**Company Name Here**

**Site Name Here**

**2018 BASE 4**

**Report – Pellet Addendum**

 **Lead Auditor**

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# Disclaimer

This template Wood Pellet Combustible Dust Audit Report (this “Report”) has been developed and, subject to the terms and conditions set out in this disclaimer, made available by the Wood Pellet Association of Canada (“WPAC”) to assist Canadian wood pellet producers (“Producers”) and auditors engaged by Producers (“Auditors”) with, among other things, the identification of combustible wood dust produced in wood pellet production operations, the assessment of the hazards of combustible wood dust, the adoption of industry best practices and mitigation strategies, and compliance with applicable regulatory requirements.

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# Executive Summary

The auditor will write a 1-2 page Executive Summary here, as defined in the ‘General Audit Information’ section.

# Scoring Summary

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Element | Maximum Points | Not Applicable | Available Points | Points Awarded | % score | % score from previous audit |
| 1. Program\*\*
 | 95 |  | 95 |  |  |  |
| 1. Training
 | 95 |  | 95 |  |  |  |
| 1. Risk Assessment
 | 95 |  | 95 |  |  |  |
| 1. Controls
 | 215 |  | 215 |  |  |  |
| Total | 500 | 0 | 500 | 0 | 0% |  |

**To auto-calculate tables, use <ctrl-A> to select all content in the document and then the ‘f9’ key to calculate all. This may have to be done up to 3 times to cycle all formulas. Not applicable and awarded points need to be calculated manually and entered above.**

**Auditor is to erase this operational instruction paragraph in their final report**

No statistical significance should be assigned to variations of 3% or less overall or 5% in any element.

**Consolidated Corrective Action Log**

Overall, there were XX recommendations and YY continual improvement suggestions from the audit.

| # | Audit Question | Issue Identified During Audit | Company Action Plan | Assigned To | Due Date | Date Closed | Verified By |
| --- | --- | --- | --- | --- | --- | --- | --- |
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# Preamble

The use of this audit with a qualified auditor and rigorous implementation of recommendation generated from the audit will aid Employers in meeting regulatory conformance. However, the completion of this audit does not imply that conformance is achieved; users of this audit must consult and apply applicable regulations and standards.

The auditor will use judgement and discretion when assessing the facility’s wood dust mitigation and control program. The auditor shall factor in the level of complexity of the operation and balance the effectiveness of the mitigation features presented against the level of hazards encountered.

# General Audit Information

## Confidentiality

The audit results are the property of the facility and cannot be used externally without consent of the client.

## Introduction

The Employer is committed to minimizing or eliminating the risks and hazards associated with combustible wood dust.

A key component of this commitment is the process of auditing each facility’s equipment, systems and processes, specifically from a wood dust mitigation and control perspective.

The audits conducted at each facility are designed to be comprehensive and objective. The audits will provide a critical evaluation of the facility’s wood dust management practices and their effectiveness.

The Employer conducts this audit for the purposes of:

* obtaining valuable input from employees, supervisors, management and others on the site as to the existence and applicability of the facility’s health and safety systems and processes, including its wood dust mitigation and control program;
* reviewing individual safety program “components,” for the purpose of assessing not only their conformance (with regulations and the Employer’s expectation), but also their effectiveness;
* reviewing specific “physical conditions,” for the purpose of assessing conformance with wood dust mitigation and control requirements and the Employer’s control program standards/expectations;
* identifying specific areas of wood dust mitigation and control best practices;
* identifying those locations where improvements can (and must) be made in order to minimize or eliminate the risks and hazards associated with combustible wood dust; and
* assisting in the development of action plans and follow-up.

## Audit Scope

This audit can be utilized by all wood pellet manufacturing facilities that produce or utilize combustible wood dust during their manufacturing activities. The physical scope of the audit will extend from the facility’s raw material handling areas/departments through to loading and shipping areas/departments. The audit will review and evaluate several elements of an effective wood dust mitigation and control program, and will focus on the hazards associated with both combustible dust and potential ignition sources. This audit is intended to provide recommendations to the facility on the appropriate management of combustible wood dust and ignition sources. As such, this audit helps document the steps the facility is or should be taking to manage the combustible dust issue.

## Audit Opening Meeting

To initiate the audit, the audit team members will meet with the site’s senior operations management team and other appropriate site employees. The purpose of the meeting is to:

1. Introduce the key participants
2. Describe the purpose of the audit, how audit results will be presented (i.e., the final audit report) and to schedule a post-audit meeting.
3. Describe the audit process/procedures, including:
* Confidentiality;
* documentation reviews;
* facility inspections (general and targeted), and;
* employee interviews.

## Safety Indoctrination

After the audit opening meeting, the auditors must be provided with a suitable safety orientation for the facility.

## Documentation Review

All aspects of the facility’s wood dust control program will be reviewed during the audit. Safety meeting minutes will be evaluated to see if hazards are being addressed and acted upon. Management circulars, bulletins and safety notices will be reviewed to ensure good communication is happening between management and employees. The auditor may request copies of specific documentation to assist in completion of the audit summary report.

## Observations

As part of the audit process, auditors will complete various “general” and “targeted” inspections / observations to help assess the facility’s activities and conditions, and to determine the level/degree of program implementation and effectiveness.

Any critical or high risk dust condition that is identified during the observation process will be immediately brought to the attention of senior management of the facility. The auditor expectation is that this condition is identified and a plan to address the situation has been discussed before the audit concludes. If identified, high risk conditions (and their resolution) will be discussed in the post audit meeting.

## Interviews

As part of the audit process, auditors will conduct interviews with a cross section of employees. In general, the senior management team will be interviewed, along with a mix of supervisors, charge hands, equipment operators, labourers, senior/long term employees, new/young workers, maintenance employees and contractors. The actual number of persons interviewed will be at the discretion of the auditor, but the interview process is intended to provide a representative assessment of employee knowledge of the facility’s wood dust control program and the hazards associated with combustible wood dust. Some of these interviews will be informal discussions with employees on the facility operating floor.

## Audit Closing Meeting

At the conclusion of the audit, but prior to the release of the Final Report, a closing meeting will be held with the senior management team and other appropriate site employees. The purpose of the closing meeting is to provide a general overview of the audit findings, both strengths and weaknesses.

Any recommendations to improve the management of combustible wood dust and ignition sources will be reviewed at the closing meeting prior to appearing in the Final Report.

## Quality Assurance and Audit Results

Within 14 calendar days of the post-audit meeting, the lead auditor will submit a Final Report to the BC Forest Safety Council or Quality Assurance review. The report will undergo the same type of Quality Assurance as a SAFE Companies BASE audit, specifically including record retention and tracking.

On successful completion of QA, the BC Forest Safety Council will notify both the company and auditor that the report has been accepted. The auditor will then release the report to either the Employer’s Operation Manager or the Senior Safety Manager for review and further distribution. Once reviewed, a conference call can be scheduled with the lead auditor to answer questions/clarify findings. The division has the discretion as to whether or not such a conference call is necessary.

The Final Report for the audit will include an executive summary that will communicate the level of strengths, risks and opportunities based on the audit findings and will be adjusted based on the general degree of conformance for each program element as determined by the auditor. In addition, a series of recommendations will be provided to help the Employer improve the level of conformance going forward.

