

NSPM-12

Guidelines for Assessment, Audit and Accreditation of Fumigation Agencies for Undertaking Methyl bromide Fumigation



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

This Standard entitled '*Guidelines for Assessment, Audit and Accreditation of Fumigation Agencies*' prepared by the Directorate of Plant Protection, Quarantine & Storage, Faridabad-121001 during Feb, 2005 for rendering guidance in assessment, audit and accreditation of fumigation operators for undertaking effective fumigation operations as per provisions of the standard on '*Quarantine Treatments and Application Procedures: I. Methyl bromide fumigation*' has been revised in view of technological advancements and recent experiences.

This revised standard is duly approved for adoption and shall come into force fromDecember 2017.

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Dte. of Plant Protection, Quarantine
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Dated: December 2017

Review & Amendment

This standard will be subject to periodic review and amendment as may be decided by the Plant Protection Adviser. This standard shall be updated and revised with the advancement of techniques and need of the hour, if necessary. The holders of this standard shall 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, Dte of Plant Protection Quarantine & Storage, Faridabad. This standard will be hosted on Directorate's website <http://plantquarantineindia.nic.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 Additional Plant Protection Adviser / Scheme In-Charge, PQ Division, Directorate of Plant Protection Quarantine & Storage, Faridabad-121001.

INTRODUCTION

Scope

This Standard sets out guidelines for assessment, audit and accreditation of fumigation agency and its operators for undertaking fumigation operations with Methyl bromide as per the provisions contained in the original standard on '*Quarantine Treatments and Application Procedures: I. Methyl bromide fumigation*'.

Background

Fumigation is an approved treatment method extensively used for controlling pest infestation in agricultural products in many countries of the world. Although the Methyl bromide fumigation is acknowledged having potential negative impact on environment, yet so far it is considered as the most appropriate treatment method in eradication of pest infestation in plants and plant products. In view of its effectiveness on all life stages of insect-pests, the use of methyl bromide is allowed for pre-shipment treatments and quarantine purposes including ISPM-15 compliance under Montreal protocol and any other critical use exemptions subject to the approval by the United Nations Environment Protection Agency. The phytosanitary regulations of many countries require certain commodities to be fumigated just prior to export and require the fumigation treatment to be endorsed on the phytosanitary certificate or the fumigation certificate issued by an approved fumigation agencies to be accompanied the consignment clearly detailing the treatment that has been undertaken. Further ISPM-15 recognizes the Methyl bromide fumigation as one of the approved treatments for wood packaging material including dunnage and requires that treated wood material should be affixed with appropriate mark in compliance with ISPM-15. This standard has been developed to address the above issues by way of setting appropriate guidelines for assessment, audit and accreditation of fumigation agencies to ensure that the right fumigation practices as outlined in the original standard '*Quarantine Treatments and Application Procedures: I. Methyl bromide fumigation*' are followed by the fumigation agencies.

References

- DPPQS. 1997. *Manual for Fumigation Operators, Directorate of Plant Protection, Quarantine & Storage, N.H-IV, Faridabad-121001 (India).*
- DPPQS. 2005. *Quarantine Treatments and Application Procedures: I. Methyl bromide fumigation. Directorate of Plant Protection, Quarantine & Storage, N.H-IV, Faridabad-121001 (India).*

1. GENERAL REQUIREMENTS

1.1. Accreditation Authority

The Directorate of Plant Protection, Quarantine & Storage, established under the Ministry of Agriculture shall be the authority for granting accreditation of Fumigation Agencies for performance of fumigation treatments with Methyl Bromide under Accreditation Scheme. The Plant Protection Adviser shall accredit the Fumigation Operators for undertaking Methyl bromide fumigation for pre-shipment treatments and quarantine purposes including ISPM-15 compliance in accordance with the provisions of Methyl Bromide Standard. The use of Methyl bromide shall be strictly prohibited for purposes other than pre-shipment treatments and quarantine purposes and any such other uses shall require prior approval of the Plant Protection Adviser. The State Governments shall be responsible for issue of license for sale/stock/use of Methyl bromide fumigant only after necessary verification of certificate of registration granted to Fumigation Agency with accredited Fumigation Operator by Plant Protection Adviser.

The registered branch shall carry out fumigation operations within the State in range of **100 KM** from branch headquarters.

1.2. Registration Protocols

The Directorate of Plant Protection, Quarantine & Storage, N.H-IV, Faridabad-121001 will establish a central register of Fumigation Agencies with accredited Fumigation Operators as per the format prescribed in **Appendix-I**. In order to be registered with the Dte of PPQS, the Fumigation Agencies must have accredited Fumigation Operator. The Fumigation Agencies with accredited Fumigation Operators will be allocated a unique registration number and each accredited Fumigation Operator shall be assigned with a unique accreditation number. The registered Fumigation Agencies must record the registration number on all correspondence with the Dte of PPQS, N.H-IV, Faridabad-121001. The fumigation company or agency or organization seeking registration for the first time along with Fumigation Operator shall submit application complete in all respect to **in-charge of NPQS/RPQS** in prescribed format **Appendix-II & Annexure-1** of Appendix-II with attached documents as specified, along with a registration fee of **Rs.25, 000/-** payable by a bank draft in favour of **Pay & Accounts Officer** and duly signed Compliance Agreement (**Appendix-III**).

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 fumigation agency/ fumigation operator and furnish inspection report to the officer in-charge within two days (02) 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 fumigation agency / operator shall be maintained by DPPQS at national level and updated from time to time.

The registration of fumigation agency shall be granted initially for a period of **two years** and thereafter revalidated every **two years**. Each Fumigation 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 Fumigation Agency and accreditation of Fumigation Operator, the agency has to apply to the respective **National/ Regional Plant Quarantine Station**. The accredited Fumigation Agency 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 **Rs. 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-XIV**. 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 Fumigation Operators, the registered fumigation agency shall apply **to concerned NPQS/ RPQS** in same application form as prescribed in **Appendix-II** with a fee of **Rs.5,000/-** and such accreditation shall be granted after necessary assessment as per Section 2.2.

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

1.3 Qualifying percentage of Marks during Assessment of applicant for accreditation under NSPM-12

Applicants 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 second time but not earlier than 3 months of 1st assessment.

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

Agency is allowed to transfer the whole set up of the agency 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 Agency 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 **Rs. 15,000/-**.

1.5 Conditions for transfer of accredited fumigation operator from one branch to another branch by the agency

- (i) Transfer of fumigation operator from one branch to another branch of the agency 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 fumigation 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 fumigation operator leaves the agency to which he is attached.
- (iii) When any agency opens a new branch and transfer the fumigation operator from old branch, the agency will be assessed for the basic facilities at new place besides the fumigation operator.

