



Trans Adriatic
Pipeline

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Prevention CCP

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TAP ITALY ESMS OFFSHORE POLLUTION PREVENTION CCP



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1 Abbreviations and definitions

The following table provides definitions of acronyms and a glossary of terms used in this document.

Table 1-1 Abbreviations and definitions

ALARP	As low as reasonably practicable
Battery Limit Point Italy	The location of the first dry weld of the pipeline in Italy (i.e. the dry weld closest to the sea)
CCP	Contractor Control Plan
CO ₂	Carbon dioxide
Coastal areas	Areas located between the Battery Limit Point Italy and Mean High Water Springs (MHWS)
COMPANY	TAP AG
CONTRACTOR	Construction contractors for Italy
Cultural heritage impact	A change to cultural heritage (in this context “cultural heritage” refers to any tangible (e.g. objects, artefacts, structures, spaces) or intangible element which is of value or importance to people’s culture, history and/or identity) which has occurred as a result of Project activities. Impacts may be considered to be positive or negative
EBRD	European Bank for Reconstruction and Development
EHS	Environment, Health and Safety
EEZ	Exclusive Economic Zone (offshore area extending a maximum of 200 nautical miles beyond territorial waters)
Environmental impact	A change to the environment (in this context the “environment” refers to any aspect of the natural or semi-natural physical environment (air, water, soil etc.)) which has occurred as a result of Project activities. Impacts may be considered to be positive or negative.
ESIA	Environmental and Social Impact Assessment
ESIP	Environmental and Social Implementation Plan
ESMS	Environmental and Social Management System
EU	European Union

FOC	Fibre Optic Cable
HSE	Health, Safety and Environment
IFC	International Finance Corporation
KP	Kilometre Points relating to the pipeline route as per the base case described in the ESIA Italy. It is possible that the KP locations will change because of a re-routing
Marine areas	Areas located between Mean High Water Springs (MHWS) and the Italy-Albania median line.
Median Line	An agreed marine territorial boundary separating the Exclusive Economic Zones (EEZs) of 2 or more countries
MARPOL	International Convention for the Prevention of Pollution from Ships
MHWS	Mean High Water Springs The mean average of the highest levels that spring tides reach over two successive high waters during those periods of 24 hours when the range of the tide is at its greatest, taken over a period of time (typically 19 years). MHWS is considered the point on this project that delineates between marine and coastal areas, which are both considered in the offshore CCPs
Microtunnel	A 3m diameter tunnel extending across the Italian landfall (approximately 1,485 m in length). The microtunnel allows the installation of the pipeline in the landfall area without the need to excavate a trench
MLWS	Mean Low Water Springs The mean average of the lowest levels that spring tides reach over two successive low waters during those periods of 24 hours when the range of the tide is at its greatest, taken over a period of time (typically 19 years)
MSDS	Material Safety Data Sheets
Nearshore	For the purposes of these CCPs, the nearshore marine area in the vicinity of the pipeline landfall is defined as the area seaward from Mean Low Water Springs (MLWS) to approximately 10 m water depth
Noisy activities	Any activity that has the potential to create discomfort and or disturbance to receptors (human and fauna) due to its level of noise
NOx	Nitrogen oxides
Offshore areas	Areas located between the Battery Limit Point Italy and the Italy-Albania median line. Inclusive of both coastal and marine areas

Offshore hydrotesting	Hydrostatic testing of the pipeline to confirm its integrity. The offshore pipeline will be hydrotested as one continuous pipeline (i.e. the marine and coastal sections will not be hydrotested separately). Hydrotesting commitments and requirements are therefore applicable to both the offshore and coastal sections of the pipeline
PAH	Polycyclic aromatic hydrocarbon
Pipeline	Proposed pipeline scheme (TAP) including related facilities such as access roads etc.
Project	Proposed pipeline scheme that will bring natural gas from the Caspian region to Western and South-eastern Europe (TAP)
Socio-economic impact	A change to the existing socio-economic environment (in this context the “socio-economic environment” refers to the combination of any existing social and economic factors) which has occurred as a result of Project activities. Social factors may include aspects such as demographics, health and wellbeing etc. and may refer to individuals, groups or wider communities of people. Economic factors may include aspects such as employment, finances, livelihoods etc. An impact may be considered to be positive or negative
SOx	Sulphur oxides
TAP	Trans Adriatic Pipeline
TAP AG	Trans Adriatic Pipeline joint venture company
TBM	Tunnel boring machine
TMP	Traffic Management Plan

1.1 Defining “offshore”, “coastal” and “marine” areas

This CCP applies to all offshore areas that might be affected by the Project in Italy. “Offshore” areas include both “coastal” and “marine” areas, which are defined as follows:

“Coastal” areas are defined as all areas located between the Battery Limit Point Italy (i.e. the location of the first dry weld) and the Mean High Water Springs (MHWS)¹. For further information

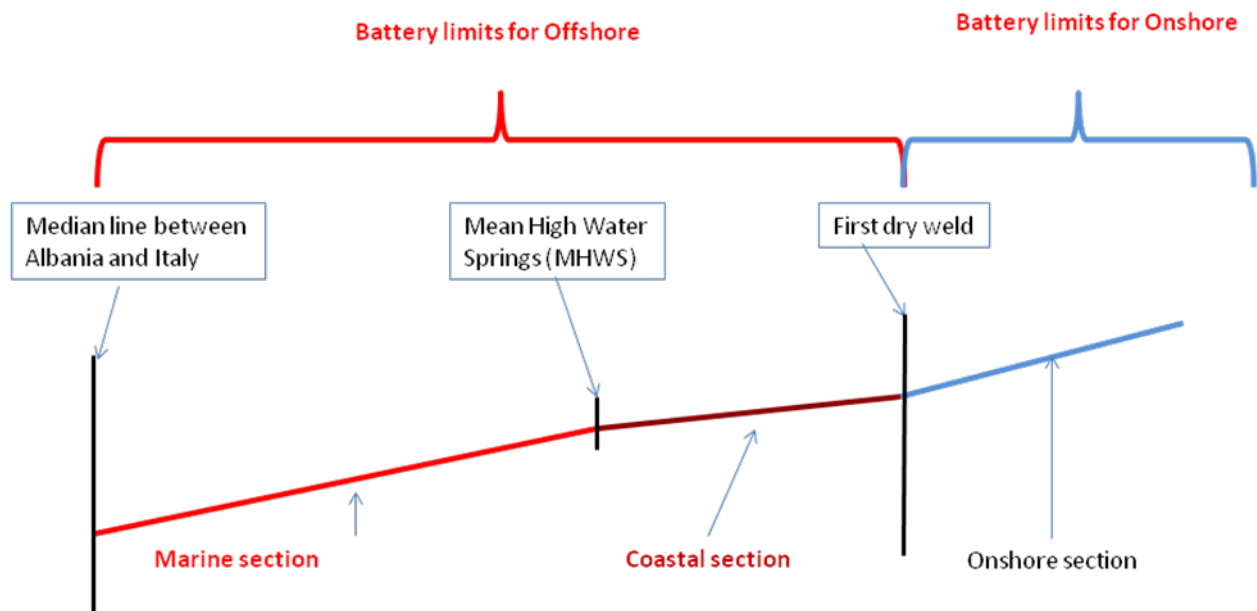
¹ In the case of the Italian landfall, pipeline construction using a microtunnel complicates the issue. Work sites within marine and coastal areas are further clarified in Section 2.2.

on the Battery Limit Point location see the TAP Battery Limits Onshore – Offshore Sections (CPL00-ENT-100-F-DFO-0002).

“Marine” areas are defined as all areas located between MHWS and the Italy-Albania median line.

“Offshore” areas include both the marine and coastal areas, and therefore include all areas located between the Battery Limit Point Italy and the Italy-Albania median line.