While there is no particular criteria for ‘passing’ the audit, companies that do not achieve at least 80% overall with at least 50% in every element are at significantly higher risk.

## SAFE and / or COR Certification Implications

While this audit may be performed by the same auditor and at the same time as a SAFE Companies and/or COR audit, this audit is to be considered a separate entity. There is no prerequisite or co-requisite requirement to hold or gain SAFE and/or COR certification for this audit tool.

# Auditor Qualifications

To ensure the credibility and value of the pellet industry wood dust mitigation and control audit, the audit should be conducted by an individual that is qualified to make a comprehensive evaluation the facility as well as the programs employed to define and manage the dust hazard.

The auditor may be a BASE external auditor under BCFSC with a pellet mill specialization

OR meet all four of the following criteria:

1. Industry knowledge and work experience in woodworking facilities, pellet mills in particular – minimum 3 to 5 years
2. Understanding and knowledge of applicable codes, standards and guidelines including
	* NFPA – dust hazard classification, fire and explosion prevention, boiler and combustion safety, etc.
	* IEC – classification of explosive atmospheres
	* BC Fire Code – hazardous processes and operations
	* BC Building Code – service room construction requirements
	* Canadian Electrical Code – electrical installations and safety requirements
	* CSA codes – natural gas and propane installation, storage and handling
3. Education and/or professional designation such as:
	* Professional Engineer (P. Eng.) or Engineer-in-Training (E.I.T.)
	* Applied Science Technologist (A.S.T.) or Certified Engineering Technologist (C.E.T.)
	* Canadian Risk Manager (C.R.M.)
	* Canadian Registered Safety Professional (C.R.S.P.)
	* Certified Fire Protection Specialist (C.F.P.S.)
	* National Fire Protection Association (N.F.P.A.) fire inspector certification (CFI or CFI-II)
	* Certified Fire and Explosion Investigator (C.F.E.I.)
	* Inspector/auditor from a regulating authority such as B.C.S.A., WorkSafeBC or O.S.H.A. (or their COR Certifying Partners) with direct experience in the pellet industry
	* Journeyman electrician with knowledge on hazardous electrical classifications
4. Specific education, training and experience related to auditing of industrial facilities and management programs/systems

Please note that the codes, standards, guidelines, education and professional designations referenced above are primarily for Canada. Where appropriate, the international equivalent should be considered.

The BC Forest Safety Council will maintain and publish a register of certified auditors for companies to select an auditor from. The BC Forest Safety Council will also manage the training and ongoing certification of those auditors.

# Audit Questions and Guidelines

|  |
| --- |
| Program  |

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| --- | --- | --- | --- | --- | --- |
| 1.1A | Does the company have a written combustible wood dust management program applicable to any facility generating wood dust? | **O** | **D** | **I** | **Total** |
|  |  |  |  |  | **0** |
|  |  |  | **0-15** |  | **/15** |
| The Facility must be able to demonstrate they have a written combustible wood dust management program including a policy and procedures for the management of combustible wood dust. The program must contain the following elements: Note: The Auditor is to only identify if all the elements specified in the question exist (program element compliance will be reviewed later in the audit).**D -** Award up to 15 points based on the % inclusion of the following 10 topics.1. Is the program reviewed on an annual basis?
2. Are responsibilities documented?
3. Is there a documented investigation process for fires or similar incidents?
4. Does the program include the identification of combustible wood dust?
5. Are ignition sources identified?
6. Is there a hazard assessment process that prioritizes the ignition sources?
7. Is the hazard mitigation and control process documented?
8. Is there a corrective action management process (CAL or similar)?
9. Is there a system to document employee training?
10. Is there a hazard change management process?
 |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 1.2A | Does the company have a wood dust audit process? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-12** |  | **/12** |
| **D -** Does to company have, for 2 points each:1. An annual wood dust mitigation and control audit process?
2. Are auditors educated and trained on wood dust mitigation and control?
3. Are there defined standards and protocols used by the auditor?
4. Does the facility have independent third party Wood Dust Audit at least once every year?
5. Is there evidence that the non-conformance items from the previous third party audit are corrected in a timely manner? Not applicable if there were no previous audits.
6. Are the results of the previous audit communicated to the staff and employees? Not applicable if there were no previous audits.
 |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 1.2B | Has an annual audit been performed in the last calendar year? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0,5** | **0-5** | **/10** |
| **D –** If the last annual audit, excluding this one, took place in the last calendar year, award 5 points.**I –** Award up to 5 points based on the % of interviews with Managers and Supervisors confirming that an audit took place during the past calendar year.Potential interview script:Explain the program review process? What was the date of the last review? |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 1.3A | Has the Facility identified areas of responsibility and those personnel who are accountable for the safe management of combustible wood dust at the Facility? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-8** | **0-10** | **/18** |
| **D -** The Facility must be able to provide a written list or matrix or other document that identifies areas of responsibility and who at the Facility are assigned these responsibilities, including verification that the personnel are qualified to manage those areas. This may be included in the overall program.Areas of responsibility should include (at 1 point each):1. Program Administration, Reviews, Maintenance & Management of Change
2. Maintenance Supervision including contractor supervision
3. Orientation
4. Emergency Response Plans (ERP’s)
5. Inspections, measuring and monitoring of combustible dust
6. Clean up / Housekeeping
7. Mechanical PM
8. Electrical PM

Aspects of responsibilities may be divided among members of a group.**I-** Interview employees (Managers, Supervisors and Workers) to determine their responsibilities as related to combustible wood dust management. Topics should include but are not necessarily limited to:Program Administration, Reviews, Maintenance & Management of ChangeMaintenance Supervision and contractor supervisionOrientationERPsInspectionsClean upPM (Mechanical, Electrical)Award up to 10 points based on the % positive responses.Potential Interview scriptQ – Explain your responsibilities for the management of combustible wood dust hazards? |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 1.4 | Does the Facility have an Emergency Preparedness and Response Plan (EPRP) | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** Check the ERPs to verify that combustible wood dust hazards are included in the program. (5 points)**D -** If documentation supports that the responding fire department has completed pre-incident planning and site visits of the mill within the last 3 years or since the last major process change, whichever is more recent. (The responding fire department may be salaried, volunteer or a company fire brigade provided the brigade meets NFPA 1081 standard. Documentation may include posted Fire Department inspection results.) (2 points)**D -** If the ERP requires an annual (or more frequent) drill award 3 points. |
| Audit Note:  |
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| Recommendation: |
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| 1.5 | Does the facility have an incident investigation process? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** | **0-10** | **/20** |
| **D-** Check documentation for 1. a reporting process (internal 3 points and external regulators/insurers 2 points)
2. an incident investigation process 3 points
3. that the process is required to be used for evaluation of events involving combustible wood dust and fire and electrical/gas equipment events if any have occurred in the last year 2 points

