PHL for [MSXXX; SYSTEM]

Preliminary Hazard List (PHL), adapted for activities within the TC Led Area of Responsibility.

Attachment 1 to “TC Led Handlingsregel 102 – Process systemsäkerhet Led” (TC Led Code of Practice 102 – Process System Safety at FMV C4ISR Department).

The header may be changed when the PHL is produced by another organisation.

TC Led is the Head of Design at FMV C4ISR Department. This document is an instruction and a template (v2) for how a Preliminary Hazard List (PHL) is designed within the TC Led Area of Responsibility.

PHL is spelled out ”Preliminary Hazard List”. PHL should be seen as a necessary preparatory work. The document shall be approved and constitutes an important base for the following system safety management by an initial identification of hazards and dangerous conditions.

IMPORTANT: Instructions for completion is provided as framed red text. **These frames with content**, as well as not applicable text within brackets, **is deleted at completion** of the document. The page header can be changed if needed, for example if an external firm is responsible. At FMV, the required information according to the diary system shall be provided in the header.

# General

This template is established as a help to determine the possible relevance of different hazards for the actual system. At the same time, by following this template when issuing a PHL, it is ensured that:

• All conceivable hazards are assessed and documented, and that

• Scope of use and operating environment is defined and documented.

The template can also be used as a base for assessment regarding ”COTS/Trivial materiel”.

To emphasise the importance of this document, all tables shall remain in the finished document. If something is irrelevant, the text ”Not applicable” or N/A shall be written on a suitable place or in the first line in the table in question. In this way it is made clear that an active responsibility for each single provided fact is taken and that an internal quality control is performed.

Others: The document that is presented for review shall have a document number and version identification, in order to ensure traceability.

The System Safety Process within the area of responsibility for TC Led shall continuously be subject to improvement.
Points of view and comments on this document are gratefully received by CI Adam Narel, FMV, adam.narel@fmv.se,
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Also please contact CI Adam Narel when unsure of assessments, requirements for text mass or other questions.

In this Preliminary Hazard List , the possible relevance of different hazards for the actual system is assessed, within the defined scope of use and the defined environment. The PHL also includes the assessment weather the system can be treated as ”COTS/Trivial materiel” in the safety work.

All tables from the template remain in the finished document. In those cases that a table heading is not applicable for the system in question, the text ”Not applicable” or ”N/A” is written in the table. In this way it is made clear that each single provided fact is assessed and that internal quality control is performed.

# System identification

In the section below the system is identified, and also the extent of the system safety work is defined regarding the included major components.

If the system designation includes any abbreviation, it shall be spelled out here. When considered needed, a comprehensive, short description of the system is provided here (order of size 1-3 sentences).

[The full name of the system is…]

## Name and model

|  |  |
| --- | --- |
| **System name** |  |
| **Model**  |  |
| **Type number** |  |
| **Stock number** |  |
| **Stock name** |  |

### Subsystems and major components included in the system/user unit

Below, included subsystems/products are listed in order to completely document which parts are included in the system safety work, and which therefore may be used together with support of this system safety work. (If the composition of the system is changed, a new PHL shall be compiled. See also header 2.2 and 3.)

The table below of the included systems/major components indicates which parts are included in the performed system safety work. At the same time, the table constitutes a delimitation of which subsystems/products may be used together with support of this system safety work. No other subsystems, products, devices etc. than those included here or included in the related sets may be used together with support of this system safety work.

The following subsystems and major components are included in the system:

|  |  |  |
| --- | --- | --- |
| **Stock number** | **Stock name** | **Remark** |
|  |  |  |
|  |  |  |

## Technical design

Here, a short description is provided of the essential structure of the system, which subsystems are included, how many subsystems of the same sort can be connected etc. If the system consists of an updated version of a system already in operation, essential technical changes are stated, compared to the latest preceding operational version (mandatory).

The main purpose of this description is to clearly inform the responsible commander for his planning of training and use before the first deployment. Another important purpose is to convey a brief technical description for the independent review function within FMV to make it possible to assess the performed system safety work.

The following technical description of the structure of the system aims to inform the responsible commander for his planning of training and use before the first deployment.

