Autorità di Sistema Portuale
del Mar Ionio

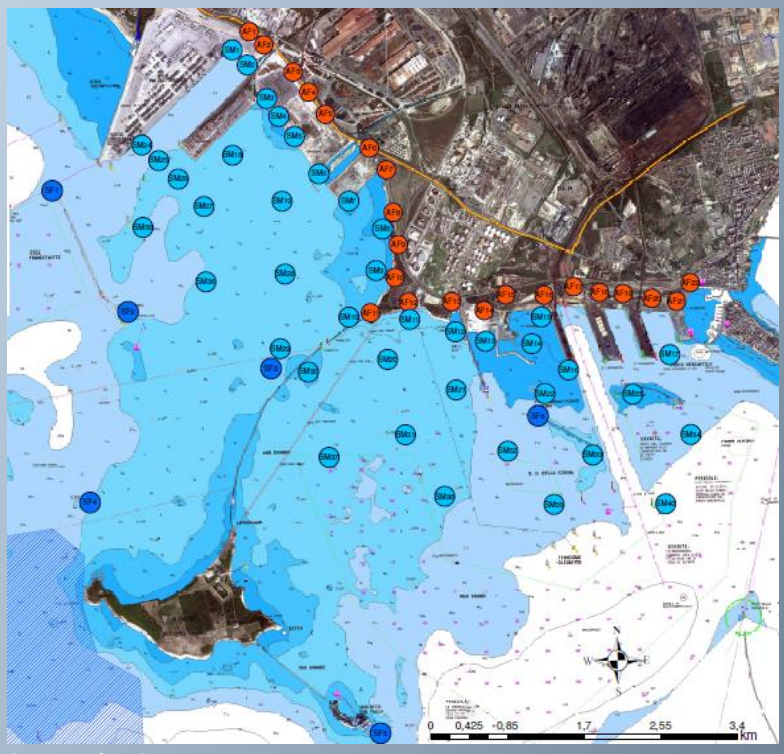
INTEGRATED ENVIRONMENTAL MONITORING OF THE TARANTO PORT AREA:

Implementation and long-term management of an area monitoring network to control the overall quality status of the Taranto port land-sea system.

SERVICE PROJECT

TECHNICAL REPORT

(Art. 23 paragraph 15 of Legislative Decree no. 50/16 and subsequent amendments and integrations)



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Port Network Authority of the Ionian Sea

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Port Network Authority of the Ionian Sea

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1. INTRODUCTION

Over the course of these years, this Administration has carried out punctual environmental monitoring that was not coeval, as it was only related to the specific infrastructural intervention being carried out, whose impact on the surrounding area was to be monitored.

With this service project, the Authority intends to contract the implementation and long-term management of an area monitoring network to control the overall quality status of the land-sea system of the Port of Taranto. The objective of this tender is, in fact, to carry out monitoring activities in the entire port area through a network of homogeneously distributed stations/measuring points, through which a defined set of parameters relating to all the environmental matrixes of interest can be systematically measured over time. In this way, it will be possible to have a comprehensive and multi-temporal picture of the state of quality of the land-sea system under examination, on the basis of which it will be possible to validate the hypotheses regarding the criticalities linked to port activities and infrastructural interventions both in progress and those envisaged by the new Port Master Plan (approved by Regional Council Resolution no. 1384 of 23 July 2019), verify the impacts and measure the effectiveness of the mitigation measures adopted.

The area monitoring network was designed, as better specified in the tender specifications, based on the INTEGRATED MONITORING PLAN (so-called IMP), drawn up on behalf of this Administration by the Department of Civil, Environmental, Land, Building Engineering and Chemistry (D.I.C.A.T.E.Ch.) of the Polytechnic University of Bari (just Framework Agreement no. 82 from the AP Register of Private Deeds), also based on the prescriptions of the Determination of the Director of the Ecology Service of the Apulia Region no. 78 of 06/04/2012. In fact, in said Determination, as part of the reasoned opinion relative to the Strategic Environmental Assessment of the New Master Plan of the Port of Taranto, this Administration was prescribed "...*omitted... to draw up a Monitoring Plan and implement the relative monitoring system*".

The cited IMP (attached to the present document) has been implemented, starting from the monitoring plans of the individual infrastructure works planned at the time, so as to release them from their spatial fragmentary nature and the temporal deviations of their schedules. In fact, while retaining the monitoring points already provided for certain environmental matrices, the D.I.C.A.T.E.Ch provided for additional measuring stations (so as to homogeneously cover the entire port area) and defined monitoring frequencies regardless of the state of execution of any infrastructural works and their specific environmental monitoring plans.

Within the framework of '"area" monitoring, individual monitoring plans can, therefore, begin at any time, without the risk of compromising the seamless acquisition of large-scale information, thanks to which, in addition to being able to monitor the impacts arising from the execution of ongoing infrastructure works and the implementation of the new Port Regulatory Plan, it will be possible to have a broad and coherent vision of the dynamics at work in the port.

It should be noted, in any case, that in this service project put out to tender, reference is made in some passages to the infrastructural intervention (e.g. new breakwater, reclaimed water basin west of Punta Rondinella, etc.) for the sole purpose of easier geolocalisation of the area of interest and of the monitoring stations, which are in any case renamed with respect to the codes used in the IMP. Therefore, the concept of "ante" (before) "in" and "post-operam" (after), sometimes present in the IMP, no longer makes sense, as the planned area monitoring network is completely independent of the state of implementation of the Works, presenting for all environmental matrices monitoring frequencies on an annual basis.

Furthermore, it should be pointed out that in this service project, for intervening needs of this Administration, additional stations/monitoring points have been added for some environmental matrices compared to those foreseen in the IMP of the D.I.C.A.T.E.Ch., for which specific measurements have been implemented.

Finally, it is emphasised that this Administration could decide, with adaptive procedures, to maintain the planned area monitoring network in the long term, as a tool for continuous control of port environmental quality.

This service project was drafted by the Authority 's in-house technicians, who were supported by the technical-administrative support of DIPAR (Framework Agreement No. 93 of 15/01/2018 and subsequent Implementing Agreement No. 93 of 15/01/2018) for the preparation of the documentation required by Article 23 of the Legislative Decree 50/2016 and subsequent amendments and additions.

2. OBJECT OF THE TENDER

The contractor will be responsible for the implementation and long-term management of an area monitoring network to control the quality status of the following environmental matrices: **"Water", "Air", "Noise", "Soil", "Sediments", "Flora and Fauna", "Filter Feeders" and "Benthos"**.

