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Instructions for employees responsible for safe operation of lifting equipment (LE)

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		Page of 12	

TABLE OF CONTENTS

1. INFORMATION SHEET2

2. OBJECTIVE4

3. SCOPE4

4. REFERENCES.....4

5. GENERAL PROVISIONS4

6. DUTIES.....6

7. RIGHTS.....10

8. RESPONSIBILITIES10

2. OBJECTIVE

2.1. These instructions are intended for managers (specialists) appointed to be responsible for safe operation of lifting equipment (hereinafter, LE).

2.2. These instructions define the duties and the rights of the person responsible for safe operation of LE.

3. SCOPE

These instructions are binding on all structural subdivisions (hereinafter, SS) of the Koryazhma Branch of OJSC Ilim Group, and its subsidiaries that operate lifting equipment.

4. REFERENCES

These instructions have been developed on the basis of the following internal and external regulations:

R I QMS 4-01-11 "Records Management".

Rostekhnadzor Order No. 533 of November 12, 2013 (last revised or amended on April 12, 2016) On Approval of Federal Rules and Regulations "Regulation for safety of hazardous production facilities that operate lifting equipment" (registered with the Ministry of Justice of the Russian Federation on December 31, 2013, registration number 30992);

- Guideline Document 10-34-93, Revised Guideline Document 10-406(34)-01 "Proforma Instructions for individuals responsible for safe crane operation";

- Guideline Document 10-34-93, Revised Guideline Document 10-406(-332)-99 "Proforma Instructions for individuals responsible for safe crane operation";

- OHSAS 18001: 2007 Occupational Health and Safety Management Systems - Requirements.

5. GENERAL PROVISIONS

5.1. According to the Federal Rules and Regulations "Regulation for safety of hazardous production facilities that operate lifting equipment" approved by Order of the Federal Service for Environmental, Technological and Nuclear Supervision No. 533 of November 12, 2013 (last revised or amended on April 12, 2016), companies which operate lifting equipment must appoint persons responsible for safe operation of LE.

5.2. Employees from among shift foremen, shift leaders, area managers can be appointed to be responsible for safe operation of LE.

5.3. Every shop or any other job area as well as every shift that operates LE must appoint persons responsible for safe operation of LE.

5.4. The specialist responsible for safe operation of LE to be appointed by Branch Order after successful assessment of their knowledge of relevant sections of the Safety Rules for hazardous production facilities that operate lifting equipment, and standard operating procedure for crane operators, slingers, lifting device operators, and man basket workers. Periodic assessment of the knowledge of an individual responsible for safe crane operation is to be performed once every five years following a pre-certification training for relevant training programs with the Mill's Commission.

5.5. In every job area, a trained and certified employee from among white collars duly certified as a specialist responsible for safe operation of LE shall be made responsible for safe operation of LE. Copies of orders of appointment of responsible specialists shall be available in every job area.

5.6. Whenever the person responsible for safe operation of LE is away on vacation, business trip, sick leave or for other reasons, his or her duties have to be assigned to another employee by the Mill's Order.

5.7. Specialists responsible for safe operation of LE must know:

- Relevant sections of the Federal Safety Rules for hazardous production facilities that operate lifting equipment;
- Electrical Safety Requirements for organization and performance of construction and installation work and loading and unloading operations using LE;
- Job description;
- Standard operating procedure for crane operators and slingers, lifting device operators, and man basket workers;
- Operation-and-inspection instructions for load-gripping devices (slings, spreader beams, jaws, grippers) and containers;
- Regulations on the procedure for investigation of accidents and incidents at hazardous production facilities at the Koryazhma Branch of OJSC Ilim Group;
- Regulations on working with contractors at the Koryazhma Branch of OJSC Ilim Group;
- Regulations on maintenance and repair of load lifting cranes at the Koryazhma Branch of OJSC Ilim Group;
- Requirements to Method Statement for construction and installation work and process flow charts for loading and unloading operations using LE;
- Correct cargo slinging and hooking techniques;
- Requirements to load-gripping devices and containers, procedure of their selection and usage;
- Rejection rates for removable load-gripping devices, containers, steel wire ropes and chains;
- Procedure for organization and performance of construction and installation work and loading and unloading operations using LE;
- Cargo warehousing procedure;
- Installation requirements for LE (lifting devices);
- General information about configuration of cranes, lifting devices intended for conveyance of people (parameters and loading characteristics, designation of safety instruments, operational stability, etc.);
- Crane ways requirements;
- Hand signals used when handling loads by cranes;
- LE technical supervision and safe maintenance arrangements at the mill;
- Information letters and other instructions from Rostekhnadzor governing prevention of accidents and incidents when operating LE;
- Procedures for formalizing and releasing work permits in the cases envisaged by the Federal Rules and Regulations;
- Operating Procedure for hazardous production facilities' employees that operate LE in emergency situations.

