

NSPM 25

Guidelines for Audit and Accreditation of Modified Atmosphere / Controlled Treatment (MAT) as Phytosanitary Measures



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

April, 2023

CONTENTS

S. No.	Particulars	Page No.
	Endorsement	5
	Document issue and revision	6
	Control & Distribution of the standard	6
	Introduction	7
1.0	General Requirements	8
1.1	Accreditation Authority	8
1.2	Registration protocols	8
1.3	Qualifying percentage of Marks during Assessment of Operator for accreditation under NSPM-25.	9
1.4	Conditions for transfer of facility from one place to another within a State or from one State to another State	9
1.5	Conditions for transfer of accredited MAT operator from one branch to another branch by the facility	9
1.6	Revalidation of registration of facility after expiry of validity period	10
1.7	Responsibilities	
i)	Responsibilities of Directorate of Plant Protection, Quarantine & Storage	10
ii)	Responsibilities of registered modified atmosphere treatment	
iii)	Facility Responsibilities of MAT Operators	
1.8	General Hygiene	13
2.0	Specific requirements	13
2.1	Educational Qualification	13
2.2	Training Requirement	13
3.0	Assessment Protocol	13
3.1	Timelines for conducting of Audit	13
3.2	Assessment of MAT Operator	14
3.3	Assessment of organization & personnel	14
3.4	Issue of Certificate of Registration/Accreditation	14
4.0	Audit Protocols	14
4.1	Critical non-conformity	14
4.2	Major non-conformity	14
4.3	Minor non-conformity	15
4.4	Accreditation/Renewal audit	15
4.5	Un-announced audits/Surprise check	15

4.6	Reinstatement audits	15
4.7	Submission of Audit Reports	15
4.8	Suspension and Reinstatement Protocols	16
4.9	Appeal and Revision Protocol	17
5.0	Documents/Records of Treatment	18
5.1	Reporting of MAT Activities	18
6.0	Treatment endorsement	18
6.1	Treatment objective	18
6.2	Treatment application	19
6.3	Treatment parameters and procedure of treatment <i>Part I: Automated</i> <i>Part II: Cocoon System</i>	19
6.4	Measuring and monitoring the treatment parameters	22
6.5	Precautions while ventilating the enclosure	22

List of Appendices		Page No.
Appendix-I	Register of Modified Atmosphere Treatment (MAT) Agencies with Accredited MAT Operators	23
Appendix-II	Application for Registration of Modified Atmosphere Treatment (MAT) facility with Accredited MAT Operator	24
Appendix-III	Compliance Agreement	27
Appendix-IV	Monthly Statement showing details of Treatment undertaken with MAT	28
Appendix-V	Onsite Audit Check of MAT facility and Accredited MAT Operator for accreditation audit	29
Appendix-VI	Certificate of Registration for Modified Atmosphere Treatment Facility	32
Appendix-VII	Certificate of Accreditation of MAT Operator	33
Appendix-VIII	Assessment report for registration of MAT Company with Accredited MAT operator	35
Appendix-IX	List of Essential Equipments and Accessories for undertaking MAT	39
Appendix-X	Specimen Certificate for Modified Atmosphere Treatment with high carbon dioxide	40
Appendix-XI	Demonstration report	41
Appendix-XII	Corrective Action Report	42
Appendix-XIII	Format for carrying out Surprise Check	43
Appendix-XIV	Checklist of documents for the application for Modified atmosphere Treatment as Phytosanitary measures	44



Government of India
Ministry of Agriculture & Farmers Welfare
(Department of Agriculture & Farmers Welfare)
Directorate of Plant Protection, Quarantine & Storage
N.H – IV, Faridabad-121001 September, 2022

Endorsement

The Standard entitled ‘NSPM 25: *Guidelines for audit and Accreditation of Modified/Controlled Atmosphere Treatment (MAT) as Phytosanitary measures*’ prepared by the Directorate of Plant Protection Quarantine & Storage, Faridabad-121001 during April, 2023 for rendering guidance in assessment, audit and accreditation of service providers for undertaking phytosanitary measures by modified atmosphere treatment.

This newly issued standard NSPM 25 is duly approved and shall come to force from.....April, 2023.

(Dr. J. P. Singh)
Plant Protection Advisor
Dte. of Plant Protection, Quarantine &
Storage, NH-IV, Faridabad-121001

Dated:

Document issue and revision

This document issue and revision is controlled by the Plant Protection Advisor, Directorate of Plant Protection, Quarantine & Storage (NPPO), N.H.IV., Faridabad-121001 (Tel: 0129-2413985; email: ppa@nic.in). This standard will be subject to periodical amendment/ modification as may be decided upon by the Plant Protection Adviser. This standard will be updated and revised if necessary. The holders of this should ensure that the current edition of this standard is being used.

Control & Distribution of the standard

The master copy of this standard shall be held by the Plant Protection Adviser, Directorate of Plant Protection Quarantine & Storage, Faridabad. This standard is hosted in Directorate's website <https://pqms.cgg.gov.in> in pdf format for access to all the stakeholders. 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 Plant Protection Adviser or Joint Director (PQ) (email: jdpq@nic.in), Directorate of PPQS, Faridabad-121001.

Introduction

Scope

This standard set out guidelines for authorization, auditing and accreditation of Modified Atmospheric treatment (MAT) facility and its operators for undertaking modified atmosphere treatments (including controlled atmosphere treatments) as phytosanitary measures by modifying the CO₂ and O₂ concentrations with different pressure and time gradients for achieving pest mortality.

Background

Current approved Phytosanitary treatment known to be effective against Khapra beetle (Methyl bromide fumigation treatment) is not viable option for Organic food grains and some other products. However, many countries have banned use of Methyl Bromide for Quarantine Pre-shipment fumigation as per Montreal Protocol. The basis for using modified or controlled atmospheres to manage post-harvest insect infestations is that insects including Khapra beetle are aerobic organisms, requiring oxygen for their survival.

Modified atmosphere treatments involve altering gas concentrations in ambient air, which is achieved by high carbon dioxide (CO₂) content (Hypercarbia) or reducing the oxygen (O₂) content (hypoxia or anoxia) of the treatment environment, or both, to create an atmosphere lethal/detrimental effect to target pests. Controlled atmosphere treatment with high concentration of CO₂ is also termed as High carbon dioxide (CO₂) concentration under altered pressure. Such treatments have also been explored as an effective alternative phytosanitary treatment against grain storage pests including all stages of Khapra Beetle. In view of its effectiveness on all life stages of insect pests, the use of MAT is allowed for pre-shipment treatments and quarantine purposes including International Standard for Phytosanitary Measures (ISPM) - 44 compliance approved by Food and Agriculture Organization of the United Nations. Two methods of Modified Atmosphere Treatment (MAT) against grains *i.e.*, Automated Method (**Part I**) and Cocoon Method (**Part II**) are explained at section 6.0.

Purpose

The purpose of this document (NSPM 25) is to provide guidance for Controlled atmosphere treatment operation of a national system for registration of modified atmosphere treatment facility in India to eliminate Khapra beetle (*Trogoderma granarium*) and other insects in Organic food grains and other products exported from India. NSPM-25 ensures valid and credible phytosanitary certification for export of Organic food grains and other products meeting the phytosanitary requirements of importing countries.