When applicable: [This system consists of an updated version of an already deployed system. Therefore, only essential technical changes are stated, compared to the latest preceding operational version**.**]

The essential structure of the system is as follows...

[The technical changes in the system, compared to the latest preceding operational version, consist of the following…]

The technical, comprehensive account, given above, shall be supported of suitable and comprehensive technical documentation in the form of simplified outlines, descriptions and drawings (mandatory if applicable).

The technical layout of the system is accounted for in the following documents and in the following drawings:

|  |  |  |
| --- | --- | --- |
| **Document name(Stock number)** | **Document designation (Stock name)** | **Remark** |
|  |  |  |
|  |  |  |

# Scope of use, operating environment and interfaces

Below are described the scope of use, operating environment and interfaces for the system, for which this PHL is valid. The scope of use describes how the system may be used, the operating environment describes in which environments the system is approved for use, and the interface description accounts for which interaction with other systems is approved. These descriptions are used when assessing the hazards and hazards that affect the system.

Only the below stated descriptions of scope of use, operating environment and interfaces are valid for the system in question. Other scope of use, operating environments and interfaces may be possible, but for those this system safety work is not valid.

## Scope of use

Describe how the system is intended to be used. Note that the scope of use shall be described in such a way that it can with reasonable certainty be stated that the system will not be used in any other way. At the same time, the scope of use must be defined as far as reasonable, for both operator and reviewer to get a clear picture of the use of the system.

The system is approved for use within the scope of use described below.

…

## Operating environment

Here it shall be clearly evident in which environments the system is approved for use. This is crucial information for assessing the risks of the system and for minimizing the risk for misuse.

E.g. Temperature interval; humidity; wind forces; indoors/outdoors/in vehicles; on land/in water; person carried; mast mounted; vibrations; etc. See also Checklist Hazards below.

The system is approved for use within the operating environment stated below.

…

## Interfaces and interaction

The function of interfaces is important for safety. In an interface, subsystems and hardware from different manufacturers, organizational units and cultures may meet. Furthermore, information is transmitted that shall be specified in interface specifications. A properly conducted analysis of this area builds on a good compilation of existing interfaces, and of which interaction with other technical systems and products that may take place. Requirements for interfaces may also include requirements from the designer organization on the operator to ascertain the maintenance of interfacing systems.

Not all interfaces are towards other defined systems. Interfaces against e.g. ground or other physical attachment points shall be accounted.

Below is defined the outer interfaces of the system, i.e. interfaces to other systems/user units and possible attachment points [and where interface descriptions are documented]. The system is approved for use only with the interfaces stated below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Own system** | **Interface** |  | **Connecting system** | **Document names if any** |
|  |  |  |  |  |
|  |  |  |  |  |

# Hazard Checklist

This checklist is a tool for active assessment of possible influence of different hazards on the system at issue. This with regard to the extent and scope of use, operational environment and interfaces of the system according to sections 2 and 3.

Assessment is done by filling in the column that is judged to best describe the relevance of each hazard for the system, with the relevant number (\*1-4).

The column ”Remarks if any” is not intended for giving instructions about action against hazard (e.g. ”Wear hearing protection”). Here, it is appropriate to state clarifications to certain classifications, e.g. ”The work of the supplier before CE-marking has been checked, and related hazards are assessed to be taken care of in a satisfactory manner.”

In this checklist, the possible influence of different hazards on the system at issue is actively assessed, regarding the earlier described design and scope of use for the system.

The judgement grounds below are used to describe the relevance of each hazard for the system:

**\*1 = The hazard is not present, alternatively the probability of presence is so low that it is assumed that will not arise during the life span of the system population.** *Is usually not commented, if not a clarification is deemed appropriate.*

**\*2 = The hazard exists, but causes only negligible consequences.** *Is preferably commented to illustrate the assessment. Can, but must not be assessed against a risk matrix.*

**\*3 = The hazard causes non-negligible consequences and has non-negligible presence. Related hazards are however taken care of in a satisfactory manner in the supplier’s risk analysis before civil approval, e.g. CE-marking/certification.** *Is commented if necessary.*