In particular, the contractor shall perform the following activities:

a) Rental, installation and maintenance of the planned instrumentation for the purpose of the area monitoring;

b) Monitoring and control of the overall quality status of the land-sea system through:

- the sampling service of environmental matrices at regular and scheduled intervals;
- the service of analysing the matrices investigated;
- the measuring point restoration service.

c) Management of environmental data through a dedicated information system/platform, which will have to have different users (AdSP, control units and stakeholders with different levels of access to data) to allow each one to consult the continuously measured data and the parameters determined in the laboratory at any time during the execution of the service;

d) Quarterly transmission of a report of the activities carried out during each monitoring quarter, to the Contracting Authority. The contractor is also obliged to submit a Comprehensive Report of the first 24 actual months of monitoring as well as, at the simple request of the Contracting Authority, also Partial Reports during the course of the service. The submission of monitoring outcome reports should also include the transmission of data in tabular (excel sheets) and georeferenced vector (shapefiles) format.

In view of the above, the contractor shall make use of specific technical skills for each of the aforementioned monitoring and management activities of the environmental data acquired and, therefore, shall include in its organisational structure at least:

- No. 1 technician graduated in Biological Sciences registered with the National Order of Biologists;
- No. 1 technician graduated in Chemical Sciences registered with the Territorial Order of Chemists;
- No. 1 doctor of agronomy registered at the CONAF;
- No. 1 technician registered in the National List of Acoustic Technicians, pursuant to Legislative Decree No. 42/2017;
- No. 1 technician graduated in Geological Sciences registered with the Regional Order of Geologists;
- No. 1 technician graduated in computer science or equivalent degree.

In addition, notwithstanding the provisions of Chapter 7 concerning the Contractor's obligations, the Contractor shall employ a person with a cross-sectoral coordination function between the various techno-environmental and IT sectors related to the data management information system.

The contractor shall, therefore, appoint an "Environmental/Operational Manager" with, by way of example and not limitation, the following duties and responsibilities as a priority:

- to be the operational liaison officer with this Administration for the whole duration of the contract;
- verify, through regularly scheduled checks, that the monitoring activities are carried out correctly;
- ensure that the sector experts are coordinated whenever the issues to be addressed require them to do so;
- ensure compliance with the time schedule of monitoring activities;
- participate in any on-site inspections and meetings with control units;
- participate in any 1st and 2nd level controls (carried out by Managing Authorities and/or Audit Authorities) and in all further levels of control for the verification of granted funding.

2.1 DESCRIPTION OF THE MONITORING ACTIVITY

In general, the monitoring activities involve, depending on the environmental matrix, the use of sensors/measuring stations and/or the collection of samples (in double portions) to be subjected to analysis (by a laboratory with UNI CEI EN ISO/IEC 17025:2018 quality certification) to determine the chemical/biological/ecotoxicological parameters of interest.

Below there is a brief description of the monitoring activities planned for each matrix.

For further details, please refer to the Special Descriptive and Performance Specifications.

2.1.1. "Water" Matrix (Sea Water and Underground Water)

The monitoring of the '"Water" Matrix, distinguished by "Sea Water" and "Underground Water", includes the following types of networks:

- a general network of 10 fixed stations for surveying seawater (see annex No. 1);
- a general network of 46 mobile stations for surveying seawater (see annex no. 1);
- a general network of 26 ground piezometers (homogeneously distributed along the coastline) to detect underground water (see annex no. 2).

The following activities are to be carried out in correspondence of no. 6 fixed stations (SF1 to SF6):

1) Measurement of depth, pH, temperature and conductivity (from which salinity is derived), dissolved oxygen, redox potential, chlorophyll(a) and turbidity - Continuous monitoring with a fixed multi-parametric probe, placed at a depth equal to half the distance between the surface and the seabed;
2) Measurement of depth, pH, temperature and conductivity (from which salinity can be derived), dissolved oxygen, redox potential, chlorophyll(a) and turbidity - Monitoring along the water column on a quarterly basis using a hand-held probe;
3) Detection of current direction and speed - Continuous monitoring with fixed current meter;
4) Detection of current direction and speed - Quarterly monitoring using a hand-held current meter;
5) Water sampling with determination of the following parameters: : TSS and TOC (on the as-is), microbiological analysis (including Escherichia coli, Total Coliform Bacteria, Streptococcus Faecalis, Salmonella, Clostridium perfringens Spores), ecotoxicological assays, metals (in particulate and dissolved forms), hydrocarbons C<12 and C>12 (particulate), PAHs (total and speciation, with particular reference to benzo(J)fluoranthene and benzo(a)pyrene) and PCBs (total and speciation) at high resolution (particulate), Organotin Compounds (OTCs), including TBT (particulate) - Monitoring on a quarterly basis.

The following activities are to be carried out in correspondence of no. 4 fixed stations on the seaside (SF7 to SF10):

1) Measurement of depth, pH, temperature and conductivity (from which salinity is derived), dissolved oxygen, redox potential, chlorophyll(a) and turbidity - Continuous monitoring with a fixed multi-parametric probe, placed at a depth equal to half the distance between the surface and the seabed;
2) Detection of current direction and speed - Continuous monitoring with fixed current meter;
3) Water sampling with determination of the following parameters: : TSS and TOC (on the as-is), microbiological analysis (including Escherichia coli, Total Coliform Bacteria, Streptococcus Faecalis, Salmonella, Clostridium perfringens Spores), ecotoxicological assays, metals (in particulate and dissolved forms), hydrocarbons C<12 and C>12 (particulate), PAHs (total and speciation, with particular reference to benzo(J)fluoranthene and benzo(a)pyrene) and PCBs (total and speciation) at high resolution (particulate), Organotin Compounds (OTCs), including TBT (particulate) - Monitoring on a quarterly basis.

In addition, at one of the 10 fixed stations (SF1 to SF10) the Contractor shall install a Doppler current profiler capable of continuously measuring directional wave parameters (by way of example and not limited to: Significant Wave Height, Mean Wave Direction, Peak Wave Direction, Mean Wave Period, Peak Wave Period, etc.....). For this reason, one of the ten fixed monitoring stations will also continuously measure wave parameters, in addition to the aforementioned physical water parameters and the direction and speed of currents.

The following activities are to be carried out in correspondence of no. 39 mobile stations on the seaside (SM1 to SM39):

1) Measurement of depth, pH, temperature and conductivity (from which salinity can be derived), dissolved oxygen, redox potential, chlorophyll(a) and turbidity - Monitoring on a quarterly basis using a hand-held probe;
2) Detection of current direction and speed - Quarterly monitoring using a hand-held current meter;
3) Water sampling with determination of the following parameters: TSS and TOC (on the as-is), microbiological analysis (including Escherichia coli, Total Coliform Bacteria, Streptococcus Faecalis, Salmonella, Clostridium perfringens Spores), ecotoxicological assays, metals (in particulate and dissolved forms), hydrocarbons C<12 and C>12 (particulate), PAHs (total and speciation, with particular reference to benzo(J)fluoranthene and benzo(a)pyrene) and PCBs (total and speciation) at high resolution (particulate), Organotin Compounds (OTCs), including TBT (particulate) - Monitoring on a quarterly basis.