1. GENERAL REQUIREMENTS

1.1. Accreditation Authority

The Directorate of Plant Protection, Quarantine & Storage (DPPQ&S), established under the Department of Agriculture & Farmers Welfare, Ministry of Agriculture and Farmers Welfare shall be the authority for granting accreditation of treatment agencies for performance of modified atmosphere treatments. The Plant Protection Adviser shall grant registration of MAT facility and Operators for undertaking modified atmosphere treatments for pre-shipment treatments and quarantine purposes including ISPM-44 compliance.

The registered facility shall carry out modified atmosphere treatment operations within range of 100 KM from the place, where the MAT facility is available.

1.2. Registration Protocols

The Directorate of Plant Protection, Quarantine & Storage, N.H-IV, Faridabad-121001 will establish a central register of Treatment Agencies with accredited MAT Operator as per the format prescribed in Appendix-I. In order to be registered with the DPPQS, the Treatment Facilities must have accredited MAT Operator. The Treatment Facilities will be allocated a unique registration number and each accredited MAT Operator shall be assigned with a unique accreditation number. The registered treatment facilities must record the registration number on all correspondence with the DPPQ&S, Faridabad.

The treatment facility seeking registration for the first time along with MAT Operator shall submit application complete in all respect to Plant Protection Adviser in prescribed format Appendix-II with attached documents as specified. Registration fee of ₹25,000/- (Rupees Twenty Five thousand only) payable by a Bharatkosh in favour of Pay & Accounts Officer or through public Portal PQMS (<https://pqms.cgg.gov.in>) and payment receipt thus generated should also be submitted along with documents and duly signed Compliance Agreement (Appendix III).

The Plant Protection Adviser 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 Treatment facility/MAT Treatment operator and furnish inspection report to the Scheme-in-charge/Joint Director (PQ) within two days from the date of inspection. The Scheme-in-charge/Joint Director (PQ) 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 MAT facility / Treatment operator shall be maintained by DPPQS at national level and updated from time to time.

The registration of MAT facility shall be granted initially for a period of two years and thereafter revalidated every two years. Each MAT 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.

For renewal of registration of MAT Facility and accreditation of MAT Operator, the facility has to apply to the Plant Protection Adviser. The accredited MAT facility shall apply for renewal/revalidation at least 45 days prior to expiry of registration in the same format prescribed in Appendix-II along with original Registration Certificate, revalidation fee of ₹ 15,000/- in favour of Pay & Account Officer of the concerned station, with detail of activities undertaken in the past two years in the format prescribed in Appendix-IV. The PPA 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 MAT Operators, the registered MAT facility shall apply to PPA in same application form as prescribed in Appendix-II with a fee of ₹ 5,000/- and such accreditation shall be granted after necessary assessment as per Section 2.2.

1.3. Qualifying percentage of Marks during Assessment of operator for accreditation under NSPM-25.

Operators will be examined for their technical competence through practical and oral examinations. To qualify the test operators must secure at least 75% marks in each of the said examination. If any candidate fails to qualify the test, he/she may appear for the said examination for second time but not earlier than 3 months of 1st assessment.

1.4. Conditions for transfer of Facility from one place to another within a State or from one State to another State:

Facility is allowed to transfer the whole set up of the facility including staff from one place to another place within a State or from one State to other State with prior approval of Plant Protection Adviser. However, the facility will have to submit necessary documentary proof of facilities at new place along with the application for approval. Facility at new 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 ₹ 5,000/-.

1.5. Conditions for transfer of accredited MAT operator from one branch to another branch by the facility

- Transfer of MAT 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 ₹ 5,000/-only.

- Further on transfer, the period of validity of MAT 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 MAT operator leaves the facility to which He/She is attached.
- When any facility opens a new branch and transfer the MAT operator from old branch, the facility will be assessed for the basic facilities at new place besides the MAT operator.

1.6. Revalidation of registration of facility after expiry of validity period.

- If an facility fails to apply for renewal of its registration 45 days before the date of expiry of the registration penal fee of ₹ 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.
- When an facility applies for renewal of registration within stipulated time period, but due to the procedural delay, could not get renewal within time, the facility may continue operative work of MAT till the receipt of renewed registration certificate.
- Nominated team will conduct renewal audit within 45 days from issuance of nomination letter. For renewal of the branch with the MAT operator, audit of past MAT activities shall carry 50% weightage & 50% for technical competence of the MAT Operator. Operators will be examined for their technical competence through practical (75/100) and oral (25/100) examinations. To qualify the test MAT Operator must secure at least 75%marks in each of the said examination. If any candidate fails to qualify the test, he may re-apply. The details will be recorded in Appendix-V and Annexure-1 and submitted to PPA along with other requisite formats.
- If infrastructure & manpower of branch do not justify past MAT activities, the branch shall be put under suspension for falsification of records.

1.7. Responsibilities

i) Responsibilities of Directorate of Plant Protection, Quarantine & Storage

a. Authorization/Certification of treatment providers

- The DPPQ&S (NPPO) will bear overall responsibility for implementation of the NSPM-25 and accordingly, identify the duties and line of communication of all personnel authorized to issue Phytosanitary certificates.
- The DPPQ&S, Ministry of Agriculture and Farmers Welfare is responsible for the evaluation, authorization/ approval/ registration of treatment providers. Such approval (new/renewal) shall be valid for two years.

- This authorization shall include approval of both treatment facilities with details of treatment providers.
- The approval shall be accorded as per the requirements set out in this NSPM including treatment procedures, adequate equipment and storage conditions etc. Specific procedures as appropriate for each facility, treatment provider and commodity may be approved, if required.
- The DPPQ&S shall maintain a list of such approved/authorized treatment providers/facilities.

b. Monitoring of registered facility:

- The DPPQS is responsible for auditing the treatment facilities and/or treatment providers for initial approval and also for renewal of the validity.
- Continuous supervision of all the treatments shall not be necessary, provided treatment procedures are properly designed and can be verified at any point of time to ensure a high degree of system integrity for the facility, process and commodity in question.
- The monitoring and auditing shall be sufficient to detect and correct deficiencies promptly.
- Treatment providers shall meet the monitoring and auditing requirements set out in this NSPM 25. These requirements shall include:
 - ✓ Access for the NPPO to audit, including either pre-arranged or unannounced visits or both;
 - ✓ A system to maintain and archive treatment records and provide to DPPQS, as and when required
 - ✓ Corrective audit/action to be taken in the event of non-conformity and Facility audit to be conducted for renewal of the approvals for every two years.
- Issue phytosanitary certificate for the treated consignment based on their inspection of the consignment in accordance with ISPM 44. However, may verify the treatment records, if required and supervision of each treatment is not necessary.
- To cooperate with the importing country NPPO. In cases of non-compliance, documentation may be made available upon request as described in ISPM 13 (Guidelines for the notification of non-compliance and emergency action).
- A Specimen format of treatment Facility Certificate is shown in **Annexure VI**.

i). Responsibilities of registered modified atmosphere treatment facility

- Shall conduct treatment as specified in the NSPM 25 and maintain all records of the treatment including the critical parameters of the treatment.
- Shall maintain general hygiene in processing and storage area.