Figure 1 Marine, coastal and onshore limits



2 Introduction

This Contractor Control Plan (CCP) identifies the commitments made in relation to offshore pollution prevention during the construction and commissioning phase of the Project in Italy and describes the COMPANY’s requirements of the CONTRACTOR in terms of meeting these commitments. Where a specific commitment from the Italy Commitments Register is described in this CCP, it is followed by its reference number as stated in the Project Commitment Register Italy (e.g. IT0012). Additional requirements have been included within this CCP where they are deemed to be internationally accepted or best practice. These additional requirements are not followed by a reference number.

As part of its planning and readiness for construction, CONTRACTOR is required to prepare its own specific Environmental and Social Implementation Plans (ESIPs) setting out how it intends to meet and comply with specific Project commitments set out in each CCP developed by the COMPANY. This CCP shall act as a reference from which CONTRACTOR shall prepare an Offshore Pollution Prevention ESIP (IT0523).

Deviations that involve measures different from those contained in this CCP will only be permitted upon approval of the COMPANY.

The Contractor's ESMS Framework Document (CAL00-RSK-601-Y-TTM-0001) provides an explanation of the linkage between CCPs and ESIPs.

2.1 Objectives

This CCP has been prepared to define the mitigation measures necessary to ensure that offshore pollution to air, water, land and sea is prevented or, where this is not possible, reduced and mitigated to as low as reasonably practicable (ALARP²) during the construction phase of the offshore sections of the Project in Italy.

The objectives of the CCP are to ensure that best practice and international and EU standards are implemented to reduce impacts, and that the work complies with the commitments made in the ESIA Italy.

2.2 Scope

This CCP defines COMPANY requirements (i.e. the commitments and best practice) relating to offshore pollution prevention management that CONTRACTOR shall implement during construction, including hydrotesting and commissioning.

² For a risk (or impact) to be ALARP it must be possible to demonstrate that the cost involved in reducing the risk/impact further would be grossly disproportionate to the benefit gained. The ALARP principle arises from the fact that infinite time, effort and money could be spent on the attempt of reducing a risk/impact to zero. It should not be understood as simply a quantitative measure of benefit against detriment. It is more a best common practice of judgement of the balance of risk and societal benefit.

The scope of this CCP includes:

- air emissions
- noise and vibration management
- liquid effluents (waste water) (excluding sanitary/grey water treatment and disposal, which are dealt with in the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019))
- lighting
- vessel and equipment maintenance
- refuelling and offshore bunkering
- fuel and chemical storage and handling

Measures for the prevention of sediment pollution of marine water and coastal watercourses are defined in the Offshore Erosion Control and Reinstatement CCP (IAL00-RSK-601-Y-TTM-0016) as they are intrinsically linked to erosion control. Monitoring and inspection requirements related to this plan are detailed in the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023).

This CCP applies to all areas that might be affected by the offshore Project in Italy, including both coastal and marine areas. For a further definition as to what is defined as a “offshore”, “coastal” and “marine” area, and their respective limits, see Section 1.1.

The marine areas within the scope include, but are not limited to, the following:

- the microtunnel
- the marine pipeline route/trench and immediately surrounding area
- the fibre optic cable (FIC) route/trench and immediately surrounding area
- Italian territorial waters and Exclusive Economic Zone (EEZ) (in terms of the potential extent of any marine impacts as a result of Project offshore construction activities).

The coastal areas within the scope include, but are not limited to, the following:

- the microtunnel
- the temporary worksite for construction of the microtunnel
- the working strip for approx. 110m of onshore pipeline from the Battery Limit Point Italy to the start of the microtunnel

- any roads (including access roads, dirt tracks and public roads), aggregate extraction sites, spoil disposal sites, batch plants, temporary material and waste storage areas, pipe yards, maintenance areas located within the coastal area.

CONTRACTOR should note that where marine-related activities occur in coastal areas (e.g. pipe storage yards for offshore pipe section and vehicular transport of supplies/personnel), the requirements specified in the coastal impact avoidance and mitigation section of this CCP will apply. Should any offshore-related activities occur in the onshore area (including onshore roads), the requirements specified in the Onshore Pollution Prevention CCP (IAL00-RSK-601-Y-TTM-0015) will apply. It is CONTRACTOR's responsibility to request the onshore CCPs from the COMPANY should they be required.

2.3 Responsibilities

The COMPANY's role is that of compliance assurance as described in the Compliance Assurance Plan .

CONTRACTOR shall be responsible for ensuring that the Project (including all site operations, equipment and machinery) will comply with the defined Project Standards which encompass the requirements of Italian legislation, EU Directives, EBRD Environmental and Social Policy, IFC Performance Standards and IFC EHS Guidelines (IT0036). CONTRACTOR will comply with the requirements of the COMPANY ESMS (IT0516) (including this CCP) and the ESIA Italy.

CONTRACTOR will be responsible for any adverse environmental, socio-economic and cultural heritage impacts arising from its activities and operations and for putting in place any necessary measures to avoid or, if not possible, mitigate them. CONTRACTOR will also be responsible for promptly reacting to accidental events and mitigating any resulting adverse environmental, socio-economic and cultural heritage impacts for which CONTRACTOR is responsible as much as possible. Should any such accidental events occur, CONTRACTOR will immediately inform the COMPANY. Should these accidental events be the responsibility of CONTRACTOR (i.e. events resulting from CONTRACTOR's activities, events in areas which CONTRACTOR is responsible for) CONTRACTOR shall consult the COMPANY on the best way to handle and/or mitigate immediate risks to Project stakeholders.

CONTRACTOR shall put these responsibilities into effect by:

- writing an Offshore Pollution Prevention ESIP that describes how it will implement the requirements described in Sections 3 and 4 of this CCP and other legal requirements
- implementing the Offshore Pollution Prevention ESIP by:
 - communicating the contents of the ESIP to its workers and subcontractors and training them to ensure that they understand their responsibilities with respect to offshore pollution prevention, control and management, incident reporting and adequate response
 - ensuring that adequate resources and methods are mobilised for offshore pollution prevention and control, including input from any specialist resources necessary to ensure effective planning and implementation of appropriate measures
 - ensuring compliance by its workers and subcontractors with the procedures established in the ESIP
 - implementing effective monitoring of offshore pollution prevention measures to ensure that the effectiveness of pollution control and management activities are assessed and any issues are promptly detected, in accordance with the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023)
 - ensuring that all environmental incidents are reported and dealt with effectively and that lessons are learned in accordance with the Contractor's ESMS Framework Document (CAL00-RSK-601-Y-TTM-0001)
 - keeping the COMPANY fully informed of any site environmental issues.

CONTRACTOR shall be responsible for compiling the Offshore Pollution Prevention ESIP in a timely manner and submitting it to the COMPANY for review and acceptance a maximum of 30 days after Contract award. The ESIP will not be considered "accepted for construction" until all comments raised by the COMPANY have been addressed by CONTRACTOR to the satisfaction of the COMPANY. Construction will not be allowed to commence before all relevant ESIPs are accepted.

3 Marine impact avoidance and mitigation

All CONTRACTOR vessels involved in the Project will have Health, Safety and Environmental management systems in place in accordance with international regulations (MARPOL) (IT0236). CONTRACTOR will ensure that all marine sites and vessels are maintained in a tidy condition,

and that all construction works are carried out in strict compliance with construction procedures and schedules. CONTRACTOR shall apply pollution prevention and control technologies that avoid, minimize or reduce adverse impacts on human health and the environment while remaining technically and financially feasible and cost-effective.

3.1 Managing air emissions

A Marine traffic management plan (TMP) will be developed which takes into consideration air quality impacts. Further details on the marine TMP can be found in the Offshore Community Safety and Security CCP (IAL00-RSK-601-Y-TTM-0022).