**I -** Interview supervisors for their understanding of and competence at investigating. 10 pointsPotential interview scriptCan you describe when you need to investigate something? What makes a good investigation? |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 1.6 | Does the Facility have a change management process that includes consideration for combustible wood dust hazards? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** The process should include (for one point each):1. Combustible Wood Dust Hazards and Controls.
2. A process to re-evaluate hazards when equipment or processes change, including when auxiliary or other equipment or processes are added on the property that are not directly related to the primary production stream.
3. A defined form to record the process and show both worker and management participation, including JOHSC review where applicable
4. A process to track action plans that are identified in the management of change process.
5. Changes to policies, work procedures to reflect the changes.
6. Upset Conditions (I.e. ventilation system disabled).
7. A recognition and process to review codes and regulations during the management of change activities.
8. A defined responsibility to authorize change only after the safety aspects have been evaluated
9. Notification of applicable external agencies before planned change will occur if the change requires notification
10. Notification of external agencies promptly when unplanned change has already occurred or is occurring if the change requires notification
 |
| Audit Note:  |
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| Recommendation: |
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| Education/Training/Communication  |

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| --- | --- | --- | --- | --- | --- |
| 2.1 | Do the indoctrination, education and training programs include information on Combustible Wood Dust? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-10** | **0-5** | **0-5** | **/20** |
| **O -** The Auditor must determine if the training being provided is adequate for the hazards and risks associated with combustible wood dust in the Facility. Observe the workforce for compliance to established SWPs, which may include the following items:* Identification of combustible wood dust (have employees correctly identified hazardous combustible wood dust conditions). If hazardous conditions exist and there are no corresponding reports this is a negative observation.
* Correct housekeeping procedures. (If employees and/or contractors are not following the established procedures this is a negative observation).
* Risk assessments prior to cleaning up an area.
* Correct ‘Hot Work’ procedures (i.e. NFPA -51B)
* Correct pressurized air clean up procedures

**D -** Check training documentation for:Has specific combustible dust training applicable to each position been identified? The Auditor must determine if the training being provided is adequate for the hazards and risks associated with combustible wood dust in the Facility.Examples of adequate training include:FIPI TRAINING MODULES: * Combustible Dust Hazard Recognition
* Combustible Dust Hazard Mitigation
* Contractor Introduction to Combustible Dust

**I-** Interview employees (Managers, Supervisors and Workers) to determine their level of understanding of the characteristics of combustible wood dust.Potential Interview Script: What are the characteristics of combustible wood dust?  |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 2.2 | Do the indoctrination, education and training programs include identification of Combustible Wood Dust? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0,1** | **0-9** | **/10** |
| **D -** Check training documentation for:Identification of combustible dust hazards. 1 point**I -** Interview employees (Senior Managers, Managers, Supervisors and Workers) to confirm that they understand the threshold for combustible wood dust (average 1/8” over 5% of the enclosed area). 9 pointsPossible Interview Script:Explain to me the threshold for combustible wood dust? At what amounts is combustible wood dust a hazard? Explain the Right to Refuse Unsafe Work process? What would you do it you recognized unsafe levels of combustible wood dust? |
| Audit Note:  |
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| Recommendation: |
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| 2.3 | Do the indoctrination, education and training programs include control of Combustible Wood Dust? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-5** | **0-5** | **/10** |
| Check training documentation for:Methods of control for combustible dust.These should include:**Regular Activities:*** Monitoring
* Reporting

**Cleanup Activities:*** Brooms / Dusters (minimize stirring up dust)
* Dust ignition protected vacuum cleaner
* De-energizing electrical equipment in area of cleanup
* Low pressure Air (defined as no more than 15 psi, and only used as a last resort)

**I-** Interview employees (Managers, Supervisors and Workers) to determine if they know how to control combustible wood dust hazards?Potential Interview Script: How do you control combustible wood dust hazards during regular operations and cleanup activities? What is the air line pressure set at? |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 2.4 | Do the indoctrination, education and training programs include information on ignition sources? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0,1** | **0-4** | **/5** |
| **D -** Check training documentation for:Identification and control of ignition sources. The training is intended to cover the topic of ‘bearings’ rather than listing every bearing, for example. 1 point**I -** Interview employees (Managers, Supervisors and Workers) to confirm that they know what the ignition sources are in their areas of responsibility. 4 pointsPotential Interview Script:Can you explain the ignition sources in your work area? |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 2.5 | Do the indoctrination, education and training programs include information on Emergency Response related to Combustible Wood Dust? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0,1** | **0-4** | **/5** |
| **D -** Check training documentation for:Emergency Response Procedures**. Note that this is only for training on emergency response. The actual ERP content is covered elsewhere. (1 point)****I -** Interview employees (Managers, Supervisors and Workers) to confirm that firefighting procedures include combustible wood dust hazards. 4 pointsPotential Interview Script:Was combustible wood dust hazards reviewed or included in your emergency response procedures or drills? What are the procedures you follow? How do you fight a fire in sawdust? |
| Audit Note:  |
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| Recommendation: |
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| 2.6 | Do the indoctrination, education and training programs include information on reporting fires and/or electrical and gas incidents? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0,1** | **0-4** | **/5** |
| **D -** Check training documentation for:Reporting and investigation requirements for fires and electrical/gas equipment. 1 points**I -** Interview workers to determine if they know how to report fires and/or electrical incidents. 4 points Potential Interview Script:How do you report fires and electrical emergencies? |
| Audit Note:  |
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| Recommendation: |
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| 2.7 | Do the indoctrination, education and training programs include providing contractors with information on Combustible Wood Dust? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-5** | **0-5** | **/10** |
| D - Check training documentation for:The auditor must confirm that sampled contractors are provided with appropriate training, education and orientation for combustible wood dust hazards and controls. **5 points**Methods of control for combustible dust.These should include:**Regular Activities:*** Monitoring
* Reporting

**Cleanup Activities:*** Brooms / Dusters (minimize stirring up dust)
* Dust ignition protected vacuum cleaner
* De-energizing electrical equipment in area of cleanup
* Low pressure Air (defined as no more than 15 psi, and only used as a last resort)