Due to intervening requirements, the monitoring of the sea water matrix, in addition to the aforementioned 39 mobile monitoring stations (initially envisaged by the D.I.C.A.T.E.Ch.) will also have to be carried out at a further 7 stations (SM40 to SM46), at which the following will have to be performed:

1) Measurement of depth, pH, temperature and conductivity (from which salinity is derived), dissolved oxygen, redox potential, chlorophyll(a) and turbidity - 2 monitoring campaigns over the three-year period (summer and late autumn/winter);
2) Detection of current direction and speed - 2 monitoring campaigns over the three-year period (summer and late autumn/winter);
3) Water sampling with determination of the following parameters: TSS and TOC (on the as-is), microbiological analysis (including Escherichia coli, Total Coliform Bacteria, Streptococcus Faecalis, Salmonella, Clostridium perfringens Spores), ecotoxicological assays, metals (in particulate and dissolved forms), hydrocarbons C<12 and C>12 (particulate), PAHs (total and speciation, with particular reference to benzo(J)fluoranthene and benzo(a)pyrene) and PCBs (total and speciation) at high resolution (particulate), Organotin Compounds (OTCs), including TBT (particulate) - Monitoring on a quarterly basis. 1) no. 2 monitoring campaigns over the three-year period (summer and late autumn/winter)

Finally, the following operations are to be carried out in correspondence of the 26 piezometers:

1) Measurement of depth, pH, temperature and conductivity (from which salinity can be derived), dissolved oxygen, redox potential, chlorophyll(a) and turbidity - Monitoring on a quarterly basis using a hand-held probe;
2) Water sampling with determination of the following parameters: TSS and TOC (on the as-is), microbiological analysis (including Escherichia coli, Total Coliform Bacteria, Streptococcus Faecalis, Salmonella, Clostridium perfringens Spores), ecotoxicological assays, metals (in particulate and dissolved forms, with particular reference to Aluminium, Iron, Manganese and Vanadium), hydrocarbons C<12 and C>12 (particulate), PAHs (total and speciation, with particular reference to benzo(J)fluoranthene and benzo(a)pyrene) and PCBs (total and speciation) at high resolution (particulate), Organotin Compounds (OTCs), including TBT (particulate) - Monitoring on a quarterly basis.

Furthermore, in correspondence with no. 3 piezometers (which will be defined downstream of the delivery of the service upon proposal of the Contractor and shared with ARPA Puglia), the analyses referred to in Table 2, Annex 5 Part IV of Legislative Decree 152/06 will be carried out on a quarterly basis. 152/06.

In addition to the above, the Contractor shall carry out vapour monitoring at no. 5 piezometers (AF17, AF18, AF21, AF22 and AF23), the location of which is indicated in Annex no. 2. The measurement of gas emission fluxes shall be carried out only twice during the service (at the beginning and end of the three-year period), preferably in a direct manner, using a concentration chamber (fluxchamber) connected to a suction device (suction pump) and sampling device (activated carbon cartridges), consistent with the method adopted during previous campaigns carried out by this AdSP in compliance with the prescriptions formulated by the Ministry of Ecological Transition (then MATTM) during the decisive Services Conference of 13.10.2014.

The parameters to be researched are the Aliphatic Chlorinated Carcinogenic Compounds (Trichloromethane, Vinyl Chloride and Tetrachloroethylene) and the Halogenated Carcinogenic Compounds (Dibromocloromethane and Bromodichloromethane), as these are the ones for which the AdR drawn up by the AdSP had shown a greater contribution to the total calculated risk.

The following table shows the monitoring frequencies.

MATRIX	ACTIVITY DESCRIPTION	FREQUENCY FIXED STATIONS	FREQUENCY No. 39 MOBILE STATION (SM1 to SM39)	FREQUENCY No. 7 MOBILE STATIONS (SM40 to SM46)
Sea water	1) Detection of multi-parametric profiles and currents 2) Collection of samples for chemical, biological and ecotoxicological analysis	1a) Punctual continuous detection of multi-parameter profiles and currents (no. 9 stations) 1b) Punctual continuous detection of multi-parameter profiles, currents and wave parameters (no. 1 station) 1c) Quarterly detection with current meter and hand-held probe along the water column (no. 6 stations SF1 to SF6) 2) Quarterly (10 stations)	1) Quarterly detection with current meter and hand-held probe along the water column 2) Quarterly	1) no. 2 monitoring campaigns over the three-year period (summer and late autumn/winter) 2) no. 2 monitoring campaigns over the three-year period (summer and late autumn/winter)
Underground water	1) Multi-parameter profile detection (in correspondence of no. 26 piezometers) 2) Collection of samples for chemical, physical and microbiological analyses (in correspondence of no. 26 piezometers) 3) Collection of samples to determine the parameters in the following table 2, Annex 5 Part IV of the Legislative Decree 152/06 (in correspondence of no. 3 piezometers) 152/06 (in correspondence of no. 3 piezometers) 4) Vapour monitoring in correspondence of no. 5 piezometers (AF17, AF18, AF21, AF22 and AF23)	1) Quarterly 2) Quarterly 3) Quarterly 4) no. 2 monitoring campaigns over the three-year period	-	-

Table 1: Summary of Monitoring Frequencies of the Water Matrix

Annexes 1 and 2 show the codes of each of the aforementioned monitoring stations and an indicative representation of their location. In fact, following the delivery of the service, the Contractor shall carry out an inspection to choose, jointly with the Contracting Authority, the points both on land and at sea where to install the monitoring stations, taking into account, among other things, any indications from ARPA Puglia, the position of the emission sources, port operations, any requirements of the AdSP and/or any infrastructural works.

2.1.2. "Air" matrix

As far as the air matrix is concerned, no. 3 fixed monitoring stations (A1, A2 and A3) are to be provided, i.e. cabins for air quality control, also including a control unit for the determination of weather-climate parameters (wind direction and speed, temperature, humidity, atmospheric pressure and precipitation, global solar radiation).
The following parameters are to be measured at the monitoring stations:

- PM_{10} and $PM_{2,5}$, SO_2, $NO/NO_2/NO_x$, CO, O_3 and BTEX continuously by automatic analysers;
- PTS-PM_{10}-$PM_{2.5}$ with gravimetric analysis;
- PAHs and Metals (Pb, Cd, As and Ni) on PM_{10} and $PM_{2.5}$
- Weather and climate parameters.

The following table shows the monitoring frequencies.

