Astute Machinery Consultants

Provision and Use of Work Equipment Regulations Assessment Report

for the

Rayovac Site Wide PUWER

Centrifuge No 6

on behalf of

Ross Bradley | Rayovac Energizer | Washington

Proposal Number: 26067

Date: 03 Jun 2026

This document and its contents are copyright of Astute Machinery Consultants. The client shall be entitled to use and copy it only for the work and purpose for which it is intended.

Client:

Rayovac Energizer
2 Stephenson Road
Washington
NE37 3HW

AMC Consultant:

Alastair Laurenson

Date of Assessment:

07 Sept 2026

Revision History:

Initial Draft:	Alastair Laurenson	**Date:**	08 Sept 2026
Reviewed By:	Jim Davis	**Date:**	01 Oct 2026
Issued to Customer:	Alastair Laurenson	**Date:**	03 Oct 2026

Project Details:

Project Name:	Rayovac Site Wide PUWER

Machine Details:

Machine Name:	Centrifuge No 6
Equipment Type:	Centrifuge
Manufacturer:	Renzacci
Year of Manufacture:	2010
Asset ID:	0129
Serial Number:	01437
Area:	Cell Assembly Area
Location:	Ground Floor
Supply Voltage:	415
Control Voltage:	24vac

Machine Basic Description:

The machine is a powered process centrifuge used in the manufacture of zinc-air hearing aid (button) cells. It rotates product at high speed within an enclosed bowl or basket so that centrifugal force acts on the charge — typically to de-aerate and homogenise the gelled zinc anode paste, or to separate and dewater/dry zinc powder or remove excess potassium hydroxide electrolyte, depending on the stage of the line it serves.

Machine Certification:

Machine has a CE Mark.

Scope of the Regulations:

The Provision and Use of Work Equipment Regulations 1998 came into force on 5th December 1998.

In these regulations, the term the '1974 act' refers to the UK Health and Safety at Work Act 1974.

The regulations apply to employers, persons having control of work equipment, persons who supervise and manage work equipment, and the self-employed in respect of the equipment they use at work.

All work equipment used by employees at work falls within the scope of "work equipment". For the purposes of this assessment "work equipment" is generally taken to mean machinery or combinations of machinery (complex assemblies / production lines).

Definitions:

New Work Equipment: Items of work equipment first provided for use from 5th December 1998 will need to meet the requirements of PUWER 98.

Second Hand Work Equipment: When existing work equipment is sold by one company to another, and it is brought into use by the purchasing company from 5th December 1998 it becomes new work equipment and must also meet the requirements of PUWER 98.

Work Equipment: Any machine, apparatus, tool, or installation used at work.

Use of Work Equipment: Any activity involving work equipment such as starting or stopping the equipment, its use, transport, repair, modification, maintenance, and servicing, and cleaning.

Danger Zone: Any zone within and/or around work equipment in which an exposed worker is subject to a risk to his health or safety.

Exposed Worker: Any worker wholly or partially in a danger zone.

Operator: The worker or workers given the task of using work equipment.

General:

Regulations 3 – 9

Place defined responsibilities on management to complement the requirements which are covered under the Health and Safety at Work Act 1974 and The Management of Health and Safety at Work Regulations 1999.

These regulations require site policies and procedures to be formulated and implemented to ensure that work equipment is safe for use and adequate measures are in place to ascertain the health and safety of employees whilst at work to the requirements of PUWER 98.

Regulation 4 requires employers to ensure that:

- The work equipment is suitable for the intended use.
- They assess the risk to the health and safety of the persons using the work equipment.
- Consider the working conditions in the premises and any additional risk posed using that equipment.

Regulation 5 requires employers to ensure that:

- That the work equipment is maintained in an efficient state, in efficient working order, and in good repair.
- Where the machinery has a maintenance log, they must ensure that it is kept up to date.

Regulation 6 requires the employer:

To ensure that where the safety of work equipment depends on the installation conditions, to ensure that it has been installed correctly and is safe to operate the work equipment is inspected:

- After installation and before being put into service for the first time.
- After assembly at a new site or in a new location.

The employer must also ensure that work equipment exposed to conditions causing deterioration which is liable to result in dangerous situations, and to ensure that the health and safety conditions are maintained, and that any deterioration can be detected and remedied in good time is inspected at:

- Suitable intervals and:
- Each time that exceptional circumstances which are liable to jeopardise the safety of the work equipment have occurred.
- Any such inspection must be carried out before any equipment leaves the premises or undertaking.
- If the equipment is obtained from another source or supplier, it must not be used unless accompanied by physical evidence from the source or supplier that the last inspection required has been carried out.

Regulation 7 requires that the employer:

Must ensure that where the use of work equipment is likely to involve a specific risk to health and safety that:

- The use of the equipment is restricted to those persons suitably trained to use the equipment and specifically given the task of using it.
- Repairs, modifications maintenance or servicing is restricted to persons specifically designated to perform these tasks, and that they have received adequate training to carry out the tasks.

Regulation 8 requires that the employer and his supervisors and managers of work equipment:

Must ensure that all persons who use work equipment have available to them adequate health and safety information and where appropriate, written instructions to the work equipment that are comprehensible to all those concerned. The information where appropriate shall include:

- The conditions in which and the methods by which the work equipment may be used.
- Foreseeable abnormal situations and the action to be taken if such a situation were to occur.
- Information from any conclusions to be drawn from experience of using the work equipment.