- Where the enclosure is established inside a building or structure, the site must also have a means of active ventilation.
- Shall keep the processing and storage area as free from cracks and crevices in floors and walls of the processing premises to avoid shelter to storage pests including Khapra beetle.
- Shall apply prophylactic treatment in and around the modified atmosphere treatment facility and the storage area.
- Shall safeguard the consignment to prevent infestation/re-infestation during all steps of the export chain.
- Make available appropriate safety equipments/SCBA etc. as per the requirements.
- Storage of samples from treated lots (both long term and short term storage) to examine for any pest development at a later stage and keep a record of such examinations.
- Facility should be technically competent to perform relevant treatment to meet the quarantine requirements of importing country.
- Advise the client on stocking of consignment for carrying out effective treatment;
- Advise the client about the time requirements for successful treatment of consignment
- Seek from the client any specific conditions attached to the treatment of consignment
- Inform the client of any other factors that affect treatment of commodity such as impervious package or sorptive nature of commodity;
- Submit the information to Dte. of PPQ&S regarding change of address, transfer, retirement, resignation or death of MAT operator
- Photographs and videography record of all the MAT conducted in vessels wherever possible and system generated treatment reports (either from SCADA or any similar automated software) of CO₂ monitoring for time, Concentration, pressure & Temperature at 0.5 hourly basis should be maintained.
- Advise the exporters to ensure integrity of the treated material clean pest free container/vessel be used for stuffing the commodity.

iii) Responsibilities of MAT Operators

- Not to undertake MAT in residential areas where animal/human life exists.
- Display warning signs and take adequate safety precautions during MAT
- To ensure safety of workers during MAT operations
- To undertake supervision of all MAT operations.
- To detect gas leakage and take appropriate measures to seal leakage,
- Monitor gas concentration either manually using relevant equipments or any automatic software Suitable for the purpose and safe aeration.

- To monitor/repair of essential/safety equipments.
- Advise the clients to ensure integrity of the treated material, clean pest free container/vessel to be used for stuffing the commodity.

1.8. General Hygiene

The entire facility must maintain neat and clean conditions at all the times to prevent the chances of cross contamination. The operational area and post treatment storage areas must be free from cracks and crevices to avoid breeding space for the pests. Cleaning of all the area should be carried out on daily basis.

2.0. Specific requirements

Eligibility

2.1 Educational Qualification

The MAT operators seeking accreditation with the Dte' of PPQS shall possess the following educational qualifications namely: B.Sc. Degree in Agriculture or B.Sc. Degree with Chemistry as one of the subject from any recognized University.

2.2. Training Requirements

Five days training covering all relevant aspects of operations which includes efficacy of the treatment and required documentation should be provided by the facility manufacturer to the MAT Operator and the certificate issued by facility manufacturer regarding training. Also, the training manuals and materials to be maintained at registered facility.

3.0 Assessment Protocols

At least a panel of two technical experts nominated by the PPA shall undertake the assessment of MAT agencies for accreditation/ renewal of registration. The technical experts must possess required skill competency in performance of effective MAT operations with CO₂ and O₂. The panel of experts after assessment shall submit a report to the PPA in the format prescribed in Appendix-VIII along with Annexure 1 & 2 for consideration of registration/ renewal of MAT facility with accredited MAT Operator.

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.

3.1 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 for delayed audit is to be furnished by the audit team.

3.2 Assessment of MAT Operator

The MAT Operator seeking accreditation must have undergone at least 10 days practical on job training on MAT practice from the Supplier/Vendor and working knowledge of computer and internet prior to assessment. The MAT operator shall be assessed by a panel of technical experts approved In-charge of RPQS for skill competency to perform effective MAT treatments in with the CO₂ as per the standard established by the DPPQ&S.

3.3 Assessment of organization & personnel

The treatment facility must have an organizational chart with clear job descriptions. At a minimum level it shall have a General Manager or equivalent, who shall have authority and resources to carry out assigned administrative jobs for up-keep of the office and a technical manager (MAT Operator), who shall be responsible for all MAT technical activities.

The treatment facility must have sufficient number of technical personnel to carry out its activities. Facility must have computer, mass storage devices, digital camera for photo and videography. Both the management of treatment facility and operators must aware of all the regulatory requirements including the licensing requirements, regarding use of CO₂ and operational requirements outlined in the MAT Standard established by the DPPQ&S.

3.4 Issue of Certificate of Registration/Accreditation

Each assessed MAT facility with accredited MAT operator shall be issued a Certificate of Registration in the prescribed format (**Appendix-VI and Appendix-VII**) and assigned with ISPM mark (**Annex to Appendix-VI and Appendix-VII**) for affixing on treated material in compliance with ISPM-44.

4.0 Audit Protocols

DPPQ&S shall establish an audit system outlined below to measure the performance of MAT Company and the accredited MAT Operator against the requirements of the NSPM 25 established by the DPPQ&S. The audit will be carried out by the specified officers of the DPPQ&S based on the following criteria and as per the checklist provided in **Appendix-V** for Accreditation audit and in **Appendix-IX** along with **Annexure-1** of **Appendix-IX** for **renewal audit**. At the end of each audit, the auditor shall list out non-conformities under the following three categories:

4.1 Critical non-conformity: occurs when as the result of collection and analysis of objective evidence it is concluded that the MAT facility has grossly violated the regulatory requirements and the requirements of the NSPM-25 Standard established by the DPPQ&S and Accreditation Scheme.

4.2 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

4.3 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 MAT Company and the accredited MAT 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 MAT facility and the accredited MAT operator in writing on the spot about the non-conformities and advise the MAT facility and the accredited MAT Operator of subsequent compliance action to be taken by the said MAT facility. The facility shall submit a Corrective Action Report within 30 days in the format prescribed in **Appendix-X** to the concerned RPQS, with records and details of non-conformities, corrective action and the proposed date for rectification.

4.4 Accreditation/Renewal audit

An accreditation audit of a company will take place once the MAT operator has undergone accreditation training from the Automated System supplier/vendor at least for 10 days and is assessed as being technically competent. Accreditation audit will continue until the MAT facility with accredited MAT operator demonstrate technical competency in fulfilling the requirements of the Standard and Accreditation Scheme. Thereafter Accreditation audit shall be replaced by annual random checks.

4.5 Un-announced audits/Surprise check

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 MAT facility and their accredited MAT Operators.

4.6 Reinstatement audits

The Plant Protection Adviser or the officers authorized by him will undertake reinstatement audits on convenient date mutually agreed by the MAT facility and nominated team of DPPQS officers after suspension.

