<Enter PROGRAM/PROJECT >

RISK MANAGEMENT PLAN

Note:
Reference template for use of the WASS Submarine Systems Suppliers

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Prepared by: **Department** *Name Surname*	Signature
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INDEX OF REVISIONS

Rev.	Date	Description
00	<Enter date>	First Issue

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1 INTRODUCTION

1.1 Scope

This document, issued in accordance with what is defined in doc. PQA004W-I-IT, describes the methods for the classification, identification, assessment, mitigation and control of the relative risks in the context of supplies for WASS Submarine Systems s.r.l.

1.2 Applicability

The document applies to the design, development and implementation of supplies for WASS Submarine Systems s.r.l. relating to the Purchase Order / Contract no. <enter order number / contract> of <enter order date>, aimed at the following product:

- < Enter product to which the supply refers >

1.3 Updating

This document will be updated according to the deadlines set by the Purchase Order / Contract and by the document PQA004W-I-IT.

2 REFERENCE DOCUMENTS

2.1 Applicable Documents

Ref.	Code	Title
R1.	EN 9001:2015	Quality Management Systems Standard
R2.	EN 9100:2018	Quality Management Systems - Requirements for Aviation, Space and Defence Organizations
R3.	AQAP 2110 ed. D	NATO Quality Assurance Requirements For Design, Development and Production (limited to Risk Management requirements)
R4.	UNI ISO 31000:2009	Gestione del rischio. Principi e linee guida
R5.	ISO/IEC 31010:2009	Risk management – Risk assessment techniques
R6.	PQA004W-I-IT	Requisiti di Qualità per le forniture alla WASS Submarine Systems s.r.l.

3 PROCESS

The Project Risk Management Process is an interactive process that covers the entire life cycle of the Project; it is structured in sub-processes as briefly illustrated in the following paragraphs.

3.1 Risks Identification

The identification of risks takes place with the support of specific tools (e.g.: Checklists, Historical Data ...) through the analysis of the contractual scenario, of the activities subject to supply and of the related budget. The identified risks can be identified, on the basis of their nature, in operating (technical-industrial, contractual, asset and marketing assets), strategic and financial.

Each identified risk must be described with the use of a metalanguage in terms of causes / events / effects in order to highlight the essential elements for its management with appropriate action plans.

3.2 Evaluation

The first phase of the risk assessment involves the analysis that is divided into:

- qualitative: The qualitative evaluation of the risk consists in determining the degree in which each identified risk may influence (either positively or negatively) the project objectives and milestones, and thus obtain a ranking in terms of their importance and urgency;
- quantitative: The quantitative evaluation of the risk consists in quantifying the Risk Value for each identified risk and the Project Risk Value, in order to define appropriate mitigation actions and protective measures related to the residual project risk.

3.2.1 Qualitative Evaluation

The qualitative assessment of risks consists in determining the most critical risks that require particular attention by the Program Manager / Risk Manager.

To do this, an analysis is conducted to attribute to each risk a qualitative assessment of the "VERY HIGH", "HIGH", "MEDIUM", "LOW" and "MINIMAL" type that refers both to the probability that it will occur, both to the impact of this on the project / program (in terms of time, cost and performance).

3.2.2 Quantitative Evaluation

The quantitative risk assessment aims to quantify the economic impact on project / program costs if the risk occurs and, after having included the benefits of mitigation actions in the assessment, to determine which contingency must be set aside to minimize the possibility to have to bear extra costs if the risks should occur.

This quantification is therefore necessary to assess the possible benefits of mitigation actions by comparing the expected value of the risk, pre-and post-mitigation.

Each risk, identified in the final summary of the previous phase, is evaluated in terms of the probability of it occurring and its impact on the program should it be realized and, furthermore, it is classified by assigning it a 'Risk Factor' that allows to examine the priorities of intervention.

3.2.3 Probability that the risk occurs

To the probability of a risk occurring is assigned a weight according to the following criterion

Category	% of Probability	Weight assigned
Very High	P ≥ 70%	5
High	50% ≤ P < 70%	4
Medium	30% ≤ P < 50%	3
Low	10% ≤ P < 30%	2
Minimal	P < 10%	1

Table 1 – Quantification of probability

3.2.4 Impact of risk

The impacts on the program due to the occurrence of the risk are divided into three categories, each of which must be considered with its own weight, according to the following indicative tables:

3.2.4.1 Impact on schedule

The individual risk is related, in terms of time, to the duration of the project / program:

Category	Criteria	Weight
Critical	Critical delay compared to project baseline (greater than 20%); impact on the major contractual milestones and on delivery dates. May lead to termination of the project.	5
Severe	Serious delay compared to project baseline (greater than 10% and less than or equal to 20%); slip of contractual milestones without impact on delivery dates. New planning required.	4
Significant	Major delay in project baseline (greater than 5% and less than or equal to 10%); slip of certain non-critical milestones.	3
Low	Minor delay in project baseline (less than or equal to 5%); no impact on milestones. New planning preferred.	2
Negligible	Minimal or no impact on project planning; no impact on milestones and/or schedule changes compensated by margins. No new planning required.	1