Regulation 9 requires that the employer:

Shall ensure that his supervisors and managers of work equipment, and all persons who use the work equipment have received:

- Adequate training for purposes of health and safety, including methods to be adopted when using the work equipment.
- Any information as to the risks which the use of the equipment may entail.
- All precautions to be taken when using the equipment.

Regulations 10 – 24.

Regulation 10 covers the initial integrity of machines (in most cases), and requires that the employer:

- Must ensure that an item of work equipment conforms at all times with any 'essential safety requirements', other than requirements which at the time of it being first supplied or put into service in any place which these regulations do not apply.

Regulations 11 – 24 cover the specific essential compliance requirements of machinery in the workplace.

Summation:

The regulations 3 to 24 can be summarised as follows:

Management Implemented Health and Safety Policies and Defined Procedures:

Regulation 3	Application
Regulation 4	Suitability of Work Equipment
Regulation 5	Maintenance
Regulation 6	Inspection
Regulation 7	Specific Risks
Regulation 8	Information and Instructions
Regulation 9	Training

Essential Safety Requirements of Machinery:

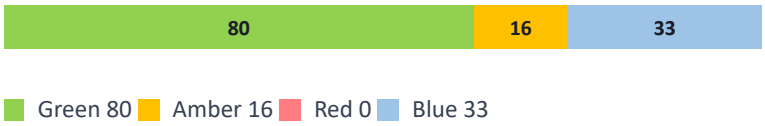
Regulation 10	Conformity with Community Requirements
Regulation 11	Dangerous Parts of Machinery
Regulation 12	Protection against Specific Hazards
Regulation 13	High or Very Low Temperature
Regulation 14	Controls for Starting or Making a Significant Change in Operating Conditions
Regulation 15	Stop Controls
Regulation 16	Emergency Stop Controls
Regulation 17	Controls
Regulation 18	Control Systems
Regulation 19	Isolation from Sources of Energy
Regulation 20	Stability
Regulation 21	Lighting
Regulation 22	Maintenance Operations
Regulation 23	Markings
Regulation 24	Warnings

The following checklist assesses the compliance of the work equipment under inspection to the requirements of Regulations 1–24 in accordance with the inspection requirements of Regulation 6.

SUPPLY VOLTAGE	CONTROL VOLTAGE	MANUFACTURER
415	24vac	Renzacci
YEAR OF MANUFACTURE		
2010		

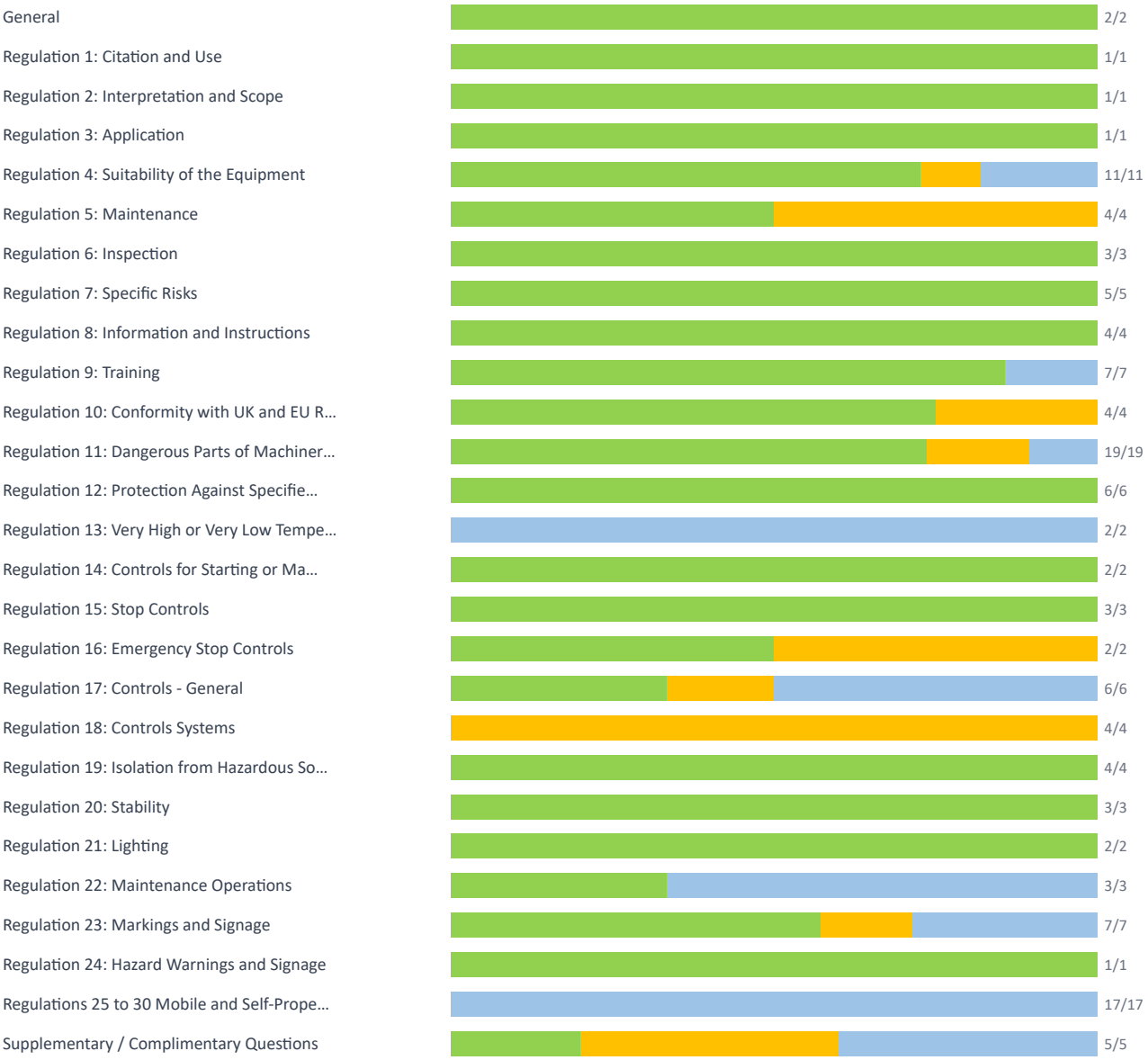
In Compliance (Green)	Non-Compliant (Red)	Action Required (Amber)	For Consideration (Blue)	Overall Compliance %
80	**0**	**16**	**33**	**83.3%**

