



Upravna vody Zelivka a.s.

Assessment of degraded activated carbon regeneration

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RINA Consulting - Centro Sviluppo Materiali S.p.A.

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To
Upravna vody Zelivka a.s.
K Horkam 16/23
102 00 Praha 10 Hostivar
Czech Republic

Attn.: Ing. Petr Tušil

Assessment of degraded activated carbon regeneration

1 INTRODUCTION

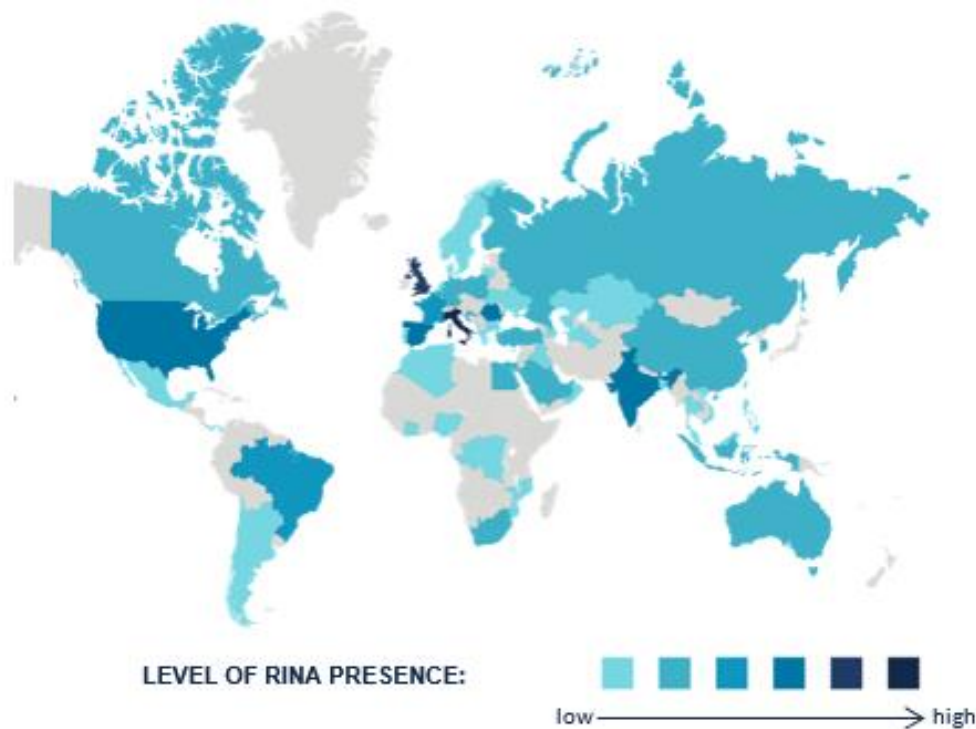
The customer is interested to be supported in understanding long term capacity depletion (saturation) of activated carbon used in drinking water treatment plant (1230 t) and it's possible regeneration. With reference to this request, Rina Consulting – Centro Sviluppo Materiali S.p.A. is pleased to submit the present proposal for the consultancy activity to assess degraded activated carbon possible regeneration.

2 COMPANY PROFILE

RINA provides a wide range of services across the Energy, Marine, Certification, Transport & Infrastructure and Industry sectors.

With a turnover in 2019 of 465 million Euros, over 3,900 employees and 200 offices in 70 countries worldwide, RINA is a member of key international organizations and an important contributor to the development of new legislative standards.

200 OFFICES - 70 COUNTRIES



2.1 Industry Business Unit

The Industry business unit provides high-added value integrated services to all industries, with a special focus on manufacturing, steel and heavy industry, aerospace and defence.

RINA's mission is to support clients in boosting their competitiveness where materials, technologies and Innovation play a critical role, providing confidential expertise for many types of strategic industrial initiatives.

RINA's clients have come to rely on the technical services we provide, helping them make the right management decisions, optimising economics in terms of investment, development, maintenance, repair or replacement strategies, but always setting availability, safety and sustainability as a priority. RINA provides support to clients by strengthening their technical know-how, even providing on-premises capabilities.

Thanks to our international and multidisciplinary teams and to our unrivalled application expertise across all industrial sectors, RINA creates high value by cross-fertilising ideas between different industrial sectors and assessing alternative concepts through our modelling and simulation methodologies.



500+ M€

Added value generated by our projects

12+

High quality steel and market leader clients

300+

Forensic and failure analyses

140+

Successful innovation projects

500k hours/year

10+ B€

Added value of the Space and Defence programme

240,000

E-learning users from the UK Defence sector

50+

Naval combat systems' integration studies

60+

Cyber security assessments

300,000+ hours of engineering per year for Space and Defence sector

With the Industry BU RINA Consulting - Centro Sviluppo Materiali S.p.A (CSM), is the company mainly devoted to the Steel and Heavy industry and materials End Users such as Oil&Gas, Power Gen and Automotive. CSM was founded in 1963 as a Research Center by Italian state-owned steel industry. Since 2013, CSM has been incorporated in RINA group which holds all its share.

CSM activities are mainly related to the development of new materials, the performance assessment of materials and components in new application windows, the optimization and the development of innovative processes, metallurgical design of special steels and alloys, the development of innovative pilot plants, creating special testing equipment and the reduction of environmental impacts.

3 ENVIRONMENTAL PLATFORM

CSM main know how is the materials treatment and recycling, assisting several European costumers operating in different industrial sectors. Furthermore CSM has developed innovative waste recycling and energy recovery technologies and gained experience on a wide typology of waste and industrial residues, both organic and inorganic, including, sorbents (GAC, zeolites, nanotubes, slags), metals, sludges, petrochemical residues for Mo and V recovery, ASR (automotive shredder residue) and plastic waste.

CSM has also a long experience in the recycling of wastes and their use in the manufacturing of new products (e.g. tales, chemicals or building materials);

In this frame the most important targets are the material & energy recovery from industrial residues with a cross-sectorial approach. Numerical simulations and studies of treatment process are then conducted by means of commercial thermodynamic codes or suitable software programs developed by CSM. The final optimized solution identified by CSM is very often a system which integrates innovative technologies with commercial equipment. This enables identification of a preliminary industrial plant configuration, with first estimates of performances, capital cost and operating costs.

High quality laboratories and pilot plants of significant scale allow CSM to carry out these activities.

In particular, referring to GAC regeneration, CSM can simulate the thermal treatment occurring during regeneration process by using static and rotary kilns.



Laboratory and pilot equipment for feasibility studies and experimental campaigns



*Example of industrial scaling-up carried out with CSM contribution
(2 t/h plant for production of grit from ASR fine fraction)*

4 SCOPE OF WORK

The activated carbon, depending on the chemical composition of the water to be treated and plant configuration, usually loses its cleaning properties in a period between 12-24 months.

