



APPENDIX No.

to Order No. GD-0657/21 of
November 01, 2021

ILIM GROUP POLICY ON ELECTRICAL EQUIPMENT USE

**Hazardous Substances and Agents of It's About Life program
Ilim's Global Manufacturing System (GMS)**

St. Petersburg
2021

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1. SCOPE

- 1.1 Ilim Group Policy on Electrical Equipment Use (hereinafter, the Policy) has been developed to be applied at Ilim's locations to take efficient actions in order to ensure safety of Ilim Group and contractors' employees as well as to prevent incidents when performing work.
- 1.2 The Policy sets out the requirements for electrical equipment, portable lamps, manual electrical tools and auxiliary equipment.
- 1.3 The Policy comprises general requirements which shall be applied along with other requirements of current regulatory and technical documentation.
- 1.4 The Policy requirements shall apply to all employees of Mills/Forests as well as to contractors' employees.
- 1.5 This Policy is recommended for adoption by the subsidiaries and affiliates of JSC Ilim Group. Application of this Policy in subsidiaries and affiliates is achieved through approval and implementation of respective internal regulations by duly authorized management bodies of such subsidiaries and affiliates.

2. TERMS AND DEFINITIONS

TN-S earthing system refer to a TN system where protective conductor (PE) and neutral conductor (N) are two different and separate conductors.

TN-C earthing system refer to a TN system where protective conductor (PE) and neutral conductor (N) are one common conductor.

As to electric shock hazard, there are following categories of premises:

premises free from high hazard refer to premises that are not conducive to occurrence of a high or particular hazard;

high hazard premises refer to premises having one of the following conditions that constitute a high hazard:

- dampness (relative air humidity is above 75%);
- availability of electrically conductive dust which may settle on current conductive parts and permeate into machines, devices, etc.
- electrically conductive floors (metal, earthen, reinforced concrete, brick floors, etc.);
- high temperature (above 35 C);
- Possibility that a person simultaneously touches the earthed building steel structures, process units/mechanisms, etc. and metal housings of electrical equipment (exposed conductive parts);

particularly hazardous premises refer to premises having one of the following conditions that constitute a particular hazard:

- excessive dampness (relative air humidity is close to 100% (the ceiling, walls, floor and other objects inside the premises are covered with moisture));
- chemically active or organic environment (aggressive gases, vapors, liquids are present permanently or for a long time, deposits or mould that damage insulation and conductive equipment parts are formed);
- two or more conditions that constitute a high hazard occur simultaneously.

3. RISK ASSESSMENT

- 3.1 Assessment of risks relative to manufacturing process and workplaces that require use of electrical equipment shall be performed in accordance with the internal regulations of the Company.
- 3.2 Based on the risk assessment results hazardous areas shall be identified and a risk mitigation action plan shall be developed and included in the five-year *Hazardous Substances and Agents* program of It's About Life program.
- 3.3 A work order shall be created in SAP PM for each risk mitigation action included in the budget. Such work orders shall be created by December 31 of the year preceding the year when the relevant risk mitigation action is expected to be implemented.
- 3.4 In order to ensure safe use of electrical equipment, the following procedure shall be complied with to select the method of work (prior to proceeding to the next step it is required to assess the feasibility of implementing the previous one):
 - use battery-powered electrical equipment;
 - use compressed air-powered equipment and tools;
 - use electrical equipment connected to a power network in accordance with the provisions sets forth in Table 1.

4. GENERAL PROVISIONS

- 4.1 Persons allowed to use electrical equipment and manual electrical tools shall be certified in electrical safety for at least group II.
- 4.2 Only personnel authorized to work with portable or mobile power consuming devices may connect (disconnect) such power consuming devices to the electric grid using plug-in connectors or plug-and-socket connectors that comply with the relevant electrical safety rules.
- 4.3 Electricians certified in electrical safety for at least group III who operate the relevant electrical grid may connect (disconnect) portable and mobile power consuming devices to the said electrical grid using knock-down connectors. Connection/disconnection shall be performed only against a work order with the relevant entry made in the logbook. Access of other employees to the connection points shall be physically restricted.
- 4.4 Electrical equipment, lamps, manual electrical tools, isolation transformers and other auxiliary equipment shall comply with the requirements of technical regulations, national (international) standards and technical specifications relative to electrical safety.
- 4.5 The Company's locations shall develop the relevant OHS manuals based on the Policy requirements, National Occupational Safety Standards as well as requirements for particular electrical equipment and manual electrical tools that are specified in the manufacturers' technical documentation.
- 4.6 All newly purchased electrical equipment and manual electrical tools shall have at least class II protection against electrical shock.