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

- (i) If an agency fails to apply for renewal of its registration **45 days** before the date of expiry of the registration penal fee of **Rs. 10,000/-** will be charged for revalidation of the registration of such agency for another 30 days from the date of expiry. If agency fails to apply within stipulated time, agency shall stand terminated.
- (ii) When an agency applies for renewal of registration within stipulated time period, but due to the procedural delay, could not get renewal within time, the agency may continue operative work of fumigation till the receipt of renewed registration certificate.
- (iii) Nominated team will conduct renewal audit within 45 days from issuance of nomination letter. For renewal of the branch with the fumigation operator, audit of past fumigation activities shall carry 50% weightage & 50% for technical competence of the Fumigation 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 Fumigation 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-IX** and **Annexure-1** of Appendix-IX and submitted to PPA along with other requisite formats.
- (iv) If infrastructure & manpower of branch do not justify past fumigation activities, the branch shall be put under suspension for falsification of records.

1.7 Responsibilities:

i) Responsibilities of Fumigation Agencies

The fumigation company should:

- hold a valid registration certificate granted by the Plant Protection Adviser and a license to purchase, stock and use of restricted pesticides granted by the Director of Agriculture of the concerned State;
- be technically competent to perform relevant treatment to meet the quarantine requirements;

- perform fumigation operations always under the supervision of accredited fumigation operator;
- 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;
- ensure adopting right fumigation practices and follow safety precautions, while undertaking treatment operations;
- maintain proper records on stock/use of fumigants and issue fumigation certificates after ensuring fumigations are carried out in effective manner;
- follow the guidelines stipulated in the standard on '*Quarantine Treatments and Application Procedures: I. Methyl bromide fumigation*' and abide by instructions issued by the Plant Protection Adviser from time to time;
- ensure not to undertake fumigation in forbidden places unsafe to public and animal life or of forbidden commodities
- ensure to carry out Ship fumigation by using Methyl bromide cylinders
- ensure that platform scale used for weighing the fumigant is accurate and precise and approved by the Weights & Measures Department
- submit the information to Dte. of PPQ&S regarding change of address, transfer, retirement, resignation or death of fumigation operator.
- submit monthly report of various activities of agency including stock and use of restricted pesticides in the prescribed format (*Appendix-XIV*) through e-mail on mbr-dppqs@gov.in& concerned NPQS/RPQS.
- maintain photographs and videography record of all the fumigation conducted in vessels.
- advise the exporters to ensure integrity of the fumigated material clean pest free container/vessel be used for stuffing the commodity.

ii) Responsibilities of Fumigation Operators

- Not to undertake fumigation in residential areas where animal/human life exists.
- Display warning signs and take adequate safety precautions during fumigation.
- To ensure safety of workers during fumigation operations
- To undertake supervision of all fumigation operations.
- To detect gas leakage and take appropriate measures to seal leakage, monitor gas concentration and aeration of fumigated commodities.
- To monitor/repair of essential fumigation /safety equipments.
- To dispose of empty containers of fumigants in safe manner.
- To maintain appropriate record related to fumigation including the videography of complete practice of fumigation conducted in vessels.
- Advise the clients to ensure integrity of the fumigated material clean pest free container/vessel be used for stuffing the commodity.

1.8. Treatment Endorsement

All the Methyl bromide fumigation treatments should be undertaken by registered fumigation companies under the supervision of accredited fumigation operator.

- monitor the fumigation treatment to ensure that correct dosage of fumigant is applied and appropriate concentration of fumigant is maintained to make it effective
- affix an official stamp on the fumigation certificate with a unique accreditation number assigned to him;
- record all the details of fumigation in prescribed format confirming that the fumigation was carried out in accordance with the Methyl Bromide (MB) Standard established by the Plant Protection Adviser

2.0. SPECIFIC REQUIREMENTS

2.1. Eligibility

2.1.1. Educational Qualifications

The fumigation 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.

2.1.2. Training Requirements

The eligible operators shall be required to undergo training for a period of at least Fifteen (15) days at any of the training institute approved by the Plant Protection Adviser, Dte of PPQS and working knowledge of MS Word, MS Excel and internet 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 fumigation operations with Methyl bromide. The training programmes will cover especially the following areas *viz.*

- ✓ Regulations/National Standards
- ✓ Role of Regulating Agencies & Responsibilities of Fumigation Operators
- ✓ General principles of fumigation
- ✓ Physicochemical properties/formulations of Methyl Bromide and its safe use.
- ✓ Correct fumigation practices with MB (Scheduled dosage of fumigant; application of fumigant in gaseous state; proper gas distribution; right exposure period; correct concentration X time products; proper understanding of temperature/dosage relationships)
- ✓ Pressure testing of containers to ensure gas tightness
- ✓ Making gas-tight enclosure with sheet fumigation
- ✓ Testing for gas leakages/Measuring and monitoring gas concentrations
- ✓ Use of safety equipment, first aid and safety precautions

- ✓ Knowledge on forbidden commodities
- ✓ Factors contributing to success/failure of fumigation
- ✓ Ship fumigation

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

2.2. Assessment Protocols

At least a panel of **two technical experts nominated by the In-charge NPQS/RPQS** shall undertake the assessment of fumigation agencies for accreditation/ renewal of registration. The technical experts must possess required skill competency in performance of effective fumigation operations with Methyl bromide and fully acquainted with the provisions of the MB Standard and requirements of the accreditation of fumigation agency. **The panel of experts after assessment shall submit a report to the In-charge NPQS/RPQS** in the format prescribed in *Appendix-IV* along with *Annexures 1 & 2* for consideration of registration/ renewal of fumigation agency with accredited Fumigation 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.

2.2.1 Criteria for nomination of Audit team for assessment of fumigation agency:

Two AFAS Accredited experts shall be nominated by the in-charge of NPQS/ RPQS.

2.2.2 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.

2.2.3. Assessment of Fumigation Operator

The Fumigation Operator seeking accreditation must have undergone the training on fumigation practice at the authorized institute and working knowledge of computer and internet prior to assessment. The fumigation operator shall be assessed by a panel of technical **experts approved In-charge of NPQS/ RPQS** for skill competency to perform effective fumigation treatments in line with the Methyl Bromide Standard established by the Dte of PPQS.

The Fumigation Operator shall be assessed for:

- sound knowledge of regulation requirements, principles of fumigation and general practices;
- be aware of commodities adversely affected by Methyl bromide fumigation;
- be able to carry out the tests needed to ensure that the treatment is successful;

- be able to recognize and analyze the factors leading to successful fumigation as well as a failed or potential to fail fumigation operations;
- be able to comprehend the label requirements and hazards associated with the use of Methyl bromide;
- be able to carry out a pressure test to ensure the containers are gas tight;
- be capable of how to carry out measurement and monitoring of Methyl bromide gas concentrations; and
- be able to demonstrate the use of safety equipments and possess knowledge of Methyl bromide poisoning, first aid and emergency and safety measures
- be capable of measurement of fumigant concentration in enclosure with the help of monitor and Threshold Limit Value (TLV) in/around the chamber with the help of leak gas detector.
- be assessed for operation of computer, knowledge of internet and camera operation for photo and videography.

2.2.4. Assessment of equipments & facilities

The fumigation agency shall be assessed for possessing a list of essential equipment and accessories (***Appendix-V***) that are required for undertaking Methyl bromide treatments and their working conditions and also a separate secured place for stocking fumigants and proper upkeep and maintenance of safety equipments (gas masks/SCBA) and calibration of measuring equipments.

2.2.5. Assessment of organization & personnel

The fumigation company 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 (Fumigation Operator), who shall be responsible for all fumigation technical activities.