In order to reply to customer request and to understand how the GAC is saturated during its use, for drinkable water, we suggest to perform the following activities:

- Task 1: Monitoring campaign
- Task 2: Aging tests to understand how GACs perform during the time
- Task 3: Trial tests simulating regeneration treatment
- Task 4: Requirements definition to be specified in the tender specifications for the regeneration activity

RINA will perform the activity with skilled personnel with a long expertise in environmental sector led by Dr. Teresa Beone, with a degree in Chemistry.

Task 1: Monitoring campaign (Leader. Dr. Teresa Beone)

In order to understand the degradation rate of the GAC, it is necessary to characterize them during their use in the plant together with a chemical analysis of the water before and after the treatment. Considering a reference period of 12 months we will characterize GAC samples every 3 months picked up from filters (mixed sample). With each GAC sampling a chemical characterization of the water treated have to be provided.

The samples analysis will be compared with starting values provided in the former activity (as mean value of 64 samples virgin GAC analyzed)

The GAC characterization includes:

- iodine number (ASTM D4607:2014)
- methylene blue number (CEFIC Test Methods for Activated Carbon 1986)
- abrasion number (AWWA B604:96 pt.5.2.6.3.3)
- mesh size and uniformity coefficient (ASTM D2862-92).

- residue at 650°C (EN 12902:2004)

Information/material requested:

- Description of plant facilities scheme
- Process data
- 4 carbon samples (10 kg for sample)

Carbon samples to be sent to:

Rina Consulting – Centro Sviluppo Materiali SpA
c.a. Teresa Beone
Via di Castel Romano 100
00128 Rome – Italy

The tests will be performed at RINA CSM labs and/or at external laboratories under RINA supervision.

Deliverable: Report that describe real degradation curves

Task 2: Aging tests and modelling (Leader. Dr. Teresa Beone)

Specific tests that simulate forced aging of virgin GACs are necessary in order to have a predictive saturation model. Ageing tests on virgin and GAC used in the plant sampled after 6 months will be carried out with a lab filtering pilot plant (composed of a filtration column, a pump and a recirculation tank), working as a closed circuit, that recirculates the water coming from the drinking water plant or synthetic water with relevant parameters to be controlled (prepared by RINA). Trials will be performed in order to determine the saturation curves over time for the different relevant chemical parameters (metals, organic compounds, SST, etc).

The GAC will be also characterized in internal laboratory purposely equipped to make several analytical tests by international standard methods (ASTM AWWA, UNICHIM, CEFIC).

The saturation curves will be tuned with the data coming from the Task 1 to provide a saturation model.

Requested materials: 1 mq inlet water from drinking plant.

Deliverable: Report that describe saturation model and a GAC replacement management plan

Task 3: Trial tests simulating regeneration treatment (Leader. Dr. Ing. Giuseppe Fasli)

The reactivation of spent activated carbons, when it is possible, is always an advantageous operation from two points of view:

- economical reasons (it's possible to recover up to 90 % of exhaust activated carbon for several treatment cycles)
- ecological reasons (avoid the waste disposal of exhaust activated carbon)

The reactivation process creates an extensive pore structure that allows considerable adsorption. For the reactivation trials a rotative furnace (used exclusively for carbon from drinking water plant) working in controlled atmosphere and at different temperature, according to types of activated carbon to be treated, will be used at RINA. Batch tests will be performed using 1-5 kg of GAC.

A complete characterization of the materials from before and after the regeneration tests will be carried out through the equipment present in our laboratories (thermo analysis, optical and electron microscope). The test will provide information about regeneration efficiency and related costs.

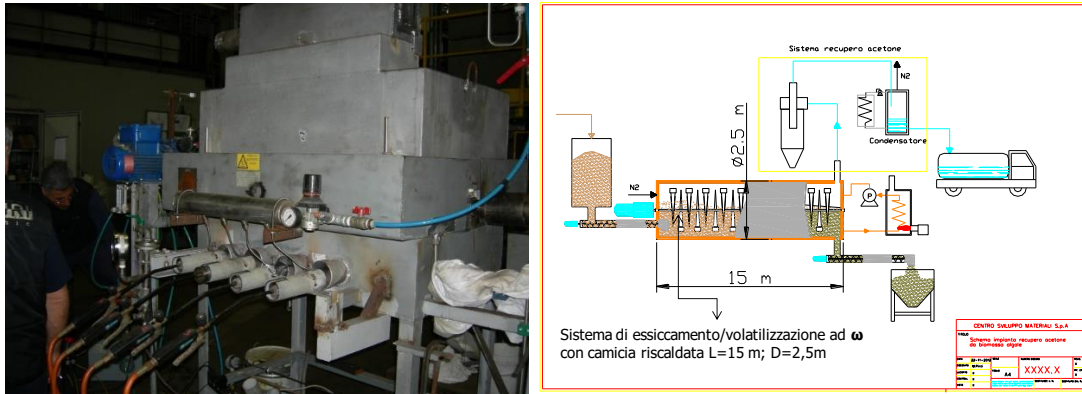


Fig. 1 Rotative furnace for trials

Deliverable: Technical and economic Report for spent activated carbon regeneration.

Task 4: Requirements definition (Leader. Dr. Ing. Giuseppe Fasli)

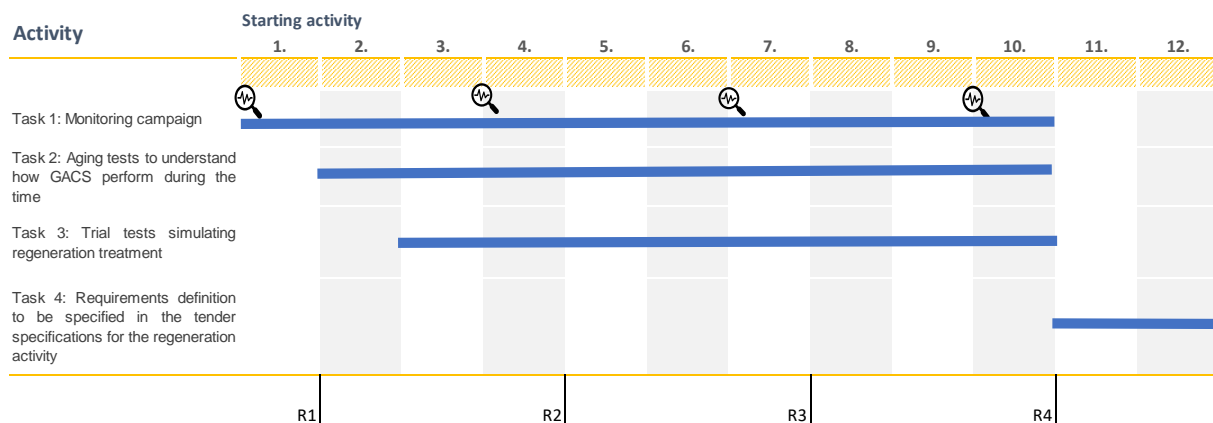
Considering the results coming from the previous tasks RINA will provide a document containing:

- economic analysis of GAC regeneration, which will include all relevant costs associated with this process
- the tender specifications to be used for the regeneration activity including the technical specification requirements for GAC regeneration, handling, packaging, thermal regeneration and reintegration.