MATRIX	ACTIVITY DESCRIPTION	FREQUENCY
Air	1) Detection of PM_{10} and $PM_{2,5}$, SO_2, $NO/NO_2/NO_x$, CO, O_3 and BTEX with automatic analyser; 2) Compound Speciation 3) Meteorological Parameters	1) Continuously 2) Duration of 30 days at the start of each reference quarter 3) Continuously

Table 2: Summary of Air Matrix Monitoring Frequencies

Annex 3 shows the codes of each of the aforementioned monitoring stations and an indicative representation of their location. In fact, following the delivery of the service, the Contractor shall carry out an inspection to choose, jointly with the Contracting Authority, the points where to install the monitoring stations (which may also be near the port area), taking into account, among other things, any indications by ARPA Puglia, the position of the emission sources, port operations, the requirements of the AdSP and/or any infrastructural works.

2.1.3. "Noise" Matrix

With regard to the noise matrix, four control units (R0, R1, R2 and R3) are to be provided for long-term, Class 1 noise monitoring, compliant with IEC 61672-1:2013 and IEC 61260-1:2014.

The following parameters are to be measured at the monitoring stations:

- Sound pressure level;
- Equivalent continuous level defined by ISO standards Leq(A) per hour over 24 hours;
- Leq(A) over the daytime period (6 am to 10 pm);
- Leq(A) over the nighttime period (10 pm to 6 am);
- Percentile levels, calculated on the entire data set: L90, L50, L10, L5;
- Lmax and Lmin levels related to the observation time intervals;
- Peak level;
- Background noise levels (LAF);
- Time history of sound level;
- Direction of a noise source.

The following table shows the monitoring frequencies.

MATRIX	ACTIVITY DESCRIPTION	FREQUENCY
Noise	Sound pressure level monitoring, Leq(A), percentile levels, Lmax and Lmin, background noise levels, peak level, sound level time history, direction of a noise source (R1, R2 and R3 units)	Duration of 30 days at the start of each reference quarter
	Sound pressure level monitoring, Leq(A), percentile levels, Lmax and Lmin, background noise levels, peak level, sound level time history, direction of a noise source (R0 control unit)	No. 1 campaign of 30 days during the three-year period

Table: 3 Summary of Noise Matrix Monitoring Frequencies

Annex 4 shows the codes of each of the aforementioned monitoring stations and an indicative representation of their location. In fact, after delivery of the service, the Contractor shall carry out an inspection to choose, together with the Contracting Authority, the points where to position the measurement stations (which may also be near the port), taking into account, among other things, any indications from ARPA Puglia, the position of the emission sources, port operations, the requirements of the AdSP and/or any infrastructural works.

2.1.4. "Soil" Matrix

As for the soil matrix, in particular, the following should be monitored:

- the evolution of the shoreline and beach profiles in the stretch of coastline west of the Multipurpose Pier (4 km long), in order to assess possible unforeseen impacts due to the new breakwater to be built in the future;
- the suitability for the development of vegetation in the area of the reclaimed land west of Punta Rondinella (subject to renaturalisation) through the determination of the following parameters at 15 stations (S1 to S15): pH, organic substance, nitrogen, phosphorus, total limestone, cation exchange capacity, exchangeable bases (calcium, magnesium, potassium), porosity and salinity.

The following table shows the monitoring frequencies.

MATRIX	ACTIVITY DESCRIPTION	FREQUENCY
Soil	1) Monitoring shoreline evolution and beach profiles in the stretch along the coast west of the Multipurpose Pier	Every six months throughout the duration of the tender for 7 campaigns in total
	2) Monitoring the renaturalisation of the reclaimed water basin west of Punta Rondinella	no. 2 campaigns over the three-year period

Table: 4 Summary of Soil Matrix Monitoring Frequencies

In Annex 5 the position of the monitoring points is represented in an indicative manner, which can only be precisely defined following the completion of the service, depending on any indications from ARPA Puglia, port operations, any intervening needs and/or infrastructural works in progress.

2.1.5. "Sediments" Matrix

As for the sediment matrix, the following shall be performed:

1) the collection of the first 20 cm of sediment at 10 sampling points (SED1, SED2, SED3, SED4, SED5, SED6, SED7, SED8; SED9 and SED10), in order to determine the following parameters:
   - Particle-size distribution;
   - Metals;
   - C>12, C<12 hydrocarbons and total hydrocarbons;
   - PAHs (total and speciation);
   - PCBs (totals and speciation);
   - Pesticides;
   - Organotin compounds;
   - TOC;
   - pH;
   - ORP;
   - Nutrients (Nitrogen: ammoniacal, nitric, nitrous, total; Phosphorus: orthophosphates
2) the determination of "Sedimentation rates" (total sediment flux, terrigenous flux, mineralogical and dimensional analysis) and acute toxicity phenomena (by means of ecotoxicology tests) at no. 5 Sediment traps (SED11, SED12, SED13, SED14 and SED15), with simultaneous determination of: particle-size distribution, metals, C<12, C>12 hydrocarbons and total hydrocarbons, PAHs (total and speciation), PCBs (total and speciation), organotin compounds, TOC, pH, ORP and nutrients.

The following table shows the monitoring frequencies.

MATRIX	ACTIVITY DESCRIPTION	FREQUENCY

Sediments	1. Collection of samples at 10 points for chemical analysis (SED1, SED2, SED3, SED4, SED5, SED6, SED7, SED8, SED9 and SED10)	Quarterly
	2a) Determination of "sedimentation rates", acute toxicity phenomena (using ecotoxicology tests) and particle-size distribution, metals, hydrocarbons, PAHs, PCBs, organotin compounds, TOC, pH, ORP and nutrients at SED11, SED13 and SED15	Monthly for the duration of the tender
	2b) Determination of '"sedimentation rates", acute toxicity phenomena (using ecotoxicology tests) and particle-size distribution, metals, hydrocarbons, PAHs, PCBs, organotin compounds, TOC, pH, ORP and nutrients at SED 12 and SED14	Monthly for a total duration of 12 months defined by the Contracting Authority

Table 5: Summary of Sediments Matrix Monitoring Frequencies

Annex 6 shows the codes of each of the aforementioned monitoring stations and an indicative representation of their location. In fact, following the delivery of the service, the Contractor shall carry out an on-site inspection to choose, jointly with the Contracting Authority, where to install the monitoring stations, taking into account, among other things, any indications from ARPA Puglia, the position of the emission sources, port operations, any requirements of the Port System Authority and/or any infrastructural works.

2.1.6. "Flora and Fauna" Matrix

As for the flora and fauna matrix, the monitoring will mainly concern the areas affected by the implementation of specific infrastructural interventions, such as the "Strada dei Moli", the "Vasca di colmata ad Ovest di Punta Rondinella" and the "Nuova Diga Foranea", in order to verify the efficiency of their landscape insertion.
Below is a description of the monitoring activities to be carried out for each of these areas:

1) Area "**Strada dei Moli**": a mapping of the vegetation (tree and shrub species) along a strip running from north to south of the reclaimed water basin west of Punta Rondinella is to be carried out in order to verify the growth and evolution of the newly formed phytocoenosis. In particular, the Contractor, taking into account the species planted (see Appendix no. 10 - cod. Document 0996_G2UOAA105) shall determine:
    - % rooting (for each species and each planting area);
    - localisation of mortality related failures and determination of causes;
    - visual inspection of biological characteristics, consisting of an assessment of vitality conditions (foliage, bark, branching, etc.);
    - measurement of plant heights and stem diameters.