**I-** Interview contractors to determine if they received information on combustible wood dust hazards during their orientation**.** 5 points**I –** Interview supervisors (only if contractors are not available) to explain the orientation process for contractors. 5 pointsPotential Interview Script:Explain the combustible wood dust hazards for this operation? Did you receive this information during your orientation? |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 2.8 | Do the indoctrination, education and training programs include Raw Material Inventory management? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0,1** | **0-9** | **/10** |
| **D –** Check Training Documentation (for applicable supervisors) for:Raw Material Inventory Management 1 point.**I -** Are applicable supervisors able to explain how they are ensuring piles are rotated regularly and managed on a FIFO (First In, First Out) basis for piles of the same type of material while keeping within any limits on raw material location, volume or cover. It is recognized that blending (species, moisture or other parameters) recipes may draw down piles of some materials faster than others. 4 points.This question is not applicable if there are no stock piles.**I -** Interview operators of mobile equipment used for fibre handling to confirm daily inspection or cleaning. The inspection must specifically include cleanliness. Mobile operators should be able to confirm regular cleaning throughout the shift. 5 pointsPotential Interview Script:How do you determine what raw material is fed into the system? Explain the inventory management system and how it works? Can you explain your pre-trip / Pre-use / Pre-shift procedures? What is your process for cleaning your equipment? Does your job require scheduled blowdowns; describe the frequency required and where in the facility you blow down your equipment? |
| Audit Note:  |
|  |
| Recommendation: |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2.9 | Do the indoctrination, education and training programs include foreign material removal | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  |  | **0-10** | **/10** |
| **I -** Can all qualified operators describe how the metal and other foreign materials is removed from the process stream, including the method and frequency of inspection of the separation equipment and the use and calibration of metal detectors if metal detectors are present. 10 pointsPotential Interview ScriptHow is metal removed from the process? |
| Audit Note:  |
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| Recommendation: |
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| 2.10 | Do the indoctrination, education and training programs include fire detection and suppression equipment maintenance? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  |  | **0-10** | **/10** |
| **I -** Can all qualified operators state that they have received training related to internal inspections of abort gates, backdraft dampers, spark detection, deluge systems (based on manufacturer specs as a minimum) Up to 10 points based on % positivePotential Interview Script:How do you inspect (abort gates, dampers, spark detection, deluge systems as applicable? How often do you do it? |
| Audit Note:  |
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| Recommendation: |
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| Hazard and Risk Assessment Process  |
| 3.1 | Has the Facility correctly identified areas where combustible wood dust conditions and potential ignition sources exist? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-15** | **0-5** |  | **/20** |
| **O -** The Auditor must verify that the hazard assessment takes into consideration all areas of the Facility where combustible wood dust accumulations can occur including concealed spaces.Items to consider are:* Concealed spaces such as attics, false ceilings, crawl spaces, inside duct work.
* All buildings and areas whether they are in use or not.
* Silos and fibre storage areas.

Award up to 15 points based on the completeness of the scoping**D -** The Auditor must verify that all ignition sources have been correctly identified. Ignition sources may include for up to 5 points

|  |  |
| --- | --- |
| * Hot Work
* Hot Surfaces
* Heating Equipment
* Friction
* Machine and Processing Equipment
* Electrical Systems
 | * Boilers or Steam Vessels
* Smoking
* Lightning
* Static Electricity
* Tramp Metal
* Facility Lighting
* Mobile Equipment
 |

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| Audit Note:  |
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| Recommendation: |
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| 3.2 | Do hazard assessments include the identification of combustible wood dust properties? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** Check the completed hazard assessment to verify that it includes the identification of the combustible wood dust properties. Award up to 10 points based on completeness.Does this method include collection plates, moisture testing, particle size distribution, measurement devices and/or visual observation. Etc.? |
| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 3.3 | Has the Facility categorized the combustible wood dust hazard? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-15** | **0-5** |  | **/20** |
| **O -** The Auditor must verify that the risks associated with combustible wood dust hazards in the Facility have been correctly identified. Award up to 15 points based on completenessSome items to consider are:* Type of wood dust present.
* Dispersion of combustible wood dust.
* Rate of Accumulation
* Inclusion of electrical equipment.
* Inclusion of ‘Hot Work’ designated areas.

**D -** Check the completed hazard assessment to verify that it includes identification of all areas where combustible wood dust can accumulate in the Facility including concealed spaces. Award up to 5 points based on completenessAssessments should include:* Concealed spaces such as attics, false ceilings, crawl spaces, inside duct work, etc.
* Dispersion methods in enclosed areas
* Other concerns such as winter.
* The classification of electrical and gas equipment within the last 5 years or with the installation of any new equipment.
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| Audit Note:  |
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| Recommendation: |
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| --- | --- | --- | --- | --- | --- |
| 3.4 | Has the facility identified potential ignition sources? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** Check the completed hazard assessment to verify that it includes a list of the potential ignition sources. Award up to 10 points based on completeness.Identified ignition sources should include:* Hot Work (confirm a documented Hot Work Process that includes combustible Wood Dust)
* Hot Surfaces
* Heating Equipment
* Friction
* Machine & Process Equipment including Boilers and Steam vessels
* Electrical Equipment
* Smoking
* Lightning
* Static Electricity
* Tramp Metal
* Facility Lighting
* Mobile Equipment
 |
| Audit Note:  |
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| Recommendation: |
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| 3.5 | Do completed hazard assessments include the categorization of risk? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-15** |  | **/15** |
| **D -** Check the completed hazard assessment to verify that all areas with combustible wood dust hazards have been completed and are categorized for risk.Assessments may include:* The rate of dust accumulated in various areas of the facility.
* The risk rating for various areas.
* Frequency of monitoring accumulations:
	+ Daily
	+ Weekly
	+ Monthly
	+ Quarterly
	+ Annually

Award up to 10 points based on the % of hazard assessments completed compared to those that should have been completed.Award up to 5 points based on the % of hazard assessments that use a rating system to categorize the risk |
| Audit Note:  |
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| Recommendation: |
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| 3.6 | Does the hazard assessment process demonstrate mitigation and control strategies and follow up of issues? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** Check the completed hazard assessment to verify that it includes mitigation and control strategies. 4 points**D -** Check the completed hazard assessment to verify that it includes a process for corrective action plan follow-up. 4 points . **D -** Also check documents to verify that corrective actions are addressed in a timely manner.2 points |
| Audit Note:  |
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| Recommendation: |
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| 3.7 | Were the hazard assessment results categorized based on severity and consequence? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** The Auditor must confirm through documentation that results from the assessments have been categorized based on severity and consequence or other company-specific terms for ‘severity’ and ‘consequence’. Award up to 10 points based on completeness. |
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| Recommendation: |
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| Controls |

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| 4.1 | Does the Facility have a written combustible wood dust management program applicable to the pellet industry? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** Is there a policy / program on the inspection and cleaning of the magnets or other apparatus in the magnetic separation / detection equipment? (2 points)**D -** Is there a policy / program on the inspection and cleaning of the fractionating equipment? (2 points)**D -** Do documents:* specify a maximum safe thermal limit in piled materials (excluding logs) of 60C or less. (1 point)
* specify a warning limit of 40C followed by a 10C rise in 24 hours, or a more stringent limit. (1 point) (N/A if no piles)
* indicate that the spark detection system has multiple spark detection that will shut down the equipment if limits are exceeded, (1 point)
* describe how the feed of materials into the dryer is monitored and interlocked to shut off or divert heat from the burner (if a burner is used) if the feed of material is interrupted. (1 point)

**D -** Is there a policy / program for waste removal from site, including maximum on-site limits, transfer of waste material to the transport equipment and covering of the load. This applies to all waste, including garbage, recycling and process wastes, whether solid or liquid. (2 points)  |
| Audit Note:  |
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| Recommendation: |
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| 4.2 | Has the facility implemented housekeeping controls for combustible wood dust hazards? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0,10** | **0-10** | **0-10** | **/30** |
| **O -** Observe if the primary method of dust cleanup is acceptable (as determined from time to time by WPAC) and effective.Observe the facility Housekeeping over time to determine if the established standards are being met (average < 1/8” over 5% of the area). Areas to consider include:

|  |  |
| --- | --- |
| * Hydraulic Units
* Basements
* Conveyors (head & tail spools).
* Horizontal Surfaces
* Ducts
* Pipes
* Motors/Drive units
* Unused Buildings
 | * Hoods
* Beams
* Ledges
* Suspended Ceilings
* Behind Switch Gear
* Electrical Rooms
* Mobile Equipment
* Office Areas
 |

