b>9. Date</b>
<b>10. Signed in presence of</b>  (Name/ /Signature of PQ officer)	<b>Office Address</b>
<b>Approved by the PPA</b>	<b>Stamp of Organisation</b>

**APPENDIX-VII**


<b>Certificate of Approval of Forced Hot Air Treatment Facility</b>										
<div style="display: flex; justify-content: space-around; align-items: center;"><div style="text-align: center;"><b>Government of India</b> <b>Ministry of Agriculture</b> (Department of Agriculture, Cooperation &amp; Farmers' Welfare) <b>Directorate of Plant Protection, Quarantine &amp; Storage</b> N.H-IV, Faridabad-121001</div></div>										
<b>Certificate Number:</b>	<b>Date of Issue:</b>  <b>Valid up to :</b>									
<p><i>This is to certify that the Forced Hot Air Treatment Facility as described below has been inspected and certified for treatment of solid wood packaging material for export after conducting satisfactory performance test and that the firm is authorised to mark the treated packing material as per the code number &amp; mark assigned.</i></p> <p style="text-align: right;">( ) <b>Plant Protection Adviser</b></p>										
<b>Name of FHAT Facility &amp; Address</b>										
<b>Capacity of the Facility</b>										
<b>Code Number Assigned to the Facility</b>										
<b>Terms &amp; Conditions:</b> <ol style="list-style-type: none"><li>1. The Certificate should be displayed at prominent place and available for verification during inspections to the facility;</li><li>2. No alterations or corrections would be permitted on the face of the certificate</li><li>3. The certificate would be deemed to be invalid for other than the purpose for which it is given.</li><li>4. All the treatment operations should be performed by a qualified operator of the firm and necessary treatment records/data log sheets are maintained for necessary verification</li><li>5. All the treatments should be performed as per the standards laid under ISPM-15 and the treated packaging material should be marked with assigned code number prior to export as per ISPM-15.</li><li>6. The certified facility should abide by the instructions and guidelines issued by the Plant Protection Adviser from time to time</li><li>7. The certified facility should submit a compliance agreement to the Plant Protection Adviser at the time of issuance of the certificate duly signed by the authorised signatory of the firm.</li><li>8. The certificate would be valid initially for two years from the date of issue and subsequently for two years from the date of renewal unless otherwise revalidated. The firm shall apply for revalidation at least 45 days before the date of expiry of certificate.</li><li>9. No liability would lie with the officers Dte. of P PQS towards issuance of the certificate.</li></ol>										
<b>Endorsements:</b> <table style="width: 100%; border: none;"><tr><td style="width: 40%;">Revalidated/ suspended/ cancelled on</td><td style="width: 20%;"></td><td style="width: 40%;">by</td></tr><tr><td>Revalidated/ suspended/ cancelled on</td><td></td><td>by</td></tr><tr><td>Reinstated</td><td>on</td><td>by</td></tr></table>		Revalidated/ suspended/ cancelled on		by	Revalidated/ suspended/ cancelled on		by	Reinstated	on	by
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Reinstated	on	by								
<b>Copy to:</b>										

**Mark Assigned to the Facility:**

	<b>IN - 000</b> <b>HT</b>
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**Foot Note:** Markings should be according to the model shown above (12 x 6 cm), legible, permanent, not transferable, placed in a visible location and preferably marked by a stencil with black ink. The letter size should be a minimum of 2.5 cm. Recycled, remanufactured or repaired wood packaging material should be re-certified and re-marked. All components of such material should have been treated.

**APPENDIX – VIII**

<b>Certificate of Accreditation of FHAT Operator</b>								
	<b>Government of India</b> <b>Ministry of Agriculture &amp; Farmers Welfare</b> (Department of Agriculture, Cooperation & Farmers' Welfare) <b>Directorate of Plant Protection, Quarantine &amp; Storage</b> N.H-IV, Faridabad-121001							
<b>Accreditation Number:</b>		<b>Date of Issue:</b>  <b>Valid up to :</b>						
<p><i>This is to certify that the following FHAT Operator employed with the following FHAT Facility/branch has been assessed for technical competency for performance of FHAT treatments and granted accreditation in accordance with requirements specified in this Standard and subject to terms and conditions specified hereunder.</i></p> <p align="right">( )  <b>Plant Protection Adviser</b></p>								
<b>Name of FHAT Operator:</b>		Affix Stamp size photo						
<b>FHAT Facility / branchAddress:</b>								
<b>Terms &amp; Conditions:</b> <ol style="list-style-type: none"> <li>1. The FHAT Operator shall always directly supervise the treatment operations and shall be responsible for the safety of workers engaged in the FHAT operations.</li> <li>2. He must display the Accreditation card (<b>see Annex</b>) at the site of treatment for ready recognition, whenever any treatment performed.</li> <li>3. He shall be responsible for undertaking FHAT in accordance with requirements specified in the Forced Hot Air Treatment Standard and Accreditation Scheme.</li> <li>4. He shall be responsible for affixing the approved mark after successful on wood packaging materials.</li> <li>5. The certificate of accreditation granted is valid for a period of <b>two years</b> unless otherwise renewed and is valid only for working with the specified facility / branch unless endorsed by the competent authority</li> <li>6. The certificate of accreditation granted shall be liable to be withdrawn /cancelled, should the FHAT operator is involved in making false records or failed to meet the requirements of the FHAT Standard.</li> <li>7. The certificate is not transferable and should be surrendered to competent authority in the event of accredited FHAT Operator retiring or leaving the afore said Facility.</li> </ol>								
<b>Endorsements:</b> <table border="0"> <tr> <td>Revalidated/ suspended/ cancelled on</td> <td>by</td> </tr> <tr> <td>Revalidated/ suspended/ cancelled on</td> <td>by</td> </tr> <tr> <td>Reinstated</td> <td>on by</td> </tr> </table>			Revalidated/ suspended/ cancelled on	by	Revalidated/ suspended/ cancelled on	by	Reinstated	on by
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**Annex to Appendix-VIII**