The fumigation company must have sufficient number of technical personnel to carry out its activities. A minimum of **two persons** shall be required to carry out each fumigation activity **including an accredited Fumigation Operator**.

Fumigation agency must have computer, mass storage devices, digital camera for photo and videography. Both the management of fumigation company and the accredited fumigation operators must aware of all the regulatory requirements including the licensing requirements, regarding use of fumigants and operational requirements outlined in the Methyl bromide Standard established by the Dte of PPQS. They must be aware of their responsibilities and the need to involve the others associated with treatment that should be fully made aware of the fumigation treatment process. They should have continuous supply and access to Methyl bromide required in fumigation operation.

2.3. Issue of Certificate of Registration/Accreditation

Each assessed fumigation agency with accredited fumigation operator shall be issued a Certificate of Registration in the prescribed format (*Appendix-VI*) and assigned with ISPM mark (*Annex to Appendix-VI*) for affixing on treated wood packaging material in compliance with ISPM-15.

2.4. Audit Protocols

Dte.of PPQS shall establish an audit system outlined below to measure the performance of Fumigation Company and the accredited Fumigation Operator against the requirements of the Methyl bromide Standard 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-VIII* 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:

- **Critical non-conformity:** occurs when as the result of collection and analysis of objective evidence it is concluded that the fumigation agency has grossly violated the regulatory requirements and the requirements of the Methyl bromide Standard established by the Dte of PPQS and Accreditation Scheme.
- **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 fumigation company and the accredited Fumigation 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 fumigation agency and the accredited fumigation operator in writing on the spot about the nonconformities and advise the fumigation company and the accredited Fumigation Operator of subsequent compliance action to be taken by the said fumigation company. **The fumigation company shall submit a Corrective Action Report**

within 30 days in the format prescribed in **Appendix-X** to the concerned NPQS/ RPQS, with records and details of non-conformities, corrective action and the proposed date for rectification.

2.4.1. Accreditation / Renewal audit

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

2.4.2. 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 fumigation agency and their accredited Fumigation Operators.

2.4.3. Reinstatement audits

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

2.4.4. Submission of Audit Reports:

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

- **For accreditation Audit:**
 - Forwarding Letter
 - Appendix-IV: Assessment Report for Registration / Accreditation along with Annexures 1 & 2
 - Appendix-VIII: Onsite Audit Check of Fumigation Company & Accredited Fumigation Operator for Accreditation audit
 - Appendix-III: Compliance Agreement
 - Organizational Chart
 - Competency test result along with test paper
 - Demonstration Report (Appendix-XI & XII) along with photographs
 - 5 Photographs of Fumigation Operator
 - Specimen signature of Fumigation Operator
 - Appointment Letter and Medical Certificate of Fumigation Operator
 - Qualification and Training Certificate of Fumigation Operator
 - Calibration Certificate of Equipment

- Evidence for ownership of company premises
- Relevant Bills
- MBr Stock Register & Attendance Register
- Appendix-X: Corrective Action Report (if any)
- ***For renewal / reinstatement Audit:***
 - Forwarding Letter
 - Appendix-IV: Assessment Report for Registration / Accreditation along with Annexures 1 & 2
 - Appendix-IX: Onsite Audit Check of Fumigation Company & Accredited Fumigation Operator for Renewal Audit & Annexure-1 to Appendix-IX
 - Organizational Chart
 - Competency test result along with test paper
 - Demonstration Report (Appendix-XI & XII) along with photographs
 - 5Photographs of Fumigation Operator
 - Specimen signature of Fumigation Operator
 - Medical Certificate of Fumigation Operator and Fumigation Assistants
 - Calibration Certificate of Equipment
 - State License for stock and use
 - Evidence for ownership of company premises
 - Relevant Bills for new purchases
 - MBr Stock Register & Attendance Register
 - Appendix-X: Corrective Action Report (if any)
 - Noncompliance details

2.4.5. Audit of Auditors

The Plant Protection Adviser or Officers authorised by him shall 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 Fumigation Agency and the Fumigation Operator audited.

2.5. Suspension and Reinstatement Protocols

The Plant Protection Adviser shall immediately suspendfor a period of three months the fumigation agency and accredited fumigation operator that perform ineffective fumigation operations which includes receipt of notification of noncompliance due to detection of live infestation from the consignment fumigated by the agency.

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

If during an audit, less than two major and less than four minor non-conformities are found the fumigation company and the accredited fumigation 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 fumigation agency and the accredited fumigation operator will be suspended and will be subject to a reinstatement audit within six (6) weeks. Reinstatement audit will continue until the fumigation agency and the accredited fumigation operator demonstrate competency in fulfilling the requirements of the Methyl Bromide Standard. Re-fresher training of accredited fumigation operator may be necessary.

The registration granted to the fumigation agency and the accreditation granted to the fumigation operator will be cancelled, if:

- on a reinstatement 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 fumigation operator will be subject to additional accreditation/ refresher training and the fumigation company and the accredited fumigation operator will be required to undergo the complete assessment process.

2.6. Appeal and Revision Protocol

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

2.7. Documents/Records of Fumigation

The fumigation agency 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.

- Fumigation Record (*Appendix-XI*)
- Check sheet of fumigation (*Appendix-XII*)
- Fumigant stock/ consumption register
- Equipment stock register
- Calibration records
- Daily activity report fumigation certificate wise (*Appendix-XIV*)
- Record of Servicing of Equipments& Replacement of Accessories
- Test Report of sheet permeability provided by the manufacturer
- Personal Health Record of Fumigation Operators & Co-workers
- Record of Accredited Fumigation Operators
- Details of personnel trained in First Aid
- Fumigation Certificate (*Appendix-XIII*)
- Copy of job order

2.8.Reporting of Fumigation Activities

The fumigation agency must update report to the PPA and respective NPQS/ RPQS on monthly basis regarding the stock/use of Methyl bromide fumigant and the details of all the fumigation operations carried out as per the prescribed format in *Appendix-XIV*.

APPENDIX-II

Application for Registration of Fumigation Agency with Accredited Fumigation Operator					
Fumigation Company/Branch Name					
Address (including Tel/Mobile/ Fax/E-mail)					
General Manager /Branch Manager of the Fumigation Agency					
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 Fumigation Operators for whom the accreditation sought					
Name	Applicant'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, if so particulars there of (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 fumigation company? If so give the particulars of Regd. Number/date of issue/valid up to (Attach original Registration Certificate)				Yes/No	
Is the application for revalidation of accreditation of Fumigation Operator? If so, give the particulars of accreditation number/date of issue/valid up to (Attach original Accreditation Certificate)				Yes/No	
Is the application for additional accreditation operator? If so furnish the list of accredited Fumigation Operators with the registered fumigation company/branch (Attach list).				Yes/No	

Whether the company/branch has all the essential equipments for undertaking fumigation as per the Standard? (Attach list of essential equipments procured by the fumigation agency along with specifications /Number of units)	Yes/No		
Is any separate, secured & ventilated storage facility for storing fumigants?	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 Fumigation Operator applying for accreditation with Date			
Name & Signature of General Manager/ Branch Manager with Date & Seal			
For Official Use by Dte of PPQS			
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	