6. RESPONSIBILITIES.

6.1. Specialists responsible for safe operation of LE must:

- give operating personnel (crane operators, operators, man basket workers, slingers) the time needed to handover a shift;
- provide slingers and man basket workers with high visibility signs and personal protective equipment;
- arrange lifting operations in accordance with the Federal Safety Rules for hazardous production facilities that operate lifting equipment, Method Statements for crane

operation, Method Statements for operation of lifting devices, specifications and process rules;

- provide instructions to crane operators, operators, man basket workers and slingers on safe execution of forthcoming work;
- prevent untrained and non-licensed personnel from operating LE, determine the required number of slingers and man basket workers, as well as the need for signal-men during crane operations;
- prevent use of removable load-gripping devices and containers that are unmarked, defective or do not conform to the nature and weight of the loads, remove defective devices and containers from the job area;
- explain the place, procedure and storage zones to crane operators, operators, man basket workers and slingers;
- supervise directly (personally) the following operations:
 - a) loading and unloading of high-sided railcars when several cranes handle loads at the same time;
 - b) loads moved by cranes over floor structures located above production or office facilities which may have people inside;
 - c) moving of loads that have no slinging diagram developed;
 - d) emergency lowering of loads;
 - e) as well as other cases envisaged by method statements and process rules;
 - ensure observation of high visibility signal system during operation of overhead cranes;
 - prevent any work without work permits in the cases envisaged by the Federal Rules and Regulations;
 - prevent crane drivers from operating more than one crane at a time;
 - provide workers with resources and devices required for safe operation of LE;
 - ensure observation of standard operating procedure, method statements and process rules by crane operators, operators and slingers;
 - post the list of loads moved by crane with their weights in the job area. If any of the loads are missing from the list, inform the crane operator about their weights;
 - determine storage locations and provide them with all required accessories and devices (cassettes, pyramids, shelf stands, ladders, supports, pads, shims, anchor wires etc.) and give instructions to crane operators and slingers on the warehousing procedure and storage zones;
 - ensure that graphic images of loads strapping and hooking techniques are posted in the job area or handed over to crane operators and slingers;
 - prevent cranes from moving bricks on uncaged pallets above people;
 - prevent people from being inside of a driver's cabin and a truck body during motor vehicle loading and unloading;
 - prevent any feeding of materials and products through window openings and other openings not equipped with receiving areas;
 - comply with the orders of Rostekhnadzor inspector and specialists responsible for production control during operation of lifting equipment;
 - prevent people from being in and getting on containers lifted by cranes;
 - prevent operation of lifting devices if there is no record in the log-book confirming good working condition of the respective lifting device.

6.2. When operating grab cranes, the specialist responsible for safe operation of cranes is obliged to:

- mark the crane operating zone so as to not allow any people to be in that zone or any work to be performed within that zone; helpers servicing such cranes may be allowed to perform their duties only after the grab is lowered to the ground;
- prevent people from being on platforms, motor vehicles, in high-sided railcars and other rolling stock when unloading or loading them with grab cranes;

- ensure that grab is not used to lift people and to perform the work it is not intended for.