**\*4 = The hazard causes non-negligible consequences and has non-negligible presence, *alternatively* the product has no civil approval (CE-marking/certification),
*alternatively* civil approval is not relevant for the area of use,
*alternatively* the hazard is not taken care of in a satisfactory manner in the risk analysis before CE-marking/certification.** *Is commented if necessary. Is further managed in the system safety process, for example by assessing against a risk matrix.*

## Kinetic energy

| **Nr** | **Kinetisk energi** | **Kinetic energy** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1.1 | Rörliga föremål / delar | Moving objects / parts |  |  |  |  |  |
| 1.2 | Roterande föremål / delar | Rotating objects / parts |  |  |  |  |  |
| 1.3 | Utkastande föremål / fragment | Ejected parts / fragments |  |  |  |  |  |
| 1.4 | Fallande föremål | Falling objects |  |  |  |  |  |
| 1.5 | Explosiv atmosfär | Explosive atmosphere |  |  |  |  |  |
| 1.6 | Explosiva ämnen | Explosives |  |  |  |  |  |
| 1.7 | Friktion mellan rörliga delar | Friction between moving parts |  |  |  |  |  |

## Mechanical energy

| **Nr** | **Mekanisk energi** | **Mechanical energy** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2.1 | Spända fjädrar/ komprimerade fjädrar frigörs | Tensioned springs/ compressed spring release |  |  |  |  |  |
| 2.2 | Lagrad energi frigörs | Stored energy release |  |  |  |  |  |
| 2.3 | Varma föremål | Hot objects |  |  |  |  |  |
| 2.4 | Kalla föremål | Cold objects |  |  |  |  |  |
| 2.5 | Vassa hörn och kanter | Sharp corners and edges  |  |  |  |  |  |
| 2.6 | Nypning, knipning, klämning | Pinch points |  |  |  |  |  |

## Pressure

| **Nr** | **Tryck** | **Pressure** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 3.1 | System under tryck (tryckkärl) | Systems under pressure (pressure containers) |  |  |  |  |  |
| 3.2 | Övertryck/Undertryck | Overpressure/ Underpressure |  |  |  |  |  |
| 3.3 | Inget tryck | No pressure |  |  |  |  |  |
| 3.4 | Systemläckage | System leakage |  |  |  |  |  |

## Acceleration

| **Nr** | **Acceleration** | **Acceleration** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 4.1 | Strukturell deformation | Structural deformation |  |  |  |  |  |
| 4.2 | Stöt | Impact |  |  |  |  |  |
| 4.3 | Förskjutning av delar, ledningar, vätskor | Displacement of parts/pipes/fluids |  |  |  |  |  |
| 4.4 | Turbulens | Turbulence |  |  |  |  |  |
| 4.5 | Fel på hindrande mekanismer | Failure of restraining mechanism |  |  |  |  |  |

## Vibration / sound

| **Nr** | **Vibrationer / ljud** | **Vibration / sound** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 5.1 | Materiell utmattning | Material fatigue |  |  |  |  |  |
| 5.2 | Delar lossnar | Loosening of parts |  |  |  |  |  |
| 5.3 | Kommunikations­interferens | Communication interference |  |  |  |  |  |
| 5.4 | Ljudtryck, häftigt ljud | Sound pressure, excessive noise |  |  |  |  |  |
| 5.5 | Häftig vibration | Excessive vibration |  |  |  |  |  |

## Material deformation

| **Nr** | **Materiell deformation** | **Material deformation** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 6.1 | Åldring | Material aging |  |  |  |  |  |
| 6.2 | Materialskörhet | Material embrittlement |  |  |  |  |  |
| 6.3 | Ändring av fysiska / kemiska egenskaper | Change in physical / chemical properties |  |  |  |  |  |
| 6.4 | Struktur skada / -fel | Structural damage / failure |  |  |  |  |  |
| 6.5 | Dimensionsförändringar orsakat av värme/sol | Dimension change from heat / sun |  |  |  |  |  |
| 6.6 | Felaktig sammanfogning | Improper welds |  |  |  |  |  |
| 6.7 | Höga aerodynamiska belastningar | High aerodynamic loads |  |  |  |  |  |