<div style="border: 1px solid black; width: 100px; height: 100px; margin: 10px auto; text-align: center; vertical-align: middle;">Affix Stamp size Photo</div> <div style="text-align: center;">----- (Signature of FO) &amp;  Contact Number  -----</div>	<b>Accreditation Card</b>	
	<b>No.:</b>	
	<b>Date of Issue:</b>	<b>Valid Up to:</b>
	<b>Name of FHAT Operator:</b>	
	<b>Father's Name of FHAT Operator:</b>	
	<b>FHAT Facility / Address:</b>	
	<b>Issued by:</b>  <div style="text-align: right;"><b>Plant Protection Adviser</b></div>	



**APPENDIX-IX**

**TREATMENT RECORD**

1. Name of the Facility		2. Location		3. Code No:	
4. TR No.			5. Date of Treatment		
6. Exporter Name & Address			7. Consignment/shipping particulars		
8. Description of package material Treated		9. Country of Export		10.Quantity Treated	
				11. Batch No.	
12. Actual Time Log (24 hrs Time)		From		To	
13. Starting Time		14. Attaining Time of 56 <sup>o</sup> C		15. Ending Time	
16. Total Treatment Period (in min.):					
17. Warm-up Time:			18. Dwell Time:		
19. Temperature Recordings of Sensors (Attach log sheet)					
<b>Recorder</b>		<b>Starting Time</b>		<b>Attaining Time</b>	
<b>End Time</b>					
Recorder Heater 1					
Recorder Heater 2					
Recorder Zone 1					
Recorder Zone 2					
Recorder Zone 3					
Recorder Zone 4					
Recorder Core 1					
Recorder Core 2					
20. Moisture percentage of wood packaging material		<b>Before treatment:</b>		<b>After Treatment:</b>	
21. Comments, if any:					
<b>22.Name &amp; Signature of Authorised Operator w/date</b>					

**APPENDIX-X**

**Corrective Action Report**

<b>Name of FHAT FACILITY:</b>		<b>Location:</b>
<b>Details of Non-conformity</b>	<b>Corrective Action to be taken</b>	<b>Proposed date for rectification</b>
<b>Name &amp; Signature of Authorized Signatory of Facility with Date</b>		

**APPENDIX-XI**

**SURPRISE CHECK OF ACCREDITED FHAT FACILITY**

1.	Name and address of FHAT Facility inspected	
2.	Date & time of surprise inspection	
3.	Surprise check carried out by	
4.	Maintenance of Technical Report on date with the firm (as physically verified)	
5.	Discrepancies, if any noted in the Maintenance of technical records	
6.	Whether the firm possess valid Certificate of approval/ permission for use of FHAT facility issued by the DPPQS? If so, the date of its expiry?	
7.	Whether technical expertise recognized by the Directorate is on pay roll of the Firm on date	
8.	Whether the FHAT Chamber/ safety Equipment possessed by the firm are in working condition	
9.	Whether the firm is submitting regular monthly activity report to DPPQ&S, if not give reason (should be supported by documentary evidences)	
10.	Whether the firm possesses separate place for storage of treated materials	
11.	Action taken by the firm on non-compliances /interceptions reported by importing countries during the last one year	
12.	Date of last surprise visit and discrepancies, if any noticed and action taken by the firm	
13.	Remarks and recommendations of officers	
14.	<b>Name &amp; Signature of Officers who carried out Surprise Check with Date</b>	