3.1.1 Vessel and stationary equipment emissions

CONTRACTOR shall select vessels (construction and support) and equipment that are appropriate for the task required, i.e. these should be modern, well maintained and in a good working order/condition. CO₂ and pollutant gas emissions will be reduced, where possible, by using modern equipment (IT0213). No vessel or machinery shall be allowed to continue to operate if it does not meet Project emission standards as defined by the Environmental Project Standards Italy .

CONTRACTOR is responsible for managing and mitigating, where possible, atmospheric emissions from vessels and machinery involved in the Project activities.

Any vessels or equipment seen to be in a poor state of repair as determined by the COMPANY or CONTRACTOR shall be sent for maintenance or replaced by CONTRACTOR.

To ensure equipment and vehicles are working as efficiently as possible, CONTRACTOR will ensure they are:

- operated as per manufacturers' instructions (IT1020)
- maintained on a regular basis in accordance with the manufacturers' standards (IT0813).

CONTRACTOR shall inspect and maintain all vessels and stationary equipment (e.g. generators and pumps) as per the manufacturers' instructions. The frequency of these inspections shall be at least in accordance with manufacturers' recommendations and more frequent if demonstrated

by the results of CONTRACTOR's monitoring of performance, including observations of leaks and dirty exhaust emissions, and breakdowns. Monitoring shall be conducted in accordance with the Offshore Compliance Monitoring CCP .

Routine maintenance will include checking that seals, drip trays and other leak prevention methods are present and well maintained and emissions minimised. More information on vehicle maintenance is included in the traffic management section of the Offshore Community Safety and Security CCP (IAL00-RSK-601-Y-TTM-0022).

All vessels and equipment shall be identified by the COMPANY using a sticker system or similar to demonstrate that they have a valid maintenance and inspection certificate. Maintenance logs and records of emissions testing shall be kept and made available for inspection by the COMPANY.

CONTRACTOR shall minimise idling and turn off vehicles and equipment when not in use.

CONTRACTOR shall use diesel fuel with low sulphur content ($\leq 0.5\%$) and low aromatic (polycyclic aromatic hydrocarbon (PAH)) levels if available.

CONTRACTOR shall adhere to the requirements of MARPOL 73/78, Annex VI 'Regulations for prevention of air pollution', which cover air emissions from shipping. The regulations set limits on sulphur oxides (SO_x) and nitrogen oxides (NO_x) emissions from ship exhausts and prohibit deliberate emissions of ozone depleting substances.

As defined in the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023):

- all marine vessels and machinery shall be periodically inspected to ensure that they have current technical service certificates, where applicable
- pumps, compressors and generators shall be inspected daily for leaks and to ensure drip trays and acoustic covers are positioned and functioning correctly
- the emissions of the main emissions sources (generators, compressors) will be monitored.

3.2 Managing noise and vibrations

CONTRACTOR shall inform the COMPANY before undertaking any noisy activities that could potentially alarm people or marine wildlife (in particular marine mammals and fish). Upon acceptance of this activity by the COMPANY, CONTRACTOR CLOs will then inform local residents (if applicable) and any other marine users in advance. Marine users will be notified about the offshore activities by the broadcast of a notice to mariners, which will include outline details of the activities, the vessels involved and duration and location of works. Advance warning to all stakeholders will allow individuals who may have noise or health concerns to take appropriate action, leave during the construction period or undertake other necessary measures prior to construction. The notification shall include details of routing, work locations and the construction schedule.

CONTRACTOR shall confine work to the working hours stated in the Contract. Activities that generate noise in close proximity to any areas of human habitation will be conducted during regular business hours only, unless otherwise agreed with COMPANY. The COMPANY may specify any monitoring required if consent is given to extended working hours and the COMPANY reserves the right to rescind any approval to extended working hours. Where necessary to allow for specific construction processes (for example due to the continuous nature of the planned pre-commissioning activities) CONTRACTOR shall request permission to work outside regular working hours from the relevant authorities.

CONTRACTOR will adopt the most appropriate measures to minimise induced vibrations at all stages of the work at sea (IT0687).

3.3 Marine water abstraction

Abstraction of water shall be undertaken only in accordance with the Offshore Resource Management CCP (IAL00-RSK-601-Y-TTM-0014).

3.4 Waste resource management

No effluent shall be discharged to the sea without prior authorisation from the COMPANY and any necessary permit/licence/consent from the applicable regulatory authorities.

All routine vessel discharges arising from the offshore pipeline construction works (black and grey water, bilge, etc) shall be treated and discharged in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019). This document details that all discharges from offshore vessels will meet the requirements of MARPOL 73/78.

3.4.1 Site effluent

CONTRACTOR shall pump out waste water from bunded areas (e.g. vessel oil/chemical storage areas) and store on-board vessels in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019). CONTRACTOR will identify all other sources of waste water generated in any Project area (including vessels) and agree with the COMPANY methods for preventing the discharge of any contaminated water to the sea, or, where not possible, for treating it to comply with Environmental Project Standards Italy . Any necessary permits shall be obtained before discharges commence.

3.4.2 Hydrotesting water

The Italian and Albanian sections of the offshore pipeline will be hydrotested as one continuous pipeline thus pollution prevention measures shall be the same for both pipeline sections. This section provides an overview of the process. Additional information is included in the TAP ESMS Albania Offshore Pollution Prevention CCP (AAL00-RSK-601-Y-TTM-0024).

The Italian section of the offshore pipeline will be hydrotested as one continuous pipeline (i.e. the marine and coastal sections will not be hydrotested separately). The requirements specified in this section will apply to the entire offshore section of the pipeline and are not repeated in Section 4 (which details coastal impact avoidance and mitigation).

It should be noted that during hydrotesting the offshore pipeline will be filled using sea water from the Italian side of the pipeline. The hydrotest sea water will then be discharged in Albanian waters. CONTRACTOR will ensure hydrotesting water is tested prior to discharge and that local treatment is provided if necessary. Testing prior to discharge shall include obtaining information on a range of physio-chemical parameters, sufficient to ensure compliance with the Environmental Project Standards Albania (AAL00-RSK-601-Y-TSP-0001). Abstraction and discharge of hydrotest water and disposal of any waste found in the pipeline, will be undertaken

in accordance with all necessary permits and waste requirements from the relevant authorities (IT0772).

The Offshore Resource Management CCP (IAL00-RSK-601-Y-TTM-0014) describes hydrotest water abstraction requirements and the need for CONTRACTOR to develop an Offshore Hydrotesting Water Sourcing and Disposal Plan.

3.5 Managing visual / light pollution

Night-time lighting shall be minimised onboard construction vessels (in particular in nearshore areas), to the extent practicable, so as to avoid disturbance to marine wildlife (such as encouragement to marine mammals and stresses to marine birds) and human receptors (e.g. marine vessel navigation and coastal communities). Night time lighting will be directional to minimise light spill and will only be used for security outside agreed working hours (IT0143). In reducing night time lighting CONTRACTOR will ensure that at no point is human safety, visual navigation lighting, or the ability to operate during the hours of darkness compromised.

3.6 Fuel and chemical storage, handling, transport and selection

CONTRACTOR shall develop a Marine Chemical and Hazardous Materials Management Plan in order to detail procedures for working with chemical products (IT0524) and hazardous materials. The Marine Chemical and Hazardous Materials Management Plan shall form part of the Offshore Pollution Prevention ESIP.

