



Nippon Yakin Kogyo

Award: Safety
Category: Safety Training

Introduction of the Risk Assessment Method at the Stage of Facility Design

Challenge

At our plant, we have implemented a Safety Priority Action plan to prevent labour accidents and health problems amongst employees. Our goal is to keep their bodies and mind in good condition.

We do our best efforts to make our plant safe in the essential way, utilising the risk assessment method. Due to limited space or layout of facilities in the factory, it is not easy to improve the safety drastically (or realize the complete safety), especially when equipment needs to be modernised or remodelled. Although we recognize that the introduction of risk assessment method at the stage of facility designing was necessary, especially when the facilities were repaired or installed, our staff of design department did not have enough knowledge of the risk assessment method.

Action

We added additional training opportunities for each member of our personnel on a regular basis. The following courses were offered:

1. Simulation of a machine disaster
2. Related laws and regulations about the guidelines concerning the comprehensive safety standards of machinery, the hazards and risks included.
3. Safety principles of the machinery
4. Reduce the risk and the risk assessment of the use stage of the machine.

The specifications are circulated to all departments at designing stage to double check the risks and are reconfirmed by the risk assessment method even after the facilities are installed.

Outcome

Safety of several places in the plant were improved with this method.

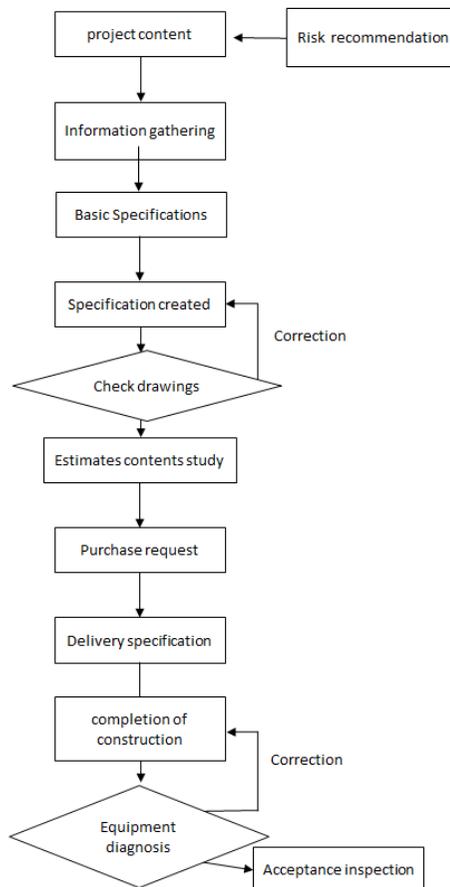
1. Test slit device: we discovered there was a safety problem between the material and the human i.e. between the rotation device and the person handling it. After the consideration of the risk, we added six additional specifications to the original structural design. The design became one with a better safety awareness.
2. Acid tank update: the main risk is the contact of the acid with the operators. To be completely safe, we reviewed the current acid tank which seemed to have insufficient contact prevention measures. As a method to improve the safety of handling the acid tank, we added contact prevention measures to the specification. At the same time, we repositioned the lid to prevent damage to the liquid level indicator.



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Risk Assessment Support from Facility Design



We conducted the risk assessment and found that regular safety education for the Equipment and Machinery Engineering Department is more effective. Because education makes it possible to reflect safety knowledge necessary for the facility from the beginning.

Risk Assessment Extraction Examples

When we introduced the laboratory equipment, we thought there were only 3 problems. But through this method, we discovered there were 7 problems. 4 hidden problems were thus found with this method.