

Counteraction

Step 3 of 5

Define measures to eliminate the causes

A demanding task: The causes for manipulation found at step 2 are to be eliminated. Here, measures are to be defined.

Measures of technical nature

- Get support of manufacturer/supplier
- Develop an alternative protection concept (in co-operation with the manufacturer)
 - Remember: Modifications of machines – in particular of the protection concept – require particular care. Fitness for purpose of an intended measure and its effect on the whole system is to be assessed within the framework of a risk assessment.
- 3-step method:
 - prevention (e.g. other protective device: light curtain may be more appropriate than guard gate)
 - making manipulation more difficult (e.g. coded position switch)
 - detection (e.g. control system detects that the position switch is not actuated)

Measures of organizational nature

- Define corporate directives (e.g. “We do not tolerate manipulation in our company!”)
- Define the consequences of violations of the corporate directives
- Modify the process sequence (e.g. replace inappropriate machines or work with an appropriate machine, respectively)

Individual-related measures

- Courses and seminars
- Training, instructions

continue to step 4