As a requirement of the Marine Chemical and Hazardous Materials Management Plan, prior to the start of work, CONTRACTOR shall perform a full risk assessment for hazardous liquids. This shall include assessing risks to the workforce, the environment and, where deemed necessary, the community, and shall include all stages of use (i.e. sourcing, handling, transport, storage and use). An individual risk assessment will be performed for each type of hazardous liquid used, and appropriate risk minimisation and mitigation measures put into place. CONTRACTOR shall submit the risk assessments and minimisation and mitigation measures developed to the COMPANY for acceptance prior to commencing work. The COMPANY retains the right to request further risk minimisation and mitigation measures from CONTRACTOR should it feel that the current measures are inadequate.

CONTRACTOR shall maintain regularly updated records of all hazardous liquids used. This shall include recording information on the sourcing of hazardous liquids, the type and quantity stored and used, the location and method of storage and use, and any spills or other incidents that occur. These records shall be submitted to the COMPANY on a quarterly basis for review (see the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023)).

Hazardous materials are those that pose a potential risk to human health or the environment and include cleaning chemicals, solvents, fuels and lubricants.

The sections below detail the mitigation measures that shall be employed when handling fuels and hazardous materials in marine areas. Please refer to the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019) for requirements concerning marine hazardous waste handling, storage and disposal.

3.6.1 Hazardous fuels and chemical storage

Fuel and hazardous chemicals/materials shall be stored in designated areas, as defined by CONTRACTOR, except for quantities generated or required for the daily construction activities. Fuel, oil or hazardous materials required to be temporarily stored on board vessels shall be stored within double-walled tanks or containment bunds (IT0253).

All fuel and hazardous chemical storage facilities (permanent or temporary) shall be contained within a bund designed to contain at least 110% of the total capacity of the storage containers (IT0254). The bund walls and floor shall be constructed of concrete, or other suitably impermeable material. Any filling connection must be within the bund. No drain valves or other connections through the bund walls shall be permitted. Tanks shall be fitted with a gauge to allow the fill level to be monitored during refilling and preferably with a high-level alarm. The loading and offloading area shall be impermeable material and fully kerbed/bunded to collect spills.

Individual drums of fuels or hazardous chemicals shall be stored under cover on drip trays designed to hold 110% of the volume stored (IT0254).

Any contaminated rainwater or spills within the bund shall be pumped out, collected, and stored in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

CONTRACTOR shall store chemicals (small volume containers) on shelves or pallets in covered, lockable, ventilated, flameproof storage rooms/containers. Chemicals shall be stored and segregated in accordance with the manufacturers' Material Safety Data Sheet (MSDS) requirements. Cupboards and rooms should be bunded (internally or externally) to ensure that any spills or leaks are contained and recovered.

Chemicals and hazardous material shall be appropriately labelled for worker protection during handling and incident response and MSDS' shall be available at each storage area. MSDS for all chemicals will be available in the working language of CONTRACTOR's personnel.

All fuel and chemical storage areas shall be secured by CONTRACTOR to prevent unauthorised access or use.

3.6.2 Chemical selection and inventory

CONTRACTOR will identify the chemical products to be used (e.g. paints, radiography chemicals, coatings) and wherever possible avoid the need for its use (where consistent with other Project requirements) or propose replacement of environmentally harmful chemicals with less harmful alternatives. This shall include, where possible, using biodegradable and eco-friendly oils in equipment.

CONTRACTOR shall avoid the manufacture, trade, and use of hazardous substances and materials subject to international bans or phase-outs due to their high toxicity to living organisms, environmental persistence, potential for bio-accumulation, or potential for depletion of the ozone layer. CONTRACTOR shall prevent or minimise the potential for community exposure to hazardous materials that may be released by the Project, including during transportation.

CONTRACTOR shall maintain a comprehensive chemical inventory for each fuel and hazardous chemical storage area. In addition CONTRACTOR will have procedures for inventory control to reduce stored volumes, and track incoming and outgoing chemical materials in a chemical control register. MSDS for all chemicals will be retained.

CONTRACTOR shall take all measures practicable for the avoidance of any releases of chemicals to the environment by following recognized best practice for the use of paints and coatings and other chemicals, particularly when working over water.

3.6.3 Refuelling and offshore bunkering

Diesel fuel will be delivered via approved fuel road tankers to the support port (IT1018). Refuelling will only be carried out, or supervised, by workers trained in refuelling, spill containment and clean-up procedures.

Refuelling and lubrication changes for all mobile equipment shall preferably not be carried out in the marine area, but onshore/in the coastal area whenever practicable. Non-mobile equipment within the marine area shall have a lined bund appropriate for containing any spills and spill clean-up materials.

CONTRACTOR's marine vessels will employ strict vessel specific procedures for bunkering at sea which are designed to minimise the risk of a spillage of fuel during bunkering from other vessels (IT0101). Bunkering will only be carried out, or supervised by, workers trained in bunkering, spill containment and response and clean-up procedures.

Procedures for vehicle/equipment refuelling will be implemented by CONTRACTOR to prevent spillage (IT0278) including:

- restricting access to fuel handling areas to authorized personnel only
- ensuring that refuelling facilities are equipped with an automatic cut off
- ensuring that attendants are not permitted to leave refuelling equipment without supervision
- ensuring that operators are stationed at both ends of the hose during refuelling unless the ends are visible and are readily accessed by one operator
- requiring personnel in charge of fuel transfers to closely monitor levels to prevent overfilling of tanks
- requiring any fuel remaining in the hose to be returned to the storage facility.

The refuelling of all vessels whether in the marine area using mobile refuelling vessels, or at a dedicated marine vessel reception facility (port) associated with the Project, shall comply with the following recognised best practice:

- vessel refuelling should preferably take place during daylight hours. Refuelling shall not be carried out during adverse weather conditions (e.g. high swell, bad visibility, strong current, etc.)
- the marine fuel supplier shall be reviewed and assessed by CONTRACTOR prior to/during the first vessel fuelling operation. The supplier shall have all required equipment and HSE documents in place, including a spill response procedure
- oil spill emergency equipment provided by CONTRACTOR and the fuel supplier (e.g. oil booms, absorbent material, etc.) shall be present in the direct vicinity of the refuelling operation. During vessel refuelling sufficient mops, pads and absorbents will be available to deal with spills promptly (IT0102)
- communication (by radio or telephone where required) between all parties involved in the refuelling operation, shall be in place and tested prior to the commencement of the refuelling operation
- drains/scuppers shall be plugged (where available)
- "No smoking" signs shall be posted in all areas where refuelling is anticipated to take place
- the maximum allowable rate and pressure during refuelling shall not be exceeded
- continuous monitoring of the tank level and the pressure in the supply lines shall be carried out
- spill trays shall be placed under connections or couplings
- connecting flanges of hoses shall be secured (e.g. with iron wire)
- all relevant ventilation pipes shall be open
- only automatic fuel dispensers shall be allowed. Hoses with open ends are not acceptable
- personnel involved in refuelling shall be required to demonstrate high environmental awareness
- CONTRACTOR shall have zero spill tolerance, even towards 'small spills'
- a refuelling checklist shall be used during every refuelling operation
- MSDS of the fuel shall be available in English and language(s) understood by the crew
- any spills to sea shall be reported to the vessel Owner/Operator and the COMPANY and dealt with in accordance with the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020) and the relevant Construction Emergency Response Plan

- refuelling of marine vessels is to take place preferentially in port, or where this is not possible at a location away from the coastline.

Any mobile equipment (e.g. pumps, generators) used on vessels shall be provided with secondary containment by CONTRACTOR to contain 110% of the pump/generator fuel/oil inventory to prevent the release of any leaks or spills onto vessel decks or into the sea. CONTRACTOR shall ensure that there is 100% standby capacity immediately available to replace pumps and hoses that fail. Appropriate preventive measures should be taken in order to avoid any leakage from the damaged pump/hose. In the case of any leakage due to damaged pump/hose, this should be immediately reported to the COMPANY by CONTRACTOR and dealt with according to the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020).