## Hazardous substanses / Chemical energy

| **Nr** | **Riskfyllda substanser / Kemisk energi** | **Hazardous substances / Chemical energy** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 7.1 | Brandfarliga ämnen | Flammable substances |  |  |  |  |  |
| 7.2 | Självantändliga ämnen | Substances subject to spontaneous combustion |  |  |  |  |  |
| 7.3 | Gasutvecklande ämnen | Substances producing gas |  |  |  |  |  |
| 7.4 | Oxiderande ämnen | Oxidising substances |  |  |  |  |  |
| 7.5 | Frätande ämnen | Corrosive substances |  |  |  |  |  |
| 7.6 | Giftiga ämnen | Toxic substances |  |  |  |  |  |
| 7.7 | Radioaktiva ämnen | Radioactive substances |  |  |  |  |  |
| 7.8 | Brand | Fire |  |  |  |  |  |
| 7.9 | Oexplosiv reaktion | Non-explosive reaction |  |  |  |  |  |
| 7.10 | Produktion av giftig gas | Toxic gas production |  |  |  |  |  |
| 7.11 | Korrosion | Corrosion |  |  |  |  |  |
| 7.12 | Närvaro av bränsle | Presence of fuel |  |  |  |  |  |
| 7.13 | Närvaro av antändande källor | Presence of ignition source |  |  |  |  |  |
| 7.14 | Explosiv gas, vätska, fasta ämnen | Explosive gas, liquid, solid |  |  |  |  |  |
| 7.15 | Avgaser | Fuel exhaustion |  |  |  |  |  |

## Radiation

| **Nr** | **Strålning** | **Radiation** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 8.1 | Elektromagnetisk strålning (radar, radiovågor) | Electromagnetic radiation (radar, communications) |  |  |  |  |  |
| 8.2 | Joniserande strålning (radioaktivitet, röntgen, radar, kärnreaktioner) | Ionizing radiation (radioactive, x-ray, radar, nuclear) |  |  |  |  |  |
| 8.3 | Infraröd strålning | Thermal infrared radiation |  |  |  |  |  |
| 8.4 | Ultraviolett strålning (solen, ljusbåge) | UV radiation (solar, electric weld arc) |  |  |  |  |  |
| 8.5 | Mikrovågsstrålning | Microwave radiation |  |  |  |  |  |
| 8.6 | Laserstrålning | Laser radiation |  |  |  |  |  |
| 8.7 | Elektrisk interferens | Electronic equipment interference |  |  |  |  |  |

## Contamination

| **Nr** | **Förorening** | **Contamination** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 9.1 | Täppas till, stoppa, klibba fast, gå trögt, klumpas ihop, hindrande, blockerande | Clogging / blocking of components |  |  |  |  |  |
| 9.2 | Sensorprestanda / operativa komponenters degradering | Performance sensors / operating components degradation |  |  |  |  |  |
| 9.3 | Reduktion av smörjning | Reduction in lubrication |  |  |  |  |  |
| 9.4 | Filter överbelastat | Filter overload |  |  |  |  |  |

## Electrical energy

| **Nr** | **Elektrisk energi** | **Electrical energy** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 10.1 | Skada pga elektrisk ström / chock | Electrocution / shock |  |  |  |  |  |
| 10.2 | Brand | Burns |  |  |  |  |  |
| 10.3 | Antändning / självantändning | Ignition of combustibles |  |  |  |  |  |
| 10.4 | Nödvändig utrustning/ varningssystem oanvändbart | Necessary equipment/ warning system unavailable |  |  |  |  |  |
| 10.5 | Fel på nödsystem | Emergency system failure |  |  |  |  |  |
| 10.6 | Avbruten kommunikation | Communication interruption |  |  |  |  |  |
| 10.7 | Kraftfel | Power failure |  |  |  |  |  |
| 10.8 | Statisk elektricitet | Static electricity |  |  |  |  |  |
| 10.9 | Olämplig jord / Jordfel | Improper ground / Ground failure |  |  |  |  |  |
| 10.10 | Olämplig isolering | Inadequate insulation |  |  |  |  |  |
| 10.11 | EMI Elektromagnetisk påverkan | EMI Electromagnetic interference |  |  |  |  |  |
| 10.12 | Överhettning | Overheating |  |  |  |  |  |
| 10.13 | Överladdning | Overloading |  |  |  |  |  |
| 10.14 | Magnetiskt fält | Magnetic field |  |  |  |  |  |
| 10.15 | Strömförande delar | Current-carrying parts |  |  |  |  |  |
| 10.16 | Elektromagnetisk strålning | Electromagnetic radiation |  |  |  |  |  |
| 10.17 | Laddade kondensatorer | Charged condensers |  |  |  |  |  |
| 10.18 | Elektrostatisk energi | Electrostatic energy |  |  |  |  |  |
| 10.19 | Ackumulatorer / bränsleceller / batterier | Accumulators / fuel cell / battery  |  |  |  |  |  |
| 10.20 | Laser | Lasers |  |  |  |  |  |