4.7 Submission of Audit Reports:

The audit team will submit the outcome of the audit results in the prescribed format

concerned RPQS in-charge, in the following order, all the pages serially numbered:

For accreditation Audit:

- i. Forwarding Letter
- ii. Appendix-VIII: Assessment Report for Registration / Accreditation along with Annexure 1 & 2
- iii. Appendix-V: Onsite Audit Check of MAT facility & Accredited MAT Operator for Accreditation audit
- iv. Appendix-III: Compliance Agreement
- v. Organizational Chart
- vi. Competency test result along with oral examination & demonstration.
- vii. Demonstration Report (Appendix-XI) along with photographs 5 Photographs of MAT Operator
- viii. Specimen signature of MAT Operator
- ix. Appointment Letter/Letter from the company stating that the MAT operator is working with the company and Medical Certificate of MAT Operator Qualification and Training Certificate of MAT Operator/Calibration Certificate of Equipment
- x. Evidence for ownership of company Premises
- xi. Relevant Bills
- xii. Appendix-XII: Corrective Action Report (if any)

For renewal/reinstatement Audit:

- i. Forwarding Letter
- ii. Appendix-VIII: Assessment Report for Registration / Accreditation along with Annexure 1&2
- iii. Appendix-V: Onsite Audit Check of MAT Company & Accredited MAT Operator for Renewal Audit & Annexure – 1 to Appendix - IX
- iv. Organizational Chart
- v. Competency test result along with test paper
- vi. Demonstration Report (Appendix - XI) along with photographs
- vii. 5 Photographs of MAT Operator
- viii. Specimen signature of MAT Operator
- ix. Medical Certificate of MAT Operator and Assistants
- x. Calibration Certificate of Equipment
- xi. License for storage of CO₂ as per Factory Act (As applicable)
- xii. Evidence for ownership of company premises
- xiii. Relevant Bills for new purchases
- xiv. Non-compliance details

4.8 Suspension and Reinstatement Protocols

The Plant Protection Adviser shall immediately suspend for a period of three months the

MAT facility and accredited MAT operator that perform in effective MAT operations which includes receipt of notification of non-compliance due to detection of live infestation from the consignment treated by the facility.

In case of other non compliance, show-cause notice will be served mentioning why they should not be suspended/ penalized for 03 months and if satisfactory reply not received within 15 days the facility/operator will be suspended/ penalized for 03 months. Final decision will be subject to the outcome of investigation. In the event of **suspension /penalized thrice** or more within **5 year period** the facility and operator will be **black listed**. Further provided that the MAT Operator will be suspended for the period of 03 months if two times in a year non-compliance is received in his jurisdiction.

If during an audit, infrastructure & manpower of branch do not justify past MAT activities or one or more critical non-conformities and/two or more than two major non-conformities are found, MAT facility and accredited MAT operator will be suspended and will be subject to a reinstatement audit. Re-training of accredited MAT operator may be necessary.

If during an audit, less than two major and less than four minor non-conformities are found the MAT facility and the accredited MAT operator will be subject to an additional announced audit within six (6) weeks. If during the follow-up audit, the non-conformities have not been addressed, the MAT facility and the accredited MAT operator will be suspended and will be subject to a reinstatement audit within six (6) weeks. Reinstatement audit will continue until the MAT facility and the accredited MAT operator demonstrate competency in fulfilling the requirements of the NSPM 25 Standard. Refresher training of accredited MAT operator may be necessary. The registration granted to the MAT facility and the accreditation granted to the MAT operator will be cancelled, if:

On a re-instatement audit, a critical or two major and four minor non-conformities have been accrued or they are suspended on three separate occasions within a period of five years. Once an accreditation has been cancelled, before re-accreditation can take place, the accredited MAT operator will be subject to additional accreditation/refresher training and the MAT company and the accredited MAT operator will be required to undergo the complete assessment process.

4.9 Appeal and Revision Protocol

If the MAT facility and the accredited MAT operator believe that there were extenuating circumstances in respect to the occurrence of non-conformity, the MAT facility and the accredited MAT operator may appeal against the decision of PPA. Compliance action will remain in place, while the appeal is being considered. For this purpose, the MAT facility and the accredited MAT operator shall apply a memorandum of appeal against the decision to the Joint Secretary, in-charge of

Plant Protection Division, Department of Agriculture and Farmers Welfare, Krishi Bhavan, 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, in-charge of Plant Protection Division, shall acknowledge the receipt of the appeal within 3 working days and endeavor 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.

5.0 Documents/Records of MAT

The MAT facility must ensure that the following records and documents relating to supervising, monitoring and testing of compliance with the procedures are maintained in prescribed format and kept up to date record. Treatment Record Check sheet of MAT treatment Equipment stock register Daily activity report MAT certificate wise Record of Servicing of Equipments & Replacement of Accessories Test Report of sheet permeability provided by the manufacturer Personal Health Record of MAT Operators & Co-workers Record of Accredited MAT Operators Details of personnel trained in First Aid Copy of job order.

5.1 Reporting of MAT Activities

The MAT facility must update report to the PPA and respective RPQS on monthly basis regarding the details of all the MAT operations carried out as per the prescribed format.

6.0. Treatment endorsement

6.1 Treatment objective

In Modified Atmosphere storage, an environment that is lethal to stored-grain pests is created by changing the proportions of CO₂ and O₂ in the atmosphere surrounding the bulk grain in storage structures. Controlled atmospheres are attained by introducing CO₂ or N₂ from external sources, possibly prior to the build-up of infestation, thereby preventing damage to the stored grain.

The objective is establishment of a system for successful application of high concentration CO₂ Treatment under altered pressure/controlled atmosphere as a phytosanitary measure to achieve pest mortality of all grain storage pests including Khapra beetle.

6.2.Treatment application

The high CO₂ treatment under altered pressure/ atmosphere shall be undertaken by treatment providers authorized by the Plant Protection Adviser, Directorate of PPQS, Ministry of Agriculture and Farmers Welfare, Faridabad. The treatment as phytosanitary measures may be applied before export as the requirement of importing country, under suitable conditions of confinement. CO₂ concentrations and altered pressure may be used as per requirement of importing country.

6.3.Treatment parameters and procedure of treatment:

The major parameters to consider when implementing the high CO₂ Treatment under altered pressure/Controlled atmosphere shall include:

- 6.3.1. Concentration of CO₂
- 6.3.2. Duration of the treatment
- 6.3.3. Temperature (of the air and the commodity inside the Chamber/Container/Cocoon);
- 6.3.4. Pressure
- 6.3.5. Exposure time
- 6.3.6. Treatment enclosure (e.g. chamber, container, Cocoon etc.)

The lethal condition of the modified atmosphere should be achieved and maintained throughout the enclosure for a minimum exposure period as specified. If the gas concentrations or the pressure are not maintained at the required level for the specified duration, the treatment shall be restarted.

Part I: Automated System

Treatment chambers

Chambers are permanent structures designed specifically for controlled atmosphere treatments. They should be

- a. Constructed from rigid materials on all sides, including the door
- b. Permanently sealed along all joints between the walls, roof, and floor
- c. gas-tight once the door is closed without the need to use tape, sealant, sand snakes or any other means
- d. Pass a pressure test within 02 Years or as per the any country specific requirement prior to introducing the modified atmosphere.

i) High carbon dioxide (CO₂) atmosphere under altered pressure

The recommended schedule for high CO₂ atmosphere under altered pressure is $\geq 95\%$ CO₂ at 20⁰C (for the commodity and the air in the treatment enclosure) at 20 bar for a minimum duration of 5 consecutive hours (with additional time for pressure build-up and pressure release).