Deliverable: Document with technical requirements for GAC regeneration tenders preparation

5 TIMETABLE

All the tasks will be performed in parallel and the total duration of the activity is foreseen in 13 months. Intermediate report will be delivered one month after samples receiving. Considering that the start of the activities will correspond to the delivery of first samples (month 0) and that the samples will be available at RINA premises at months 0, 3, 6, 9 the following scheduling is foreseen:



🔍 GAC Sampling activity

Report 1: Month 1 (including first samples analysis task 1)

Report 2 Month 4 (including second samples analysis task 1 and updating task 2)

Report 3 Month 7 (including third samples analysis task 1 and updating tasks 2, 3)

Report 4 Month 10 (including fourth samples analysis task 1 and final tasks 2, 3)

Report 5 Month 12 (final report task 5)

Reports from 1 to 4 will be delivered one month after samples receiving and Report 5 within 3 months from samples receiving.

6 PRICE

The price for the above mentioned: 88.400 €, VAT not included.

- Task 1 6.200 €
- Task 2 33.000 €
- Task 3 40.000 €
- Task 4 9.200 €

7 PAYMENT TERMS

- ✓ Report 1 delivery – 2.200 €
- ✓ Report 2 delivery – 22.400 €
- ✓ Report 3 delivery – 33.600 €
- ✓ Report 4 delivery - 22.400 €
- ✓ Report 5 Delivery - 7.800€

Payment will take place within 30 days from the date of the invoice.

Payment will be made by bank transfer. Bank account references will be indicated on the invoice.

8 IMPARTIALITY

As regard to the guarantee of impartiality, be informed that RINA consists of the Holding Company RINA S.p.A., that controls and coordinates the two main operational companies RINA Services S.p.A. and RINA Consulting S.p.A..

The main international, EU and national accreditation rules and regulations which define the duties and responsibilities of the conformity assessment bodies highlight the importance of the same to guarantee their impartiality and independence.

The main objective of conformity assessment is in fact to instil trust in the interested parties, the so-called “stakeholders”, who include, depending on the type of assessment, clients, authorities, market and final users.

RINA has adopted a governance model that defines and governs the relationships between the various activities of the Group, in the light of safeguarding impartiality and preventing conflicts of interest, so as to allow the various companies to provide their services, while ensuring compliance with the applicable accreditation and authorization rules.

9 GENERAL CONDITIONS

Project will be accomplished within the scope included in this letter and the attached General Terms and Conditions document.

10 VALIDITY

This offer, issued by e-mail, is valid over 30 days from recorded delivery.

Should the present letter and its annex reflect our understanding and meet your expectations, please return the copy of this letter, and annexes, duly signed to: RINA Consulting - Centro Sviluppo Materiali S.p.A. - Via di Castel Romano, 100 - 00128 – Roma, Italy.

Looking forward to working with you and your team on this challenging strategic program, please do not hesitate to contact us for any comment, question or feedback.

Best Regards,

RINA Consulting - Centro Sviluppo Materiali S.p.A.

Egidio Zanin
Business Development Manager



Signed by : _____

Mark Rieder
Chairman of the Board
Úpravna vody Želivka, a.s.

Signed by : _____

Jiří Rosický
Member of the Board
Úpravna vody Želivka, a.s.

DATE: 29.04.2021



ANNEX: GENERAL TERMS AND CONDITIONS

Hereinafter the general terms and conditions governing the execution of the activities to be performed by RINA Consulting – Centro Sviluppo Materiali S.p.A. for the Customer, to ensure the fulfillment of the activities and services entrusted by the Customer.

Definitions

For the purposes of this document the following acronyms and terms shall have the meanings set out below:

- a. CSM: the company RINA Consulting - Centro Sviluppo Materiali S.p.A..
- b. Customer: the natural or legal person who issues an Order towards CSM as Contractor or Buyer.
- c. Parties: the Customer and CSM referred to individually as “Party” and jointly as “Parties”.
- d. Third Party/ies: any person, whether natural or legal, other than Customer and/or CSM.
- e. Order: the document through which the Customer entrust CSM with the task of performing all the activities described in the specific Business Proposal presented by CSM according to the terms and the conditions defined therein and in the documents therein referred and/or annexed thereto, to be intended as integral part of the Proposal/Order itself.
- f. Business Proposal: the document prepared by CSM for the Customer, including the documents referred to therein, and / or annexed to it, which is the object of the Order.

Art. 1 - Object

The following general terms and conditions regulate and define the execution of each Order issued by the Customer towards CSM for the performance of the activities entrusted to CSM according to the contents of the Business Proposal and the documents referred to therein and / or annexed thereto.

Art. 2 - Legal framework

2.1. The Order / Business Proposal is intended to be governed by the governing law herein and by any applicable regulations and technical provision, as well as by the present general terms and conditions and the particular ones possibly contained in the Business Proposal and in the documents referred to therein and / or annexed thereto, which form integral parts of the Order/Business Proposal itself.

2.2. CSM undertakes to perform the activities under the Order / Business Proposal as an independent Party, through autonomous business organization, with management at its own risk and use of its own capital and staff regularly paid, insured and administered under the applicable labor national provisions and in accordance with the existing legislation on compulsory social security, health and safety at work.

2.3. CSM undertakes to perform the activities entrusted by the Customer as described in the Business Proposal under the strict observance of all applicable laws and regulations, including but not limited to those related

to contracts of employment, safety and hygiene, environmental protection, tax rules and, in general, any rule regarding the activities described in the Business Proposal and conferred by the Customer.

Art. 3 - Finalization of the Order

3.1. The Order is finalized and therefore becomes irrevocable either by the signing of the Business Proposal for acceptance on the part of the Customer or by the issuance of a specific Order expressly indicating the reference number of the Business Proposal on the part of the Customer.

3.2. By signing the Business Proposal for acceptance and / or by issuing the Order relevant to the Business Proposal, the Customer declares to be aware of everything contained in the Business Proposal and in the documents therein referred and/or annexed thereto, including this document.

