

Guidance to support contractors before issuance of bidding in procurement that also includes system safety

Tenders containing system safety activities

The Swedish Defence Materiel Administrations (FMV) experience is that the system safety work often is more extensive and time-consuming than the supplier might consider initially in connection with the submission of offer based on the demands on system safety activity in a project. The supplier must usually attach system safety in its tender that describes which activities that need to be implemented, partly based on FMV's tender, partly on the basis of quoted technical system, product or concept. FMV recommends that the supplier prior to submission of bids, will go through the various manuals and templates which are available on FMV's website.

Background

FMV provides products and technical systems to the Swedish Armed Forces (SwAF). SwAF's activities and operating environment is special and it makes particular demands on the equipment and on its workability when SwAF uses them for different types of operations. Furthermore one has to consider the presence of humans in the system and the limitation those humans (operators) have in stressful situations in order to make the right decisions and do the right thing in any given situation. SwAF's material often contains major energies that need to be controlled so as not to inadvertently hurt/damage its own personnel, property or the exterior environment. SwAF staff must have absolute confidence that the equipment is safe to use, especially in critical situations. The equipment will both be stored for long periods of time and used around the clock, throughout the year, in different climate zones around the world.

Requirement of technical systems

SwAF's basic view is that civil legal requirements shall generally be applicable to all military equipment and SwAF wants to avoid, if possible, to have any exceptions to this law for their equipment. By fulfilling the civil law, there is also the opportunity to use the equipment for the support of the community under severe stress and the possibility to transfer the equipment to third party when it is no longer needed in SwAF. Materials which do not meet the civil law at the time of disposal must therefore be scrapped although it commands a residual value. FMV reserves the right to determine whether waivers or exemptions may apply to equipment specially designed for military purpose. Deviations and possible application for exemption is thus a conscious decision made by FMV.

CE-marked/certified equipment, C €

FMV procures both products and technical systems that can be CE marked / certified or combine different technological systems to gain new abilities. CE marking is a good foundation to build on, but usually not enough as SwAF's activities and operating environment often places greater demands on the equipment. Some material may cannot be CE certified, and is excluded from the EU directive. The reason may be that the equipment is not safe for the third person (eg weapons), confidentiality of the equipment design or performance, or because new technologies may pose unknown accident risks for which industry standards are missing. FMV does not CE certifies any technical systems or products. This is done by the industry. In connection with the submission of bids, FMV may request the risk analysis is the basis for the suppliers CE certification, for example, "Machinery Directive". REACH and RoHS are examples of related EU directives to be considered

System safety Activity

System safety manual is based on an internationally established and applied standard. The manual does not replace other government decisions before products and technical systems can be put into operation. SwAF puts high demands on preventive work to identify and describe the risk of accidents and to report them for analysis, classification and actions. FMV and SwAF will then be able to decide on any individual accident risk regarding whether sufficient design-oriented and administrative actions have been taken and the residual risk of an accident is on a tolerable level based on the given requirement specifications

System safety work should always include all phases of use of the technical system including disposal. FMV recommend that the supplier begins its own system safety work early in the project and that it is used as an active design tool during the development phase. The system safety and documentation work are interdependent and these professionals should therefore interact. Collaboration should also be done with environmental requirements set in the tender from FMV.

System Safety Plan in tender

SwAF requires that FMVs system safety activities and the corresponding activities conducted by the suppliers/contractors work interactively. FMV sets the minimum requirements for the scope of the system safety program that bidders must complete. Each supplier may choose to implement additional activities depending on the technical solutions chosen and based on the technical complexity of the system. The Contractor documents the proposed activity in a system safety plan (SSPP) which is attached to the tender. Template for system safety plan is available at FMV homepage

Delivery of material and documentation

The delivery consists of both products and / or technical systems including documentation such as user manuals, repair manuals, tags and stickers. The Supplier Safety Compliance Assessment (SCA) must be signed by the managing director or a person delegated by him/her (max. one step). Templates for decision documents and documentation of the implemented risk management in the implementation of system safety work is available at FMV homepage

Language

All documentation, including warnings, signs and decals shall be written in the Swedish language, unless otherwise specified in the invitation to tender. Some EU Directive also makes demands on language of instruction manuals, etc. Any exemption from the Swedish language can be done in consultation with FMV.

The Work Environment agreements

The Work Environment Act applies and is not negotiable between the different actors. The Work Environment agreement will be signed for activities, education, etc. that must be implemented where several parties are involved. When necessary, the supplier can also initiate the establishment of a contract.

Courses in system safety

FMV conducts ongoing courses in system safety methodology for FM, FMV, industry and consulting firms. The course is held in the Swedish language and is also open to other Nordic countries. Current invitation is available at the FMV website. For educational in specialized tools such as FMEA (FMEA) or FTA (Fault Tree Analysis), we refer to universities, associations and commercial training companies.