STATUS BREAKDOWN



Green 80 Amber 16 Red 0 Blue 33

PER-REGULATION BREAKDOWN



General	Yes	No	N/A
1. Is there a current health and safety policy for the site?	✓		
Comments:			

General	Yes	No	N/A
2. Is there a responsible person for the health and safety policy?	✓		
Comments: ***Green:*** *The site responsible person is Myles Atkins.*			

Regulation 1: Citation and Use	Yes	No	N/A
3. Has the work equipment been brought into use by the company or owner / operator after 5th December 1998?	✓		
Comments:			

Regulation 2: Interpretation and Scope	Yes	No	N/A
4. Does the equipment come under the interpretation of work equipment as defined by PUWER 98?	✓		
Comments:			

Regulation 3: Application	Yes	No	N/A
5. Is the equipment specified in the PUWER 98 Regulations Section 3?	✓		
Comments:			

Regulation 4: Suitability of the Equipment	Yes	No	N/A
6. Is the equipment suitable by design, construction, or adaptation for the work it is provided to do in accordance with the manufacturer's specifications and instructions?	✓		
Comments:			
7. Have risk assessments been carried out on all work equipment?	✓		
Comments: ***Amber:*** *This was noted as work in progress*			
8. Is the equipment ergonomically well designed, positioned and located to reduce risks to the end user or operator of the equipment?	✓		
Comments:			
9. Have all ventilation requirements been considered and appropriate measures taken?	✓		
Comments:			
10. Have and are noise surveys assessments carried out?	✓		
Comments:			
11. Have and are lighting surveys / assessments carried out?	✓		
Comments:			

Regulation 4: Suitability of the Equipment	Yes	No	N/A
12. Are the confined space regulations applicable, and if so, have they been addressed, and the working procedures adequately documented?			✓
Comments:			
13. Are there any risks to personnel due to lone working, and if so, have they been addressed and working procedures adequately documented?			✓
Comments:			
14. Has the control of substances hazardous to health regulations (COSHH) been addressed correctly and are all necessary controls in place?	✓		
Comments:			
15. Are the COSHH assessments readily available to all persons concerned?	✓		
Comments:			
16. Where required under the COSHH assessments, is personal protective equipment (PPE) issued to the relevant personnel and is this adequately controlled?	✓		
Comments:			

Regulation 5: Maintenance	Yes	No	N/A
17. Has a formal maintenance system been implemented, either planned preventative or condition based for safety critical parts of work equipment?	✓		
Comments:			
18. Is the work equipment maintained in efficient working order and good repair?	✓		
Comments:			
19. Is there an authorised persons list stating who is competent to perform maintenance operations?	✓		
Comments: ***Amber:*** *This was noted as work in progress*			
20. Have all maintenance personnel received adequate training on health and safety and the safe use of work equipment?	✓		
Comments: ***Amber:*** *This was noted as work in progress*			

Regulation 6: Inspection	Yes	No	N/A
21. Are safety critical parts frequently checked and inspected for correct function?	✓		
Comments:			

Regulation 6: Inspection	Yes	No	N/A
22. Are work equipment safety inspection documents available, or is this the first inspection of the equipment?	✓		
Comments:			
23. Is the preventative maintenance log up to date?	✓		
Comments:			

Regulation 7: Specific Risks	Yes	No	N/A
24. Is use of the equipment restricted to those given the task of using it and trained to use it?	✓		
Comments:			
25. Are there safe working procedures in place for maintenance operations?	✓		
Comments:			
26. Is there adequate control over maintenance personnel moving from different departments or areas to ensure they are trained to maintain the work equipment in the other departments or areas?	✓		
Comments:			
27. Is there a permit to work system in place and are the working procedures adequately documented?	✓		
Comments:			
28. Is there a lock out / tag out policy and procedure and matrix in place for the safe isolation of work equipment from all hazardous energy sources?	✓		
Comments:			

Regulation 8: Information and Instructions	Yes	No	N/A
29. Are instruction manuals available for all work equipment where required?	✓		
Comments:			
30. Are there safe working procedures in place for use of the equipment where required?	✓		
Comments:			
31. Are written instructions on the safe use of work equipment available and are they understandable to the persons concerned?	✓		
Comments:			

Regulation 8: Information and Instructions	Yes	No	N/A
32. Are regular meetings held with employee's and / or employee representatives about any matters regarding Health and Safety?	✓		
Comments:			