OR

$\geq 95\%$ CO₂ at 20⁰C (for the commodity and the air in the treatment enclosure) at 30 bar for a minimum duration of 3 consecutive hours (with additional time for pressure build-up and pressure release).

Note:

- i. This treatment requires a commercial/industrial scale pressurized disinfestations chamber.
- ii. Treatment chambers should be tested from any approved facility /supplier minimum once in two years or as per the any country specific requirements for retaining required pressure and for safety purpose as well.
- iii. CO₂ storage tanks / cylinders with the required safety features, which should be tested once in two years for safety by the relevant supplier or facility.
- iv. CO₂ should be released using a suitable vaporizer to ensure CO₂ is applied in vapour form to ensure the effective CO₂ treatment.

Part II: Cocoon System

The gas-tight Cocoons are ideal for CO₂ fumigation to immediately exterminate any insect in the commodity. The CO₂ can be flushed through the inlet port at the base of the Cocoon and excess air can be released through the zipper at the top.

Treatment Dose required

ii) High carbon dioxide CO₂ atmosphere at atmospheric pressure

≥ 80% CO₂ concentration at ≥ 25°C (for the commodity and the air in the treatment enclosure) at atmospheric pressure for a minimum duration of 28 consecutive days.

iii) Low oxygen (O₂) with Nitrogen (N₂) balance at atmospheric pressure

The proposed schedule for low O₂ with N₂ balance at atmospheric pressure:

≤ 1% O₂ concentration at ≥ 25°C and <28°C (for the commodity and the air in the treatment enclosure) at atmospheric pressure for a minimum duration of 22 consecutive days.

OR

≤ 1% O₂ concentration at ≥ 28°C (for the commodity and the air in the treatment enclosure) at atmospheric pressure for a minimum duration of 12 consecutive days.

6.4. Measuring and monitoring the treatment parameters

6.4.1. The critical parameters specified for the treatment must be measured and recorded at every 0.5 hours intervals or in a continuous manner through automatic/manual monitoring equipments to ensure that the required treatment parameters have been reached and maintained throughout the treatment period to achieve pest mortality.

6.4.2. All equipment used for measuring and recording treatment parameters should be calibrated according to the manufacturer's instructions. The equipment used to measure critical parameters like gas concentrations/pressure/temperature etc. within the enclosure should have an adequate accuracy (within $\pm 5\%$ of the values to be achieved throughout the treatment).

6.4.3. The CO₂ concentration must be measured at 3 points in the treatment chamber/vessel at lower, middle and upper parts of the chamber to ensure uniform concentration and must be monitored throughout the treatment exposure period.

i) Start of the exposure period

The treatment exposure period starts when all gas concentrations and pressure readings meet or exceed the specified parameter of the treatment. The start time of the exposure period must be recorded.

ii) During the exposure period

All gas concentrations and pressure readings must meet or exceed the specified parameters of the treatment throughout the whole exposure period, otherwise the treatment has failed. Any gas introduced during the exposure period (top up, if required) must be documented.

iii) End of the exposure period

- The elapsed time between the start and the end point time of the treatment must meet or exceed the specified parameters of the treatment.
- After the specified exposure period has elapsed, final readings must be recorded from all monitoring locations.
- The final concentration readings must meet or exceed the parameters of the treatment otherwise the treatment has failed.

6.5. Precautions while ventilating the enclosure

The enclosure after completion of the treatment must be fully ventilated in a controlled and safe manner. Before commencing ventilation, a risk assessment must be carried out to determine if any hazards are present and evaluate the potential consequences to:

- 6.5.1. Treatment personnel
- 6.5.2. People in the vicinity
- 6.5.3. Occupants of surrounding buildings

The treatment provider-in-charge is responsible for the safe conduct of the ventilation.

APPENDIX - I

Directorate of Plant Protection, Quarantine & Storage, Faridabad - 121001.											
Register of Modified Atmosphere Treatment (MAT) Agencies with Accredited MAT Operators											
Register Number	Date of issue	Valid up-to	Revalidated Up-to	Name of the MAT facility /Branch & Address	Accredited MAT Operator	Accredit Number	Date of Issue	Valid upto	Revalidated upto	Other Identification Number/ Marks, if any	Remarks

APPENDIX-II

Application for Registration of Modified Atmosphere Treatment (MAT) facility with Accredited MAT Operator					
MAT facility Name					
Address (including Tel/Mobile/ E-mail)					
General Manager/Branch Manager of the MAT facility					
Description of organizational structure of the company/ branch (Attach a copy of Organization chart)					
Details of technical personnel employed by the company/branch					
Name	Date of Employment	Designation	Qualifications	Job Work	
Particulars of MAT Operators for whom the accreditation sought					
Name	Operator's Father Name	Date of Employment	Qualifications (Degree/ University/ Subject)*	Accreditation training (Dates/Place)*	Apprenticeship (Period/ Name of Supervisor)
*Attach documentary proof in respect of qualifications/training/apprenticeship					
Whether the company/ branch has valid State licenses CO ₂ Storage License, if so particulars thereof (Attach a copy of license)				Yes/No	
Whether the company/ branch is applying for the registration for the first time under Accreditation Scheme?				Yes/No	
Is the application for renewal of registration of MAT facility? If so give the particulars of Regd. Number/date of issue/valid up to (Attach original Registration Certificate issued by DPPQ&S)				Yes/No	
Is the application for revalidation of accreditation of MAT Operator? If so, give the particulars of accreditation number/date of issue/valid up to (Attach original Accreditation Certificate issued by DPPQ&S)				Yes/No	

Is the application for additional accreditation operator? If so furnish the list of accredited MAT Operators with the registered MAT company/branch (Attach list).	Yes/No		
Whether the company/branch has all the essential equipments for undertaking MAT as per the Standard? (Attach list of essential equipments procured by the MAT facility along with specifications/ Number of units)	Yes/No		
Is any separate, secured & ventilated storage facility for storing CO ₂ and O ₂ tanks?	Yes/No		
Particulars of payment of registration/ renewal fee (Name of the Bank & branch/ DD No) (Attach bank draft)	Yes/No		
Whether compliance agreement enclosed?	Yes/No		
Name & Signature of MAT Facility operator with Date			
Name & Signature of Authorized Signatories of the MAT facility with Date & Seal			
For Official Use by DPPQ&S			
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:
Acknowledgement Slip – Directorate of Plant Protection Quarantine & Storage			
Application Number:		Date of Receipt:	
Received from M/s:			
Along with Bank Draft No	Dated:	on For Rs.	
Signed by/Date			