5. SAFETY REQUIREMENTS TO BE COMPLIED WITH WHEN OPERATING ELECTRICAL EQUIPMENT

- 5.1 Prior to start using an electrical equipment, manual electrical tool or lamps it is required to:
- using the relevant data sheet determine the class of electric equipment and tools as well as verify whether it is possible to safely use such equipment and tools considering the nature of the work to be done and the workplace;
 - check equipment completeness and make sure that all its elements are securely fixed;
 - perform a visual inspection to make sure that the cable (cord), its protection hose and plug are in good condition as well as that the housing insulation, handles, brush holder covers and protective casing are intact;
 - make sure that turn on/off button functions well;
 - test (if necessary) residual-current circuit breaker;
 - check electrical equipment/tool operation under no load;
 - check whether earthing circuit of class I electrical equipment (equipment housing - earth wire of the plug) functions well;
 - check whether label (marking) with indication of the equipment inventory number and the date of next testing is available;
 - check if voltage and current frequency in the electrical grid comply with those of electrical equipment;
- 5.2 There are following classes of electrical equipment depending on protection against electric shock:
- Class I - protection against electric shock is ensured by basic insulation and connection of exposed conductive elements that may be touched to a PE conductor of the standard wiring;
 - Class II - protection against electric shock is ensured by double or reinforced insulation;
 - Class III - protection against electric shock is ensured by power supply from a SELV source with voltage not exceeding 50V which does not generate voltage above extra low level.
- 5.3 When using electrical equipment and manual electrical tools, the employees must not:
- hand it over to other employees;
 - dismantle and repair it;
 - hold on to the cable, touch rotating elements or remove shavings and sawdust until equipment/tool is completely stopped;
 - install the tool into the chuck or remove it as well as make some adjustments to the equipment until it is completely de-energized;
 - work on ladders/stepladders or incidental stands (windowsills, crates, chairs);
 - bring portable transformers and frequency converters inside drums, boilers and metal tanks. When performing work inside underground structures as well as earthwork, transformers shall be kept outside such structures;
 - connect electrical equipment with operating voltage below 50V to a public grid using an autotransformer, resistor or a potentiometer;
 - pull the cable, put some weight on it, cross it with cables used for electrical welding and hoses used for gas welding;
 - process frozen and wet elements;
 - leave electrical equipment connected to electrical grid unattended;
 - use electrical equipment that is not duly protected from drops and splatters and does not

have relevant marks (a drop or a couple of drops in a triangle) in the environment where drops and splatters are possible as well as outdoors if it is raining or snowing. It is possible to use such equipment when it is not raining. If it is raining or snowing such equipment may be used only under a shelter on a dry soil or decking.

- use equipment if no testing has been performed (availability of the label (marking) indicating inventory number and the date of the next test shall be checked) or if any of the following faults are identified:
 - damaged plug-and-socket connector, cable or its protection hose;
 - damaged brush holder cover;
 - collector brushes generate sparks followed by flashing on the collector surface;
 - lubrication leaking from a reduction gear or ventilation ducts;
 - occurrence of smoke and smell typical for burning insulation;
 - intense noise, rattle and vibration;
 - failure or cracks found on the equipment housing, handle, safety guards;
 - damaged operating elements of the electrical equipment;
 - lost electrical connection between metal elements of the equipment housing and the neutral pin of the power supply plug;
 - failure of a start-up device.

5.4 Class of the electrical equipment and manual electrical tools shall comply with the premises category, the work to be performed and may require use of electrical safety devices protecting from electric shock in accordance with the requirements set forth in Table No. 1.