1. Area **"Vasca di colmata ad ovest di Punta Rondinella**": a floristic census of the species present in the area is to be carried out, estimating the abundance/dominance of the species for each layer of the vegetation formation and the level of coverage of the herbaceous vegetation (so-called phytosociological survey by means of 17 transects, from FF2 ÷ FF18).
2. **"Nuova Diga Foranea" area:** monitoring shall cover the following components:
    a) Phytoplanktonic and zooplanktonic populations: monitoring must be carried out by means of sampling at two heights (mid-water column and bottom) at no. 7 points (FF19 ÷ FF25), in order to carry out:
        - Qualitative-quantitative analysis of phytoplankton, with particular reference to diatoms and dinoflagellates (cell density and taxonomic composition);
        - Qualitative-quantitative analysis of zooplankton.

    b) fish stocks: monitoring may be carried out in the area of the new breakwater using *visual census* techniques. The presence of Pinna Nobilis must also be checked (for its possible transfer to a place indicated by the Apulia Region) and visual monitoring must be carried out to detect the presence of marine mammals or sea turtles in the stretch of water.
    c) benthic populations: monitoring will have to cover both soft-bottom and hard-bottom populations. The seabed should be monitored with periodic ROV inspections and sampling. In particular, the conditions of the SCI IT9130008 Posidonia "Isola di San Pietro - Torre Canneto" will be assessed by means of phenological analyses, Posidonia density measurements, and a survey of the seabed with a high-resolution multibeam echosounder. The surveys will be controlled by ROV visual inspection with underwater camera.

In addition to all the above, the Contractor will have to perform a six-month survey of Posidonia and Cymodocea at two areas (FF26 and FF27) with a radius of at least 50 metres.

The following table shows the monitoring frequencies.

MATRIX	ACTIVITY DESCRIPTION	MONITORING FREQUENCY
Flora and Fauna	1) Vegetation Measurement (FF1)	1) no. 1 campaign during the three-year period
	2) Floristic Analysis and Phytosociological Mapping (FF2 ÷ FF18)	2) no. 1 campaign during the three-year period
	3a) Qualitative-quantitative analysis of phyto-zooplanktonic populations (points FF19÷ FF25) 3b) Fish population monitoring ("Nuova Diga Foranea" area) 3c) Monitoring SIC POSIDONIETO "Isola di San Pietro - Torre Canneto"	3a) annual for a total of no. 3 campaigns in the three-year period 3b) no. 2 campaigns over the three-year period 3c) annual for a total of no. 3 campaigns in the three-year period
	4) Posidonia and Cymodocea measurement in areas FF26 and FF27	4) every six-months for a total amount of no. 7 campaigns

Table 6: Summary of "Flora and Fauna" Matrix Monitoring Frequencies

Annex 7 shows the monitoring points in an approximately way. In fact, following the delivery of the service, the Contractor shall carry out an on-site inspection to choose, jointly with the Contracting Authority, where to install the monitoring stations, taking into account, among other things, any indications from ARPA Puglia, port operations, any requirements and/or any infrastructural works.

2.1.7. Matrix "Filtering organisms"

As for the filter organisms matrix, the '"Mussel Watch" protocol must be carried out at 9 points (OF1 to OF9) in order to determine the following parameters:

- Metals ICP/MS determination;
- C>12 hydrocarbons;
- PAHs (total and speciation, with particular reference to benzo(J)fluoranthene and benzo(a)pyrene);
- High resolutions PCBs (totals and speciation);
- Organotin compounds;

The following table shows the monitoring frequencies.

MATRIX	ACTIVITY DESCRIPTION	MONITORING FREQUENCY
Filtering organisms	Implementation of the Mussel Watch system and sampling for chemical analysis (stations OF 1 to OF7)	Annual frequency for a total of no. 3 campaigns over the three-year period (Sampling 4 weeks after the laying of the individuals).
	Implementation of the Mussel Watch system and sampling for chemical analysis (stations OF 8 and OF9)	No. 1 campaign during the three-year period (Sampling 4 weeks after laying the individuals).

Table 7: Summary of Filtering Organism Matrix Monitoring Frequencies

Annex 8 shows the codes of each of the aforementioned monitoring stations and an indicative representation of their location. In fact, following the completion of the service, the Contractor shall carry out an on-site inspection to choose, jointly with the Contracting Authority, where to install the monitoring stations, taking into account, among other things, any indications from ARPA Puglia, the position of the emission sources, port operations and/or any infrastructural works.

2.1.8. "Benthos" Matrix

As for the "Benthos" matrix, at no. 7 points (B1 to B7) sediment samples must be taken for the recognition and counting of the biocoenosis present with the determination of the relative characteristic indexes.

The activities, in general, will consist of:

- Determination of the composition and abundance of benthic macroinvertebrates and reporting of sensitive taxa;

- Analysis of benthic macroinvertebrates for the determination of the ecological status of coastal sea waters. The index to be applied for the assessment of ecological status, using the macrobenthic communities of coastal sea waters, is the M-AMBI.

Monitoring, therefore, will include an activity to recognise the presence of the Biocenosis (counting of species and individuals) with the determination of their characteristic indexes:

- Specific diversity index (Shannon and Weaver, 1949);
- Equiriparation index (Pielou, 1966);
- Dominance index (Simpson, 1949);
- Index of specific richness (Margalef, 1958).

The following table shows the monitoring frequencies.

MATRIX	ACTIVITY DESCRIPTION	MONITORING FREQUENCY
Benthos	Sampling for recognition and counting of present biocoenosis (points B1 to B6)	Quarterly
	Sampling for recognition and counting of present biocoenosis (point B7)	no. 1 campaign during the three-year period

Table 8: Summary of "Benthos" Matrix Monitoring Frequencies

Annex 9 shows the codes of each of the aforementioned monitoring stations and an indicative representation of their location. In fact, following the completion of the service, the Contractor shall carry out an on-site inspection to choose, jointly with the Contracting Authority, where to install the monitoring stations, taking into account, among other things, any indications from ARPA Puglia, the position of the emission sources, port operations and/or any infrastructural works.

2.1.9. Monitoring data management

The Contractor shall design, implement and set up a data management system through a software platform integrated with all sensors in the port and to be prepared. On the platform, the Contractor shall enter both all georeferenced data, in open and standard format, resulting from the tender service, and "other monitoring data" resulting from the implementation of the individual monitoring plans of the works in progress or, in any case, of the future works included in the annual lists.

For further details, please refer to the Special Descriptive and Performance Specifications.