Annex to Appendix-II

ANNEXURE-1: List of Equipment/Accessories (Attach list as per format)

Sl.No.	Name of the Equipment/ Accessories	Make	Specifications including ISI, if any	No. of units available with firm	Date of purchase / procurement

APPENDIX-III

COMPLIANCE AGREEMENT	
1. From: (Name of Fumigation Company/ Branch)	3. To The Plant Protection Adviser Dte. of Plant Protection, Quarantine & Storage, NH-IV, Faridabad - 121001
4. Agreement related to: Registration of Fumigation Agency and accreditation of Fumigation Operator for undertaking Methyl Bromide fumigation operations under Accreditation Scheme.	
5. 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.	
6. I/we agree to the following: <ul style="list-style-type: none">• to carry out all treatments under the direct supervision of accredited Fumigation 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 fumigation operations and maintain them in good working condition;• to extend necessary assistance and cooperation to the officers of Dte PPQS during the on-site audit check of the facility and performance auditing of fumigation operators;• to ensure to provide adequate respiratory protection (gas masks/SCBAs) to Fumigation Operators/ co-workers during the fumigation and follow all safety requirements or procedures during treatment operations as specified in the Methyl Bromide Standard;• to follow right fumigation practices specified in the Standard to meet the requirements of Accreditation Scheme;• to ensure not to undertake fumigation of forbidden commodities or to carry out fumigation in places un-safe to public and hazardous to animal life;• to keep and maintain up-to-date all records related to fumigation as specified in this Standard and available for verification;• to ensure monitoring of gas concentrations at specified time intervals to make fumigation operations effective; and• to certify that applicant is not accredited with any other agency and if accredited, No Objection Certificate (NOC) from earlier agency has been obtained and furnished.	
7. <u>Name & Signature of Fumigation Operator with Date:</u>	8. <u>Name & Signature of General Manager/ Branch Manager with date:</u>
9. <u>Verified by:</u> <u>(Name & Signature of Authorized Officer)</u>	10. <u>Approved by:</u> <u>(Plant Protection Adviser)</u>

APPENDIX-IV

ASSESSMENT REPORT FOR REGISTRATION OF FUMIGATION COMPANY WITH ACCREDITED FUMIGATION OPERATOR				
Name of Fumigation Company / Branch Assessed:				
Date (s) of Assessment				
Name of General Manager / Branch Manager:				
Name of Fumigation Operator Assessed:				
Details of Assessment of Fumigation Company/Branch				
1.	Organizational structure & Technical Resources for undertaking fumigation operations <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate			
	Comments:			
2.	Management Responsibilities/ Commitments to meet the requirements of Methyl bromide Standard			
	Licenses <input type="checkbox"/> Yes <input type="checkbox"/> No	Documentation of fumigation practices <input type="checkbox"/> Yes <input type="checkbox"/> No	Training of workers& health check-usp <input type="checkbox"/> Yes <input type="checkbox"/> No	Safety requirements <input type="checkbox"/> Yes <input type="checkbox"/> 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 / temperature measurement/ pressure testing equipments/ Weighing scales			
	Calibration <input type="checkbox"/> Yes <input type="checkbox"/> No	Annual Service <input type="checkbox"/> Yes <input type="checkbox"/> No	Maintenance of Calibration Records <input type="checkbox"/> Yes <input type="checkbox"/> No	Maintenance of Annual Service records <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:			
5.	Maintenance of records of the following for a minimum of 2 years			
	Equipment purchase and calibration records <input type="checkbox"/> Yes <input type="checkbox"/> No	Stock purchase and usage records <input type="checkbox"/> Yes <input type="checkbox"/> No	Internal Training records <input type="checkbox"/> Yes <input type="checkbox"/> 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 fumigation site? <input type="checkbox"/> Yes <input type="checkbox"/> No			
	Comments:			
Details of Assessment of Fumigation Operator				
9.	Knowledge about regulatory requirements, principles of fumigation and general practice <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate			
	Comments:			
10.	Awareness of Responsibilities of Fumigation Operator under the Accreditation Scheme <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate			
	Comments:			
11.	Awareness of fumigation forbidden commodities or places <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate			
	Comments:			

12.	Knowledge about physicochemical properties and safety formulations of Methyl Bromide fumigant <input type="checkbox"/> Adequate <input type="checkbox"/> Inadequate
	Comments:
13.	Knowledge of correct fumigation practices (Dosage/exposure period/ C x T products/ gas application/ distribution/ temperature 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 fumigation and make gas-tight enclosure in case of sheet fumigation <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
16.	Knowledge on Fumigation enclosure set-up Sand snaking? Risk Area size? Monitoring tube placement? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
17.	Whether the water temperature in vaporizer being kept above 65°C or boiling all the time during gas introduction? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
18.	Ability to measure and monitor gas concentrations during fumigation (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 Methyl bromide (MB) <input type="checkbox"/> Yes <input type="checkbox"/> No
	Comments:
23.	Knowledge about Methyl bromide 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 Fumigation 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-IV)

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 fumigation 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-V

List of Essential Equipments and Accessories for undertaking MB fumigation		
S.No.	Name of Equipment / Accessories	Specifications
1.	Fumigation sheets (covers)	The sheets shall be made up of low-density polyethylene films, with a minimum thickness of 200 GSM, multi-layered, cross-laminated and tested to have a permeability of less than 0.02 g/m ² /day for Methyl bromide
2.	Gas Leak Checker	Riken 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 300 ml/min.
3.	Halide Leak detector	Halide leak detector consists of a fuel tank, a valve assembly to regulate fuel flow, a burner head assembly where the fuel and the air mixture unite and the copper plate or cone assembly, where the visible flame reacts in colour to the halogen fumigants. The air mixture to be tested is fed to the burner assembly by an attached search hose.
4.	Vaporizer fitted with LPG or Electric Heater	A vaporizer consists of a inner stainless cylindrical vessel with a diameter of 270 mm and a height of 340 mm with a stainless steel cowling (outer jacket) up to 250 mm made out of stainless steel sheet of 1.6 mm thickness. The cowling extend up to a minimum of 100 mm at the bottom with air inlets for housing the burner. The cowling is needed to direct the heat produced by the burner up and around the sides of the water container and protect the flame against gushing wind. A 12 meter of copper pipe with outer diameter of 12 mm should be used as heat exchanger. The pipe should be twisted into a double coil for this purpose and whole coil provide a heat transfer surface of about 0.1 m ² for each kilogram of fumigant to be vaporized per minute. The heat exchanger should be fitted into inner vessel with the help of brass and copper fittings such that one end of the pipe can be connected to the MB cylinder / MB can applicator tube and the other end is connected to gas distribution line to deliver hot gas into the fumigation enclosure. A three-ring gas burner with adjustable knobs should be used for heating. A suitable dial type thermometer should be fitted to the inner container to measure the temperature of water. The edges of the inner container top should be folded inside and also the cowling (outer jacket) to avoid injury. A suitable lid for closing the container to prevent escape of heat and handle should be provided to facilitate carrying the container.
5.	Gas Monitoring Equipment	Riken Gas Indicator or Fumiscope or Gow-Mac or any standard monitoring equipment capable of measuring