Table No. 1 Conditions to be complied with when using electrical equipment and manual electrical tools of various classes

Work site	Class of electrical equipment depending the method of protection against electric shock:	Conditions to be complied with when using electrical safety devices
1	2	3
Premises free from high hazards	I	If TN-S earthing system is used, no electrical safety devices may be used if connected to a residual-current circuit breaker or with at least one electrical safety device. If TN-C earthing system is used, at least one electrical safety device is required
	II	Without electrical safety devices
	III	Without electrical safety devices
High hazard premises	I	If TN-S earthing system is used, no electrical safety devices may be used if connected to a residual-current circuit breaker or if only one power consuming device (electrical equipment or tool) is connected to a separate power supply source (isolation transformer, generator, converter). If TN-C earthing system is used, at least one electrical safety device is required

	II	Without electrical safety devices
	III	Without electrical safety devices
Particularly hazardous premises	I	With a residual-current circuit breaker or with at least one electrical safety device
	II	Without electrical safety devices
	III	Without electrical safety devices
Subject to particularly unfavorable working conditions (inside vessels, facilities, metal tanks with limited possibility to move inside such premises)	I	Must not be used
	II	With at least one electrical safety device Without electrical safety devices if connected to a residual-current circuit breaker or if only one power consuming device is connected to a separate power supply source
	III	Without electrical safety devices

- 5.5 Voltage supplied to portable electrical lamps used in high hazard premises and particularly hazardous premises shall not exceed 50 V.
- 5.6 Voltage supplied to portable electrical lamps used to perform some work in extremely adverse conditions (wells for floating switches, boiler drums, switchgear cells, metal tanks) shall not exceed 12V.
- 5.7 When using portable electrical lamps in confined spaces (in metal tanks, wells, compartments, gas ducts, boiler furnaces, drums and tunnels), step-down transformers that supply power for such portable electrical lamps shall be located outside such confined spaces with their secondary winding earthed. Use of autotransformers to reduce the voltage supplied to portable electrical lamps shall be prohibited.
- 5.8 It is required to suspend cables when using electrical equipment, manual electrical tools and portable lamps. Contact of cables and wires with hot, wet and oily surfaces must be avoided. Electrical equipment cables shall be protected from accidental mechanical damage and contact with hot, wet and oily surfaces. It is prohibited to pull the cable, put some weight on it, cross it with cables used for electrical welding and hoses used for gas welding.
- 5.9 When using an isolation transformer, the following requirements shall be complied with:
- isolation transformer must supply power only to one power consuming device;
 - secondary winding of the isolation transformer must not be earthed;
 - transformer housing must be earthed or made neutral depending on the neutral point connection of the power main. In this case it is not required to earth the housing of the power consuming unit connected to the isolation transformer.
- 5.10 Metal elements of class I electrical equipment that could be touched and may carry voltage if insulation is damaged shall be connected to an earthing clip. Electrical equipment that fall under classes I and II shall not be earthed. The electrical equipment housing shall be earthed using a special wire of the power cable which shall not also serve as an operating current conductor. Neutral operating cable must not be used for this purpose.
- 5.11 Plugs and sockets that are designed to operate with a certain voltage shall not match with plug and sockets designed to operate with another voltage.

- 5.12 Electrical equipment shall be stored in dry premises equipped with special racks with due account for the requirements specified in the technical documentation provided by the manufacturer. Electrical equipment must not be stored without packaging in two or more rows. Access to the premises where electrical equipment is stored must be restricted.
- 5.13 When transporting electrical equipment, the relevant safety measures shall be taken to prevent any damages to such equipment and the relevant requirements of the manufacturer shall be taken into account.
- 5.14 If during performance of work power supply is discontinued, a failure of the electric equipment is identified or if a person using this equipment feels the exposure of electric current or if equipment elements and parts are overheated or if the worker smells smoldering cable insulation, the work must be immediately stopped with equipment disconnected from the relevant power grid and submitted for further inspection and repair.
- 5.15 Electrical equipment, portable lamps, manual electrical tools and auxiliary equipment must not be provided to contractors' employees.