Table 2 – Quantification of the impact on time

3.2.4.2 Impact on costs and cash flow

Category	Criteria	Weight
Critical	Increase of project costs greater than 10%. Financial charges over 12 months.	5
Severe	Increase of project costs greater than 5% and less than or equal to 10%. Financial charges between 9 and 12 months.	4
Significant	Increase of project costs greater than 2% and less than or equal to 5%. Financial charges between 6 and 9 months.	3
Low	Increase of project costs less than or equal to 2%. Financial charges between 3 and 6 months.	2
Negligible	Minimal or no impact on project cost (estimated budget is confirmed). Financial charges within 3 months.	1

Table 3 – Quantification of the impact on costs and cash flow

3.2.4.3 Impact on performance

The requirements will not be satisfy, including reliability and maintainability.

Category	Criteria	Weight
Critical	May lead to termination of project, due to compromised System operability and failure to achieve performance expected by the Customer. The effects are clearly evident to the Customer.	5
Severe	Large performance degradation at System level, with impact on the system's functionality and operability. The effects are clearly evident to the Customer.	4
Significant	Performance degradation at System level, without impacts on the system's functionality and operability. The effects are clearly evident to the Customer.	3
Low	Minor consequences, degradation with impact only on internal System components: the effects may not be evident to the Customer (or may not be of Customer interest).	2
Negligible	Minimal or no impact on performance. The effect is not evident to the Customer (or not of Customer interest).	1

Table 4 – Quantification of the impact on performance

3.2.5 Risk Priority Index

The "Risk Factor" (RPI) represents an ordered classification of risks against the two parameters assessed above (probability and impact) and is defined as follows:

RPI = Probability Index x Impact on project/program Index

In quantifying the impact, the highest value must be considered among those measured on schedule, costs and performance.

The results of this formula are 6 possible values that can be weighed in the following way:

Probability Index (IP) ↓	Risks					Opportunities				
5	5	10	15	20	25	25	20	15	10	5
4	4	8	12	16	20	20	16	12	8	4
3	3	6	9	12	15	15	12	9	6	3
2	2	4	6	8	10	10	8	6	4	2
1	1	2	3	4	5	5	4	3	2	1
Impact Index (IP) →	1	2	3	4	5	5	4	3	2	1

Table 5 – Risk Matrix

All risks with a RPI greater or equal to 5 shall be managed with specific treatment actions.

3.3 Risk treatment

Once the risks have been identified and evaluated, they must be treated in order to reduce their potential impact or their probability of occurrence.

The objective of this phase is therefore the identification and choice of the actions to be implemented so as to reduce the probability of occurrence and/or the impact of each risk.

The possible choices to be made during the definition of the treatment strategy and thus during the identification of the most appropriate action plan, are classified as follows:

- mitigation: preventive actions with respect to the risk occurrence, that aim to reduce o remove the causes, reduce the probability of occurrence and/or the effects. They may be classified ex ante as preventive actions if they produce an effect on the probability index or as protective actions if they produce an effect on the impact index;
- recovery/corrective: corrective actions to be implemented upon risk occurrence so as to further reduce the consequences;
- transfer: actions that aim to reduce or eliminate the risk, shifting it to other parties (Customers, Suppliers, including Insurance Companies) and transferring the consequences (impact);
- acceptance: if it is not possible to manage the risk and no specific actions can be implemented. The accepted risk is subject to periodic surveillance.

The mitigation actions may remove common causes to the occurrence of various risks and must therefore be conducted, if possible, transversely, so as to mitigate multiple risks at project and portfolio level.

3.4 Risk Monitoring and Review

An effective Risk Management process must be based on careful and constant monitoring activity of trends and evolution of risks.

The update of the Risk Sheet must be done periodically, at least on a quarterly basis and/or in case of Risk Review and/or for other necessities associated to the project or to company needs (e.g. budget/forecast).

The objective of this phase is to:

- verify the implementation and effectiveness of the mitigation plan, including any new actions;
- update the risk status, its probability of occurrence and its cost;
- identify and evaluate any new risks (emergent).

4 RISK REGISTER

The Risk Register is defined (as per attachment <Enter file name to be issued (eg: Risk Report.xlsx)>) as a summary table reporting all the risks identified and monitored during the program and must be considered confidential between the Supplier and WASS Submarine Systems s.r.l.

The report contains the following fields:

Fields	Description
Risk ID	Code that distinctly identifies the risk in the Risk Register
Risk Cause	Description of the cause of the risk
Risk Event	Description of the risk event that may occur
Risk Effects	Description of the effects deriving from the risk
Milestone/Date of Impact	Description and relevant date of the affected project milestone/objective
RPI	Risk Priority Index or Risk Score or Risk Factor
Risk Owner	Name of the person or department in charge of managing the risk
Mitigation Actions Description	Description of the actions for risk reduction
End Date	End date of the mitigation action (it cannot be subsequent to the date of the risk affected milestone)
Progress Description	Description of the action progress

Table 6 – Risk Register Fields Description