3. DURATION OF SERVICE

The service includes two distinct phases:

- the installation of the rented instrumentation, subject to positive verification of the same by the DEC (director of execution in service and supply contracts) through the acquisition of the technical data sheets together with a table of comparison, prepared by the Contractor, between the characteristics of the instrumentation foreseen in the CSDP (Common Security and Defence Policy) and that proposed (which must be identical to that offered during the tender or, if not possible, with characteristics equivalent to or higher than those indicated in the technical offer) and subject to the Contractor obtaining all the necessary authorisations (e.g. the Taranto Port Captaincy, the Italian Navy Lighthouse and Signal Directorate, etc.), to be carried out within 5 months.), to be carried out within 5 months (i.e. 150 natural and consecutive days) from the service delivery report. This period also includes the implementation of the platform dedicated to data management and sharing, and the calibration phase of the equipment and validation of the acquired data. Within the aforementioned five-month period, the Contractor shall submit to the Contracting Authority a report of the activities performed (for details, see paragraph 2.11 of the CSDP), on the basis of which the DEC will be able to verify the correct installation and functionality of the equipment, as well as the preparation and commissioning of the dedicated platform. This verification must be carried out within 30 days after the submission of the report, subject to the completeness of the report and its consistency with the Specifications;

- the monitoring of the overall quality status of the port area's land-sea system and the management of the environmental data collected through a dedicated information system/platform. This monitoring and management phase can only start after a positive verification by the DEC on the basis of the acquired report.

The service therefore has a maximum duration of 42 months - it should be noted that a month means, in any case, 30 natural and consecutive days - starting from the service handover report, of which:

- 6 months from the handover report for the installation of the equipment (maximum 5 months) and DEC verifications (maximum 1 month);
- 36 effective months of monitoring and related management of the acquired environmental data, starting from the approval by the DEC.

In the event that the time required for installation of the equipment and verification by the DEC is less than 6 months, the 36 months of monitoring and related management of environmental data will effectively run from the date of the approval by the DEC.

Should the Contracting Authority need to continue the integrated monitoring of the port area after the expiry of the Contract, pending the selection procedure of the new contractor, it reserves the right - pursuant to section 106, c. 11 of Legislative Decree no. 50/2016 - to extend its duration for the time necessary to conclude the new tender procedure. In this case, the Contractor shall be obliged to perform the services at the same prices, terms and conditions envisaged in the contract, or more favourable to the Contracting Authority, until the conclusion of the procedures necessary for the identification of a new contractor and, in any case, for a period not exceeding 3 months from the expiry date of the contract. In this case, the Contractor shall be obliged to extend the term of its insurance cover and increase the sum secured. If the Contracting Authority avails itself of the extension option, it shall notify the Contractor by Certified E-Mail.

4. DESCRIPTION OF THE AREA OF INTEREST

The planned monitoring network will cover the port areas on land and sea areas between the Multipurpose Pier and the Pier 1.

The aforementioned area is subdivided, on land, into operational areas, strictly related to port operations for the unloading and loading of goods (docks and/or quays) and into areas for the storage of materials.

Port areas are, moreover, characterised by the presence of technological and port facilities and roads frequently used by exceptional transport and/or public safety vehicles.

Part of the quays are free of concessions (port activities of loading and unloading of various goods are carried out on them); the remaining quays are under a maritime state-owned concession.

BERTH DENOMINATION	STATE
Quay 1	Free area
Pier 1 East Side	Free area
Pier 1 Head	Free area
Pier 1 West Side	Free area unless space is occupied by the marquee for Acciaierie d'Italia's Cruises and Railway Line
Quay 2	Free area unless spaces behind the quay are occupied by Cementi Centro Sud and the Acciaierie d'Italia Railway Line
Pier 2 East Side	Under concession to Acciaierie d'Italia
Pier 2 Head	Under concession to Acciaierie d'Italia

Pier 2 West Side	Under concession to Acciaierie d'Italia
Quay 3	Under concession to Acciaierie d'Italia
Pier 3 East Side	Under concession to Acciaierie d'Italia
Pier 3 Head	Under concession to Acciaierie d'Italia
Pier 3 West Side	Under concession to Acciaierie d'Italia
Quay 4	Under concession to Cemitaly Spa
Pier 4 East Side	Under concession to Cemitaly Spa
Pier 4 East Side	Under concession to Acciaierie d'Italia
Pier 4 Head	Under concession to Acciaierie d'Italia
Pier 4 West Side	Free area
New Quay (with Dock)	Free area
New Dock - east	Currently free - under management through Ordinance 402/2021 (PC)
New Dock - west	Currently free - under management through Ordinance 402/2021 (PC)
Oil jetty	Under concession to Eni Spa
Buoy field	Under concession to Eni Spa
Pier 5 (West Pier)	Under concession to Acciaierie d'Italia
Quay 5	Free area
Multipurpose Pier	Under concession to SCCT

Table 9: Summary port piers

5. AMOUNT OF THE TENDER

The total amount of the service tendered was ***€ 10,595,377.03,*** broken down as follows:

A)	*Amount of the service*	*€*	*10,461,110.63*
B)	*Safety charges (not subject to discount)*	*€*	*80,908.61*
C)	*Covid charges (if any)*	*€*	*53,357.79*
Total amount of the service		***€***	***10,595,377.03***

Table *10*: *AMOUNT OF THE TENDER*

The amounts relating to the safety charges set forth in points B) and C) are not subject to tender discounts pursuant to Article 23, paragraph 15 of Legislative Decree No. 50/2016 as amended and point 4.1.4 of Annex XV to Legislative Decree No. 81 of 2008.

The contractual amount, in fact, will consist of the amount referred to in point A), net of the percentage discount offered by the Contractor in the tender, increased by the charges for the implementation of the safety plans.

The amounts are not subject to VAT pursuant to Article 9(1)(6) of Presidential Decree No. 633/1972 as supplemented by Law No. 90/1990.

6. OVERALL ECONOMIC FRAMEWORK

Below is the overall economic framework of the service, including the amounts available to the Administration.