6. INSPECTION OF THE ELECTRICAL EQUIPMENT

- 6.1 The Company's branches shall have people responsible for keeping electrical and auxiliary equipment in good technical condition.
- 6.2 Prior to provision of electrical equipment to an employee, the person responsible for keeping electrical and auxiliary equipment in good technical condition shall check:
- completeness, serviceability, including those of cable, protective casings (if any), plug and switch button, reliability of equipment element fastening;
 - functioning of the electrical equipment earthing elements and make sure that there is no rotor windings short circuit fault to frame;
 - electrical equipment operation under no load.
- provision of faulty electrical equipment or electrical equipment with expired date of regular inspection shall be forbidden.
- 6.3 The company (a special division) shall keep a register of all provided and used manual electrical tools, portable electrical equipment, lamps and auxiliary equipment, ensure inspection and testing of the said equipment within the scope and timeline set forth by the relevant technical regulations, national and international standards, specifications as well as current standards for testing of electrical equipment and electrical installations.
- 6.4 The employee certified in electrical safety for at least group III and assigned to be responsible for keeping electrical and auxiliary equipment in good technical condition shall check electrical equipment, manual electrical tools, portable lamps and auxiliary equipment (transformers, frequency converters, residual-current circuit breaker, extension cables) at least every 6 months.
- 6.5 Periodic inspection of electrical equipment shall include:
- visual inspection;
 - check of equipment operation under no load during at least 5 minutes;
 - measurement of insulation electrical resistance to 500 V using a megohmmeter during 1 minute with switch moved to ON position. Electrical resistance of the insulation shall be at least 0.5 Mohm (except for battery-powered tool);
 - check of earthing element functioning (for class I electrical equipment).

Inspection results shall be recorded in the relevant logbook.

- 6.6 Inventory numbers as well as date of the next testing shall be indicated on the housings of electrical equipment, manual electric machines and tools, step-down and isolation transformers as well as on frequency converters.
- 6.7 Responsible people shall inspect, check and test electrical equipment with the relevant entry made in the logbook which shall contain:
- equipment name;
 - inventory number;
 - date of the last repair, check, testing, technical inspection (visual inspection, static and dynamic testing), date of the next repair, check, testing, technical inspection;
 - results of the visual inspection of the equipment and operation under no load, condition of the safety guards;
 - typical size of the disk, standard or specification for disc fabrication, parameters of the disk, a note confirming chemical treatment or mechanical rework of the disk, operating speed, rpm during testing (for grinding and CBN tools);
 - results of insulation testing with an increased voltage, result of the insulation resistance measurement, functioning of earthing elements (for electrical tools, except for battery-powered tools);
 - full name and signature of the employee who performed visual inspection, check, testing and technical inspection.
- The logbook may also contain other data provided for by the manufacturer's technical documentation.
- 6.8 Electrical equipment, manual electrical tools and auxiliary equipment shall be repaired by a specialized company.
- 6.9 Contractors shall register, inspect and test their electrical equipment in accordance with the requirements of this standard and instructions provided by the manufacturer.

7. RESPONSIBILITY AND CONTROL

- 7.1. Mill/Forest Managers shall be responsible for:
- compliance with the requirements of this Policy at Ilim Group's locations;
 - procurement of resources required for Policy implementation.
- 7.2. Heads of the Company's structural units and project managers shall be responsible for:
- communication of the Policy to the employees and other persons permitted to access the Company's facilities;
 - ensuring compliance with the Policy requirements in their structural units;
- 7.3. At least once per year, the heads of the OHS Departments of the Branches shall conduct self-audits to check compliance with the requirements of this Policy in the structural units using the checklist given in Appendix 1 with identification of areas of concern and drawing up improvement plans.
- 7.4. Control over compliance with the requirements of the Policy shall be exercised by EHS Directors of the Company's Branches.
- 7.5. Persons involved in violation of the requirements set forth in this Policy shall be liable in accordance with the applicable laws of the Russian Federation.