Art. 4 - CSM's Obligations

In relation to the execution of each Order received by the Customer, CSM expressly undertakes to:

- a) perform all the activities with the utmost care, in accordance to high quality standards and in full compliance with the objectives assigned, constantly informing the Customer of the progress of the activities;
- b) ensure the respect of the timetable for the performances of the activities provided for in the Order / Business Proposal and the fulfillment of the objectives set thereto, except for the cases listed into article 5;
- c) pay, for the entire term of the Order/Business Proposal, anyone involved on its behalf in the execution of the activities of the Order/Business Proposal according to the applicable provisions;
- d) comply with (and enforce his personnel to comply with) any laws for the prevention of work accidents and environmental protection in accordance with applicable law;
- e) ensure that the personnel involved in the performance of the activities referred to in the Order



will own the professional skills and competences required to perform such activities;

- f) ensure the confidentiality of all the proprietary information of the Customer;
- g) ensure that what delivered or provided or performed under the Order / Business Proposal is fully compliant with the provisions of the Order, the Business Proposal and the documents referred to therein and / or annexed;
- h) identify and communicate to the Customer the name of a person in charge for coordinating the activities to be performed as part of the Order / Business Proposal;
- i) provide all the documentation in support of the activities covered by the Order / Business Proposal and the documents referred to therein and / or thereto attached, if any;
- j) accept and operate in full compliance with the Organizational Management and Control Model and the Code of Ethics, if any, adopted by the Customer.

Art. 5 - Delays and extensions

CSM will be entitled to a time extension for the delivery and/or the supply and/or the performance of the activities set out in the Order/Business Proposal in all the cases in which the inability to meet the contractual terms and obligations is due to the followings: a) Force Majeure; b) non-compliance on the part of the Customer with the obligations assumed by signing of the Business Proposal for acceptance and/or by issuing the relevant Order; c) suspensions of the activities imposed by the Customer; d) agreed variants; e) unforeseeable circumstances arising from specific elements and / or technical specifications inherent to the activities referred to the Order / Business Proposal, not attributable to infringements on the part of CSM.

Art. 6 - Force Majeure

6.1. For the purposes of these general terms and conditions by "Force majeure" is meant any unforeseen and inevitable event outside the control of the Parties which prevents one or both Parties to fulfill all or part of its/their obligations.

6.2. Upon the occurrence of an event of Force Majeure, CSM may request an extension of the delivery/supply/performance time by giving written notice to the Customer within seven days from the occurrence of the event and will have to confirm such circumstance within the next fifteen days using documentation certified by the relevant authorities attesting the occurrence of the event.

Art.7 - Variants

7.1. Variants to the Order/Business Proposal (times, prices, quantities, etc.) are not permitted without the prior written consent of both Parties.

7.2. It is understood that all of the changes requested by the Customer during the execution of the Order/Business Proposal causing cost increases to be borne by CSM will require proper renegotiation of the time schedule and of the fees set out in the Order / Business Proposal.

Art. 8 - Fees

The fees agreed and indicated in the Order / Business Proposal are fixed and invariable and shall be intended net of any vat, taxes and duties. Any, VAT, taxes and

duties, where applicable, shall be paid by the Customer in addition to the fees agreed in the relevant Business Proposal/Order.

Art. 9 - Terms of payment and invoicing

9.1. All the payments shall be made by the Customer under the terms of the Order / Business Proposal on presentation of invoices to be issued by CSM in the way set for in the Order / Business Proposal and / or in the documents referred to therein and / or annexed thereto.

9.2. Such payments shall be made by the Customer by bank transfer to the account indicated on the invoice issued by CSM.

9.3. All the invoices shall be settled by the Customer within 30 days from the receipt of each invoice to be sent by email to the address communicated by the Customer in accordance to the provisions set in the Order / Business Proposal and / or in the documents referred to therein and / or annexed thereto.

Art. 10 – Liability

10.1. Neither Party shall be liable for any reason towards the other Party for any kind of special, incidental, indirect and/or consequential damages or losses as well as any direct or indirect loss of use, loss of profits (anticipated or not), loss of production and, loss of business, loss of contract and/or expenses resulting from business interruption, deferral of production, whatever the cause, and irrespective of the legal basis for any such claim.

10.2. CSM's maximum aggregate liability towards Client under or in connection with any Business Proposal/Order, also in case of termination of the Order for any reason, and in connection with the provision of the activities to be performed according to the Order shall be limited to one hundred percent (100%) of the fee to be paid by the Customer to CSM according to the relevant Order, whatever the cause, including but not limited to cumulative causes, with the sole exception of cases of willful misconduct and/or gross negligence by CSM.

Art. 11 - Customer's Obligations

11.1. By signing the Business Proposal for acceptance and/or issuing the Order relevant to the Business Proposal, the Customer undertakes to:

- a) communicate the name of the manager in charge for the supervision of the proper execution of the activities to be performed by CSM;
- b) cooperate with CSM for the best performance of the activities;
- c) provide CSM with all the information and documents necessary for the performance of the activities;
- d) approve any changes required by CSM in order to fulfill its contractual obligations, in compliance with applicable laws and internal company procedures;
- e) authorize CSM personnel to access its premises for the execution of the activities;
- f) where applicable, make available its premises for the execution of the activities; make available to CSM all the tools and instruments and anything else that may be needed for the proper completion of the activities in compliance with all the safety and environmental regulations;



g) pay CSM on time and according to the provisions set for in the Order / Business Proposal and / or in the documents referred to therein and/or annexed thereto;

h) indemnify and hold harmless CSM for harmful events to property and/or persons caused by any failure on the part of the Customer to comply with all applicable laws, standards and / or technical requirements, safety and health regulations;

i) submit to the attention of CSM its Organizational Management and Control Model and its Code of Ethics, if any.

11.2. By accepting the Business Proposal / issuing the Order relevant to the Business Proposal, the Customer also declares to be aware of current regulations on the liability of legal entities and, in particular, of the provisions of Legislative Decree n. 231 June 8, 2001, and to have read the Code of Ethics and the Organizational, Management and Control Model of RINA Group pursuant to such Legislative Decree n. 231/2001.

The Customer warrants, in relations with CSM, to refrain from any behavior that could result in exposure to registration of legal proceedings in relation to offenses which are subject to the penalties provided for in the Legislative Decree n. 231/2001 and recognizes, failing that, the right of CSM to unilaterally withdraw, even in progress, or, at CSM's option, to terminate the Order/Contract/Business Proposal, by simple written communication containing a brief indication of the facts proving the non-compliance with this provision.