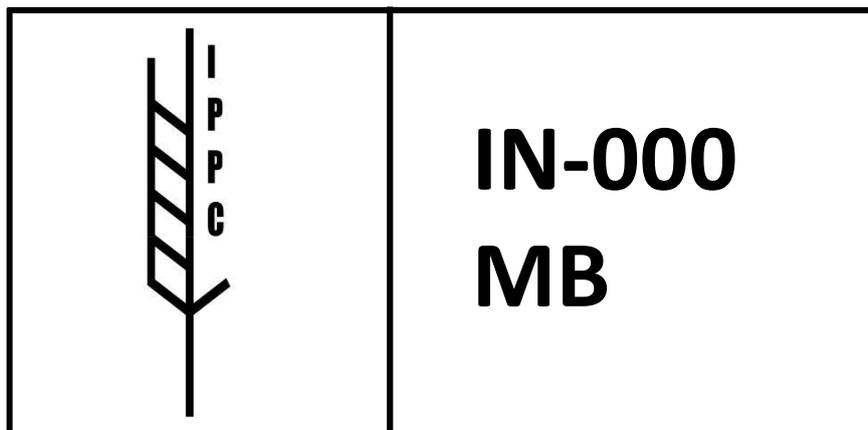
		Methyl bromide concentrations with a range between 0-200 mg/l.
6.	Gas distribution pipes	PVC flexible rayon braided hose with inner diameter of 6m and outer diameter of 12 mm with the thickness of 3mm
7.	Gas sampling tube/pipes	The sampling lines should be made up of crushproof nylon (2mm ID hydraulic hose is effective).
8.	MB can applicator	For discharging MB gas from 1 lb or ½ lb cans.
9.	Gas detector tubes	MB-gas detector tubes
10.	Pump for gas detector tubes	Draeger type
11.	Gas Mask	Draeger or equivalent, full vision, face mask as per IS:8523/1977, non-aging, chemical resistant with double reflex sealing flaps, five point harness, panoramic replaceable visor, speech diaphragm, self-demisting facility, inhalation and exhalation valves having provision for holding corrective glasses and thread connection to EN 148-1.
12.	Self-Contained Breathing Apparatus (SCBA)	Screw-in, organic type canister (with organic vapours up to a concentration of 5000 ppm for use in surrounding atmospheres with a minimum concentration of 16% Oxygen as per IS:8523/1977.
13.	Sand snakes	Sand snakes made up of canvas, ¾ metre length 15 cm width must be filled only 65% - 75% with sand so that they lie flat on the floor
14.	Thermometer	0-100°C with divisions up to 1°C each, calibrated.
15.	Axial Fans	Axial fan with a minimum of 70m ³ /min (2500 CFM)
16.	Calculator	Pocket type
17.	Measuring Tape	25m length, roll-in type
18.	Stopwatch	0-60 seconds with divisions of 5 seconds each.
19.	Adhesive/Sealing tape	5 cm width PVC tape
20.	Resuscitator	Rubber balloon fitted with a nose cap
21.	Y/T-connections	Made up of Teflon/brass/S>S with suitable diameter for connecting distribution lines.
22.	Gloves	Disposable type
23.	Plastic ropes (to hold sheets in place)	--
24.	Fire Extinguisher	ISO Certified
25.	Protective apron or boiler suit	--
26.	Computer & Camera	Internet & Photography & videography capability
27.	Tool Box	--
28.	First Aid box	--

APPENDIX-VI

Certificate of Registration of Fumigation Agency	
 <small>सत्यमेव जयते</small>	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
Registration Number:	Date of Issue: Valid up to :
<p><i>This is to certify that the following Fumigation Agency/branch has been assessed and granted registration for undertaking Methyl bromide fumigation treatments with an accredited Fumigation Operator in accordance with requirements specified in this Standard and under the provisions of Section 18 of the Insecticides Act, 1968 and subject to terms and conditions specified as under.</i></p> <p align="right">(_____) Plant Protection Adviser</p>	
Name of Fumigation Agency/branch & Address	
Terms & Conditions: <ol style="list-style-type: none"> 1. The Registration Certificate shall be displayed in a prominent place open to public by the fumigation agency and the registration number shall be quoted in all correspondence with Directorate of Plant Protection, Quarantine & Storage and in the Fumigation Certificates being issued. 2. The fumigation agency shall hold valid license for stock and use issued by the Director of Agriculture of the concerned State 3. The certificate is valid for a period of two years as indicated above unless otherwise revalidated by the competent authority. The fumigation agency shall apply for revalidation at least 45 days prior to expiry of registration. 4. The fumigation agency shall undertake all fumigation operations under direct supervision of accredited Fumigation Operator and abide by the conditions specified in Compliance Agreement. The fumigation agency shall affix assigned mark (see annex) to the treated wood packaging material as per the annexure to the certificate in compliance with ISPM-15. 5. The certificate of registration granted shall be liable to be withdrawn/ cancelled, should the said firm involved in making false records or issue fraudulent certificates or failed to meet the requirements of the Methyl bromide Standard or violates any provisions of Insecticides Act, 1968 and Rules and Regulations issued there under. 6. This Certificate shall be valid for undertaking MB fumigation operations within the State in range of 100 KM from branch headquarters. 	
Endorsements: Revalidated/suspended/cancelled on by _____ Revalidated/suspended/cancelled on by _____ Reinstated _____ on _____ by _____	
Copy to:	

Annex to Appendix-VI

ISPM Mark Assigned to the Registered Fumigation Agency



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-VII

Certificate of Accreditation of Fumigation Operator		
 सत्यमेव जयते	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	
Accreditation Number:		Date of Issue:
		Valid up to :
Name of Fumigation Operator:		Affix stamp size photo
Fumigation Company/branch/Address:		
Terms & Conditions: <ol style="list-style-type: none">1. The Fumigation Operator shall always directly supervise the fumigation operations and responsible for the safety of workers engaged in the fumigation operations.2. He must display the Accreditation card (see annex) at the site of fumigation for ready recognition, whenever any fumigation treatment performed. .3. He shall be responsible for undertaking fumigation treatments in accordance with requirements specified in the Methyl Bromide (MB) Standard and Accreditation Scheme.4. He shall be responsible for issue of fumigation certificates after successful fumigation 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 2 (Two) years unless otherwise revalidated and is valid only for working with the specified company/branch unless endorsed by the competent authority6. The Certificate of Accreditation granted shall be liable to be withdrawn/cancelled, should the Fumigation Operator is involved in making false records or issue fraudulent certificates or failed to meet the requirements of the MB Standard or violates any provisions of Insecticides Act, 1968 and Rules & Regulations issued thereunder.7. The certificate is not transferable and should be surrender to competent authority in the event of accredited Fumigation Operator retiring or leaving the afore said Company		
Endorsements: Revalidated/suspended/cancelled on by _____ Revalidated/suspended/cancelled on by _____ Reinstated _____ on _____ by _____		
Copy to:		