## Termal energy

| **Nr** | **Termisk energi** | **Thermal energy** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 11.1 | Hög temperatur | High temperature |  |  |  |  |  |
| 11.2 | Låg temperatur | Low temperature |  |  |  |  |  |
| 11.3 | Brännbar/lättantändlig  | Combustible ignition |  |  |  |  |  |
| 11.4 | Reaktiv antändning | Reaction ignition |  |  |  |  |  |
| 11.5 | Onormal värmeavgivning | Inadequate heat dissipation |  |  |  |  |  |
| 11.6 | Värmeisolering | Thermal source insulation |  |  |  |  |  |
| 11.7 | Frysning av vätska | Freezing of liquids |  |  |  |  |  |
| 11.8 | Nedisning | Icing |  |  |  |  |  |
| 11.9 | Termisk expansion / kontraktion | Thermal expansion / contraction |  |  |  |  |  |
| 11.10 | Termisk stress | Thermal stress |  |  |  |  |  |

## Natural environment

| **Nr** | **Naturlig omgivningsmiljö** | **Natural environment** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 12.1 | Dagg | Dew |  |  |  |  |  |
| 12.2 | Dimma | Fog |  |  |  |  |  |
| 12.3 | Fuktighet | Humidity |  |  |  |  |  |
| 12.4 | Gravitation | Gravity |  |  |  |  |  |
| 12.5 | Hagel | Hail |  |  |  |  |  |
| 12.6 | Isbildning | Icing |  |  |  |  |  |
| 12.7 | Kyla | Cold |  |  |  |  |  |
| 12.8 | Regn | Rain |  |  |  |  |  |
| 12.9 | Snö | Snow |  |  |  |  |  |
| 12.10 | Sol | Solar |  |  |  |  |  |
| 12.11 | Vind | Wind |  |  |  |  |  |
| 12.12 | Värme | Thermal |  |  |  |  |  |
| 12.13 | Åska | Lightning |  |  |  |  |  |

## Abnormal environments

| **Nr** | **Abnorma miljöer** | **Abnormal environments** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 13.1 | Brand | Fire |  |  |  |  |  |
| 13.2 | Vattentryck | Water pressure |  |  |  |  |  |
| 13.3 | Högspänningsledning | Energized power lines |  |  |  |  |  |
| 13.4 | Mikrobiologiska organismer | Microbiological organism |  |  |  |  |  |
| 13.5 | Makrobiologiska organismer | Macrobiological organism |  |  |  |  |  |
| 13.6 | CBRN-förorenad miljö | CBRN contamination |  |  |  |  |  |

## Toxic substances

| **Nr** | **Giftiga ämnen** | **Toxic substances** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 14.1 | Skada på andningssystemet | Respiratory system damage |  |  |  |  |  |
| 14.2 | Skada på blodsystemet | Blood system damage |  |  |  |  |  |
| 14.3 | Skada på kroppsorgan | Body organ damage |  |  |  |  |  |
| 14.4 | Hudirritation / skada | Skin irritation / damage |  |  |  |  |  |
| 14.5 | Effekter på nervsystemet | Nervous system effects |  |  |  |  |  |
| 14.6 | Illaluktande / stinkande | Foul odour |  |  |  |  |  |
| 14.7 | Kvävning | Asphyxiant |  |  |  |  |  |
| 14.8 | Cancerframkallande  | Carcinogen |  |  |  |  |  |