**APPENDIX-XII**

**MONTHLY REPORT OF TREATMENTS**

1. Name of the Facility:					2. Code Number:		
3. Location:					4. Period of Reporting:		
5. Details of Treatment:							
Date and Certificate Number	Description of packaging material treated	Quantity (No of Units/ Volume in cu. m) treated	No of Treatment Cycles	Country of Export	Treatment Period		
					Warm-up Time	Dwelling Time	Total Time
6. Remarks if any:					<b>Name &amp; Signature of Operator</b>		

## **APPENDIX-XIII**

### **List of Essential Equipments**

<b>S. No.</b>	<b>Equipment</b>	<b>Make</b>	<b>Quantity</b>	<b>Specifications</b>
1.	Temperature Sensors	Gefron (Italy) or equivalent	Minimum 6	Sensor type: RTD (PT-100) Diameter: 4mm Temperature range: 0-400 <sup>0</sup> C Length: variable (95 mm to 230 mm)
2	PID Temperature Controller with Sensor	Honey Well or Equivalent	1	Controller Type: PID Single loop I/P Signal Type: Analog Universal (RTDs, Thermocouple, mV, mA) O/P Signal Type: Analog (4-20 mA & SSR O/P) Digital O/P Type: Relay O/P with Two NO/NC Contact (Rating 5 Amp) Supply Voltage: 220 V/50 HZ Working Range: 0-200 <sup>0</sup> C Accuracy: 0.5% of Span Cutout Size: 96 X 96 mm
3	Paper less Temperature Recorder (Data logger)	Honey Well or Equivalent	1	Input: Six Universal (T/C, RTD, mV, V, mA) Screen size: 5" colour LCD Data Storage: 1:44 MB Floppy Memory Buffer: 2MB Battery Back up Ethernet Connectivity: Provided Fuzzy Logging: Provided Alarm: 32 Integrated Soft Alarms Power Supply: Universal (90-250 V, AC) Dimensions: 144 X 144 mm
4.	Blowers	BIS Marked	As per requirement	Capacity: 12000 CFM Motor: 3.5 K.W. Input Supply: 3 Phase/415 V, 15 A
5	Electrical Heaters (Optional)	BIS Marked	As per requirement	Capacity: 494740 BTU/hr Electric Supply: 150 KW
6	Fire extinguisher	BIS Marked	As per requirement	
7	Computer with accessories (Colour printer etc.)	--	1	
8	Air Conditioner	--	As per requirement	
9	Moisture Meter	--	1	
10	Thermometer (Calibrated)	100 deg. C	1	

**APPENDIX-XIV**

**Table Showing Names of States under Jurisdiction of NPQS / RPQS**

<b>Sl. No.</b>	<b>NPQS/RPQS</b>	<b>Name of States</b>	<b>No. of States</b>
1.	National Plant Quarantine Station, New Delhi.	NCR, Delhi, Haryana, Uttar Pradesh, Rajasthan and Uttarakhand.	05
2.	Regional Plant Quarantine Station, Amritsar (Punjab)	Punjab, Himachal Pradesh, Chandigarh and Jammu & Kashmir	04
3.	Regional Plant Quarantine Station, Chennai (Tamil Nadu)	Tamil Nadu, Andhra Pradesh, Andaman & Nichobar, Kerala, Karnataka and Pondicherry, Telangana	07
4.	Regional Plant Quarantine Station, Kolkata (W. B.)	West Bengal, Bihar, Orissa, Jharkhand, Assam, Meghalaya, Tripura, Manipur, Mizoram, Nagaland, Sikkim and Arunachal Pradesh.	12
5.	Regional Plant Quarantine Station, Mumbai (Maharashtra)	Maharashtra, Madhya Pradesh, Goa, Chhattisgarh , Laksh Dweep & Minicoy , Gujarat, Daman & Diu, Dadra & Nagar Haveli	08
	<b>TOTAL</b>		<b>36</b>

**APPENDIX-XV**

**Checklist of documents for Application for certification of Forced Hot-Air Treatment Facility with Operator (s) for Wood Packaging Material as per NSPM-09**

<b>Sl. No.</b>	<b>Particulars</b>
1	Bank Draft of Rs.25000/- (Rupees Twenty five thousands only) payable in favour of Pay and Accounts Officer
2	Application for Certification of Forced Hot Air Treatment Facility for treating Wood Packaging (Appendix-II).
3	Data Sheet of Forced Hot Air Treatment (FHAT) (Appendix-III).
4	Checklist for Preliminary Evaluation/Testing of the FHAT Facility (Appendix-IV).
5	Compliance Agreement (Appendix-VI)
6	List of essential equipments as per Appendix- XIII
7	FHAT Chamber Diagrams /Plant Layout
8	Organization Chart
9	Calibration Certificates
10	Copy of education qualification /Operator Appointment Letter/ Undertaking for training/Copy of training Certificate attended at NIPHM, Hyderabad
11	Copy of equipment's purchase bills/invoice.
12	Copy of Land documents
13	Copy of Gen Set/electricity etc.
14	Empty & loaded trails and graphs