Note: ALL areas of the operation (i.e. all areas of the property) must be assessed for dust accumulations**D -** Check documentation for:* Housekeeping SWP that includes combustible dust identification, hazards and controls.
* Alternative clean up methods that minimize wood dust disbursement (brooms, air/water wands, vacuuming)
* SWPs for using compressed air (and/or prohibition of compressed air use).
* A documented risk assessment process for the use of compressed air (in excess of 15 psi).
* Established Housekeeping Standards (no more than average 1/8” over 5% of the compartment area).
* Dedicated Clean Up Crews / resources
* Housekeeping Frequencies established for:
	+ Floors
	+ Horizontal Surfaces
	+ Equipment
	+ Ducts
	+ Pipes
	+ Hoods
	+ Beams
	+ Ledges
	+ Suspended Ceilings
* Housekeeping Logs
* Mobile equipment used for fibre handling has daily records of inspection for cleanliness and/or cleaning.

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| **I -** Interview employees (Managers, Supervisors and Workers) to determine if housekeeping controls have been implemented. 0-10 points based on % positivePotential Interview Script:What housekeeping procedures are in place to control combustible wood dust hazards? |

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| Audit Note:  |
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| Recommendation: |
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| 4.3 | Are primary machine centres managed for dust accumulation and ignition sources? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-5** |  |  | **/5** |
| O - Are passive containment controls in place (and are effective) at major machine centres (pelletizers, hammer mills, dryers, packagers, etc.) such as:Is debris diverted away from potential ignition sources such as high speed bearings and electrical motors?Are non-combustible partitions, buildings, rooms or other type of enclosures provided to prevent wood dust from drifting into other areas?Award up to 5 points based on % of situations that are effectively controlled. |
| Audit Note:  |
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| Recommendation: |
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| 4.4 | **Are conveyors managed to reduce hazards?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-5** |  |  | **/5** |
| **O -** Observe the conveyors for:* Slides, baffles or ramps at transfer points to guide material (to minimize drops).
* Speed of the conveyor (move material at a controlled speed).
* Enclosed conveyors that have a potential for high dust concentration been identified and proper controls implemented for the hazards such as a dust collection system or mister.
* Belt scrapers provided on conveyors at the tail spools or other location or other devices to prevent spillage or buildup that could cause the conveyor to malfunction.
* Conductive belting for dry material (planer shavings, sawdust, etc.).
* Effective magnetic separation and/or other metal detection process at the in-feed to any process (fractionating equipment – hammer mill, hogger).
* Rock drops and/or other means of removing non-ferrous contaminants are present.

Award up to 5 points based on % of situations that are effectively controlled. |
| Audit Note:  |
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| Recommendation: |
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| 4.5 | **Are construction features present to reduce the risk of fire and explosion?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-10** |  |  | **/10** |
| **O -** Observe the buildings for:* Building design features that utilized/ incorporated to complement housekeeping and reduce dust accumulations.
* Rooms and buildings with potential for combustible dust explosion been correctly identified and controlled? Examples could include chipper, screener, hog, pelletizer or packager enclosures.
* Interior surfaces of the building designed to facilitate cleaning (high gloss paint, enclosed walls).
* Structural steel members with ledges and horizontal surfaces boxed in or enclosed.
* Enclosed areas fully sealed to prevent dust from entering the enclosure.
* Windows, ledges, girders, beams and other horizontal surfaces including light fixtures provided with sharply sloped surfaces (40º—60º) to minimize dust deposits.
* Primary manufacturing buildings are of non-combustible construction

Award up to 10 points based on % of situations that are effectively controlled. |
| Audit Note:  |
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| Recommendation: |
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| 4.6 | **Are misting / fogging systems present and operational?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-5** | **0-5** |  | **/10** |
| The question is not applicable if there is no misting system in the design **O -** Observe the misting systems for:* Impacts of the water mist on surrounding areas and equipment.
* Effects on the ventilation systems (caking, fouling).
* Operation during winter months.
* Exposure to workers (potable water).

Award up to 5 points based on % of situations that are effectively controlled.**D -** Check documentation for:Analysis of misting systems for the development potential hazards such as caking, fouling and wet dust on electrical systems.Have the impacts of misting systems on the effectiveness of the ventilation systems been analyzed to ensure that additional moisture will not cake or foul the duct work?Award up to 5 points based on the completeness of the risk assessments. |
| Audit Note:  |
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| Recommendation: |
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| 4.7 | **Are pneumatic conveyance systems managed effectively?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-10** |  |  | **/10** |
| **O -** Observe the pneumatic conveyance systems for:1. Appropriate enclosures to contain dust.
2. Effectiveness of the system.
3. Location of the equipment located outside away from buildings where applicable
4. Separate ventilation system for the removal of welding or maintenance shop air to ensure sparks are not collected by a system conveying wood dust.
5. Location of explosion venting to ensure employee safety.
6. Spark detection,
7. Abort gates,
8. Deluge system,
9. Explosion vents
10. Backdraft dampers

Award up to 10 points based on % of situations that are effectively controlled. |
| Audit Note:  |
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| Recommendation: |
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| 4.8 | **Are bag houses and / or cyclones managed effectively?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-7** | **0-2** | **0,1** | **/10** |
| **O -** Observe Bag Houses and/ or cyclones for:* Protection Equipment (sprinkler protection, heat/spark detection, abort gates).
* Deflagration Venting/Isolation (explosion venting).
* Preventative Maintenance (for deflagration Venting).
* Correct labelling of hazards (explosion vents).
* Correct directing of vents (away from doors or outside operating areas)
* Grounding of Equipment
* Duct from the cooler to the bag house / cyclone contains a high speed abort gate.

Are cyclones or bag house type collectors that are connected to process equipment with a potential to produce sparks or embers;* Equipped with an approved spark detection system
* Equipped with an approved sprinkler system both above and below the collector bags
* Equipped with a high-speed abort gate
* Provided with counterweighted back draft dampers on in-feed duct work
* Provided with explosion-relief panels directed away from buildings where personnel congregate

Award up to 7 points based on % of situations that are effectively controlled.**D -** Check documentation for:* Annual Inspection.(1 point)
* Frequency of inspections/testing (bags, PMs, grounding of bags, high speed aborts gates).(1 point)

**I –** If at least 70% of interviewed qualified maintenance staff / contractors support the frequency of PM’s and maintenance, award 1 pointPotential Interview ScriptCan you explain how the bag house bags are inspected and maintained? |
| Audit Note:  |
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| Recommendation: |
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| 4.9 | **Are storage silos and bucket elevators managed effectively** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-5** | **0-5** |  | **/10** |
| **O -** Observe storage silos and bucket elevators for:* Explosion Venting
* Grounding
* Sprinklers (or quick connects)
* Temperature Monitoring
* Electrical monitoring for belt slippage/rotation/belt alignment (with interlocks of system).
* Silos are all located outside of manufacturing building and provided with a clear space of at least 10m on all sides for firefighting efforts.
* Explosion-relief venting at the top of the silos that is directed away from buildings or where personnel congregate.
* Cold air intake
* Abort system on pellet input
* A clear display in the control room indicating temperature of the silo that will both audibly and visually alert the operator and automatically stop the process in-feed to each affected silo (for all silos),