## Other hazards

| **Nr** | **Övriga risker** | **Other hazards** | **\*1** | **\*2** | **\*3** | **\*4** | **Remarks if any** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 15.1 | Höjdskillnader | Altitude differences |  |  |  |  |  |
| 15.2 | Farliga höjder | Dangerous heights |  |  |  |  |  |
| 15.3 | Hala ytor | Slippery surfaces |  |  |  |  |  |
| 15.4 | Olämplig golvyta | Improper floor surface |  |  |  |  |  |
| 15.5 | Håligheter på golv / i väggar | Unguarded floor / wall openings |  |  |  |  |  |
| 15.6 | Syrebrist | Lack of oxygen |  |  |  |  |  |
| 15.7 | Kvävning | Risk of suffocation |  |  |  |  |  |
| 15.8 | Kyla | Cold |  |  |  |  |  |
| 15.9 | Värme | Heat |  |  |  |  |  |
| 15.10 | Ergonomiskt ensidig belastning | Ergonomic strain (repetitive strain injury) |  |  |  |  |  |
| 15.11 | Onaturlig arbetsställning | Constrained work area |  |  |  |  |  |
| 15.12 | Tunga lyft | Weights to be lifted |  |  |  |  |  |
| 15.13 | Vibrationer | Vibration |  |  |  |  |  |
| 15.14 | Buller | Noise |  |  |  |  |  |
| 15.15 | Bländning | Dazzle |  |  |  |  |  |
| 15.16 | Övrigt | Other |  |  |  |  |  |

## Hazard Assessment

Below, the assessment of the hazards above is signed. The organization and position (mandate) of the signer shall be clear.

At the latest on delivery for review at OSG, it shall be clear who approves the assessment of the hazards.

Hazard assessment is performed, based on conditions according to sections 1-3.

|  |  |  |
| --- | --- | --- |
|  | *Name* | *Organization* |
| Assessed by: |  |  |
| Signature: |  |  |

## Functional hazards

If the system at issue clearly includes important ”Man/Machine interfaces” and Human Factors, a Functional PHL should be produced. For such an assessment a template is compiled in the form of an appendix to this PHL, sub-appendix 1:1 Functional PHL.

If it is assessed that a Functional PHL does not add anything of relevance to the total hazard analysis, that appendix can be disregarded.

[Apart from the assessment above, a Functional Hazard Assessment has also been performed. The assessment is enclosed to this PHL as appendix 1.]

[Functional hazards have been assessed to not need extended assessment for this system.]

# Decision

In this section the PHL is approved as a whole. It is also assessed if the system/equipment may be classified as ”COTS/Trivial Materiel”. Delete the not wanted alternative in the last paragraph.

At the latest, on submission for review at the FMV independent review function (OSG) it shall be clear who approves this assessment.

In H SystSäk 2011 it is stated that when an integration product consists of a CE-marked COTS-product, it is analyzed by DesignA from given requirements on geographical environment/operational environment for the technical system in order to identify if it meets the system safety requirements. The ambition should be to not repeat risk management work, already performed by the supplier.

The assessment about ”COTS/Trivial Materiel” is based on the result in section 4, ”Checklist Hazards”[, the result in appendix 1 Functional PHL] and an assessment of the complexity of the system. A prerequisite for continued management according to COTS/Trivial Materiel is that all hazards have been assessed as \*1, \*2 or \*3. More complex systems, consisting of a multitude of integrated COTS, amongst other reasons due to their complexity, need to be subject to deeper analysis. If one or several hazards are assessed as \*4, and also for more complex systems, the continued system safety work should be performed according to the approved code of practice. The system is then not managed as COTS/Trivial Materiel.

According to conditions in this document it is assessed that the system [can be treated as ”COTS/Trivial Materiel” in the continued process.] [does not meet the requirements for ”COTS/Trivial Materiel”.]

This PHL is hereby approved.

IMPORTANT: Instructions for completion is provided as red framed text. **These frames with content**, as well as not applicable text within brackets, **is deleted at completion** of the document.

Submit organization.

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