Annex A
(informative)

Security levels

IEC 62443-4-2 [7] defines SLs in terms of four different levels (1, 2, 3 and 4), each with an increasing level of security. SL 0 is implicitly defined as no security requirements or security protection necessary.

- **SL 1:** Protection against casual or coincidental violation

- **SL 2:** Protection against intentional violation using simple means with low resources, generic skills and low motivation

- **SL 3:** Protection against intentional violation using sophisticated means with moderate resources, IACS specific skills and moderate motivation

- **SL 4:** Protection against intentional violation using sophisticated means with extended resources, IACS specific skills and high motivation

For SL-T, this means that the asset owner or system integrator has determined through a risk assessment that they need to protect this particular zone, system or component against this level of threat.

SLs have been categorized by IEC 62443-3-3 into three different types: target, achieved and capability. These types, while they all are related, involve different aspects of the security lifecycle.

- SL-Ts are the desired level of security for a particular IACS, zone or conduit. This is usually determined by performing a risk assessment on a system and determining that it needs a particular level of security to ensure its correct operation.

- Achieved SLs (SL-As) are the actual level of security for a particular system. These are measured after a system design is available or when a system is in place. They are used to establish that a security system is meeting the goals that were originally set out in the SL-Ts.

- SL-Cs are the SLs that components or systems can provide when properly configured. These levels state that a particular component or system is capable of meeting the SL-Ts natively without additional compensating countermeasures when properly configured and integrated.

Each of these SLs is intended to be used in different phases of the security life cycle according to IEC 62443 (all parts). Starting with a target for a particular system, an organization would need to build a design that included the capabilities to achieve the desired result. In other words, the design team would first develop the SL-T necessary for a particular system. They would then design the system to meet those SL-Ts, usually in an iterative process where after each iteration the SL-As of the proposed design are measured and compared to the SL-Ts. As part of that design process, the designers would select components and systems with the necessary SL-Cs to meet the SL-T requirements, or where such systems and components are not available, complement the available ones with compensating countermeasures. After the system went into operation, the actual SL would be measured as the SL-As and compared to the SL-Ts.