Award up to 5 points based on % of situations that are effectively controlled.**D -** Review documentation form:For documentation specifying a maximum safe limit of 60C or less award 3 points. If the program documents specify a warning limit of 40C followed by a 10C rise in 24 hours, or a more stringent limit award 2 more points. |
| Audit Note:  |
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| Recommendation: |
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| 4.10 | **Are electrical systems managed effectively** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-10** | **0-10** |  | **/20** |
| **O -** Observe Electrical Systems for:* Accumulations of combustible wood dust inside switch gear. **(Safety Note – observation will require arc flash precautions)**
* Accumulations of combustible wood dust inside electrical rooms.
* Positive pressure for switch gear enclosures and electrical rooms (with clean outside air).
* Electrical rooms are separated from the main manufacturing area
	+ The separation is a 2 hour fire rated enclosure on all walls, floor, ceiling and self-closing doors as applicable, (provided that no electrical room door was found to be blocked or left open).
* Electrical wiring, fittings and other devices are properly sealed and maintained (i.e. no open electrical boxes, no connections outside of junction boxes, no frayed wires, no portable heaters in manufacturing areas, etc.).
* Programmable logic controllers (PLC) are used for operations and monitoring.
* Adequate grounding and bonding.
* Appropriate protection/guarding on electrical components.
* Circuit protection devices installed on critical electrical components and equipment.

Award up to 10 points based on % of situations that are effectively controlled.**D -** Check documentation for:* Regular Inspections (thermal imaging, PMs, cleaning of all switch gear, spark detection and suppression systems) according to manufacturer’s recommendations.
* Annual permit inspection from BC Safety Authority
* Documented risk assessment prior to performing cleaning activities on switch gear.
* External thermal imaging conducted by a competent person on the required semi-annual formal inspection. An example of competent person would be a level 1 thermographer as per ITC or equivalent.
* Action plans to address ‘hot spots’ are completed in a timely manner.
* Calibration and testing of switch gear (megger testing) every 3 years by a qualified electrician.
* Electrical wiring and lighting is marked for use as per National Electrical Code and NFPA 70, Enclosed location – Class II, Division II, Group G
	+ Exterior location – see National Electrical Code for exact application
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| Audit Note:  |
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| Recommendation: |
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| 4.11 | **Are fibre piles managed effectively?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-5** | **0-5** |  | **/10** |
| **O -** Observe for:* All raw fibre (shavings, hog fuel, sawdust, logs or other wood) is stored in piles or a building, structure or silo that is 30m or more away from all other major buildings and does not impede emergency access to the site.
* Fibre piles are less than 150m long, 100m wide and 20m tall.
* All raw material bins, piles, structures or silos separated by a distance of not less than 10m.
* Buildings and silos used for dry fibre storage are equipped with automatic sprinkler or other fire suppression system.
* Volume, size, cover and location conform to regulation and permits.

Award up to 5 points based on % of situations that are effectively controlled.**D –** Check documentation for* Regular inspections (5 points)
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| Audit Note:  |
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| Recommendation: |
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| 4.12 | **Is mobile equipment managed effectively?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-5** | **0-5** |  | **/10** |
| **O -** Observe for:* Accumulations of dust inside mobile equipment moving parts and on hot surfaces.

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| * Approved automatic extinguishing systems on engine and hydraulic components.
 |
| * Equipment not left unattended or parked in fibre storage area.

Award up to 5 points based on % of situations that are effectively controlled.Auditor can observe for best practices such as:

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| * Protected wiring, air operated starting, enclosed batteries installed.
 |
| * Water cooled system installed on manifold and muffler.
* Installation of reversing engine fan.
* Ceramic coating or insulation on turbos.
* Extra manual extinguishers mounted and in working order.
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| **D -** Check documentation for:* Evidence of frequent inspection, maintenance and cleaning. (5 pt)
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| Audit Note:  |
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| Recommendation: |
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| 4.13 | **Are fire systems effective?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-10** |  |  | **/10** |
| **O -** Observe for:* All primary and support buildings are sprinkler protected.
* Fire hose stations are provided throughout the interior of production buildings.
* Fire hydrants (private or municipal) spaced not less than 100m apart and 100m from manufacturing buildings, storage silos and fire storage piles.
* Fire pumps are approved (UL or FM) pumps with either dual system (electric driver and diesel driver) or electric with an on-site diesel generator to provide a backup power supply. (Fire pumps are required for private water supplies or where specified by the qualified engineer who provided the water supply volume calculation.)
* A fire dump or other safe area provided for the purging of dryer contents if high temperature limit switches are exceeded. (The area must be a location where pedestrians are excluded by physical design (elevation, barriers, etc.) or by administrative controls (signage).)

Award up to 10 points based on % of situations that are effectively controlled. |
| Audit Note:  |
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| Recommendation: |
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| 4.14 | **Are fire water systems appropriately managed?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** Check documentation for (2 points each up to a maximum of 10 points):* The water supply volume calculation, as performed by a qualified engineer, is sufficient to satisfy the hydraulic demands of the sprinkler system and the hose stream allowance.
* If there is documentation to show that the water supply has a minimum duration of 90 minutes. (The duration must be for both the sprinklers and the hose stream allowance simultaneously. Public utility water connections are to be considered as sufficient unless documentation to the contrary exists. Private water supplies (fire reservoir, lake, pond, etc.) must have documentation on site.)
* If there are records showing that the fire pump (whether diesel or electric) is started weekly in at least 90% of the weeks in the scope of the audit and the records indicate the date, result, and identify the personnel performing the test.
* If there are records showing that the fire pump annual performance test has been performed by a qualified person in the last calendar year.
* If the annual sprinkler system testing and service was performed by a qualified person in the last calendar year.

Verifying that this has been checked by the insurance carrier is sufficient. |
| Audit Note:  |
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| Recommendation: |
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| 4.15 | **Is the backup generator effective?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-10** |  |  | **/10** |
| **O -** Observe for:* A backup generator or independent power source must exist for 2 points
* The generator must be able to maintain the drum rotation drive if a drum dryer is used for 4 points. Not applicable if there is no drum dryer.
* The generator must be able to supply air and power to the cooler(s) if air supplied coolers are used for 4 points. Not applicable if there are not air supplied coolers.
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| Audit Note:  |
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| Recommendation: |
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| 4.16 | **Is fibre sizing equipment effectively managed?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-10** |  |  | **/10** |
| **O -** Observe for:* The fractionating equipment is either located outside the main manufacturing facility, or Isolated in a 2 hour fire enclosure within the main plant.
* The equipment AND the ductwork leading from the equipment has explosion-relieving panels that vent to the exterior of the building in an area or location where pedestrians are excluded by physical design (elevation, barriers, etc.) or by administrative controls (signage).
* Rock traps and magnets
* Spark detection and abort systems
* Fire suppression (at the post hammer mill duct work or conveyor system)