The Customer also agrees:

i. not to pay any commission, percentage or otherwise referred utilities to employees and collaborators of CSM;

ii. not to engage in any business relationship with employees or collaborators of CSM that could lead to conflict of interests with the role they held within CSM's organization.

11.3. Without CSM's prior written consent, the Customer undertakes not to, directly or indirectly, solicit for employment any person who is now employed by CSM in an executive or management or senior position or otherwise considered by CSM to be a key employee, during the term of the Order/Business Proposal and for a period of 2 (two) years after its expiry or termination for any reason.

Art. 12 - Confidentiality

12.1. Each Party undertakes to keep strictly confidential and not to disclose to third parties, in whole or in part, in any form, any Confidential Information received from the other Party in relation to the Order, the Business Proposal, all the related contents and objects and all the documents referred therein and/or annexed thereto and, in particular, each Party agrees to:

a. consider all the information and data received from the other Party in relation to the Order, the Business Proposal, all the related contents and objects and all the documents referred therein and/or annexed thereto as Confidential Information and not to reproduce them, in whole or in part, in any form, without the prior written consent of the Disclosing Party;

b. restrict the knowledge of or the access to the Confidential Information only to its staff required to perform the activities, making its staff previously aware of the obligations referred to in this article and binding its staff to respect such obligations;

c. make sure that all the people authorized to have access to the Confidential Information are need to know such information for the sole purpose of the activities referred to in the Order / Business Proposal and in the documents therein recalled and / or annexed thereto;

d. store diligently the Confidential Information by adopting suitable security measures to prevent unauthorized access by third parties;

e. use the Confidential Information only for the agreed purposes of the Order/Business Business Proposal;

12.2. Each Party shall assume all liability for acts or facts possibly attributable to its employees, representatives, consultants or suppliers that for any reason become aware of the Confidential Information and violate the confidential obligations set for in this article, provided that CSM shall not be liable towards the Customer whenever a disclosure occurred despite CSM protected the Confidential Information with the same degree of care (but no less than a reasonable degree of care) as it uses to protect its own Confidential Information.

12.3. The Parties mutually agree that the Confidential Information that each of them will receive from the other, and all the rights of any kind existing on them, without exception, will remain exclusive property and ownership of the Party that disclosed such information and that the signing of the Order and/or the acceptance of the Business Proposal will not lead to the Parties any license, express or implied, relating to inventions or discoveries to which such information refers, nor the granting of any brand or other industrial and / or intellectual property, if not otherwise agreed in written form.

12.4. For the purposes of this Agreement, by way of example and not limitation, "Confidential Information" means all the information and data, tangible and intangible, owned and / or pertaining to a Party, and not known to others, disclosed to the other Party, directly and / or indirectly, in oral and / or written form, regardless of the format or the physical medium in which such information and data are contained, and



i) explicitly declared and / or marked as Confidential Information by the Disclosing Party at the time of transmission to the Receiving Party;

ii) of business, legal, technical, financial, industrial or any other nature;

iii) relating to drawings, plans, financial data, models or mathematical formulas, specifications, patentable and non-patentable technologies, including know-how and trade secrets;

iv) including documents for any reason or in any way arising out of and / or containing the information specified in the activities of the Order/Business Proposal and

v) the negotiations between the Parties in relation to the activities and the contents of any contractual act and agreement between the Parties.

12.5. The followings do not constitute Confidential Information instead:

I) the information and data that are made public or are in the public domain at the time of communication from one Party to the other, or become public

thereafter for reasons other than the infringement of one Party to the confidentiality obligations hereunder;

II) the information and data that are already in the possession of the Receiving Party, provided that the latter shall give immediate notice and evidence to the Disclosing Party;

III) the information and data that have been lawfully communicated to the Receiving Party by a third party, without restriction in relation to their use;

IV) the information and data that have to be disclosed by law or due to measures of a State Authority, provided that the Receiving Party shall promptly give written notice to the other Party, and the communication must be limited to the extent strictly necessary for the performance of the legal obligation.

Art. 13 - Intellectual, industrial and commercial property rights

13.1. Upon completion of the payments due to CSM as consideration according to the relevant Business Proposal/Order, the Customer shall acquire the intellectual property of the results and the deliverables carried out by CSM upon completion of the activities provided for in the relevant Business Proposal/Order as expressly identified by CSM in the Order/Business Proposal itself.

13.2. Each Party is and shall in any event remain the exclusive owner of the know-how and all trademarks, patents, copyrights, technologies, industrial designs, inventions, software, data and other technical information and all related industrial, intellectual and commercial property rights related to:

a) its "Background", meaning all knowledge, information and know-how developed and/or held in any capacity independently by each of the Parties prior to the date of the Order/Business Proposal, even if necessary for the execution of the Order/Business Proposal;

b) its "Sideground", meaning all knowledge, information and know-how developed and acquired by each Party in the course of the execution of the Order/Business Proposal, but outside and independently of the scope of Order/Business Proposal, even if pertinent to the same

object.

Art. 14 – Suspension

14.1. In case of suspension of the activities referred to in the Order/Business Proposal ordered by the Customer, CSM shall be entitled to an extension of the terms of execution of the activities depending on the duration of the suspension, without any additional charge to the contractual consideration, but shall be also entitled to the payment by the Customer of all documented costs and expenses deriving from the suspension.

14.2. In the event that the suspension requested by the Customer has a duration equal to or greater than a quarter of the total duration foreseen for the execution of the activities under the Order/Business Proposal, CSM shall have the right to withdraw unilaterally from the Order and to request the payment of all documented costs and expenses deriving from the suspension in addition to the payment due for all the activities performed until the date of suspension, whether completed or not.

Art. 15 - Termination

15.1. Either Party may terminate this Agreement, in whole or in part, by written notice to the other Party in the event that the other Party breaches any of the terms set forth in the Order/Business Proposal and/or in this document and, if such breach is capable of remedy, fails to remedy it within 15 (fifteen) working days after receipt of written notice giving full details of the breach.

15.2. Each Party shall also be entitled to terminate the Order/Business Proposal if one of the Parties:

a. is unable to meet its debts and / or other obligations under the Order/Business Proposal and / or other contractual acts connected to it; declares its insolvency or is involved in any insolvency or liquidation procedure in any legal system, except for the case in which the continuation of activities is allowed;

b. imposes a suspension for a period equal to or more than a quarter of the planned total duration for the execution of the activities.

15.3. The termination, for any reason, of the Order/Business Proposal shall occur without prejudice to the rights and the remedies accrued in favor of each Party until the date of termination.

15.4. In the event of termination, for whatever reason occurred, CSM shall in any event be paid the fees due as consideration for the part of the activities already performed until the date of termination, whether completed or not, and, if the termination is not due to a breach by CSM, also any documented costs and expenses possibly already borne by CSM for the part of activities not performed.