Annex to Appendix-VII

<div style="border: 1px solid black; width: 100px; height: 80px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> Affix Stamp size Photo </div> ----- (Signature of FO) & Contact Number -----	Accreditation Card	
	No.:	
	Date of Issue:	Valid Up to:
	Name of Fumigation Operator:	
	Father's Name of Fumigation Operator:	
	Fumigation Company / Address:	
	Issued by:	
	Plant Protection Adviser	

APPENDIX-VIII

Onsite Audit Check of Fumigation Company and Accredited Fumigation Operator for accreditation audit				
Name of Fumigation company/branch audited				
Name of the General/Branch Manager				
Name of Accredited Fumigation Operator (s)				
Date (s) of Audit				
Audited by				
Activity	Clause	Yes / No	Non-Conformity	
Does the fumigation company have adequate organizational Structure, Computer with internet, Camera for photography/ videography and staff resources to carry out fumigation and other relevant activities?	2.2.5	Yes / No	Major	
Does the Fumigation Operator has the necessary qualifications & technical competency?	2.1.1 2.1.2	Yes / No	Critical	
Does the fumigation company have all the essential equipment for carrying out fumigation operations as per the Standard?	2.2.4	Yes / No	Critical	
Does the fumigation company have proper record keeping system?	1.7 2.7	Yes / No	Minor	
Is there any secured & well ventilated place for storage of fumigants?	2.2.4	Yes / No	Minor	
Is the accredited Fumigation Operator able to demonstrate the knowledge of the Standard & Accreditation Scheme?	1.3 1.6(iii)	Yes / No	Major	
Is the accredited Fumigation Operator undertaking all responsibilities for which he has been accredited?	1.7(ii)	Yes / No	Major	
Are the gas monitoring /temperature measuring equipment/ weighing scales calibrated to manufacturer specifications?	2.2.4	Yes / No	Major	
Is the gas monitoring equipment being used during fumigation operations?	1.8	Yes / No	Major	
Are the equipment calibration records are maintained?	2.7	Yes / No	Minor	
Is the platform scale used for weighing the fumigant is accurate and precise and approved by the Weights & Measures Department?	1.7 (i)	Yes / No	Major	
Is the temperature determined prior to the fumigation through a verifiable source and recoded?	1.7	Yes / No	Major	
Are the goods verified prior to fumigation?	2.2.3	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, aluminium foil, tarred or waxed paper) if so, have the	2.2.3	Yes / No	Major	

coverings or packaging opened, cut or removed, prior to fumigation?			
Does the fumigation sheets used meet the permeability requirements as specified in the Standard?	2.2.4	Yes / No	Major
Did accredited Fumigation Operator meet the sheet fumigation construction requirements of the Standard?	2.2.3	Yes / No	Major
Any vaporizer used for applying Methyl bromide in gaseous state?	2.2.4	Yes / No	Major
Has the accredited Fumigation Operator monitor gas concentrations at specified times during the fumigation as per the standard?	2.2.3	Yes / No	Major
Has the accredited Fumigation Operator checks the fumigation enclosure for gas leakages with the help of leak detector immediately after introducing gas?	2.2.3	Yes / No	Major
Was pressure decay test is carried out prior to fumigation of cargo containers?	2.2.3	Yes / No	Major
Does the positioning of gas distribution lines & sampling lines meeting the requirements of the Standard	2.2.3	Yes / No	Minor
Does the measurement readings of gas from different sampling lines falls within +/- 15% level of each other?	2.2.3	Yes / No	Major
Whether protective equipment such as respirators/SCBA being used during fumigation?	2.2.3	Yes / No	Major
Does the fumigation company undertake health check-up of Fumigation Operator & workers	2.7	Yes / No	Minor
Whether any fans are used for effective distribution of the gas within fumigation enclosure?	2.2.3	Yes / No	Major
Did the end point concentration fall within the specified limits of Standard	1.7 (ii)	Yes / No	Major
Did the accredited Fumigation Operator undertake top-up operations, when the final reading falls between the Standard and lower limit and the time extended by 4 hours?	1.7 (ii)	Yes / No	Major
Does the containers aerated at the end of fumigation and tested gas-free before release?	1.7 (ii)	Yes / No	Major
Does the danger area demarked and sign-boards are displayed during fumigation?	1.7 (ii)	Yes / No	Minor
Does the accredited Fumigation Operator has the knowledge about emergency measures/ rescue operations in case of accidental poisoning by MB fumigant?	2.2.3	Yes / No	Major
Does the fumigation agency have record for arranging fumigant for demonstration?	2.7	Yes / No	Critical
Does the canister/ SCBA used during fumigation?	2.2.3	Yes / No	Critical
Name & Signature of Auditee with date (Authorized Signatory of Company)			
Name & Signature of Auditor (s) with date			
1.			
2.			

APPENDIX – IX

Onsite Audit Check of Fumigation Company and Accredited Fumigation Operator for Renewal audit			
Name of Fumigation Company/branch audited			
Name of the General/Branch Manager			
Name of Accredited Fumigation Operator (s)			
Date (s) of Audit			
Audited by			
Activity	Clause	Yes / No	Non-Conformity
Does the fumigation company have valid license for stock & use?	1.7 (i)	Yes / No	Critical
Does the fumigation company have adequate organizational Structure, Computer with internet, Camera for photography/ videography and staff resources to carry out fumigation and other relevant activities?	2.2.5	Yes / No	Major
Does the Fumigation Operator has the necessary qualifications & technical competency?	2.1.1 2.1.2	Yes / No	Critical
Does the fumigation company have sufficient essential equipments for carrying out fumigation operations as per the Standard as per the work carried out in audit period?(Annexure-1 to Appendix-IX)	2.2.4	Yes / No	Critical
Does the fumigation company have proper record keeping system?	1.7 2.7	Yes / No	Minor
Is there any secured & well ventilated place for storage of fumigants?	2.2.4	Yes / No	Minor
Is the accredited Fumigation Operator able to demonstrate the knowledge of the Standard & Accreditation Scheme?	1.3 1.6 (iii)	Yes / No	Major
Is the accredited fumigation operator directly supervising all the fumigation operations?	1.7 (i)	Yes / No	Major
Is the accredited Fumigation Operator undertaking all responsibilities for which he has been accredited?	1.7	Yes / No	Major
Are the gas monitoring /temperature measuring equipment/ weighing scales calibrated to manufacturer specifications?	2.2.4	Yes / No	Major
Is the gas monitoring equipment being used during fumigation operations?	1.8	Yes / No	Major
Are the equipment calibration records are maintained for 2 years?	2.7	Yes / No	Major
Does the fumigation agency has undertaken any fumigation during the period the agency sent equipments (gas monitor, leak checker) for calibrations?	1.7 (ii)	Yes / No	Critical
Is the platform scale used for weighing the fumigant is accurate and precise and approved by the Weights & Measures Department?	1.7 (i)	Yes / No	Major
Is the temperature determined prior to the fumigation through a verifiable source and recoded?	1.7	Yes / No	Major
Are the goods verified prior to fumigation?	2.2.3	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, aluminium foil, tarred or waxed paper) if so, have the coverings or packaging opened, cut or removed, prior to fumigation?	2.2.3	Yes / No	Major
Does the fumigation sheets used meet the permeability requirements	2.2.4	Yes / No	Major