Regulation 9: Training	Yes	No	N/A
33. Have operators received adequate training on health and safety and the safe use of work equipment?	✓		
Comments:			
34. Have supervisors received adequate training on health and safety and the safe use of work equipment?	✓		
Comments:			
35. Is there an authorised persons list as to who is competent to use the work equipment?	✓		
Comments:			
36. Is there adequate control over operators / personnel moving from different departments or areas to ensure they are trained to operate the work equipment in the other departments or areas?	✓		
Comments:			
37. Are there adequate controls in place for the prevention of young people (under the age of 18) being exposed to unnecessary risks?			✓
Comments:			
38. Are training records kept, and do they show the requirements for update and review and the person(s) responsible for training?	✓		
Comments:			
39. Is there adequate inductions and / or training for all employees including contractors, temporary employees / casual or agency workers, and visitors?	✓		
Comments:			

Regulation 10: Conformity with UK and EU Requirements	Yes	No	N/A
40. Was the machine first put into service after December 31st 1992?	✓		
Comments:			
41. Was the machine, regardless of age, placed for use in the EC after December 31st 1992?	✓		
Comments:			

Regulation 10: Conformity with UK and EU Requirements	Yes	No	N/A
42. Is the equipment UKCA or CE marked? *UKCA not applicable before 1st January 2022 and is optional from the 1st of August 2023. CE not applicable before 1st January 1993, mandatory after 1st January 1995; and mandatory for equipment first provided in the workplace after 5th December 1998 for PUWER 98.*	✓		
Comments:			
43. Is there a UKCA or CE Declaration of Conformity? *UKCA not applicable before 1st January 2022, and mandatory for equipment first provided in the workplace after 1st January 2023. CE not applicable before 1st January 1993, mandatory after 1st January 1995; and mandatory for equipment first provided in the workplace after 5th December 1998 for PUWER 98.*		✓	
Comments: ***Amber:*** *No DOC was available.*			

Regulation 11: Dangerous Parts of Machinery - Guards and Interlocks	Yes	No	N/A
44. Are measures taken to prevent access to danger zones?	✓		
Comments:			
45. Can the machine be stopped before a danger zone can be accessed?	✓		
Comments:			
46. Are fixed guards used?	✓		
Comments:			
47. Are other guards or physical safety related control system protection devices used?	✓		
Comments:			
48. If fixed guards or other guards and protection devices are not used, are “push sticks”, jigs, holders or other devices used to reduce risk?	✓		
Comments:			
49. Are the guards, protection devices and other devices provided suitable for the purpose intended?	✓		
Comments:			
50. Are the guards of good construction, sound material, and adequate strength?	✓		
Comments:			
51. Are the guards maintained in an efficient state, efficient working order, and in good repair?		✓	
Comments: ***Amber:*** *The guarding is missing fixings and not fitted correctly.*			

Regulation 11: Dangerous Parts of Machinery - Guards and Interlocks	Yes	No	N/A
52. Do the guards themselves create any additional risk to health and safety?		✓	
Comments:			
53. Is it possible to easily bypass or disable the guards?		✓	
Comments:			
54. Are the guards secured with appropriate fixings in accordance with the requirements of the Machinery Directive 2006/42/EC and EN 14120?		✓	
Comments: ***Amber:*** *The guarding is missing fixings and not fitted correctly.*			
55. Are the guards situated at a sufficient distance from the danger zone?	✓		
Comments:			
56. Is it possible to view of the operating cycle of the machinery where guards are in place where such a view is necessary?			✓
Comments:			
57. Do the guards allow operations necessary to fit and replace parts and for maintenance work, and in doing so do they restrict access so that it only allows access to the work area where possible without dismantling the guard or protective device?	✓		
Comments:			
58. Are appropriate measures adopted to stop people being trapped in the machine?			✓
Comments:			
59. Where fitted are interlocks positive acting?	✓		
Comments:			
60. Where fitted are interlocks correctly positioned for use, and both secured and located in such a way to actively prevent defeat?		✓	
Comments: ***Amber:*** *Interlocks are secured with hex style fixings. A number of Hex tools used for machine setting were located in and around the area.*			
61. Where fitted do the interlocks function correctly?	✓		
Comments:			
62. Where fitted are all safety related control system actuators, input devices or electronic sensitive devices adequate for their purpose, and are they of the correct type?	✓		
Comments:			

Regulation 12: Protection Against Specified Hazards	Yes	No	N/A
63. Is there protection provided against any article or substance falling or being ejected from work equipment?	✓		
Comments:			
64. Is there protection provided against rupture or disintegration of parts of the work equipment?	✓		
Comments:			
65. Is there protection provided against work equipment catching fire or overheating?	✓		
Comments:			
66. Is there protection provided against the unintended or premature explosion of the work equipment or any article or substance produced, used, or stored in it?	✓		
Comments:			
67. Is there protection provided against the unintended or premature discharge of any article, gas, dust, liquid, vapour, radiation, or other substance which is produced, used, or stored in the work equipment that is hazardous to health?	✓		
Comments:			
68. Where the protection provided does not fully protect the operator, is personal protective equipment (PPE) issued to the relevant personnel and is this adequately controlled?	✓		
Comments:			

Regulation 13: Very High or Very Low Temperatures	Yes	No	N/A
69. Are all touchable hot or cold surfaces adequately guarded?			✓
Comments:			
70. Where there is the possibility of hot or cold materials or substances being ejected, have adequate measures been applied to minimise the risk?			✓
Comments:			