A - SERVICES		**amount €**
A.1	Amount of the service	€ 10,461,110.63
A.2	Safety charges (not subject to discount)	€ 80,908.61
A.3	Covid charges (if any)	€ 53,357.79
A	**TOTAL AMOUNT OF THE SERVICE**	**€ 10,595,377.03**
B - SUM AVAILABLE TO THE ADMINISTRATION		**amount €**
B.0	Extension option (3 months) pursuant to Art. 106 of Legislative Decree 50/2016	€ 882,948.09
B.1	Unforeseen situations	€ 58,267.34
B.2	Any additional services in economy and laboratory analyses pursuant to Art. 106 of Legislative Decree 50/2016	€ 1,300,000.00
B.3	Expenses for support activities to the Single Project Manager (*including technical assistance for monitoring/reporting of possible funding*)	€ 200,000.00
B.4	Incentive for the activities of Project Manager, Contract Execution Manager and conformity checks, in addition to the activities referred to in Art. 113 paragraph 3 of Legislative Decree 50/2016 - innovation fund referred to in Art. 113 paragraph 4 of Legislative Decree 50/2016	€ 211,907.54
B.5	Contracting commission expenses	€ 50,000.00
B.6	Tender publicity and notice of initiation of proceedings - ANAC contribution	€ 1,500.00
B.7	Any additional checks to be paid by the Contracting Authority to be reimbursed on invoice to the contractor pursuant to DM 49/2018 other than those already included in the CSDP	€ 700,000.00
B	**TOTAL AMOUNT AVAILABLE TO THE ADMINISTRATION**	**€ 3,404,622.97**
C - TOTAL AMOUNT		**€ 14,000,000.00**

Table *11*: *Overall economic framework*

The provisions of Article 106 of Legislative Decree 50/16 on the modification of contracts during the period of effectiveness apply to the service.

Pursuant to paragraph 1, letter e) of Article 106 of Legislative Decree 50/2006, an amount of up to € 1,300,000.00 may be used by the Contracting Authority to have the Contractor perform additional monitoring activities with respect to those envisaged, both in terms of parameters and frequencies, in the event of the Administration's requirements or in the event of prescriptions by the competent Authorities. In this case, the Contracting Authority shall compensate such services by applying, where available, the prices set out in the contract price list. If the prices in the contract price list do not include those for supplementary activities, new prices shall be formed, which shall be determined by the DEC (Director of execution) on the basis of the price lists in force or, in their absence, on the basis of price analyses. These prices will subsequently be shared with the Contractor by the signing of a minute of agreement of the new prices. Such activities will be started from time to time following the issuance by the DEC of orders that will contain the indication of the activities to be performed, the technical specifications relating to the activities required and the metric calculation.

7. CONTRACTOR'S OBLIGATIONS AND RESPONSIBILITIES

The charges to be borne by the Contractor, pursuant to Art. 32 of the Special Descriptive and Performance Specifications, are listed below:

- ensure continuity of service and compliance with sampling/ surveying/monitoring frequencies;
- acquire any licence, concession, authorisation or enabling/permissive measure, however named, necessary to be able to operate in the areas covered by the service and/or to carry out what is the subject of this tender (e.g. the Taranto Port Captaincy, the Italian Navy Lighthouse and Signal Direction, etc.). Any delays ascribable to the issue of said authorisations shall not constitute grounds for the Contractor to make claims and/or

demands of any kind, or to claim compensation and/or indemnity, it being understood that the issue of the aforesaid authorisations is at the Contractor's exclusive charge and risk, also for the purposes of the application of penalties;

- acquire, prior to the commencement of activities, the authorisations for personnel and vehicles to enter the port, by submitting the relevant application to the relevant office of the Contracting Authority;
- equip itself with everything necessary to carry out the service, including work equipment, consumables, fuel, lubricants, personal protective equipment, safety signs, etc., in order to carry out the service in a workmanlike manner and in compliance with the regulations in force;
- ensure "full service" maintenance of the equipment supplied for the entire duration of the tender, with charges included in the contract price, to be carried out by specialised and qualified personnel in accordance with the regulations in force at the contractor's expense;
- comply, at its own expense, with the provisions indicated in paragraph 1 "MONITORING ACTIVITIES AND TECHNICAL SPECIFICATIONS" on page 28 of Part Two of the CSDP;
- carry out, at its own expense, on the measuring instrumentation all the QA/QC checks according to the methods and periodicity described in the regulations and technical standards, using all the necessary tools and accessories;
- keep in perfect working order all the equipment installed as part of the service in question, and do whatever is necessary to guarantee its safety; in the event of malfunctions, damage, theft, etc., the equipment must be restored by the Contractor, who must, in any case, always guarantee the continuity of the service and compliance with the monitoring frequencies;
- comply with any commitments undertaken in the technical offer, without any additional burden or fulfilment for the Port System Authority;
- employ its own staff, with the exception of subcontracting;
- apply normative conditions to workers that are not inferior to those resulting from collective labour agreements in the locations and times in which the service is performed. The successful tenderer is also liable for compliance with this obligation in the case of subcontracting, subject to the legal provisions;
- notify the Administration, prior to the execution of the service, of the address to which all communications relating to the execution of the services covered by the Contract must be addressed, as well as all urgent communications and/or service orders that the DEC intends to send to the Contractor;
- appoint its own Environmental/Operational Manager for the duration of the service. Any change must be communicated, in the modalities set out in the CSDP, within the next 48 hours of the change;
- transmit the company's safety organisation chart, its Risk Assessment Document (DVR), the Operational Safety Plan (POS) and the Single Document for the Assessment of Interference Risks (DUVRI), already drawn up by the AdSP and integrated by the Contractor in the parts for which it is competent, in addition to communicating the name of the Prevention and Protection Service Manager (RSPP) in accordance with Legislative Decree no. 81/2008 and subsequent amendments and additions;
- transmit the executive timetable of the service, including the sampling/reporting schedule of the environmental matrices (to be carried out according to the frequencies indicated in the Tender Specifications), in order to be shared with the Contracting Authority;
- submit a quarterly report of the activities carried out, as well as a Comprehensive Report of the activities carried out in the first 24 months of actual monitoring and, upon simple request by the Contracting Authority, also Partial Reports during the execution of the service. The submission of monitoring outcome reports should

also include the transmission of data in tabular (excel sheets) and georeferenced vector (shapefiles) format. The structure of the data to be transmitted must also take into account any indications from ARPA Puglia;

- comply with the requirements that, although not of an official nature, are requested by the competent technical bodies of the Port System Authority or of other Authorities having jurisdiction over the places and the subject of this tender;
- perform the service without interfering with or disrupting port activities;
- deal, when necessary, with the terminal/port operators for the execution of the service;
- make their operators aware of the specific risks associated with the service;
- provide the expenses for the adoption of whatever is necessary to guarantee life and safety of the staff assigned to the service and of third parties, as well as to avoid damage to public and private properties; all responsibility therefore falls to the Contractor, with full discharge of the Administration as well as of the staff assigned by the Administration to the management and supervision. The Contractor is obliged to immediately replace any personnel who is injured, ill or on holiday or who, for any other reason, is not on duty, so as to ensure continuity;
- provide the necessary guarantees and insurance coverage as set out in the contract outline, as well as those provided for by current legislation or in any case necessary due to the subject of the tender, the personnel employed and/or the places where it is to be performed;
- notify the DEC of any damage caused to third parties and report it to its insurance company for compensation. Also report any other irregularities observed in the performance of the service;
- implement procedures based on the utmost transparency and on criteria of rapidity and ease that allow the Port System Authority to become immediately aware of facts, situations, anomalies, disservices, user complaints, problems of any kind concerning the services covered by the tender;
- apply existing environmental legislation and observe general and local pollution regulations. In this regard, it is specified that all responsibility will therefore be borne by the Contractor, with the full relief of both the Port System Authority and its supervising personnel;
- comply with the organisation's environmental policy guidelines, which can be found and consulted on the institutional website;
- comply with the Three-Year Plan for the Prevention of Corruption and Transparency and the code of conduct for AdSP employees, published on the Entity's website;
- respect the Integrity Pact;
- dispose of all waste materials and waste produced at its own expense in accordance with the regulations in force;
- manage the material from the surveys and, if necessary, dispose of it at its own expense;
- keep all portions of the samples taken for at least six months after the end of the service and then dispose of them at its own expense in accordance with the regulations in force;
- provide for the payment of all costs of the contract, registration, copying of deeds, and any other fees and taxes related to the service;
- providing and managing the Cloud for the dedicated platform at its own expense;
- ensuring the maintenance of the dedicated portal with the regular updating of all software and systems, in order to prevent security issues, ensure software compatibility with new technologies and compliance with regulatory developments;