as specified in the Standard?			
Did accredited Fumigation Operator meet the sheet fumigation construction requirements of the Standard?	2.2.3	Yes / No	Major
Any vaporizer used for applying Methyl bromide in gaseous state?	2.2.4	Yes / No	Major
Has the accredited Fumigation Operator monitor gas concentrations at specified times during the fumigation as per the standard?	2.2.3	Yes / No	Major
Has the accredited Fumigation Operator checks the fumigation enclosure for gas leakages with the help of leak detector immediately after introducing gas?	2.2.3	Yes / No	Major
Was pressure decay test is carried out prior to fumigation of cargo containers?	2.2.3	Yes / No	Major
Does the positioning of gas distribution lines & sampling lines meeting the requirements of the Standard	2.2.3	Yes / No	Minor
Does the measurement readings of gas from different sampling lines falls within +/- 15% level of each other?	2.2.3	Yes / No	Major
Whether protective equipment such as respirators/SCBA being used during fumigation?	2.2.3	Yes / No	Major
Does the protective equipments have regularly serviced and maintained in working condition as per the documented plan of the fumigation company?	2.2.3	Yes / No	Major
Does the fumigation company undertake health check-up of Fumigation Operator & workers	2.7	Yes / No	Minor
Whether any fans are used for effective distribution of the gas within fumigation enclosure?	2.2.3	Yes / No	Minor
Did the end point concentration fall within the specified limits of Standard	1.7 (ii)	Yes / No	Major
Did the accredited Fumigation Operator undertake top-up operations, when the final reading falls between the Standard and lower limit and the time extended by 4 hours?	1.7 (ii)	Yes / No	Major
Does the containers aerated at the end of fumigation and tested gas-free before release?	1.7 (ii)	Yes / No	Major
Does the danger area demarked and sign-boards are displayed during fumigation?	1.7 (ii)	Yes / No	Minor
Does the accredited Fumigation Operator has the knowledge about emergency measures/ rescue operations in case of accidental poisoning by MB fumigant?	2.2.3	Yes / No	Major
Does the fumigant purchase during the year match with the quantum of fumigation performed by the agency?	2.7	Yes / No	Critical
Does the canister purchase during the year match with the quantum of fumigation performed by the agency?	2.7	Yes / No	Critical
Does the maximum number of fumigation performed by agency in a day during the audit period match with the available Accredited Fumigation Operator and the instruments viz.gas monitor, leak-checker, vaporizer and fumigation sheet, considering the distance between one site to other site (give details thereof in <i>Annexure-1</i> to Appendix-IX).	1.6 2.7	Yes / No	Critical
Name & Signature of Auditee with date (Authorized Signatory of Company)			
Name & Signature of Auditor (s) with date 1. 2.			

Annex –I to Appendix-IX

**Annexure 1: Maximum number of fumigations performed in a day during audit period
(half yearly)**

S.No	Date	No. of Fumigation	Distance covered by FO in a day	No. of items available on fumigation date						Remarks (Does Agency has manpower & other physical infrastructure to perform such number of fumigation)
				Fumigation sheet	Vaporizer	Leak checker	Gas monitor	Fan	Canisters used/SCBA	
1										
2										
3										
4										

APPENDIX-X

Corrective Action Report		
Name of Fumigation Company/Branch:		Location:
Details of Non-conformity	Corrective Action to be taken	Proposed date for rectification
Name & Signature of Authorized Signatory of Company with Date		

APPENDIX-XI

Fumigation Record						
Fumigation Company / Branch				Regd. No.:		
				Date:		
Description of Goods fumigated						
Commodity	Quantity	No. of Packages	Mode of Packing	Shipping marks	Container Number (s)	Place of Fumigation
Shipment Particulars						
Vessel Name	Port of loading	Country of Export	Foreign port of shipment	Name of Exporter	Name of Importer	
Details of Fumigation Treatment						
Fumigant	Dosage (g/m ³)	Date / Time of Starting Fumigation	Date / Time of Ending Fumigation	Temp. in °C	Quantity of fumigant	Volume / Type of Fumigation Enclosure
If Containers are not sheeted, the Pressure Decay (gas-tightness) value for 200-100 Pascals (in. seconds)						
Record of Monitoring Gas Concentration				Gas Monitor type Used:		
Date	Time	Time Interval	Readings of Sampling Lines			Monitored by
			S1	S2	S3	
		0.5 hr				
		1.0 hr				
		2.0 hrs				
		4.0 hrs				
		12.0 hrs				
		24.0 hrs				
		48.0 hrs				
Particulars of top up of fumigant at the end point of fumigation, if any undertaken						
Ventilation process conducted: Yes/ No				TLV achieved: Yes / No		
Name & Signature of accredited Fumigation Operator with date/Accreditation Number						

APPENDIX-XII

Check Sheet of Fumigation

Use this check sheet and MB Ready Reckoner along with fumigation record to identify procedures and actions before, during and after each fumigation.

Item of Activity	Details of check	Status
Inspection of Fumigation site	Intact floor without cracks or drains	
	Floor not undulated, no pebbles or stones	
	Located in a safe working area	
	Well ventilated	
	Sheltered area, rain and wind protected as far as possible	
Preparation of Commodity	Stacked to allow good circulation leaving enough space around (2 m)	
	Impervious wrapping removed or slashed	
	Commodity not covered in impervious wrapping	
	Not forbidden commodity	
Preparation & installation of equipment	Vaporizer filled with water and heating	
	Sheets of correct size & specification	
	Gas distribution line installed	
	Gas sampling tubes installed (minimum of 3 per enclosure & 1 per container)	
	Fan installed and working checked (one in each container and 2 per enclosure)	
	Cover the enclosure with sheet and make gas-tight sealing at the ground with two rows of sand snakes	
	Measure enclosure volume and calculate dosage	
	Establish and mark out hazardous area and place dangerous signs	
Preparation to gas enclosure	Ensure risk area and surrounds free of unprotected personnel (up to 3m)	
	Turn on fans	
	Test leak checker for working	
	Wear and test the respirator for correct fitness	
	Position gas cylinder on scale and connect to inlet of vaporizer and the out let to gas distribution line	
	Release small quantity of gas and test fittings for gas leak and correct if necessary	
Application of gas to enclosure	Check vapourizer water boiling	
	Release required quantity of gas from the cylinder or dispenser	
	Check for hot gassing	
	Check for gas leakages around enclosure and correct leakages if any	
Initial monitoring	Turn off fan after 30 min	
	Measure gas levels on all monitor lines	
	Check to ensure all readings are above standard	
	Calculate if equilibrium achieved	
	Turn-on fans, if necessary-repeat until equilibrium achieved	
	Ensure levels still above standard-record and document	
End point monitoring	Measure gas levels on all monitor lines	
	Check to ensure all levels above standard	
	Carry out "top-up" procedures, if appropriate	
	Declare fumigation successful or failed, as appropriate-document	
	Ensure risk area and surrounds free of unprotected personnel (up to 3m)	
De-gassing	Turn-on fans	
	Wear gas mask and test for fitness	
	Open enclosure and allow ventilation	
	Test for Thresh hold limit value (TLV)-Continue aeration until gas level below TLV	
	Remove warning signs and risk area demarcation	
Documentation	Complete all documentation and release fumigated goods after ensuring gas-free	