8. LIST OF REGULATORY DOCUMENTS USED FOR DEVELOPMENT OF THIS STANDARD

- 8.1. Health and Safety Regulations Applied to Electrical Installation Operation approved by Order of the Ministry of Labor and Social Protection of the Russian Federation No. 835n of November 27, 2020.
- 8.2. Health and Safety Regulations Applied to Electrical Installation Operation approved by Order of the Ministry of Labor and Social Protection of the Russian Federation No. 903n of December 15, 2020.
- 8.3. Electrical Installation Code approved by Order of the Russian Ministry of Energy No.204 of July 8, 2002.
- 8.4. Regulations on Electrical Equipment Operation approved by Order of the Russian Ministry of Energy No.6 of January 13, 2003

Check list of Ilim Group Policy on Electrical Equipment Use		Document No.		
<p>The Policy requirements that shall be implemented and continuously followed by all structural units, subsidiaries and contractors are listed below.</p> <p>Proceed with the following drop down list assigning a score (from 1 to 5 points) to each item of the list. 1 - unsatisfactory situation, 2 - low level of compliance/implementation, 3 - satisfactory level of compliance/implementation, 4 - good level of compliance/implementation, 5 - excellent level of compliance/implementation. If an item was evaluated with 1 or 2 points, it is required to fill in the Remarks/Actions box.</p> <p>Evaluation shall be conducted by a team of competent employees who have complete and comprehensive information at their disposal and who can professionally and impartially evaluate the situation, as well as to guarantee continuous compliance with the Standard requirements.</p> <p>Scoring criteria:</p> <p>1 - total non-compliance with the requirements that needs immediate corrective actions.</p> <p>2 - partial non-compliance with the requirements that needs significant improvement.</p> <p>3 - compliance with the requirements that needs insignificant improvements.</p> <p>4 - full compliance with the requirements</p> <p>5 - full compliance with the requirements, such case that can be used as a benchmark to be implemented in other divisions and Branches of JSC Ilim Group.</p>				
Mill/department/project:			Filled by (Name):	
Basis for assessment			date:	
No.	The Policy requirements that shall be implemented/applicable criteria	Assessment: (Drop down list)	Remarks/actions	
1	Risks were assessed. Action plan was developed			
2	Electrical equipment, lamps, manual electrical tools, isolation transformers and other auxiliary equipment comply with the requirements of technical regulations, national (international) standards and technical specifications relative to safety			
3	electrical equipment, lamps, manual electrical tools, isolation transformers and other auxiliary equipment that are used are in good technical condition			
4	OHS manuals have been developed for electrical equipment and manual electrical tools			
5	Persons authorized to use electrical equipment and manual electrical tools are certified in electrical safety for at least group II			
6	Electrical equipment and manual electrical tools with class II protection against electric shock are used			
7	The people responsible for keeping electrical and auxiliary equipment in good technical condition have been appointed.			
8	electrical equipment, manual electrical tools, portable lamps and auxiliary equipment (transformers, frequency converters, residual-current circuit breaker, extension cables) are checked at least every 6 months with inspection results recorded in the relevant logbook.			
9	Inventory numbers as well as date of next testing are indicated on the housings of electrical equipment, manual electric machines and tools, step-down and isolation transformers as well as on frequency converters			
10	Electrical equipment is stored in dry premises equipped with specialized racks. Access to such premises is restricted			

	General Assessment Summary		<i>Number of checked items that give 2 points and less:</i>
General Assessment Summary criteria			
The Policy has been fully implemented and is maintained at the appropriate level:			<i>(≥40 and a maximum of two items got 1 and 2 points)</i>
In order to implement the Policy it is required to develop an action plan:			<i>(30-79 and/or a maximum of two items got 1 and 2 points)</i>
The Policy has not been implemented, <u>urgent action</u> is required:			<i>(≤29 and/or two or more items got 1 and 2 points)</i>
General comments/confirmation of the assessment results			
I hereby confirm the performance of the assessment and the accuracy and reliability of the data.			
Full name/position:		Signature/date:	
Full name/position:		Signature/date:	
Full name/position:		Signature/date:	
Full name/position:		Signature/date:	
Approved by (name/position)		Signature/date:	