- ensure training and information activities regarding the use of the dedicated platform;
- upon completion of the contract, the dedicated portal will remain the property of the administration. The contractor, therefore, will have to ensure all the necessary support to take over the cloud service contract eventually signed by the contractor and/or for the migration to the AdSP's servers, as well as for the future functionality of the portal, also providing the architecture and archive resulting from the management of the portal on a rigid support;
- inform the Contracting Authority, under penalty of legal termination of the Contract, of the names of the subcontractors or sub-subcontractors that the Contractor uses, for any reason whatsoever, to perform the Service;
- continue the service, even in the event of disputes or delay in payment by the Contracting Authority, and not suspend or delay the service, except in cases of force majeure;
- provide the Contracting Authority with all the necessary support (accounting, administrative, etc.) for the reports needed to maintain the active sources of financing for the service in question;
- provide the Contracting Authority with all the support during the 1st and 2nd level controls (carried out by the Managing and/or Audit Authorities) and all further levels of control for the verification of the granted funding;
- provide the Contracting Authority with the necessary support for any interlocutions with the competent bodies in environmental issues (e.g. MITE; ARPA, etc.).;
- In the event that the monitoring equipment installed requires building works and a stable connection to the electricity network, it will be the Contractor's responsibility to carry out their construction and the necessary connections and/or connections, also in coordination with the company that maintains the facilities in the port area on behalf of the Contracting Authority. Any new supplies, where necessary, will be the responsibility of the contractor.
- provide any state fees in the event that it decides to set up a logistical area in the port to carry out the service;
- release the Contracting Authority from any and all liability and/or intervention, of whatever nature and/or kind, present or future, with reference to the service covered by this contract;
- fully indemnify and hold harmless the Contracting Authority from any and all liability that may arise, for any reason, title and/or cause whatsoever, as a result of damages suffered and/or incurred by persons and/or property, including those of third parties, due to and/or in connection with the performance of the service;
- fully indemnify and hold the Contracting Authority harmless, assuming responsibility for them, from any and all liability, damages, actions - including those of an enforceable nature - recourse, claims that the Contracting Authority may incur from anyone and for any reason, title and/or cause whatsoever, arising from the performance of the contract;
- provide all the tools and methodologies, including the relevant documentation, to ensure high service levels, including those related to security and confidentiality, and to enable the ENTITY to monitor the compliance of the provision of services with the standards set out in the Contract and, in particular, with the technical specifications of the CSDP;
- promptly notify any changes in its organisational structure involved in the performance of the Contract, indicating in detail the changes that have occurred;

In addition, the Contractor shall, at its own care and expense, provide the Contracting Authority with the necessary equipment, means and staff for monitoring the progress of the service and for checking conformity. It is therefore part of the Contractor's obligations:

- make available a portable probe that may be used, whenever the Contracting Authority so requests, in order to verify the data measured continuously by the fixed stations with regard to the water matrix;

- keep, at its own expense, for each sampling envisaged for the monitoring of each environmental matrix, an additional portion, which the Contracting Authority reserves the right to have analysed - within a limit of between 5% and 10% - by an accredited laboratory chosen from among those indicated from time to time by the Contractor, at the Contractor's expense;

If the aforementioned obligations are not fulfilled or if shortcomings in the regular execution of the service are detected, the Contracting Authority reserves the right to suspend the payments due to the Contractor for the entire duration of the non-fulfilment and, if necessary, to terminate the contract, upon the proposal of the Project Manager, and to claim compensation for damages and consequent expenses in cases of serious breach of contract.

The above list of the Contractor's obligations and burdens for the execution of the Contract is to be understood as exemplifying and not exhaustive, without prejudice to the Contractor's full responsibility for the exact fulfilment of the Contract.

Finally, it is worth remembering that:

- The Contractor shall be responsible for discipline and maintaining proper order during the execution of the service and shall be obliged to observe and have its staff observe the relevant statutory and regulatory provisions, ensuring the organisation, technical management and performance of the service.
- The Contractor shall be responsible for ensuring that all necessary measures and precautions are taken in the execution of the service to guarantee the safety and security of the staff and personnel employed and that all general regulations and/or technical regulations for accident prevention are observed. Any liability of the Contracting Authority, the DEC and its appointees for accidents that may arise from the execution of the service covered by the contract, for any compensation claimed by third parties as a result of accidents occurring during the performance of the service, is therefore excluded.
- The Contractor shall be solely liable, both according to civil and criminal law, for any title and/or cause whatsoever, for any damage occurring during the performance of the service, as well as for any damage to persons, movable and immovable property, including that of third parties, resulting from the performance of the service, unless it proves that it is not attributable to it.
- The Contractor shall also be the sole and exclusive responsible party for any infringement of third parties' intellectual and/or industrial property rights that it may incur in the performance of the services in question, and shall hold the Contracting Authority harmless from any claim for damages that may be made against it in this regard.

8. GUIDELINES AND PROVISIONS FOR THE DRAFTING OF SECURITY DOCUMENTS

With regard to the preparation of the documentation referred to in Article 26(3) of Legislative Decree No. 81 of 9 April 2008, please refer to the DUVRI attached.

9. ENVIRONMENTAL MANAGEMENT MEASURES

The economic operator awarded the Service must put in place all preventive and environmental measures. Furthermore, it shall carry out the activities envisaged in the Service by complying with the prescriptions and indications contained in the UNI EN ISO 14001 Environmental Management System with which this Administration is equipped. The contents of the aforementioned System can be found and consulted on the institutional website http://www.port.taranto.it.

10. ANNEXES

Attached is the aforementioned Integrated Monitoring Plan drawn up by the D.I.C.A.T.E.Ch. of the Polytechnic University of Bari.