METHYL BROMIDE FUMIGATION READY RECKONER

Initial Dosage	Value	24 g/m ³	32 g/m ³	40 g/m ³	48 g/m ³	56 g/m ³	64 g/m ³	80 g/m ³	128 g/m ³
Time after Start of Fumigation									
0.5 hrs. (75% or more of Original dosage required)	A	23	29	35	41	47	56	68	104
	B	18	24	30	36	42	48	60	96
	C	13	19	25	31	37	40	52	88
1.0 hrs. (70% or more of Original dosage required)	A	21.8	27.4	33	38.6	44.2	52.8	64	97.6
	B	16.8	22.4	28	33.6	39.2	44.8	56	89.6
	C	11.8	17.4	23	28.6	34.5	36.8	48	81.6
2.0 hrs. (60% or more of Original dosage required)	A	19.4	24.2	29	33.8	38.6	46.4	56	84.8
	B	14.4	19.2	24	28.8	33.6	38.4	48	76.8
	C	9.4	14.2	19	23.8	28.6	30.4	40	68.8
4.0 hrs. (50% or more of Original dosage required)	A	17	21	25	29	33	40	48	72
	B	12	16	20	24	28	32	40	64
	C	7	11	15	19	23	24	32	56
12 hrs. (35% or more of Original dosage required)	A	13.4	16.2	19	21.8	24.6	30.4	36	52.8
	B	8.4	11.2	14	16.8	19.6	22.4	28	44.8
	C	3.4	6.2	9	11.8	14.6	14.4	20	36.8
24 hrs. (30% or more of Original dosage required)	A	12.2	14.5	17	19.4	21.8	27.2	32	46.4
	B	7.2	9.6	12	14.4	16.8	19.2	24	38.4
	C	3*	4.6	7	9.4	11.8	11.2	16	30.4
48 hrs. (25% or more of Original dosage required)	A	11	13	15	17	19	24	28	40
	B	6	8	10	12	14	16	20	32
	C	3*	3*	5	7	9	8	12	24
Colour code	Maximum top-up Limit (g/m³)			Standard Line (g/m³)			Minimum concentration (g/m³)		
*Methyl bromide concentrations less than 3g/m³ are below the threshold for effectiveness									

APPENDIX-XIII

Fumigation Certificate	
(Company Letter Head)	Treatment Certificate Number:
(Dte. PPQ&S Regd. No. Date:)	Date of Issue:
<p style="text-align: center;"><i>This is to certify that the goods described below were treated in accordance with the fumigation treatment requirements of importing country (_____) and declared that the consignment has been verified free of impervious surfaces/layers such as plastic wrapping or laminated plastic films, lacquered or painted surfaces, aluminium foil, tarred or waxed paper etc. that may adversely affect the penetration of the fumigant, prior to fumigation.</i></p> <p style="text-align: center;"><i>The Certificate is valid for the consignments shipped within 21 days from the date of completion of fumigation</i></p>	
Details of Treatment	
Name of Fumigant	
Date of fumigation	
Place of fumigation	
Dosage of Fumigant (g/m ³)	
Duration of Fumigation (hours)	
Average ambient temperature during fumigation (°C)	
Fumigation performed under gastight sheets	Yes / No
If containers are not fumigated under gas-tight sheets, pressure decay value (from 200-100 Pascal's) in seconds	
Description of Goods	
Container Number (or numerical link)/Seal Number	
Name & Address of Exporter	
Name & Address of Importer	
Type and description of cargo	
Quantity (MTs)/ No of packages/No of pieces	
Description of packaging material	
Shipping mark or brand	
Name & Signature of Accredited Fumigation Operator with seal & date/ Accreditation Number	

APPENDIX-XIV

Monthly Statement showing details of fumigation undertaken with Methyl bromide

Name of Fumigation Company/Branch: (DPPQS Regd. No. _____ dated _____)			Month of Reporting:	
Opening stock (Kg)	Qty purchased (Kg)	Total Qty (Kg)	Qty used (Kg)	Closing Balance (Kg)

A. EXPORT: Particulars of fumigation carried out

S. N.	Certificate No. & Date	Commodity	Quantity	Country of Import	Dose of MBr applied	Total quantity of MBr used	Name of Fumigation Operator	Remarks

B. IMPORT: Particulars of fumigation carried out

S. N.	Certificate No. & Date	Commodity	Quantity	Country of Export	Dose of MBr applied	Total quantity of MBr used	Name of Fumigation Operator	Remarks

APPENDIX-XV

SURPRISE CHECK OF ACCREDITED FUMIGATION AGENCY

1.	Name and address of Fumigation agency inspected	
2.	Date & time of surprise inspection	
3.	Surprise check carried out by	
4.	Stock position of MB on date with the firm (as physically verified)	
5.	Discrepancies, if any noted in the Maintenance of stock records (as revealed from checking of invoices & utilization of fumigants records)	
6.	Whether the firm possess valid Certificate of approval/ permission for use of MB 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 fumigation/ safety Equipment possessed by the firm are in working condition	
9.	Whether the firm is submitting regular monthly activity report and returns on stock/use of MB to DPPQ&S, if not give reason (should be supported by documentary evidences)	
10.	Whether the firm possesses separate place for storage of fumigants	
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-XVI

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

Sl.No.	NPQS / RPQS	Name of States	No. of States
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, Pondicherry & Telangana	07
4	Regional Plant Quarantine Station, Chennai, Kolkata (West Bengal)	West Bengal, Bihar, Orissa, Jharkhand, Assam, Meghalaya, Tripura, Manipur, Mizoram, Nagaland, Sikkim and Arunachal Pradesh.	12
5	Regional Plant Quarantine Station, Chennai, Mumbai (Maharashtra)	Maharashtra, Madhya Pradesh, Goa, Chhattisgarh, LakshDweep & Minicoy, Gujrat, Daman & Diu, Dadra & Nagar Haveli	08
		TOTAL	36

APPENDIX-XVII

Checklist of documents for the application for Accreditation of Fumigation Agency with Operator (s) for use of Methyl bromide as per NSPM 12

S.No.	Particulars
1.	Application for registration of Fumigation Agency with accredited Fumigation Operator in the prescribed Form (Appendix-II).
2.	Duly signed Compliance Agreement (Appendix-III).
3.	Organisational Chart of the agency / Branch
4.	Bank Draft of Rs. 25,000/- (Rs. Twenty Five thousands only) payable in favour of Pay and Accounts Officer
5.	Copy of B.Sc. (Ag.) Or B.Sc. degree with Chemistry as a subject and Mark sheet
6.	Copy of the certificate completing at least 15 days training in Fumigation from CFTRI, Mysore or IGSI, Hapur or NIPMH, Hyderabad.
7.	List of equipments as per Appendix-V of NSPM-12.
8.	Copy of equipment's purchase bills/invoice.
9.	Copy of Lease Deed Agreement.
10.	Whether the applicant is accredited with some other agency? If yes, then original certificate of accredited Fumigation Operator & NOC from the concerned agency may be furnished.