Award up to 10 points based on % of situations that are effectively controlled. |
| Audit Note:  |
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| Recommendation: |
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| 4.17 | **Is the fibre drying system managed effectively?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-5** | **0-5** | **0-5** | **/15** |
| **O -** Observe for:* Fibre drying abort gate location to minimize risk to employees or of fires
* Spark detection
* Fire suppression
* Temperature monitoring

Award up to 5 points based on % of situations that are effectively controlled.**D -** Document – spark detect log, PM of detectors, alarm logs (aborts, deluges, etc.) records showing the duct work after the dryer is inspected for creosote buildup and cleaned on a quarterly basis Award up to 5 points based on % of situations that are effectively controlled.**I-** can all qualified operators describe a cleaning frequency and method that is at least quarterly and compliant with operating instructions. Include PM of spark detection.Interview with operator: Programming failsafes built into the operating software (max temp threshold, sparks, pressures, etc.)Potential Interview ScriptHow often is the fibre drying ductwork cleaned? |
| Audit Note:  |
|  |
| Recommendation: |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 4.18 | **Is pelletizing equipment effectively managed?** | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
| **0-10** | **0-5** |  | **/15** |
| **O -** Observe for:* A reserve hopper for either each press or for all presses equipped with both high and low level material sensors.
* Automated lubrication systems or PM schedule
* Magnets on the infeed for foreign materials
* Spark detection between the pelletizer and cooler
* Isolation or abort systems
* Temperature monitoring
* All coolers vent to atmosphere outside the building (or to a cyclone) in a safe location. (The system must not capture residual heat for use anywhere else in the process or for seasonal heating.)

Award up to 10 points based on % of situations that are effectively controlled.**D -** Check documentation for:* For control room pelletiser readouts including load sensors or electrical current monitoring with both high and low limits, (2 points)
* For documentation showing that 100% of any additives used in the pelletizing process have an ignition temperature above the maximum operating temperature of the press. (1 point – not applicable if there are no additives)
* If documentation shows that 100% of any liquid die cleaners (ie diesel fuel, waste oil, vegetable oil, etc.) used in the pelletizing process have an ignition temperature above the maximum operating temperature of the press. (1 point – not applicable if there are no liquid die cleaners)
* If there is a clear display in the control room indicating temperature of the cooler that will alert the operator and automatically stop the process in-feed and out-feed from each affected cooler (1 point)
 |
| Audit Note:  |
|  |
| Recommendation: |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 4.19 | Are Preventative Maintenance records kept? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  | **0-10** |  | **/10** |
| **D -** Check documentation for (1 point each):* A formal preventative maintenance program.
* Method to track repairs or action plans.
* Inspection of friction producing equipment (bearings, conveyor spools, belt drives).
* Vibration Analysis (in-house or by a 3rd party).
* Thermal Imaging and/or Temperature Monitoring for large motors or high speed bearings

**D -** If maintenance records support that spark detection and suppression systems are inspected, cleaned and tested internally by trained personnel on a regular basis in accordance with the manufacturer’s instructions. If there are records showing that all annual inspections and tests of (1 point each)* Spark detection systems
* Spark suppression systems
* Back draft dampers
* High speed abort gates

**D -** If all tests are performed by a qualified person award 1 point. |
| Audit Note:  |
|  |
| Recommendation: |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 4.20 | Do critical processes have an automatic sequential shut down? | **O** | **D** | **I** | **Total** |
|  |  |  | **0** |
|  |  | **0,5** | **/5** |
| **I -** Do all interviewed qualified operators correctly describe the automatic sequential shut down of process equipment and activation of audible and visual alarms. Potential Interview ScriptExplain how the automatic shutdown process works for the equipment)? |
| Audit Note:  |
|  |
| Recommendation: |
|  |

**Company Profile**

Only complete this if **NOT** simultaneously performing a BASE audit

Complete all fields – an incomplete NOAA cannot be processed

|  |  |  |
| --- | --- | --- |
| Company’s audit due date: | **This form is a Pre-Audit NOAA** | [ ]  |
|  | **This form is a Post-Audit NOAA** | [ ]  |
| 1. **Type of Audit** – check all that apply (double-click each box to activate)
 |
| [ ]  | Certification | [ ]  | Student | [ ]  | Verification | [ ]  | Administrative  |
| [ ]  | Maintenance | [ ]  | Gap Analysis | [ ]  | IM/RTW  | [ ]  | Limited Scope |
| [ ]  | Recertification | [ ]  | Teamlist members in sec I. | [ ]  | A.M.A.P. yr 1 | [ ]  | Phased – part  |  | of |  |
| [ ]  | A.M.A.P. yr 2 |
| [ ]  | Combined – Must use Joint NOAA | [ ]  |  | [ ]  | W.I.V.A. | [ ]  | Targeted Operations (Dust Only – not SAFE or COR) |
| [x]  | Dust: | [ ]  | Version 4 | [ ]  | Internal  | [ ]  | External |
| 1. **Company Information**
 |
| Legal Company Name: | Company Trade Name/*dba*: |
|  |  |
| WorkSafeBC account: | SAFE Certification #: |
|  |  |
| Mailing Address: | City: | Province: | Postal Code: |
|  |  |  |  |
| Street Address: (if different from mailing address) | City: | Province: | Postal Code: |
|  |  |  |  |
| Company Contact: | Position: |
|  |  |
| Phone: | Email: |
|  |  |
| 1. **Audit Period**
 |
| **Complete estimated for pre-audit.** **Complete both for post-audit.** | **Start Date** | **Date of last data collection** | **Report Submission Date** |
| **Estimated** |  |  |  |
| **Actual** |  |  |  |

1. **Personnel Count**

|  |
| --- |
| Total personnel count per month for last 12 months: (Total = owners + management + supervisors + workers + workers of dependent contractors) |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Year(yyyy) |  |  |  |  |  |  |  |  |  |  |  |  |
| Month(mmm) |  |  |  |  |  |  |  |  |  |  |  |  |
| Count |  |  |  |  |  |  |  |  |  |  |  |  |
| [ ]  | Attach an Organizational Chart or other description of the structure of the company. |

1. **Lead Auditor Information**

|  |  |
| --- | --- |
| Audit Completed by:  | Auditor Number (or ‘Student’): |
| Lead |  |
| Lead auditor email: | Lead auditor cell: |
| Team |  |
| Team |  |

1. **Host Personnel Information**

|  |
| --- |
| **Accompanied by Company Representative(s) / Hosts** |
| Name:  |  |  |  |  |  |
| Occupation: |  |  |  |  |  |