Art. 16 – Dispute Settlement

All disputes arising out of or in connection with the present document, the Order, the Business Proposal and all the documents referred to therein and/or annexed thereto shall be submitted to and finally settled by arbitration under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules. The seat of arbitration shall be Milan, Italy and the language of arbitration shall be English. The award shall be final and binding upon the Parties and shall assess the fees and expenses of the arbitration procedure as well as the Party who shall bear such fees and expenses.



Art. 17 - Governing Law

The present general terms and conditions, the Order, the Business Proposal and all the documents in them recalled and / or to them annexed shall be governed and interpreted according to the Italian law.

Art. 18 - Miscellaneous

18.1 The delay of a Party to exercise any right under the Order/Business Proposal and the documents referred to therein and / or annexed thereto cannot under any circumstances be construed as a waiver to exercise any existing right.

18.2 Any practice adopted by one of the Parties during the execution of the activity not conform to one or more conditions specified herein or in the Order/Business Proposal and/or in the documents referred to therein and / or annexed thereto, even if repeated over time, will not affect in any way the right of the Party to require the application of the conform condition/s at any time.

18.3 The invalidity, invalidity and unenforceability of any provision of these terms and conditions will not adversely affect the other provisions, which must therefore be interpreted in all their aspects, as if that provision void, invalid or unenforceable is omitted.

The Parties undertake as of now to work in good faith to replace that provision invalid, void or unenforceable provision with another valid, enforceable provision as similar as possible to the content and effects to the one void, invalid or unenforceable.

Art. 19 – Personal data processing

19.1 The Customer personal data are processed by the data Controller in the ways and with the purposes described in the RINA privacy notice given to you pursuant to art. 13 of the Regulation (EU) 2016/679 (hereinafter, the “GDPR”).

19.2. The Controller is RINA S.p.A., whose registered office is in Genoa (GE), via Corsica 12, Fiscal Code and VAT n° 03794120109, as well as the Company(ies) in the RINA Group with which you have and/or may sign a contract.

19.3 The Customer can exercise the rights provided for in articles 15 and following of the GDPR by sending a registered letter to RINA S.p.A., via Corsica 12, 16128 Genoa (Italy), to the attention of the Data Protection Officer, or by sending an e-mail to the address rina.dpo@rina.org.

19.4 The Data Controller may be also contacted via the contact details indicated on the website www.rina.org, as well as at the e-mail address of the Data Protection Officer rina.dpo@rina.org.



ANNEX: GENERAL TERMS AND CONDITIONS

Hereinafter the general terms and conditions governing the execution of the activities to be performed by RINA Consulting – Centro Sviluppo Materiali S.p.A. for the Customer, to ensure the fulfillment of the activities and services entrusted by the Customer.

Definitions

For the purposes of this document the following acronyms and terms shall have the meanings set out below:

- a. CSM: the company RINA Consulting - Centro Sviluppo Materiali S.p.A..
- b. Customer: the natural or legal person who issues an Order towards CSM as Contractor or Buyer.
- c. Parties: the Customer and CSM referred to individually as “Party” and jointly as “Parties”.
- d. Third Party/ies: any person, whether natural or legal, other than Customer and/or CSM.
- e. Order: the document through which the Customer entrust CSM with the task of performing all the activities described in the specific Business Proposal presented by CSM according to the terms and the conditions defined therein and in the documents therein referred and/or annexed thereto, to be intended as integral part of the Proposal/Order itself.
- f. Business Proposal: the document prepared by CSM for the Customer, including the documents referred to therein, and / or annexed to it, which is the object of the Order.

Art. 1 - Object

The following general terms and conditions regulate and define the execution of each Order issued by the Customer towards CSM for the performance of the activities entrusted to CSM according to the contents of the Business Proposal and the documents referred to therein and / or annexed thereto.

Art. 2 - Legal framework

2.1. The Order / Business Proposal is intended to be governed by the governing law herein and by any applicable regulations and technical provision, as well as by the present general terms and conditions and the particular ones possibly contained in the Business Proposal and in the documents referred to therein and / or annexed thereto, which form integral parts of the Order/Business Proposal itself.

2.2. CSM undertakes to perform the activities under the Order / Business Proposal as an independent Party, through autonomous business organization, with management at its own risk and use of its own capital and staff regularly paid, insured and administered under the applicable labor national provisions and in accordance with the existing legislation on compulsory social security, health and safety at work.

2.3. CSM undertakes to perform the activities entrusted by the Customer as described in the Business Proposal under the strict observance of all applicable laws and regulations, including but not limited to those related

to contracts of employment, safety and hygiene, environmental protection, tax rules and, in general, any rule regarding the activities described in the Business Proposal and conferred by the Customer.

Art. 3 - Finalization of the Order

3.1. The Order is finalized and therefore becomes irrevocable either by the signing of the Business Proposal for acceptance on the part of the Customer or by the issuance of a specific Order expressly indicating the reference number of the Business Proposal on the part of the Customer.

3.2. By signing the Business Proposal for acceptance and / or by issuing the Order relevant to the Business Proposal, the Customer declares to be aware of everything contained in the Business Proposal and in the documents therein referred and/or annexed thereto, including this document.

Art. 4 - CSM's Obligations

In relation to the execution of each Order received by the Customer, CSM expressly undertakes to:

- a) perform all the activities with the utmost care, in accordance to high quality standards and in full compliance with the objectives assigned, constantly informing the Customer of the progress of the activities;
- b) ensure the respect of the timetable for the performances of the activities provided for in the Order / Business Proposal and the fulfillment of the objectives set thereto, except for the cases listed into article 5;
- c) pay, for the entire term of the Order/Business Proposal, anyone involved on its behalf in the execution of the activities of the Order/Business Proposal according to the applicable provisions;
- d) comply with (and enforce his personnel to comply with) any laws for the prevention of work accidents and environmental protection in accordance with applicable law;
- e) ensure that the personnel involved in the performance of the activities referred to in the Order



will own the professional skills and competences required to perform such activities;

- f) ensure the confidentiality of all the proprietary information of the Customer;
- g) ensure that what delivered or provided or performed under the Order / Business Proposal is fully compliant with the provisions of the Order, the Business Proposal and the documents referred to therein and / or annexed;
- h) identify and communicate to the Customer the name of a person in charge for coordinating the activities to be performed as part of the Order / Business Proposal;
- i) provide all the documentation in support of the activities covered by the Order / Business Proposal and the documents referred to therein and / or thereto attached, if any;
- j) accept and operate in full compliance with the Organizational Management and Control Model and the Code of Ethics, if any, adopted by the Customer.