Spill kits will be present and all personnel will be familiar with the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020) and the relevant Construction Emergency Response Plan .

The relevant Construction Emergency Response Plan will ensure that appropriate measures are taken in the event of an accidental spill including roles, responsibilities and reporting requirements.

3.6.4 Transport

Vessels transporting hazardous materials will carry spill kits appropriate to the hazardous materials being transported and the location of its transportation (content to be agreed with the COMPANY, see the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020)).

Hazardous waste materials such as used paint, spent batteries, oil, methanol, ethylene glycol, cleaning agents, and water contaminated by freezing depressants shall be managed in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

3.7 Maintenance

Marine vessel maintenance shall preferentially be performed in port.

Where unplanned equipment maintenance has to be carried out (i.e. due to equipment breakdown and where the equipment is not recoverable to a (coastal) maintenance area (see Section 4.7)), appropriate secondary containment shall be deployed and spill kits positioned adjacent to the work area. Any unplanned maintenance activities shall only be undertaken with the approval of the COMPANY.

Spent oils, lubricants, filters etc., will be managed in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

3.8 Marine contamination

3.8.1 Management of excavated sediment and rocks

As regards the management of excavated earth (sediment) and rocks, produced by the entire works (pipeline, landfall, worksite area etc.), CONTRACTOR will develop a sampling plan which must (IT0643):

- consider the potential presence of pollutants connected with human activity and with the sources of environmental pressure found on the area involved in the works
- be accepted by the COMPANY
- be approved by the ARPA Puglia, the responsible body.

3.8.2 Spills

Immediate emergency response procedures for spills are detailed in the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020).

3.8.3 Remediation standards for marine contamination

Where marine areas have been contaminated as a result of spills caused by the Project, CONTRACTOR will undertake an assessment of the impact and recommend appropriate

remediation measures. Remediation shall be carried out in accordance with the Environmental Project Standards Italy on permitted levels of contaminants in marine areas.

All clean-up shall be progressed until the COMPANY is satisfied.

The disposal of any contaminated material off-site shall be undertaken in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

4 Coastal impact avoidance and mitigation

CONTRACTOR will ensure that all coastal sites are maintained in a tidy condition and that all construction works are carried out in strict compliance with construction procedures and schedules. CONTRACTOR shall apply offshore pollution prevention and control technologies that avoid, minimize or reduce adverse impacts on human health and the environment while remaining technically and financially feasible and cost-effective.

4.1 Managing air emissions

4.1.1 Dust emissions

CONTRACTOR shall exercise care to minimise emissions of dust from its activities, including traffic, at work sites and on access roads. A Coastal traffic management plan (TMP) will be developed which takes into consideration air quality impacts. Dust emissions will be minimised by limiting vehicle speeds, and covering loose materials (e.g. sand) on trucks with sheeting (IT0244). Further details on the coastal TMP can be found in the Offshore Community Safety and Security CCP (IAL00-RSK-601-Y-TTM-0022).

Where it is deemed that dust is impacting or may have an impact on human, plant or animal receptors, or where dust may cause sedimentation of watercourses/water bodies or unacceptable levels of soil loss, CONTRACTOR shall apply water spray to the area creating the dust (especially in dry weather). In order to reduce the production and propagation of dust the temporary microtunnel construction area, and pipeline work area near receptors will be moistened daily (considering a radius of 200m from these sites). Stored topsoils and subsoils will also be moistened regularly to avoid dispersion (IT0755).

If there is considerable wind during construction, special surface protection measures will be used to protect excavated areas and reduce dust generation (e.g. plastic tarpaulins anchored to the ground until the last surface layer of vegetable soil has been spread) (IT0758).

Access roads will be kept free of dusty materials, or sprayed down with water to keep the road surface wet (IT0814). Vehicles must be washed to remove any dusty material from the bodywork and wheels right before leaving a construction area or temporary structures (IT0815).

Additionally, CONTRACTOR will consider implementing other dust control measures such as:

- the use of windbreaks, netting screens or semi-permeable fences
- controlling vehicle speeds to reduce traffic-induced dust dispersion and re-suspension by setting and enforcing speed limits (additional to those described in the Offshore Community Safety and Security CCP (IAL00-RSK-601-Y-TTM-0022)), including placing speed limit signs in sensitive areas
- suspending topsoil stripping and replacement during strong winds
- using a dust collection system for bulk materials unloading
- using wet suppression (as needed, depending on the soil type) in the dry season, where unpaved roads and/or the working strip is located <200m from settlements.

CONTRACTOR may use any treated waste water for dust suppression (spraying) where this meets Italian irrigation standards.

Daily visual inspections of atmospheric emissions, especially dust and emissions from vehicles and machinery, shall be conducted in accordance with the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023). The inspections shall identify areas where the implementation of dust reduction measures is required, such as exposed soil, areas of vehicle circulation and areas for material storage. These inspections shall also verify that all workers are utilising the correct respiratory protection in high-risk work areas. Any non-compliance shall be rectified and the results of the inspections recorded.

4.1.2 Vehicle and stationary equipment emissions

CONTRACTOR shall select vehicles and equipment that are appropriate for the task required, i.e. these should be modern, well maintained and in a good working order/condition. CO₂ and pollutant gas emissions will be reduced, where possible, by using state of the art equipment (IT0213). No vehicle or machinery shall be allowed to continue to operate if it does not meet Project emission standards as defined by the Environmental Project Standards Italy . Any vehicles or equipment seen to be in a poor state of repair as determined by the COMPANY or CONTRACTOR shall be sent for maintenance or replaced by CONTRACTOR.

CONTRACTOR is responsible for managing and mitigating, where possible, atmospheric emissions from vehicles and machinery involved in the Project activities.

CONTRACTOR shall use buses and multi-passenger/van vehicles to transport crew to worksites to limit traffic and the related emissions.

To ensure equipment and vehicles are working as efficiently as possible, CONTRACTOR will ensure they are:

- operated as per manufacturers' instructions (IT1020)
- maintained on a regular basis in accordance with the manufacturers' standards (IT0813).

The frequency of vehicle and machinery inspection shall be at least in accordance with manufacturers' recommendations and more frequent if demonstrated by the results of CONTRACTOR's monitoring of performance, including observations of leaks and dirty exhaust emissions, and breakdowns. Monitoring shall be conducted in accordance with the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023).

Routine maintenance will include checking that seals, drip trays and other leak prevention methods are present and well maintained and emissions minimised. More information on vehicle maintenance is included in the traffic management section of the Offshore Community Safety and Security CCP (IAL00-RSK-601-Y-TTM-0022).

All vehicles and equipment shall be identified by the COMPANY using a sticker system or similar to demonstrate that they have a valid maintenance and inspection certificate. Maintenance logs

and records of emissions testing shall be kept and made available for inspection by the COMPANY.

CONTRACTOR shall minimise idling and turn off vehicles and equipment when not in use.

CONTRACTOR shall use diesel fuel with low sulphur content ($\leq 0.5\%$) and low aromatic (PAH) levels if available.

As defined in the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023):

- all vehicles and machinery shall be periodically inspected to ensure that they have current technical service certificates
- pumps, compressors and generators shall be inspected daily for leaks and to ensure drip trays and acoustic covers are positioned and functioning correctly
- the emissions of the main emissions sources (generators, compressors) will be monitored.

4.1.3 Air quality monitoring

CONTRACTOR will monitor dust concentrations (and any other air quality parameters considered to be relevant by CONTRACTOR) along the coastline during construction (see the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023) for more details). Particular attention shall be paid to air quality at any receptors identified by CONTRACTOR as being sensitive, or any areas where air quality is anticipated to be severely impacted.