APPENDIX-III

COMPLIANCE AGREEMENT	
1. From: (Name of MAT Facility)	2. To The Plant Protection Adviser Dte. of Plant Protection, Quarantine & Storage, NH-IV, Faridabad-121001.
3. Agreement related to: Registration of MAT Facility and accreditation of MAT Operator for undertaking MAT operations under Accreditation Scheme	
4. Applicable Phytosanitary Regulatory Requirements To meet the regulation requirements of PQ order, 2003 issued under the Destructive Insects & Pests Act, 1914 & the regulations of the Insecticides Act, 1968.	
5. I/we agree to the following: <ul style="list-style-type: none">➤ to carry out all treatments under the direct supervision of accredited MAT Operator;➤ to ensure periodical calibration of gas monitoring equipments, leak detectors and thermometer and maintain the appropriate calibration records for a period of two years;➤ to provide all essential equipments for undertaking MAT operations and maintain them in good working condition;➤ to extend necessary assistance and cooperation to the officers of DPPQ&S during the on-site audit check of the facility and performance auditing of MAT operators;➤ to follow right Treatment practices specified in the Standard to meet the requirements of Accreditation Scheme;➤ to keep and maintain up-to-date all records related to treatment as specified in this Standard and available for verification;➤ to ensure monitoring of gas concentrations at specified time intervals to make MAT operations effective; and to certify that operator is not accredited with any other facility and if accredited, No Objection Certificate (NOC) from earlier facility has been obtained and furnished.	
6. Name & Signature of MAT operator with Date	7. Name & Signature of Authorized Signatory of MAT facility with date:
8. Verified by: (Name & Signature of Authorized Officer)	9. Approved by : (Plant Protection Adviser)

APPENDIX-IV

Monthly Statement showing details of Treatment undertaken with MAT

Name of MAT facility: (DPPQ&S Regd. No. _____ dated _____)			Month of Reporting:	
Opening stock of CO ₂ (Kg)	Qty purchased of CO ₂ (Kg)	Total Qty of CO ₂ (Kg) available	Qty of CO ₂ used (Kg)	Closing Balance of CO ₂ (Kg)

A. EXPORT: Particulars of Treatment carried out

Sl. No.	Certificate No. & Date	Commodity	Quantity	Country of Import	Dose of CO ₂ / O ₂ applied	Total quantity of CO ₂ /O ₂ used	Name of MAT Operator	Remarks

B. IMPORT: Particulars of Treatment carried out

Sl. No.	Certificate No. & Date	Commodity	Quantity	Country of Export	Dose of CO ₂ /O ₂ applied	Total quantity of CO ₂ /O ₂ used	Name of MAT Operator	Remarks

APPENDIX-V

Onsite Audit Check of MAT facility and Accredited MAT Operator for accreditation audit		
Name of MAT Facility audited		
Name of the General/Branch Manager		
Name of Accredited MAT Operator(s)		
Date(s) of Audit		
Audited by		
Activity	Yes/No	Non-Conformity
Does the MAT company have adequate organizational Structure, Computer with internet, Camera for photography and staff resources to carry out treatment and other relevant activities?	Yes /No	Major
Does the MAT Operator has the necessary qualifications & technical competency?	Yes /No	Critical
Does the MAT facility have sufficient essential equipments for carrying out treatment operations as per the Standard as per the work carried out in audit period?	Yes /No	Critical
Does the MAT facility have proper record keeping system?	Yes /No	Minor
Is the accredited MAT Operator able to demonstrate the knowledge of the Standard & Accreditation Scheme?	Yes /No	Major
Is the accredited MAT operator directly supervising all the MAT operations?	Yes /No	Major
Is the accredited MAT Operator undertaking all responsibilities for which he has been accredited?	Yes/No	Major
Are the gas monitoring /temperature measuring equipment/weighing scales calibrated to manufacturer specifications?	Yes /No	Major
Is the gas monitoring equipment being used during treatment operations?	Yes /No	Major
Are the equipment calibrations records are maintained for 2 years?	Yes /No	Major
Does the MAT facility has undertaken any treatment during the period the facility sent equipments (gas monitor, leak checker) for calibrations?	Yes /No	Critical
Is the platform scale used for weighing the MAT is accurate and precise and approved by the Weights & Measures Department?	Yes /No	Major
Is the temperature determined prior to the treatment through a verifiable source and recoded?	Yes /No	Major
Are the goods verified prior to treatment?	Yes /No	Major
Does the goods covered with or packaged in gas impervious materials (such as plastic wrapping or laminated plastic films, lacquered or painted surfaces, aluminum foil, tarred or waxed paper) if so, have the coverings or packaging opened, cut or removed, prior to treatment?	Yes/No	Major
Does the treatment sheets used meet the permeability requirements	Yes/No	Major
As specified in the Standard?		


Did accredited MAT Operator meet the treatment sheet construction requirements of the Standard?	Yes/No	Major
Has the accredited MAT Operator monitor gas concentrations at specified times during the treatment as per the standard?	Yes/No	Major
Was pressure decay test is carried out prior to treatment of cargo containers?	Yes/No	Major
Does the positioning of gas distribution lines & sampling lines meeting the requirements of the Standard	Yes/No	Minor
Did the end point concentration fall within the specified limits of Standard	Yes/No	Major
Does the maximum number of treatment performed by facility in a day during the audit period match with the available Accredited MAT Operator and the instruments viz. gas monitor, leak- checker considering the distance between onsite to other site(give details thereof in Annexure-1 to Appendix-IX).	Yes/No	Critical

Annex-I to Appendix-V

Annexure1: Maximum number of Modified Atmosphere Treatment performed in a day during audit period (half yearly)

S. No.	Date	No. of MAT treatments	Distance covered by MAT operator in a day	No. of items available on treatment date			Remarks (Does facility has manpower & other physical infrastructure to perform such number of treatments)
				Treatment Cocoon	Leak checker	Gas monitor	
1							
2							
3							
4							
5							

APPENDIX-VI

CERTIFICATE OF REGISTRATION FOR MODIFIED ATMOSPHERE TREATMENT FACILITY	
 सत्यमेव जयते	भारत सरकार/Govt. of India कृषि एवं किसान कल्याण मंत्रालय / Ministry of Agriculture & Farmers Welfare कृषि, एवं किसान कल्याण विभाग / Department of Agriculture & Farmers Welfare वनस्पति संरक्षण, संगरोध एवं संग्रह निदेशालय / Directorate of Plant Protection, Quarantine & Storage एन एच-4, फरीदाबाद(हरियाणा) – 121 001/ NH-IV, Faridabad (Haryana) – 121 001
Registration Number: No. /MAT	Date of Issue:
	Valid upto:
<p><i>This is to certify that the following treatment facility has been assessed verified and granted registration for undertaking Modified atmosphere treatment (MAT) as phytosanitary measures for organic products along with MAT operator in accordance with requirements specified in this standard and subject to terms and conditions specified hereunder.</i></p>	
-sd/- Plant Protection Adviser	
Name of the treatment facility:	M/s. Name of the unit
Address:	Address of the unit
Terms & Conditions: Registration of Modified Atmosphere Treatment Facility; <ol style="list-style-type: none"> 1. The Registration Certificate shall be displayed in a prominent place open to public by the MAT facility and the registration number shall be quoted in all correspondence with Directorate of Plant Protection, Quarantine & Storage and in the MAT Certificates being issued. 2. Shall issue a Certificate for each consignment stating that the commodity has been treated in their unit for export with their registration number allotted by Directorate of Plant Protection, Quarantine and Storage, quantity and nature of packaging of the commodity. 3. Shall ensure that Khapra beetle and other plant quarantine importance pest free consignment is exported, failing which (interception of Khapra beetle in such commodity in importing country), registration of treatment facility shall be suspended with immediate effect and reinstatement audit shall be done after three months by the inspection team. 4. The certified unit shall abide by the instructions and guidelines issued by the Plant Protection Adviser from time to time. 5. For renewal of validity for continuation the operator must apply 45 days in advance; failing which renewal audit fee will be applicable as fee for registration. 	
Endorsements: Registration Extended/Suspended: NIL	
Copy to: <ol style="list-style-type: none"> 1. The Officer In-charge, RPQS. 	