Art. 5 - Delays and extensions

CSM will be entitled to a time extension for the delivery and/or the supply and/or the performance of the activities set out in the Order/Business Proposal in all the cases in which the inability to meet the contractual terms and obligations is due to the followings: a) Force Majeure; b) non-compliance on the part of the Customer with the obligations assumed by signing of the Business Proposal for acceptance and/or by issuing the relevant Order; c) suspensions of the activities imposed by the Customer; d) agreed variants; e) unforeseeable circumstances arising from specific elements and / or technical specifications inherent to the activities referred to the Order / Business Proposal, not attributable to infringements on the part of CSM.

Art. 6 - Force Majeure

6.1. For the purposes of these general terms and conditions by "Force majeure" is meant any unforeseen and inevitable event outside the control of the Parties which prevents one or both Parties to fulfill all or part of its/their obligations.

6.2. Upon the occurrence of an event of Force Majeure, CSM may request an extension of the delivery/supply/performance time by giving written notice to the Customer within seven days from the occurrence of the event and will have to confirm such circumstance within the next fifteen days using documentation certified by the relevant authorities attesting the occurrence of the event.

Art.7 - Variants

7.1. Variants to the Order/Business Proposal (times, prices, quantities, etc.) are not permitted without the prior written consent of both Parties.

7.2. It is understood that all of the changes requested by the Customer during the execution of the Order/Business Proposal causing cost increases to be borne by CSM will require proper renegotiation of the time schedule and of the fees set out in the Order / Business Proposal.

Art. 8 - Fees

The fees agreed and indicated in the Order / Business Proposal are fixed and invariable and shall be intended net of any vat, taxes and duties. Any, VAT, taxes and

duties, where applicable, shall be paid by the Customer in addition to the fees agreed in the relevant Business Proposal/Order.

Art. 9 - Terms of payment and invoicing

9.1. All the payments shall be made by the Customer under the terms of the Order / Business Proposal on presentation of invoices to be issued by CSM in the way set for in the Order / Business Proposal and / or in the documents referred to therein and / or annexed thereto.

9.2. Such payments shall be made by the Customer by bank transfer to the account indicated on the invoice issued by CSM.

9.3. All the invoices shall be settled by the Customer within 30 days from the receipt of each invoice to be sent by email to the address communicated by the Customer in accordance to the provisions set in the Order / Business Proposal and / or in the documents referred to therein and / or annexed thereto.

Art. 10 – Liability

10.1. Neither Party shall be liable for any reason towards the other Party for any kind of special, incidental, indirect and/or consequential damages or losses as well as any direct or indirect loss of use, loss of profits (anticipated or not), loss of production and, loss of business, loss of contract and/or expenses resulting from business interruption, deferral of production, whatever the cause, and irrespective of the legal basis for any such claim.

10.2. CSM's maximum aggregate liability towards Client under or in connection with any Business Proposal/Order, also in case of termination of the Order for any reason, and in connection with the provision of the activities to be performed according to the Order shall be limited to one hundred percent (100%) of the fee to be paid by the Customer to CSM according to the relevant Order, whatever the cause, including but not limited to cumulative causes, with the sole exception of cases of willful misconduct and/or gross negligence by CSM.

Art. 11 - Customer's Obligations

11.1. By signing the Business Proposal for acceptance and/or issuing the Order relevant to the Business Proposal, the Customer undertakes to:

- a) communicate the name of the manager in charge for the supervision of the proper execution of the activities to be performed by CSM;
- b) cooperate with CSM for the best performance of the activities;
- c) provide CSM with all the information and documents necessary for the performance of the activities;
- d) approve any changes required by CSM in order to fulfill its contractual obligations, in compliance with applicable laws and internal company procedures;
- e) authorize CSM personnel to access its premises for the execution of the activities;
- f) where applicable, make available its premises for the execution of the activities; make available to CSM all the tools and instruments and anything else that may be needed for the proper completion of the activities in compliance with all the safety and environmental regulations;



g) pay CSM on time and according to the provisions set for in the Order / Business Proposal and / or in the documents referred to therein and/or annexed thereto;

h) indemnify and hold harmless CSM for harmful events to property and/or persons caused by any failure on the part of the Customer to comply with all applicable laws, standards and / or technical requirements, safety and health regulations;

i) submit to the attention of CSM its Organizational Management and Control Model and its Code of Ethics, if any.

11.2. By accepting the Business Proposal / issuing the Order relevant to the Business Proposal, the Customer also declares to be aware of current regulations on the liability of legal entities and, in particular, of the provisions of Legislative Decree n. 231 June 8, 2001, and to have read the Code of Ethics and the Organizational, Management and Control Model of RINA Group pursuant to such Legislative Decree n. 231/2001.

The Customer warrants, in relations with CSM, to refrain from any behavior that could result in exposure to registration of legal proceedings in relation to offenses which are subject to the penalties provided for in the Legislative Decree n. 231/2001 and recognizes, failing that, the right of CSM to unilaterally withdraw, even in progress, or, at CSM's option, to terminate the Order/Contract/Business Proposal, by simple written communication containing a brief indication of the facts proving the non-compliance with this provision.

The Customer also agrees:

i. not to pay any commission, percentage or otherwise referred utilities to employees and collaborators of CSM;

ii. not to engage in any business relationship with employees or collaborators of CSM that could lead to conflict of interests with the role they held within CSM's organization.

11.3. Without CSM's prior written consent, the Customer undertakes not to, directly or indirectly, solicit for employment any person who is now employed by CSM in an executive or management or senior position or otherwise considered by CSM to be a key employee, during the term of the Order/Business Proposal and for a period of 2 (two) years after its expiry or termination for any reason.

Art. 12 - Confidentiality

12.1. Each Party undertakes to keep strictly confidential and not to disclose to third parties, in whole or in part, in any form, any Confidential Information received from the other Party in relation to the Order, the Business Proposal, all the related contents and objects and all the documents referred therein and/or annexed thereto and, in particular, each Party agrees to:

a. consider all the information and data received from the other Party in relation to the Order, the Business Proposal, all the related contents and objects and all the documents referred therein and/or annexed thereto as Confidential Information and not to reproduce them, in whole or in part, in any form, without the prior written consent of the Disclosing Party;

b. restrict the knowledge of or the access to the Confidential Information only to its staff required to perform the activities, making its staff previously aware of the obligations referred to in this article and binding its staff to respect such obligations;

c. make sure that all the people authorized to have access to the Confidential Information are need to know such information for the sole purpose of the activities referred to in the Order / Business Proposal and in the documents therein recalled and / or annexed thereto;

d. store diligently the Confidential Information by adopting suitable security measures to prevent unauthorized access by third parties;

e. use the Confidential Information only for the agreed purposes of the Order/Business Business Proposal;

12.2. Each Party shall assume all liability for acts or facts possibly attributable to its employees, representatives, consultants or suppliers that for any reason become aware of the Confidential Information and violate the confidential obligations set for in this article, provided that CSM shall not be liable towards the Customer whenever a disclosure occurred despite CSM protected the Confidential Information with the same degree of care (but no less than a reasonable degree of care) as it uses to protect its own Confidential Information.