CONTRACTOR shall develop a Coastal Air Quality Monitoring Plan as part of its Offshore Pollution Prevention ESIP, specifying:

- the range of parameters (including dust and any other additional parameters) to be monitored
- the locations where air quality is to be monitored
- the monitoring schedule (i.e. the time period over which monitoring is to be conducted).

4.2 Managing noise and vibrations

Sources of noise and vibration during coastal construction works include site clearance, soil stripping, limited use for micro blasting during construction of the launch shaft (IT0048), hydrotesting (pumps continuously running), pipe drying, construction of access roads/tracks, commissioning (including nitrogen venting) and operation of vehicles and other machinery and equipment.

If possible, heavy truck traffic supporting construction activities will be routed away from noise sensitive receptors (IT0180).

CONTRACTOR shall limit noisy construction activities to the least noise-sensitive times of day (IT0178) and when feasible schedule different noisy activities to occur concurrently, since the combined noise levels produced may not be significantly greater than the level produced if the operations were performed separately (IT0177). Activities that generate noise in close proximity to any areas of human habitation will be conducted during regular business hours only, unless otherwise agreed with the COMPANY. The COMPANY may specify any monitoring required if consent is given to extended working hours and the COMPANY reserve the right to rescind any approval to extended working hours.

CONTRACTOR shall inform the COMPANY before undertaking any noisy activities that:

- could disturb or alarm people or animals
- take place outside normal working hours where CONTRACTOR has assessed the work will be in close proximity to communities or individual dwellings.

Upon acceptance of this activity by the COMPANY, CONTRACTOR CLOs will then inform local residents and landowners in advance. Advance warning to all stakeholders will allow individuals who may have noise or health concerns to take appropriate action, leave during the construction period or undertake other necessary measures prior to construction. The notification shall include details of routing, work locations and the construction schedule.

CONTRACTOR shall adhere to the Project noise and vibration limits as defined by the Environmental Project Standards Italy . Vehicles used will be certified in line with the requirements of Directive 2000/14/EC (on the noise emission in the environment by equipment

for use outdoors) and the Italian Legislative Decree 262, 4th Sept 2002 which implements it (IT0674).

All construction activities will be carried out between 6 am and 10 pm (7 days a week) (IT0806). If construction or testing activities have to be carried out before 6 am or after 10 pm, either another noise evaluation or monitoring of the noise on site will be performed (particularly with respect to hydrostatic testing) (IT0807). Where necessary to allow for specific construction processes (for example due to the continuous nature of the planned pre-commissioning activities) CONTRACTOR shall request permission to work outside regular working hours from the relevant authorities. Vehicles going from and to the site will move only during the normal working hours established unless they are authorised by the competent authority (IT0809).

In addition to the general mitigation measures applied for the Project, the noise impact on receptors during the construction phase from noise sources/equipment will be specifically reduced by CONTRACTOR promoting the use of low nuisance (noise) equipment (including vehicles). Standard noise abatement equipment shall be fitted to equipment by CONTRACTOR, used and maintained in accordance with manufacturers' instructions (e.g. acoustic covers, mufflers, doors on generators shall be closed) Noise limits set by Italian regulations will be observed by using properly soundproofed machinery and silencers. In particular, all pneumatic equipment used near residential areas will be fitted with silencers (IT0845). Mobile sound protection barriers will be used during construction of the pipeline close to sensitive receptors (IT0759). Mobile sound protection barriers will be used during construction of the pipeline close to sensitive receptors (IT0759). Noise absorptive barriers with a minimum height of 4m will be installed surrounding all units, and placed in between single units (IT1027). All fixed sources of noise will be soundproofed during construction of the micro-tunnel (IT0760).

All noise sources/equipment will be switched off when not in use (IT0176). CONTRACTOR shall locate stationary equipment (such as power generators and compressors) as far as possible from nearby receptors (IT0179). Equipment known to emit noise strongly in one direction will be orientated so that the noise is directed away from sensitive receptors, whenever possible. Dampers should be used where possible.

Suitable measures to reduce vibration must be adopted during construction of the Project (IT0779).

4.2.1 Noise control measures to be applied during specific activities

4.2.1.1 Hydrotesting

Regarding hydrotesting CONTRACTOR will:

- once the exact location of the hydrostatic compressor is determined, evaluate the noise at the closest point sensitive to the noise (IT0808)
- due to exceedance of regional noise limits (during hydrotesting), apply for an exceptional permission from the municipal administration for the pre-commissioning activities (IT0999).
- schedule the dewatering process (during hydrotesting) for the off-season (e.g. in the wintertime), to keep the number of persons concerned as low as possible (IT1000).

During the hydrotest, major noise emitting equipment will be surrounded by noise barriers/sound proof barriers with a minimum height of 4m. The sound proof panel elements will be closed completely with no gaps (IT0961). The sound power levels of all machinery used for the hydrotesting will meet the requirements of Directive 2000/14/EC (on the noise emission in the environment by equipment for use outdoors). Air dryers will need to be provided with extra blow-out silencers to guarantee a reduced sound power level (IT0960). The equipment used for pipeline dewatering will be set on the smallest possible area to maximize the distance between noise emitting sources and sensitive receptors. The machinery layout will consider possible directional characteristics of the noise emissions (IT0962).

CONTRACTOR will monitor noise during hydrotesting (see the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023)). Monitoring will be undertaken at receptors with the potential to be affected by the noise produced by hydrotesting (to be identified by CONTRACTOR and agreed with the COMPANY prior to commencement of hydrotesting activities). Noise readings will be continuous throughout hydrotesting, and noise levels shall be compared with the standards established in the Environmental Project Standards Italy . Any non-compliances identified will be communicated to the COMPANY, and addressed as described in the Onshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023).

4.2.2 Construction noise and vibration monitoring

CONTRACTOR shall undertake weekly noise monitoring during construction at receptors identified by CONTRACTOR as being potentially affected by general construction noise (taking into account the sensitivity of the receptor, and the level of noise that it is anticipated to be subjected to as a result of planned construction activities) (see the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023)).

CONTRACTOR shall develop a Coastal Construction Noise Monitoring Plan as part of its Offshore Pollution Prevention ESIP, specifying:

- the locations (including the identified receptor(s)) where noise is to be monitored
- the monitoring schedule (i.e. the time period over which noise monitoring is to be conducted).

Before starting construction an initial continuous monitoring of vibration in the area will be carried out to define the baseline. Real-time monitoring of vibration generated by the activities near the sensitive sites will be carried out for the entire duration of construction. Monitoring will ensure that the maximum thresholds are not passed, or that construction site activities are remodulated in order to not go past the thresholds (IT0989).

4.2.2.1 Hydrotesting and pipe drying noise monitoring

CONTRACTOR will monitor noise during hydrotesting and pipe drying (see the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023)). Monitoring will be undertaken at receptors with the potential to be affected by the noise produced (to be identified by CONTRACTOR and agreed with the COMPANY prior to commencement of activities). Noise readings will be continuous throughout hydrotesting and pipe drying, and noise levels will be compared with the standards established in the Environmental Project Standards Italy . Any non-compliances identified will be communicated to the COMPANY, and addressed as described in the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023).

4.3 Water resource pollution prevention

To minimise sediment run-off to watercourses, maximum permitted vehicle speed will be reduced in the proximity of watercourses (IT0284).

CONTRACTOR shall prohibit its workers and its sub-contractors from bathing or washing equipment, vehicles or machinery within 50m of any surface watercourse (IT0257) (see Section 4.4.2).

Abstraction of water shall be undertaken only in accordance with the Offshore Resource Management CCP (IAL00-RSK-601-Y-TTM-0014).

Coastal water resource pollution prevention measures concerning waste water are detailed in Section 4.4.