Regulation 14: Controls for Starting or Making a Change in Operation	Yes	No	N/A
71. Is there a start control provided to start the work equipment (including restarting after a stoppage for any reason)?	✓		
Comments:			
72. Are controls provided to make a significant change in the operating conditions (speed, pressure, etc.) where after the change it results in a greater risk to health and safety?	✓		
Comments:			

Regulation 15: Stop Controls	Yes	No	N/A
73. Is the work equipment fitted with one or more readily accessible stop controls to bring it to a stop in a safe condition and in a safe manner?	✓		
Comments:			
74. When the hazardous parts of the work equipment have stopped, is the energy supply to the actuators concerned switched off where necessary?	✓		
Comments:			
75. Does the stop control have priority over the start control or any control that changes the operating conditions of the work equipment?	✓		
Comments:			

Regulation 16: Emergency Stop Controls	Yes	No	N/A
76. Is the work equipment fitted with one or more emergency stop controls where required?	✓		
Comments:			
77. Does the emergency stop control have priority over any other all other controls including the normal stop control?		✓	
Comments: ***Amber:*** *AMC were unable to test this during the inspection.*			

Regulation 17: Controls - General	Yes	No	N/A
78. Are all control devices clearly visible, identifiable, and appropriately marked by durable means for the environment in which they are located?		✓	
Comments: ***Amber:*** *Reset button is coloured red.*			
79. Are all control devices located outside danger zones excepting certain controls that are required within the danger zones i.e., robot teach pendants?	✓		
Comments:			
80. Where controls are required in danger zones are they only reduced speed, hold to run, or enabling devices, or are other safeguards in place?			✓
Comments:			
81. From the main control position, is the operator able to ensure that no person is present in the danger zone?		✓	
Comments:			

Regulation 17: Controls - General	Yes	No	N/A
82. If it is possible that a person could be in a danger zone, is an audible, visible, or suitable warning given in accordance with regulation 24 whenever the machinery is about to start?			✓
Comments:			
83. Where a person can be in the danger zone is there a means to prevent starting of the work equipment and / or a means of warning the operator of their presence?			✓
Comments:			

Regulation 18: Controls Systems	Yes	No	N/A
84. Are the control systems safe?		✓	
Comments: ***Amber:*** *There is no formal safety related control sytem fitted to the machine.*			
85. Are control systems chosen making due allowance for failures, faults and constraints that can be expected to occur in the planned use of the work equipment?		✓	
Comments: ***Amber:*** *There is no formal safety related control sytem fitted to the machine.*			
86. Does the control systems operation minimise any risk to health and safety?		✓	
Comments: ***Amber:*** *There is no formal safety related control sytem fitted to the machine.*			
87. Does the control system ensure that when faults or damage to any part of the control system, or a loss of supply of any form of energy does not lead to an increased risk to health and safety - as far as reasonably practicable, are they fail safe?		✓	
Comments: ***Amber:*** *There is no formal safety related control sytem fitted to the machine.*			

Regulation 19: Isolation from Hazardous Sources of Energy	Yes	No	N/A
88. Is it possible to isolate the work equipment from all its energy sources?	✓		
Comments:			
89. Are the means to isolate energy sources clearly identified by durable means and readily accessible (i.e., located between 0.6 and 1.9m above the service / floor level)?	✓		
Comments:			
90. Are all energy isolation devices lockable and are they capable of being locked off and tagged off?	✓		
Comments:			
91. When energy sources are reconnected, are risks to health and safety prevented?	✓		
Comments:			

Regulation 20: Stability	Yes	No	N/A
92. Is the work equipment stable or is it provided with facilities to make it stable?	✓		
Comments:			
93. Are removable /moveable parts of the work equipment stable, or can they be made stable by clamping or otherwise?	✓		
Comments:			
94. If the work equipment is fitted with lifting equipment is it marked with its WLL (SWL), is it secure and stable, and is it inspected under LOLER?	✓		
Comments:			

Regulation 21: Lighting	Yes	No	N/A
95. Is the lighting provided suitable for normal operation of the equipment?	✓		
Comments:			
96. Is the lighting provided suitable for setting and adjustment of the equipment?	✓		
Comments:			

Regulation 22: Maintenance Operations	Yes	No	N/A
97. Is it possible to shut down the work equipment completely to carry out maintenance operations?	✓		
Comments:			
98. If this is not possible, is it possible for such operations to be carried out, outside of the danger zones?			✓
Comments:			
99. If this is not possible, is it possible to take appropriate protection measures?			✓
Comments:			

Regulation 23: Markings and Signage	Yes	No	N/A
100. Does the work equipment bear the essential warnings and markings where appropriate for stop / start and all other controls and isolators?		✓	
Comments: ***Amber:*** *The reset button is coloured blue.*			
101. Very high and / or very low temperatures and surfaces?			✓
Comments:			

Regulation 23: Markings and Signage	Yes	No	N/A
102. Maximum speed?	✓		
Comments:			
103. Direction of Rotation?	✓		
Comments:			
104. Correct gas, fluid, or substances and direction of flow identification?	✓		
Comments:			
105. Any other relevant markings to prevent mechanical injury such as crushing, entanglement or cutting and severing hazards etc?	✓		
Comments:			
106. Any other relevant markings to ensure health and safety such as pressure, radiation, explosive atmospheres or substances or strong magnetic fields etc?			✓
Comments:			