12.3. The Parties mutually agree that the Confidential Information that each of them will receive from the other, and all the rights of any kind existing on them, without exception, will remain exclusive property and ownership of the Party that disclosed such information and that the signing of the Order and/or the acceptance of the Business Proposal will not lead to the Parties any license, express or implied, relating to inventions or discoveries to which such information refers, nor the granting of any brand or other industrial and / or intellectual property, if not otherwise agreed in written form.

12.4. For the purposes of this Agreement, by way of example and not limitation, "Confidential Information" means all the information and data, tangible and intangible, owned and / or pertaining to a Party, and not known to others, disclosed to the other Party, directly and / or indirectly, in oral and / or written form, regardless of the format or the physical medium in which such information and data are contained, and



i) explicitly declared and / or marked as Confidential Information by the Disclosing Party at the time of transmission to the Receiving Party;

ii) of business, legal, technical, financial, industrial or any other nature;

iii) relating to drawings, plans, financial data, models or mathematical formulas, specifications, patentable and non-patentable technologies, including know-how and trade secrets;

iv) including documents for any reason or in any way arising out of and / or containing the information specified in the activities of the Order/Business Proposal and

v) the negotiations between the Parties in relation to the activities and the contents of any contractual act and agreement between the Parties.

12.5. The followings do not constitute Confidential Information instead:

I) the information and data that are made public or are in the public domain at the time of communication from one Party to the other, or become public

thereafter for reasons other than the infringement of one Party to the confidentiality obligations hereunder;

II) the information and data that are already in the possession of the Receiving Party, provided that the latter shall give immediate notice and evidence to the Disclosing Party;

III) the information and data that have been lawfully communicated to the Receiving Party by a third party, without restriction in relation to their use;

IV) the information and data that have to be disclosed by law or due to measures of a State Authority, provided that the Receiving Party shall promptly give written notice to the other Party, and the communication must be limited to the extent strictly necessary for the performance of the legal obligation.

Art. 13 - Intellectual, industrial and commercial property rights

13.1. Upon completion of the payments due to CSM as consideration according to the relevant Business Proposal/Order, the Customer shall acquire the intellectual property of the results and the deliverables carried out by CSM upon completion of the activities provided for in the relevant Business Proposal/Order as expressly identified by CSM in the Order/Business Proposal itself.

13.2. Each Party is and shall in any event remain the exclusive owner of the know-how and all trademarks, patents, copyrights, technologies, industrial designs, inventions, software, data and other technical information and all related industrial, intellectual and commercial property rights related to:

a) its "Background", meaning all knowledge, information and know-how developed and/or held in any capacity independently by each of the Parties prior to the date of the Order/Business Proposal, even if necessary for the execution of the Order/Business Proposal;

b) its "Sideground", meaning all knowledge, information and know-how developed and acquired by each Party in the course of the execution of the Order/Business Proposal, but outside and independently of the scope of Order/Business Proposal, even if pertinent to the same

object.

Art. 14 – Suspension

14.1. In case of suspension of the activities referred to in the Order/Business Proposal ordered by the Customer, CSM shall be entitled to an extension of the terms of execution of the activities depending on the duration of the suspension, without any additional charge to the contractual consideration, but shall be also entitled to the payment by the Customer of all documented costs and expenses deriving from the suspension.

14.2. In the event that the suspension requested by the Customer has a duration equal to or greater than a quarter of the total duration foreseen for the execution of the activities under the Order/Business Proposal, CSM shall have the right to withdraw unilaterally from the Order and to request the payment of all documented costs and expenses deriving from the suspension in addition to the payment due for all the activities performed until the date of suspension, whether completed or not.

Art. 15 - Termination

15.1. Either Party may terminate this Agreement, in whole or in part, by written notice to the other Party in the event that the other Party breaches any of the terms set forth in the Order/Business Proposal and/or in this document and, if such breach is capable of remedy, fails to remedy it within 15 (fifteen) working days after receipt of written notice giving full details of the breach.

15.2. Each Party shall also be entitled to terminate the Order/Business Proposal if one of the Parties:

a. is unable to meet its debts and / or other obligations under the Order/Business Proposal and / or other contractual acts connected to it; declares its insolvency or is involved in any insolvency or liquidation procedure in any legal system, except for the case in which the continuation of activities is allowed;

b. imposes a suspension for a period equal to or more than a quarter of the planned total duration for the execution of the activities.

15.3. The termination, for any reason, of the Order/Business Proposal shall occur without prejudice to the rights and the remedies accrued in favor of each Party until the date of termination.

15.4. In the event of termination, for whatever reason occurred, CSM shall in any event be paid the fees due as consideration for the part of the activities already performed until the date of termination, whether completed or not, and, if the termination is not due to a breach by CSM, also any documented costs and expenses possibly already borne by CSM for the part of activities not performed.

Art. 16 – Dispute Settlement

All disputes arising out of or in connection with the present document, the Order, the Business Proposal and all the documents referred to therein and/or annexed thereto shall be submitted to and finally settled by arbitration under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules. The seat of arbitration shall be Milan, Italy and the language of arbitration shall be English. The award shall be final and binding upon the Parties and shall assess the fees and expenses of the arbitration procedure as well as the Party who shall bear such fees and expenses.



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18.2 Any practice adopted by one of the Parties during the execution of the activity not conform to one or more conditions specified herein or in the Order/Business Proposal and/or in the documents referred to therein and / or annexed thereto, even if repeated over time, will not affect in any way the right of the Party to require the application of the conform condition/s at any time.

18.3 The invalidity, invalidity and unenforceability of any provision of these terms and conditions will not adversely affect the other provisions, which must therefore be interpreted in all their aspects, as if that provision void, invalid or unenforceable is omitted.

The Parties undertake as of now to work in good faith to replace that provision invalid, void or unenforceable provision with another valid, enforceable provision as similar as possible to the content and effects to the one void, invalid or unenforceable.

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19.3 The Customer can exercise the rights provided for in articles 15 and following of the GDPR by sending a registered letter to RINA S.p.A., via Corsica 12, 16128 Genoa (Italy), to the attention of the Data Protection Officer, or by sending an e-mail to the address rina.dpo@rina.org.

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