4.3.1 Water resource control measures to be applied at specific locations

4.3.1.1 The microtunnel and associated temporary worksite

Regarding the microtunnel and associated temporary worksite, CONTRACTOR will implement the following requirements:

- during drilling of the microtunnel careful monitoring of fluid pressure will be carried out to detect any potential breakouts, and immediate corrective action taken if this occurs (IT0695)
- during drilling of the microtunnel through the water table zone a closed shield drill with equalising static pressure in the head will be used (IT0696)
- to avoid potential contamination of groundwater, the tunnel boring machine (TBM) jacking shaft will be waterproofed (IT0955).

CONTRACTOR will ensure that the environmental effects of any additives such as polymers are identified and assessed being as not significant before use (IT0261).

4.4 Wastewater resource management

No effluent shall be discharged to watercourses, water bodies, the ground or the sea without prior authorisation from the COMPANY and any necessary permit/licence/consent from applicable regulatory authorities.

All discharges arising from coastal construction works (e.g. black and grey water) shall be treated and discharged in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

CONTRACTOR shall avoid discharging water in a manner that may cause erosion or sedimentation of watercourses/water bodies. Erosion/sediment control measures shall be agreed with the COMPANY and installed/applied prior to discharge. Further details are contained in the Offshore Erosion Control and Reinstatement CCP (IAL00-RSK-601-Y-TTM-0016).

4.4.1 Site effluent including dewatering discharges

CONTRACTOR shall pump out waste water from bunded areas (e.g. maintenance areas, waste storage yards, hazardous liquid waste storage areas and oil/chemical storage areas) and store it on-site in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

CONTRACTOR shall provide an effective collection and disposal systems for storm water from all paved areas and buildings. Drainage shall be designed so as to prevent any contaminated wastewater streams (e.g. vehicle wash area) from entering drainage systems (IT0258).

CONTRACTOR will identify all other sources of waste water generated on any Project area (e.g. vehicle cleaning areas) and agree with the COMPANY methods for preventing the discharge of any contaminated water to the ground, watercourses or the sea, or, where not possible, for treating it to comply with Environmental Project Standards Italy . Any necessary permits shall be obtained before discharges commence.

4.4.2 Vehicle and equipment washing

CONTRACTOR shall prohibit vehicles and equipment from entering watercourses or the sea, except in cases where this would be unavoidable (e.g. during watercourse open-cut crossing procedures). Should CONTRACTOR believe that it is necessary for vehicles and/or equipment to enter watercourses, CONTRACTOR shall request written permission from the COMPANY before proceeding. This request should be included in the Coastal Traffic Management Plan (see the Offshore Community Safety and Security CCP (IAL00-RSK-601-Y-TTM-0022)).

CONTRACTOR shall prohibit vehicles, equipment or machinery from being washed within 50m of any surface watercourse (IT0257) or below MHWS at all times. Vehicles and equipment shall be washed in an appropriately licensed public wash bay or in a COMPANY-approved designated vehicle washing area only. Such a vehicle washing area shall be bunded with wash water draining to the level of the graded surface. Only water shall be used (i.e. no detergents or other additives) for washing vehicles in the designated vehicle washing area.

4.4.3 Hydrotesting water

The pollution prevention requirements relating to offshore hydrotesting specified in the marine impact and avoidance section of this document (Section 3.4.2) will apply to the entire offshore section of the pipeline, and are not repeated here.

4.5 Managing visual pollution

CONTRACTOR will manage the visual impact of construction work by:

- using temporary visual screens to minimise the visibility of construction activities and lighting in site locations where the receiving landscape is a visually exposed lowland
- introducing fencing to protect the landscape and visual amenity if necessary. Developments for which fencing is anticipated to be necessary include above ground installations. It is considered to be unlikely that fencing will be required for the coastal areas developed by the Project.

Any land modifications must be authorised in advance by means of a Landscape Permit through the ESIA Procedure (IT0041). CONTRACTOR will avoid displacing wherever possible dry stone walls (IT0367). In addition, when planning work CONTRACTOR will take into account the

predicted residual landscape and visual amenity impacts, as detailed in the ESIA Italy, and implement the associated measures to address the impacts.

CONTRACTOR will neatly store materials and machinery during the works (IT0826). On completion of construction activities, CONTRACTOR will remove posters, barriers, traffic management and temporary signs when they are no longer necessary (IT0824).

4.5.1 Light emissions

The construction site will be illuminated in accordance with the recommendations provided by the Region of Apulia in Regional Law n. 15 of 23 November 2005, "Urgent Measures for the Containment of Light Pollution and Saving Energy", Art. 5 (IT0144).

A reduction in obtrusive light during construction will be achieved (IT0148):

- through using specifically designed lighting equipment that minimises the upward spread of light near to or above horizontal
- by not 'over lighting'
- by dimming or switching off lights when the task is finished
- minimising glare to potential observers by ensuring that main beam angle of lights is not more than 70 degrees.

Night-time lighting during construction works will be directional to minimise light spill to the surrounding area and disturbance of local residents. Lighting will be restricted to that required only for security outside agreed working hours (IT0143).

4.6 Fuel and chemical selection, storage, handling and transport

CONTRACTOR shall develop a Coastal Chemical and Hazardous Materials Management Plan in order to detail procedures for working with chemical products (IT0524) and hazardous materials. The Coastal Chemical and Hazardous Materials Management Plan will form part of the Offshore Pollution Prevention ESIP.

The requirements of the Coastal Chemical and Hazardous Materials Management Plan shall be the same as for the Marine Chemical and Hazardous Materials Management Plan (see Section 3.6), as applicable to coastal areas.

CONTRACTOR shall maintain regularly updated records of all hazardous liquids used in the same way as described in Section 3.6.

The sections below detail the mitigation measures that shall be employed when handling fuels and hazardous materials in coastal areas. Please refer to the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019) for requirements concerning hazardous waste storage and disposal in coastal areas.

4.6.1 Storage and handling

Fuel and hazardous chemicals/materials shall be stored in designated areas, as defined by CONTRACTOR, except for quantities generated or required for the daily construction activities. Underground storage tanks will not be used for fuel storage (IT0252). Fuel, oil or hazardous materials required to be stored onsite shall be stored within double-walled tanks or containment bunds (IT0253).

Fuel and hazardous chemical storage areas shall be located:

- at least 100 m inland of MHWS
- at least 30 m from any watercourse.

Fuel and hazardous materials storage shall not be allowed where there is the potential for spilled fuel/chemicals to enter groundwater or within a floodplain.

All fuel and hazardous chemical storage facilities shall have the same requirements as described in Section 3.6.1, but shall be applicable to coastal areas. An additional requirement is that all fuel and hazardous chemical storage areas shall be located only on flat ground.

Requirements for the loading and offloading, the management of any contaminated rainwater or spills within the bund and the storage of individual drums of fuels or hazardous chemicals shall be as described in Section 3.6.1, but as applicable to coastal areas.

CONTRACTOR requirements for the storage of chemicals (small volume containers) shall be as described in Section 3.6.1.

Chemicals and hazardous material shall be appropriately labelled for worker protection during handling and incident response and MSDS shall be available at each storage area. MSDS for all chemicals will be available in the working language of CONTRACTOR personnel.

All fuel and chemical storage areas shall be secured by CONTRACTOR to prevent unauthorised access or use.

4.6.2 Pumps and generators

All pumps shall be provided with secondary containment (bund) by CONTRACTOR (e.g. polyethylene or other similar material) to contain 110% of the pump/generator fuel/oil inventory if located:

- within 100 m of surface water bodies or vulnerable unconfined aquifers
- within 100 m inland of MHWS
- below MHWS.

All refuelling of pumps must be done within the containment bund.

Preventative and leakage/spill response requirements for pumps and hoses shall be the same as described in Section 3.6.3 but as applicable to coastal areas.