Regulation 24: Hazard Warnings and Signage	Yes	No	N/A
107. Are all appropriate warning signs and warning devices installed or fitted to the equipment where necessary?	✓		
Comments:			

Regulations 25 to 30 Mobile and Self-Propelled Work Equipment	Yes	No	N/A
108. Is the equipment designed to only carry the driver or person operating the equipment?			✓
Comments:			
109. Are any other persons expected to be carried?			✓
Comments:			
110. Are there signs on the mobile equipment stating the maximum capacity for carrying people?			✓
Comments:			
111. Are all unauthorised persons prevented from operating the equipment?			✓
Comments:			
112. Are adequate collision prevention devices fitted?			✓
Comments:			

Regulations 25 to 30 Mobile and Self-Propelled Work Equipment	Yes	No	N/A
113. Are suitable stop devices fitted to the equipment?			✓
Comments:			
114. For self-propelled equipment are there independent back up braking systems available in the event of failure?			✓
Comments:			
115. For remote controlled equipment are there automatic braking systems fitted to stop the equipment if it goes out of range of the transmitter or in case of the failure of the remote connection or general failure of the equipment?			✓
Comments:			
116. Does the equipment have adequate and active speed restriction devices?			✓
Comments:			
117. Is driver or operator visibility in front and behind the vehicle adequate at all times and are mirrors or sensors fitted to minimise blind spots?			✓
Comments:			
118. For remote controlled mobile equipment is used is there sufficient audible and visual warning devices in place for others close by the machine?			✓
Comments:			
119. Is the equipment stable under normal use conditions i.e., whilst moving, or when stationary for task completion purposes when used in accordance with the manufacturers operating instructions?			✓
Comments:			
120. Is the driver, operator or any passenger protected from falling off the moving equipment, are restraining systems fitted, and are policies and procedures such as SOP's and SSOW's in place to ensure that restraining devices are used?			✓
Comments:			
121. Are there adequate Roll Over Protection Structures (ROPS) Falling Object Protection Structures (FOPS) and Tip Over Protection Structures (TOPS) fitted to the equipment to prevent injury to the driver, operator, or any passenger?			✓
Comments:			
122. Does the driver, operator or any passenger have suitable protection from the moving or rotating parts, or drive shafts fitted to the equipment?			✓
Comments:			

Regulations 25 to 30 Mobile and Self-Propelled Work Equipment	Yes	No	N/A
123. Are drive shafts prevented from contacting the floor in both normal operation and failure scenarios?			✓
Comments:			
124. Is suitable firefighting equipment carried if required?			✓
Comments:			

Supplementary / Complimentary Questions	Yes	No	N/A
125. Are there any electrical safety or compliance issues with the equipment with respect to IEC EN 60204-1?	✓		
Comments: ***Amber:*** *Control panels have a number of issues.*			
126. Are there any pneumatic safety or compliance issues with the equipment with respect to ISO EN 4414?			✓
Comments:			
127. Are there any hydraulic safety or compliance issues with the equipment with respect to ISO EN 4413?			✓
Comments:			
128. Are there any safety or compliance issues with the equipment's safety related control system(s) with respect to ISO EN 13849?	✓		
Comments: ***Amber:*** *There is no formal safety related control sytem fitted to the machine.*			
129. Are there any other notable issues that are not covered within the scope of PUWER?		✓	
Comments:			

Conclusion & Findings

16 issues flagged — **0 Red** · **16 Amber** · documented in **6** hazards

Hazards Identified — Findings & Recommendations

HAZARD 1 · INTERLOCK FIXINGS · ACTION REQUIRED (AMBER)

LINKED ISSUES

- **Q60** — Regulation 11: Dangerous Parts of Machinery - Guards and Interlocks
  Interlocks are secured with hex style fixings. A number of Hex tools used for machine setting were l

Hazard / Finding:

The guard interlocks are secured with hex-type fixings, and a number of hex tools used for machine setting were found in the immediate vicinity of the machine. As the same style of tool required to release the interlock fixings is readily available at the machine, the interlocks could be defeated in a reasonably foreseeable manner, allowing the machine to be operated with guards open or removed and exposing personnel to hazardous moving parts.

Recommended Remedial Action:

The interlocking arrangement must be assessed for its susceptibility to defeat and upgraded so that it cannot be defeated in a reasonably foreseeable manner using readily available objects, spare actuators or the setting tools present at the machine. Preference should be given to interlock devices with a high level of actuator coding, whose actuator is uniquely paired to its device and cannot be substituted, bypassed or held in the closed position. Where a lower-coded or mechanical device is retained, additional measures against defeat must be applied, including mounting the device out of reach or obscured from view, physically shrouding the actuator and switch, and fixing the device and actuator by non-detachable means such as one-way screws, riveting or pinning; the fixings must be changed from the current hex type to a form that cannot be released by the tools available at the machine, and the actuator positioned so it cannot be operated while the guard is open. The incentive to defeat the interlock should also be reduced by providing a safe, reduced-risk operating mode for setting and adjustment, loose setting tools should not be stored at the machine, and the integrity and coding of the interlocking system, together with any evidence of tampering, should be confirmed by a competent person and included within the machine's routine inspection regime.

