

OSART Good Practices
LEADERSHIP AND MANAGEMENT FOR SAFETY
Non-radiation-related safety programme

Mihama 3, Japan

Mission Date; 20 Jan.-5 Feb., 2009

Ladders (3.5m or higher) within the plant are equipped with fall prevention safety blocks, to protect workers from accidents when climbing or descending ladders.

In the plant ladders are equipped with braces and backrests when necessary to protect workers from accidents while they climb or descend these ladders. In light of past accidents involving workers falling at other plants, fall prevention safety blocks have been installed (approx. 300 sections in the plant) to ensure safety further and prevent accidents. Should a worker wearing safety block begin to fall while climbing a ladder, the wires on the safety block will lock, keeping them from falling off.

Awareness tool for lifting: Booklet “The essentials of lifting”, sextant and graduated rule for maximum weight (CMU).

The plant uses tools to support the realization of the “one minute stop” by examining all the safety key points before lifting.

These tools consist of:

- A sextant on which the safety points are labelled. It introduces the necessity of “checking the points” to evaluate where the performing person is in terms of safety. It also formalizes the necessity to “close the loop” of safety by reading the checklist before the activity.
- A graduated rule allowing calculating the maximum weight (CMU) according to the slinging mode used.

These pocket sized tools complete the defense-in-depth lines by reinforcing the formalization of “one minute stop”. They are not a substitute for a formal appropriateness check. The sextant is universal and can be used for all lifting operations. The graduate rule is specific to some situations but can be used as standard.

The use of these tools is connected to areas of technology, human performance, industrial safety and operational communication.

Technology: The tools provide an ergonomic way to control the lifting angles, to calculate or check the CMU of a slinging mode. They allow control of the main key points of lifting through use of the pictograms and they are easily understandable due to a step-by-step approach to the safety loop.

Human performance: The tools encourage and contribute to the use/implementation of the one minute stop. The pictograms give rise to an interrogative attitude and increased awareness, in particular concerning the points which have generated the main lifting events, the material status, the maximum weight and the dangered area.

Industrial safety: The tools contribute to an increased safety level during lifting operations. They support overall activity risk control and are used in communications to enhance worker awareness.

Communication: The tools are designed to be easily used for communication and to be available to workers when they need them (keep permanently in overall pocket). The colours correspond to those used on recognized safety signs.

The following advantages were observed:

- Fewer request for materials
- Decrease of material constraints (lifting rings, slings, crochets...)
- Decreasing number and severity of accidents
- Decreasing number of direct costs linked to repairing damaged material and unavailability of lifting material.

The plant has installed vending machines containing Personnel Protective Equipment (PPE) to ensure easy access by workers and 24/7 availability.

Purpose:

The continuous availability of individual personal protective equipment and the optimization of its usage quantity.

Disadvantages of the previous PPE distribution system:

- Limited availability: Only available during standard working hours, with no access after 2 pm, on weekends or on public holidays.
- Centralized distribution: PPE issuance only from the central warehouse, leading to logistical challenges and delays.
- On-site accumulation of stocks: 'Hoarding' of supplies resulted in sudden stock depletion, temporary supply shortages, lack of documentation, tracking issues, potentially generated waste.
- Lack of documentation for PPE handover/takeover: Regular failure to use the handover records resulted in inconsistent tracking.



Solution:

To address these issues, VENDINVEST's vending machines were introduced, ensuring the convenient, controlled and traceable distribution of smaller PPE items (protective gloves, safety goggles, particulate respirators and hearing protectors). The system also allows controlled collection of used PPE qualified as hazardous waste. Additional advantages include:

- 24/7 availability,
- Convenient and easily deployable close to work areas,
- Real-time tracking of PPE usage and a stable supply system,
- Optimised and economical PPE consumption,
- Personalised, controlled, and traceable PPE issue.

Benefits

- These machines have been in continuous operation since 2021 and receive positive feedback from both management and employees.
- Approximately 76% of PPE distribution occurs via vending machines, with 24% issued from the central warehouse.
- Reduced instances of unnecessary extra dispensing and wasteful practices, thanks to managerial oversight.
- During outages and safety train overhaul maintenance, vending machine usage increases 2-3 times.

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