6.4. When giving instructions to crane operators, lifting device operators, man basket workers and slingers, the specialist responsible for safe operation of LE must pay special attention to:

- Prevention of presence of people under the loads being moved in order to prevent people from being squeezed and injured by the loads;
- strict adherence to the techniques of loads slinging and hooking and adequate use of load-gripping devices and containers;
- precautions aimed to prevent people from falling out of man-basket;
- procedure for using the emergency load lowering by a man-basket worker in emergency situations;
- prevention of dropping any tools and loads from the man-basket that is at a height;
- prevention of simultaneous lifting and moving the people and loads in a man-basket using the lifting winch;
- prevention of movement of people or loads with people on them by crane;
- danger of dragging loads on the ground, floor or rails using a crane hook, as well as other movement of loads when the lift ropes are tilted;
- prevention of lifting loads by crane if those loads are covered with soil or frozen to soil, covered by other loads, bolted or concreted, as well as metal and ash solidified or stuck in the furnace after tapping of metal;
- prevention of LE overload;
- prevention of presence of people on rolling stock being loaded and unloaded by cranes;
- strict compliance with the requirements of the method statements and process flow charts;
- compliance with the established procedure for performing work with people being present on overhead cranes' ways;
- strict compliance with the requirements of method statements and technical processes involving loads handling;
- safe slinging and moving of explosive/flammable and toxic loads;
- danger of being caught between moving loads and structures, equipment, stacks of loads, etc.
- safe lowering of and exit of people from a man-basket.

6.5. The specialist responsible for safe operation of LE must stop any work using LE in the following cases:

- unfavorable weather conditions - heavy snow, fog, rain, thunderstorms, unacceptable wind strength (crane operator must be required to take measures to prevent the crane from being floated away by the wind);
- identification of dangerous defects and malfunctions in the technical condition of a crane (damage and destruction of metal structures, failures of brakes and safety instruments, damage to ropes, blocks, drums);
- Intolerable bending and other dangerous defects of crane ways;
- lack of trained and certified crane operators, operators, man basket workers and slingers;
- lack of required removable load-gripping devices and containers;
- air temperature below the permissible temperature specified in the technical passport of LE;
- insufficient lighting of the job area where LE is used;
- identification of dangerous defects and malfunctions in the technical condition of LE (damage and destruction of metal structures, failures of brakes and safety instruments, damage to ropes etc.);
- insufficient lighting of the job area where LE is used;

- air temperature below the permissible temperature specified in the technical passport of LE;
- other factors that affect safety.

6.6. In the event of an accident or an incident during LE operation, the person responsible for safe operation of LE shall report the incident to the administration (owner) of the mill and ensure that things at the scene of the incident or accident are kept intact unless there is a danger to the life and health of people.

7. RIGHTS.

7.1. The specialist responsible for safe operation of LE has the right to:

- ban personnel (crane operators, operators, man basket workers and slingers) violating standard operating procedure from operating LE;
- request that the administration (the owner) of the mill take disciplinary action against crane operators, operators, slingers, or man basket workers violating standard operating procedure.

8. OPERATION OF MOBILE LE ON THE MILL SITE.

8.1 The company that has provided the crane is responsible for safe operation of mobile LE on the Mill site.

- Mill employees may not be involved in such operations as persons responsible for safe operation of mobile LE or as slingers.
- Procedure for performance of such work on the Mill site and the permitting procedure are defined in the Regulations on working with contractors at the Koryazhma Branch of OJSC Ilim Group.

9. RESPONSIBILITIES

9.1. In accordance with applicable law, the specialist responsible for safe operation of LE is responsible for:

- violation of the Federal Rules and Regulations and job description, regardless of whether or not this violation has caused an incident or an accident;
- violation of Standard Operating Procedure committed by his/her direct reports;
- giving instructions or orders that force his or her direct reports to violate Standard Operating Procedure;
- unauthorized resumption of operation of LE that was stopped intentionally by Rostekhnadzor or by the specialist responsible for production control during operation of LE;
- failure to take corrective action in order to eliminate violations of the Federal Rules and Regulations and relevant instructions.

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