Standards Referenced	
EN ISO 14119	Interlocking devices associated with guards — Principles for design and selection

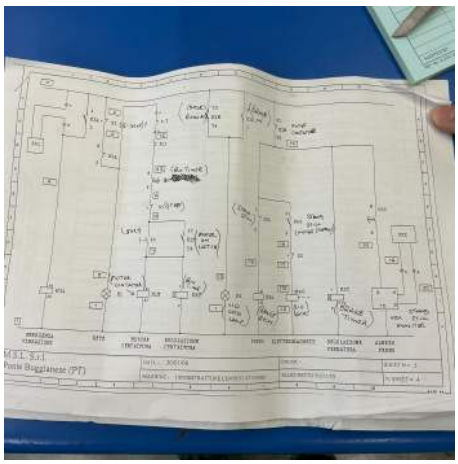
HAZARD 2 · SAFETY RELATED CONTROL SYSTEM · ACTION REQUIRED (AMBER)

LINKED ISSUES

- **Q84** — Regulation 18: Controls Systems
  There is no formal safety related control sytem fitted to the machine.
- **Q85** — Regulation 18: Controls Systems
  There is no formal safety related control sytem fitted to the machine.
- **Q86** — Regulation 18: Controls Systems
  There is no formal safety related control sytem fitted to the machine.
- **Q87** — Regulation 18: Controls Systems
  There is no formal safety related control sytem fitted to the machine.
- **Q128** — Supplementary / Complimentary Questions
  There is no formal safety related control sytem fitted to the machine.

Hazard / Finding:

The machine was found to have no formal safety-related control system. Over its lifecycle it has been subject to a number of modifications, including the addition of start delay timers and standstill monitoring relays, yet these have not been drawn together into a designed and validated safety architecture. The drawings provided had been amended in pen, indicating that no formal drawing set had been produced to reflect the current installation. The machine incorporates a guard interlock, a standstill monitoring device and thermal monitoring of the motor, all of which act as safety functions. Without a formal safety-related control system, there is no assurance that these functions achieve or maintain the level of integrity required for the risks they address, that they operate reliably on demand, or that faults within them are detected, leaving personnel exposed to hazardous machine functions.



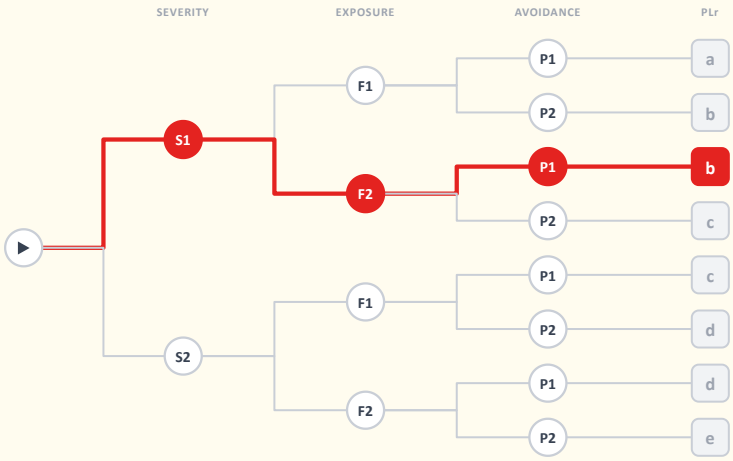
Recommended Remedial Action:

A formal safety-related control system must be designed, implemented and validated for the machine, encompassing the guard interlock, standstill monitoring and motor thermal monitoring functions together with any other identified safety functions. Each safety function should first be defined, and the required level of performance and integrity determined from an assessment of the risk it is intended to reduce. The system should then be designed, and its components selected and configured, to achieve that required performance, with an appropriate degree of fault detection and behaviour on fault so that a single failure does not lead to a loss of the safety function. The completed system must be validated to confirm that each safety function performs as intended and meets its required level of performance, and this validation recorded. A formal, current drawing set must be produced that accurately reflects the installation as modified, with all subsequent changes managed through a controlled process so that the documentation remains an accurate record. Thereafter the safety-related control system should be maintained and periodically verified as part of the machine's planned maintenance regime.

HAZARD 2 · SAFETY RELATED CONTROL SYSTEM · ACTION REQUIRED (AMBER)

Standards Referenced	
EN ISO 13849-1	Safety-related parts of control systems — Part 1: General principles for design
EN ISO 13849-2	Safety-related parts of control systems — Part 2: Validation

EN ISO 13849-1 — Required Performance Level: PLr b



SELECTED RISK PATH

S1 SEVERITY

Slight (normally reversible) injury

F2 EXPOSURE / DURATION

Frequent-to-continuous and/or long exposure

P1 POSSIBILITY OF AVOIDANCE

Possible to avoid under specific conditions

PLr b

HAZARD 3 · EMERGENCY STOP AND INTERLOCK FUNCTIONALITY. · ACTION REQUIRED (AMBER)

LINKED ISSUES

- **Q77** — Regulation 16: Emergency Stop Controls
  AMC were unable to test this during the inspection.
- **Q78** — Regulation 17: Controls - General
  Reset button is coloured red.

Hazard / Finding:

During the inspection AMC were unable to functionally test the emergency stop and the guard interlocks fitted to the machine. As a result, the correct operation of these safety functions could not be verified at the time of assessment, and it cannot be confirmed that they will perform as intended on demand. A latent fault in the emergency stop or interlocking arrangement could therefore remain undetected, leaving personnel exposed to hazardous machine functions during normal operation, setting or maintenance.