APPENDIX –VII

Certificate of Accreditation of MAT Operator



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

Accreditation Number:

Date of Issue:

Valid upto:

Name of MAT Operator:

Affix Stamp
size photo

**MAT Facility /branch
Address:**

Terms & Conditions:

1. The MAT Operator shall always directly supervise the treatment operations and shall be responsible for the safety of workers engaged in the MAT operations.
2. He must display the Accreditation card (**see Annex**) at the site of treatment for ready recognition, whenever any treatment performed.
3. He shall be responsible for undertaking MAT in accordance with requirements specified in the NSPM 25 Standard and Accreditation Scheme.
4. He shall be responsible for issue of treatment certificates after successful treatment duly signed and affixed with accreditation number/other identification number or mark, where required.
5. The certificate of accreditation granted is valid for a period of **two years** unless otherwise revalidated and is valid only for working with the specified facility / branch unless endorsed by the competent authority
6. The certificate of accreditation granted shall be liable to be withdrawn /cancelled, should the MAT operator is involved in making false records or failed to meet the requirements of the MAT Standard.
7. The certificate is not transferable and should be surrendered to competent authority in the event of accredited MAT Operator retiring or leaving the aforesaid Facility.

Endorsements:

Revalidated/suspended/cancelled on _____ by _____
Revalidated/suspended/cancelled on _____ by _____
Reinstated _____ on _____ by _____

Copy to:

The Officer In-charge, RPQS.

Annex to Appendix-VI

<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;"> Affix Stamp Size Photo </div> ----- (Signature of FO)	Accreditation Card	
	No.:	
	Date of Issue:	Valid upto:
	Name of MAT Operator:	
	Father's Name of MAT Operator:	
	MAT Facility/Address:	
	-----	Issued by:
	Plant Protection Adviser	

APPENDIX-VIII

ASSESSMENT REPORT FOR REGISTRATION OF MODIFIED ATMOSPHERE TREATMENT (MAT) COMPANY WITH ACCREDITED MAT OPERATOR				
Name of MAT Company/Branch Assessed:				
Date(s) of Assessment				
Name of General Manager/Branch Manager:				
Name of MAT Operator Assessed:				
Details of Assessment of MAT facility				
1.	Organizational structure & Technical Resources for undertaking MAT operations <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate			
	Comments:			
2.	Management Responsibilities/ Commitments to meet the requirements of MAT Standard			
	Licenses <input type="checkbox"/> Yes No	Documentation of Modified Atmosphere Treatment practices <input type="checkbox"/> Yes No	Training of workers & health check-ups <input type="checkbox"/> Yes No	Safety requirements <input type="checkbox"/> Yes No
	Comments:			
3.	Stocking of Essential Equipments & Accessories <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate			
	Comments:			
4.	Calibration and annual servicing of equipments & maintenance of records <i>w.r.t.</i> gas monitoring/Leak detectors/Treatment measurement/pressure testing equipments/Weighing scales			
	Calibration <input type="checkbox"/> Yes No	Annual Service <input type="checkbox"/> Yes No	Maintenance of Calibration Records <input type="checkbox"/> Yes No	Maintenance of Annual Service records <input type="checkbox"/> Yes No
	Comments:			
5.	Maintenance of records of the following for a minimum of 2 years			
	Equipment purchase and calibration records <input type="checkbox"/> Yes No	Stock purchase and usage records <input type="checkbox"/> Yes No	Internal Training records <input type="checkbox"/> Yes No	
	Comments:			
6.	Separate storage facilities for fumigants <input type="checkbox"/> Safe and Secure <input type="checkbox"/> Poor Storage			
	Comments:			
7.	Operational Plan for servicing & maintenance of respiratory protection equipments (Gas Masks/SCBAs) <input type="checkbox"/> Yes <input type="checkbox"/> No			
	Comments:			
8.	Whether adequate power supply is available at the treatment site? <input type="checkbox"/> Yes <input type="checkbox"/> No			
	Comments:			
Details of Assessment of Operator				
9.	Knowledge about regulatory requirements, principles of treatment and general practice <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate			

	Comments:
10.	Awareness of Responsibilities of Modified Atmosphere Treatment Operator under the Accreditation Scheme <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate
	Comments:
11.	Awareness of Modified Atmosphere Treatment forbidden commodities or places <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate
12.	Knowledge about physico chemical properties and safety formulations of CO ₂ /O ₂ fumigant <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate
	Comments:
13.	Knowledge of correct Modified Atmosphere Treatment practices (Dosage/exposure period/CxT products/gas application/distribution/Treatment relationships/impervious packing materials) <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate
	Comments:
14.	Ability to carry out pressure testing of containers to ensure gas-tightness <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
15.	Ability to select site for treatment and make gas-tight enclosure <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
16.	Knowledge on Modified Atmosphere Treatment enclosure set-up Sand snaking? Risk Area size? Monitoring tube placement? <input type="checkbox"/> Yes No Yes No Yes No
	Comments:
17.	Whether the suitable vaporizer used during gas introduction? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
18.	Ability to measure and monitor gas concentrations during Modified Atmosphere Treatment (start/end time) <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
19.	Knowledge on gas leak checking procedures <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate
	Comments:
20.	Whether the Operator knows correct fumigant top-up calculations? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
21.	Ability to demonstrate use the protection equipments (gas masks/SCBAs), their fitness testing, cleaning & maintenance <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
22.	Ability to comprehend the label requirements and hazards associated with use of CO ₂ /O ₂ <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:

23.	Knowledge about CO ₂ /O ₂ poisoning, first-aid/safety measures <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate
	Comments:
24.	Additional Comments on past performance (where applicable)
25.	Recommendation regarding Registration Company with Accredited Modified Atmosphere Treatment Operator/Additional accreditations with DPPQS/AFAS or for both <input type="checkbox"/> Recommended <input type="checkbox"/> Not Recommended
26.	Reasons for not recommending
Name & Signature of Assessors with Date:	
1.	2.

ANNEXURES TO INSEPCION TEAM ASSESSMENT REPORT (APPENDIX-VIII)

Annexure-1: Particulars of technical expertise (educational qualifications/ training etc.) supported by appropriate documentary evidence.