1. **Scope of audit**

| List all WorkSafeBC CUs, their fixed locations, and operating sites. Indicate if work activity is intended (pre-) and actually present in the audit.If the company contact is unsure of their CUs or locations, please contact the BC Forest Safety Registrar.Insert additional rows above the total line if necessaryTotal interviews performed are automatically calculated with <CTRL-A><f9> (or when opening or printing) |
| --- |
| **C U** | **LOCATION**WSBC fixed location name or address(list separately for each CU) | **SITE**Audit site name (if more than one site per location) | **COUNT** Total personnel at each site | Sites selected for visit | Number of personnel interviewed for current audit | Scheduling for current audit |
| This year | 1 yr ago | 2 yrs ago | 3 yrs ago | Pre-NOAA =  *planned* Post-NOAA = *actual*  | Auditor Initials | Start Date | End Date |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
|  |  |  |  | [ ]  | [ ]  | [ ]  | [ ]  | M |  | S |  | W |  |  |  |  |
| Maximum count from table D on previous page: |  | Total interviews |  | M | 0 | S | 0 | W | 0 |  |  |  |
| Minimum interviews required for count on line above based on table I on following pages: |  | % of total interviews that are worker interviews: |  | Min 80% worker interview target |

|  |
| --- |
| Comments, notes, descriptions regarding sampling plan (pre- or post-): (Attach additional pages for proposals for and/or outcomes of special time frames, unique sampling protocols, etc. This space can be used on the post-audit form for justifying why a particular plan was not met. |
|  |
| Describe the overall scope (nature and type) of the company’s activities. Include reference to the company’s locations as they relate their WorkSafeBC Classification Unit(s) making mention of locations and sites included in this audit: |
|  |
| Locations visited (post audit only): |
|  |
| Occupations observed (post-audit only): |
|  |
| Observed company activities on day(s) of audit (post-audit only): (i.e. full operations, maintenance shut down, night clean up, etc.) |
|  |
| Interview sampling description and count (i.e. 2 owners, 1 mechanic, 3 operators, 2 truckers, etc.) (post-audit only): |
|  |

1. **Minimum Interview Table**

The minimum number of interviews required for an audit is based on the annual monthly peak value for staff count in the 12 months before the audit. The staff count is equal to the total number of personnel in the company, including owners, management, supervisors, field personnel, office personnel, shop personnel and the total staff of dependent contractors. This applies whether they are permanent or temporary and counts each unique person rather than as full time equivalents. Two people each working half time count as 2 (not 1) staff.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Total Staff** | **Minimum Interviews** |  | **Total Staff** | **Minimum Interviews** |  | **Total Staff** | **Minimum Interviews** |
| <5 | all |  | 234-240 | 35 |  | 560 | 66 |
| 5 | 4 |  | 241-249 | 36 |  | 561-570 | 67 |
| 6-7 | 5 |  | 250-299 | 37 |  | 571-580 | 68 |
| 8 | 6 |  | 300-302 | 38 |  | 581-595 | 69 |
| 9 | 7 |  | 303-309 | 39 |  | 596-605 | 70 |
| 10-11 | 8 |  | 310-312 | 40 |  | 606-615 | 71 |
| 12-14 | 9 |  | 313-315 | 41 |  | 616-625 | 72 |
| 15-16 | 10 |  | 316-320 | 42 |  | 626-638 | 73 |
| 16-17 | 11 |  | 321-325 | 43 |  | 639-645 | 74 |
| 18-20 | 12 |  | 326-329 | 44 |  | 646-655 | 75 |
| 21-24 | 13 |  | 330-332 | 45 |  | 656-665 | 76 |
| 25-27 | 14 |  | 333-335 | 46 |  | 666-678 | 77 |
| 28-30 | 15 |  | 336-338 | 47 |  | 679-689 | 78 |
| 31-36 | 16 |  | 339-341 | 48 |  | 690-699 | 79 |
| 37-44 | 17 |  | 342-348 | 49 |  | 700-705 | 80 |
| 45-49 | 18 |  | 349-354 | 50 |  | 706-719 | 81 |
| 50-64 | 19 |  | 355-359 | 51 |  | 720-729 | 82 |
| 65-74 | 20 |  | 360-364 | 52 |  | 730-740 | 83 |
| 75-88 | 21 |  | 365-369 | 53 |  | 741-749 | 84 |
| 89-99 | 22 |  | 370-374 | 54 |  | 750-790 | 85 |
| 100-120 | 23 |  | 375-379 | 55 |  | 791-840 | 86 |
| 121-149 | 24 |  | 380-389 | 56 |  | 841-959 | 87 |
| 150-199 | 25 |  | 390-399 | 57 |  | 960-1000 | 88 |
| 200-204 | 26 |  | 400-475 | 58 |  | 1001-1499 | 89 |
| 205-209 | 27 |  | 476-499 | 59 |  | 1500-1800 | 90 |
| 210-212 | 28 |  | 500-509 | 60 |  | 1801-2500 | 91 |
| 213-214 | 29 |  | 510-519 | 61 |  | 2501-4000 | 92 |
| 215-220 | 30 |  | 520-529 | 62 |  | 4001-4999 | 93 |
| 221-222 | 31 |  | 530-539 | 63 |  | 5000-9999 | 94 |
| 223-226 | 32 |  | 540-549 | 64 |  | 10000-24999 | 95 |
| 227-230 | 33 |  | 550-559 | 65 |  | 25000+ | 96 |
| 231-233 | 34 |  |  |  |  |  |  |

1. **Post Audit Signatures**

Complete and submit with your post-audit NOAA. Leave blank for pre-audit NOAA

|  |  |
| --- | --- |
| [ ]  | **Company Management Representative (for internal and external audits)** I hereby acknowledge that I have provided true and accurate information to the auditor to the best of my abilities and agree that the audit sampling was completed as stated above.Marking the box to the left of this text block and applying my name by any means in ‘signature’ constitutes signing |
| Name | Signature (optional manual or electronic) | Date |
|  |  |  |
|  |
| [ ]  | **External Auditor** I affirm that I have read, understood, and agree to abide by the terms and conditions of the British Columbia Forest Safety Council Auditor Code of Ethics. I have not violated the Auditor Code of Ethics during this audit, and have not received any economic benefit from OH&S consulting activities from this company in the 36 months preceding the audit. In addition, I have not been in a position which could be perceived as a conflict of interest by either the current BASE Auditor Manual or the current COR Standards and Guidelines.Marking the box to the left of this text block and applying my name by any means in ‘signature’ constitutes signing. |
| Name | Signature (optional – manual or electronic) | Date |
|  |  |  |
|  |
| [ ]  | **Internal Auditor**I affirm that* I have not violated the Auditor Code of Ethics during this audit;
* I have done my best to be objective in conducting this audit
* I have followed the current BASE Auditor Manual.
* I am a permanent employee of the company

Marking the box to the left of this text block and applying my name by any means in ‘signature’ constitutes signing |
| Name | Signature (optional – manual or electronic) | Date |
|  |  |  |

1. **Submission**

|  |
| --- |
| Submit completed final audit report via: <http://app.bcforestsafe.org/upload/>  |

# Outcome

(Completed by BCFSC reviewer)

Based on the contents of this audit report, the following result and score is awarded by BC Forest Safety:

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | **Results** | **Score – Dust** | **Company Status** |
| Pellet Dust Addendum | **Certification** **Probationary Certification** **Endorsement** **Limited Scope** **Not Successful** | **0%** | **[ ]**  | **Green****Yellow****Red** |

|  |  |  |
| --- | --- | --- |
| **Component** | **Scope of Operations Certified** | **Other conditions** |
| Limitations | **List multiple sites if applicable** | **(these are examples)** **(name) site only****Excludes (activity)** |