Recommended Remedial Action:

All parts of the safety-related control system, including the emergency stop and guard interlock functions, must be functionally tested to confirm correct operation. Testing should verify that operating an emergency stop or opening an interlocked guard reliably brings the relevant hazardous functions to a safe state and prevents their restart until the device is reset and a deliberate start action is taken. Such testing should be carried out and recorded following installation or modification and repeated on a routine basis thereafter, at a frequency determined by the manufacturer's instructions or the machine's risk assessment, and always by a competent person. The outcome of each test should be documented, any device found not to operate correctly should be taken out of service or the machine prohibited from use until rectified, and functional testing of the safety functions should be established as a defined item within the machine's planned maintenance regime.

Standards Referenced	
EN ISO 13850	Emergency stop function — Principles for design
EN ISO 14119	Interlocking devices associated with guards — Principles for design and selection

HAZARD 4 · CONTROL PANEL ISSUES · ACTION REQUIRED (AMBER)

LINKED ISSUES

- **Q125** — Supplementary / Complimentary Questions
  Control panels have a number of issues.

Hazard / Finding:

The control panel was found to require tidying, with cabling having been pulled out of the internal containment and left loose within the enclosure. In addition, cables no longer in use had been left in place and terminated in temporary connectors such as chocolate-block connectors. Loose cabling outside its containment is vulnerable to strain, chafing and damage, and can obstruct access and interfere with components. Redundant cables retained on temporary connectors present a risk of inadvertent contact, loosening or short circuit, and make the installation difficult to trace and maintain safely.

Recommended Remedial Action:

The control panel should be tidied and reinstated to a proper wiring standard by a competent person. All active cabling must be routed and retained within suitable internal containment so that conductors are supported and protected, are not subject to strain or chafing, and do not obstruct access to components. Cables no longer in use should be removed in full back to a safe point rather than left in place; where any redundant conductor is retained, it must be positively isolated and safely terminated. Temporary connectors such as chocolate-block connectors are not acceptable for the permanent installation and should be replaced with connections of the correct type, properly made off and secured. Once complete, the panel should be confirmed as neat, fully contained and free of redundant or temporary connections, and its internal condition included as a defined item within the machine's routine inspection and maintenance regime.

Standards Referenced	
EN 60204-1	Electrical equipment of machines — Part 1: General requirements

HAZARD 5 · GUARD FIXINGS · ACTION REQUIRED (AMBER)

LINKED ISSUES

- **Q51** — Regulation 11: Dangerous Parts of Machinery - Guards and Interlocks
  The guarding is missing fixings and not fitted correctly.
- **Q54** — Regulation 11: Dangerous Parts of Machinery - Guards and Interlocks
  The guarding is missing fixings and not fitted correctly.

Hazard / Finding:

The guarding to the machine drive was found to be missing fixings. With its full complement of fasteners not in place, the guard is not securely retained and could be displaced, work loose through vibration, or be removed with little effort. This could give access to the moving drive components, exposing personnel to entanglement, drawing-in and impact hazards.

Recommended Remedial Action:

The drive guarding must be secured with its full complement of correct fixings so that it is reliably retained in position and cannot be displaced through normal operation or vibration. The missing fixings should be replaced with the correct type and specification, and the guard fixed by a means that requires a tool to remove, discouraging routine removal and defeat. The guard should be confirmed as complete, secure and correctly seated once refitted, and the presence and condition of guard fixings included as a defined item within the machine's routine inspection and maintenance regime.

Standards Referenced	
EN ISO 14120	Guards — General requirements for the design and construction of fixed and movable guards

HAZARD 6 · RESET BUTTON COLOUR · ACTION REQUIRED (AMBER)

LINKED ISSUES

- **Q100** — Regulation 23: Markings and Signage
  The reset button is coloured blue.

Hazard / Finding:

The reset button on the machine was found to be coloured red. Red is reserved for emergency and stop functions, and its use for a reset actuator is inconsistent with recognised colour coding for control actuators. This could cause an operator to confuse the reset with a stop or emergency stop function, or conversely to overlook a genuine stop control, leading to incorrect operation of the machine at a critical moment and a consequent risk of injury.

Recommended Remedial Action:

The reset actuator must be recoloured so that it is not red, as red is reserved for emergency stop and stop functions. In accordance with EN IEC 60204-1, the reset actuator should be coloured blue, so that it is clearly distinguishable from the stop and emergency stop controls and its purpose is unambiguous to the operator. The actuator should also be clearly and durably identified with its function. A wider review of the machine's control actuators should be undertaken to confirm that their colours and markings are consistent with their functions, and the correct identification and colour coding of controls included as a defined item within the machine's routine inspection and maintenance regime.

Standards Referenced	
EN 60204-1	Electrical equipment of machines — Part 1: General requirements

Inspector's Overall Conclusion

(No overall conclusion recorded)

Key:	✓ Yes — Green	✓ No — Red	✓ Amber (Yes or No)	✓ N/A — Blue	✓ N/A — Plain

REPORT SIGN-OFF

ASSESSED BY:

Alastair Laurenson
CMSE., CECE.
Director and Senior Consultant
Astute Machinery Consultants Ltd

Date: 01 Oct 2026

ISSUED BY:

Jim Davis
MIET., SIIRSM., TechIOSH., AIIAI.
Director and Senior Consultant
Astute Machinery Consultants Services Ltd

Date: 01 Oct 2026