Sl. No.	Particulars	(To be filled by Inspection Team)
1.	Name of Expert	
2.	Educational Qualifications	
3.	Institute from where basic training on Modified Atmosphere Treatment acquired	
4.	Reference No. and Date of Approval of Expertise from DPPQS, if any	

Annexure-2: List of Equipments verified

Sl. No.	Name of the Equipment/Accessories	Make	Specifications including ISI, if any	No. of units available with firm	Working condition as assessed by the Inspection Team including calibration as applicable

APPENDIX-IX

List of Essential/Applicable Equipments and Accessories for undertaking MAT	
Name of Equipment /Accessories	Specifications
Diesel Generator	Mechanical FIP, Electronic governor, Turbocharger, pulse tuned exhaust manifold, stainless steel exhaust flexible connection, Radiator Cooled, with turbo charged after cooled, Plate type lube oil cooler.
Gas Leak Checker for Cocoons	Gas leak checker with a detection range from 0- 200 ppm should be used. The standard equipment is fitted with a Red LED illuminated lever meter and buzzer sound; high sensitive and long life semi-conductor sensor; and battery operated with air-flow rate of 300ml/min.
Gas Monitoring Equipment for Cocoons	Gas Indicator or Fumiscope or Gow-Macor any standard monitoring equipment capable of measuring Methyl bromide concentrations with arrange between 0 - 200 mg/l.
CO ₂ Analyser (For Treatment Chamber)	Carbon Dioxide Analyser
Treatment Chamber	For CO ₂ Treatment
Screw Air Compressor	--
Air Compressor dryer	--
CO ₂ Storage Tank	--
Fin line Vaporizer	--
Self-Contained Breathing Apparatus (SCBA)	--
Temperature Sensor	--
Automated System (SCADA)	For CO ₂ Treatment Monitoring
Calculator	Pocket type
Measuring Tape	25m length, roll-in type
Stop watch	0-60 seconds with divisions of 5 seconds each.
Adhesive/Sealing tape	5 cm width PVC tape
Resuscitator	Rubber balloon fitted with a nose cap
Gloves	Disposable type
Fire Extinguisher	ISO Certified
Protective apron or boiler suit	--
Computer & Camera	Internet & Photography & Videography capability
Tool Box	--
First Aid box	--

APPENDIX-X

Specimen Certificate for Modified Atmosphere Treatment with high carbon dioxide

COMPANY LETTERHEAD

(including physical address and contact details)

CONTROLLED ATMOSPHERE TREATMENT CERTIFICATE

Certificate Number:

Registration Number:

CONSIGNMENT DETAILS

Target of treatment Commodity Packaging Both

Consignment description:..... Quantity:

Consignment link or container number(s) and size:.....

Country of origin:..... Port of loading:..... Country of destination:.....

Name and address of exporter:

.....
.....
.....

Name and address of importer:

.....
.....
.....

TREATMENT DETAILS

Treatment enclosure Chamber Sheeted enclosure Un-sheeted container Other:

Specified treatment rate:

Type of modified atmosphere:

High carbon dioxide Low oxygen

Pressure: or atmospheric pressure

Specified gas concentration:.....% CO₂ O₂

Specified exposure period:

Minimum temperature required:

Location of treatment:

.....

Treatment applied:

Type of modified atmosphere applied:

High carbon dioxide Low oxygen

Pressure: or atmospheric pressure

Actual gas concentration:.....% CO₂ O₂

Exposure period:

Minimum temperature during treatment:

Time and date ventilation commenced:

Date treatment completed:

.....

DECLARATION

- The target of treatment was suitable for treatment and complied with the consignment and packaging suitability requirements of the Controlled atmosphere treatment methodology.
- I declare that all information on this certificate is true, complete, and accurate, and that the treatment has been applied in accordance with the Controlled atmosphere treatment methodology.

Additional declarations:

Signature:

.....
.....

Name:

.....

Date:

.....

Company stamp

.....
.....

APPENDIX - XI

Controlled Atmosphere - Record of Treatment

Job Details								
Job Identification	Customer Name	Start Date of Treatment	Location					
Description of Consignment								
Target of Treatment		Container Numbers / Consignment Identification						
Enclosure Details								
The consignment meets the consignment and packaging suitability requirements as stipulated in section 1 of the Controlled atmosphere treatment methodology.			<input type="checkbox"/> Yes <input type="checkbox"/> No					
<input type="checkbox"/> Sheeted Enclosure	Length = _____	<input type="checkbox"/> Un-sheeted Container	Volume (m ³)					
<input type="checkbox"/> Sheeted Container/s	Width = _____	<input type="checkbox"/> Chamber						
Size: _____ Qty: _____	Height = _____	<input type="checkbox"/> Other _____						
Pressure Test Details								
<input type="checkbox"/> Other enclosure	Atmospheric pressure	Start of pressure test	End of pressure test					
Date of test	Pa	Time	Time					
<input type="checkbox"/> Chamber (date only)	<input type="checkbox"/> Pressure raised	Pressure	Pressure					
Date of last test	<input type="checkbox"/> Pressure lowered	Pa	Pa					
Treatment details		Initial gas applied details						
<input type="checkbox"/> High carbon dioxide	Specified concentration	Date	Time gas started to be applied					
<input type="checkbox"/> Low oxygen	%		Time gas finished being applied					
Specified exposure period	Specified minimum temp		Amount applied					
hours / days	°C		Kg					
Exposure period achieved	Minimum temp achieved	Total gas applied during treatment	Additional gas applied and details included as attachment					
hours / days	°C	<input type="checkbox"/> CO ₂ <input type="checkbox"/> N ₂ Kgs	<input type="checkbox"/> Yes <input type="checkbox"/> No					
Concentration Readings								
Phase	Date of Reading	Time of Reading	Gas concentration readings by location					Gas
			1:	2:	3:	4:	5:	
Start								<input type="checkbox"/> CO ₂ <input type="checkbox"/> O ₂
End								<input type="checkbox"/> CO ₂ <input type="checkbox"/> O ₂
Additional gas and temperature monitoring readings included as an attachment								<input type="checkbox"/> Yes
Ventilation								
Time commenced	Date commenced	Time concluded	Date concluded					
Treatment provider-in-charge								
NAME:		SIGNATURE:			DATE:			

APPENDIX-XIII

SURPRISE CHECK OF ACCREDITED MAT FACILITY

1.	Name and address of MAT Facility inspected	
2.	Date & time of surprise inspection	
3.	Surprise check carried out by	
4.	Maintenance of Technical Report on date with the firm (asphysically verified)	
5.	Discrepancies, if any noted in the Maintenance of technical records	
6.	Whether the firm possesses valid Certificate of approval /permission for use of MAT 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 MAT/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.	Name & Signature of Officers who carried out Surprise Check with Date	

APPENDIX - XV

**Checklist of documents for the application for Modified Atmosphere Treatment as
Phytopsanitary measures**

Sl. No.	Particulars
1	Application for registration of Modified Atmosphere Treatment facility in the prescribed Form-I with declaration, undertaking and verification duly signed with date (Annexure-I).
2	Details of the payment of registration fee - ₹25,000/- (Rupees Twenty Five thousands only) OR renewal/audit fee ₹ 15,000/- (Rupees Fifteen thousand only)
3	Educational documents (Bachelor Degree in Science from any recognized University)
4	Quality control certificates (HACCP/ISO22000/SQF/BRC or IPQC implemented by EIC etc.)
5	APEDA/FSSAI certificate: if applicable
6	Layout of the treatment facility.
7	List of equipments
8	General pest control agreement.
9	Ownership documents/ Rent Agreement /Copy of lease Deed