Containment shall be provided by CONTRACTOR for all diesel generators to prevent the release of any leaks or spills onto the ground.

Spill kits will be present and all personnel will be familiar with the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020) and the relevant Construction Emergency Response Plan .

4.6.3 Chemical selection and inventory

Chemical selection and inventory requirements shall be the same as described in Section 3.6.2 but shall be applicable to the coastal area.

4.6.4 Pesticides

CONTRACTOR shall not use products that fall in the World Health Organisation Recommended Classification of Pesticides by Hazard Classes Ia (extremely hazardous) and Ib (highly hazardous); or Class II (moderately hazardous).

4.6.5 Refuelling

Diesel fuel will be delivered via approved fuel road tankers to the construction site (IT1018). Refuelling will only be carried out, or supervised, by workers trained in refuelling, spill containment and clean-up procedures.

Procedures for vehicle/equipment refuelling will be implemented by CONTRACTOR to prevent spillage (IT0278). These shall include but not be limited to:

- funnels shall be used where topping up is done with jerry cans or similar, and the operation will be carried out within a drip tray or other contained area
- all fuel nozzles shall be equipped with automatic shut-off refuelling guns on dispensers. Any fuel remaining in the hose shall be returned to the storage facility
- attendants shall not be allowed to leave refuelling equipment without supervision. Operators shall be stationed at both ends of the hose during fuelling unless the ends are visible and are readily accessed by one operator
- workers in charge of transfers shall monitor levels to prevent overfilling
- appropriate spill containment equipment will be available at refuelling sites (IT0256)
- if mobile fuel tankers are used, the fuel tank shall be double walled and the fuel dispenser shall be housed in a protective casing. Appropriate spill kits (content to be agreed with the COMPANY, see the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020)) shall be carried by each team. The wheels of all vehicles involved in in-field refuelling shall be chocked while refuelling is in progress.

Refuelling of construction vehicles and equipment will not be allowed outside designated refuelling areas (IT0255). Refuelling and lubrication changes for all mobile equipment shall be carried out at least 100 m:

- away from any water bodies and vulnerable unconfined aquifers
- inland of MHWS.

Non-mobile equipment within these zones shall have a lined bund appropriate for containing any spills and spill clean-up materials.

CONTRACTOR shall implement measures to prevent spillage to the coastal environment while handling fuel and chemicals, as described in Section 3.6.3.

CONTRACTOR shall prohibit the discharge of oily materials of any kind into waterways or channels leading to waterways.

4.6.6 Transport

Hazardous materials will only be handled by trained personnel (including trained drivers). Vehicles transporting hazardous materials will carry spill kits appropriate for the hazardous materials being transported, and the location of its transportation (content to be agreed with the COMPANY, see the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020)).

CONTRACTOR will comply with hazardous material requirements of each jurisdiction through which the materials travel.

Hazardous waste materials such as used paint, spent batteries, oil, methanol, ethylene glycol, cleaning agents, and water contaminated by freezing depressants shall be managed in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

4.6.7 Bulk products

CONTRACTOR shall implement the following procedures for safe loading and unloading of bulk products:

- service vehicles will be equipped with automatic shut-off valves
- brakes will be set
- wheels will be chocked
- the vehicle will be grounded/earthed if the product is flammable
- the operator will observe loading and unloading operations at all times

- when complete, the operator will examine outlets for leakage and take corrective action if required.

4.6.8 Drilling muds/gels

All drilling muds/gels will be biodegradable (IT0651). Prior to construction, material safety data sheets must be presented to ARPA Puglia for the products used in the drilling muds for the microtunnel construction (IT0649).

4.7 Maintenance/workshop areas/maintenance vehicles

If planned maintenance and inspection work is to be carried out on-site CONTRACTOR shall make proposals for the establishment of workshop areas. These shall be located at least 100 m:

- away from any surface water bodies and vulnerable unconfined aquifers
- inland of MHWS.

As lubricants, fuel and other potentially hazardous substances will be handled in these areas, they shall be stored on an impermeable base (membrane or concrete pad), roofed and kerbed, with internal drainage allowing any spills to be collected within the area. Efficient oil and grease trap(s) or sump(s) should be installed and maintained. Any drain valves shall be locked off to prevent incidental or unauthorised releases. Any contaminated rainwater or spills shall be collected and stored in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019). Appropriate spill kits shall be positioned adjacent to the workshop area.

Where unplanned maintenance has to be carried out at temporary working areas (i.e. due to equipment breakdown and where the equipment is not recoverable to the maintenance area), the area shall be covered by tarpaulin and spill kits positioned adjacent to the work area. COMPANY approval is required for any unplanned maintenance activities located:

- within 100 m of surface water bodies or vulnerable unconfined aquifers
- within 100 m inland of MHWS or
- below MHWS.

Spent oils, lubricants, filters etc., will be managed in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

4.7.1 Maintenance vehicles

Vehicles, equipment and containers used shall be capable of safely transporting petroleum products or hazardous materials in compliance with Italian legislation and international best practice.

4.7.2 Road cleaning

CONTRACTOR shall implement measures to clean the roads promptly of mud, dirt or debris deposited by Project traffic and activities.

4.8 Contaminated land/water

Should any areas of contaminated land be encountered by CONTRACTOR, CONTRACTOR shall develop an Coastal Contaminated Land Crossing Plan as part of the Offshore Pollution Prevention ESIP, to be agreed with the COMPANY prior to undertaking any works in that area. Contaminated soil will be treated (see Section 0) and disposed of as described in the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

4.8.1 Not used

4.8.2 Remediation standards for soil and groundwater contamination

Where areas have been contaminated as a result of spills caused by the Project, CONTRACTOR will undertake an assessment of the impact and recommend appropriate remediation measures.

Remediation shall be carried out in accordance with Environmental Project Standards Italy on permitted levels of contaminants in soil and water.

All clean-up shall be progressed until the COMPANY is satisfied.

The disposal of any contaminated material off-site shall be undertaken in accordance with the Offshore Waste Management CCP (IAL00-RSK-601-Y-TTM-0019).

4.8.3 Spills

Immediate emergency response procedures for spills are detailed in the Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020).

5 Training

The training requirements relating to offshore pollution prevention can be found in the Offshore Employment, Training and Worksite Management CCP (IAL00-RSK-601-Y-TTM-0024).

6 Monitoring and Inspection

The monitoring and inspection requirements relating to offshore pollution prevention can be found in the Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023).

7 Related documents

The following is a list of documents that, amongst others, have content relevant to this CCP:

- Contractor's ESMS Framework Document (CAL00-RSK-601-Y-TTM-0001)
- Compliance Assurance Plan
- Offshore Resource Management CCP (IAL00-RSK-601-Y-TTM-0014)
- Onshore Pollution Prevention CCP (IAL00-RSK-601-Y-TTM-0015)
- Offshore Erosion Control and Reinstatement CCP (IAL00-RSK-601-Y-TTM-0016)
- Offshore Waste Management (IAL00-RSK-601-Y-TTM-0019)
- Offshore Spill Prevention and Response CCP (IAL00-RSK-601-Y-TTM-0020)
- Offshore Community Safety and Security CCP (IAL00-RSK-601-Y-TTM-0022)
- Offshore Compliance Monitoring CCP (IAL00-RSK-601-Y-TTM-0023)
- Offshore Employment, Training and Worksite Management CCP (IAL00-RSK-601-Y-TTM-0024)
- Environmental Project Standards Italy
- Environmental Project Standards Albania (AAL00-RSK-601-Y-TSP-0001)
- TAP Battery Limits Onshore – Offshore Sections (CPL00-ENT-100-F-DFO-0002)
- Construction Emergency Response Plan



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- TAP ESMS Albania Offshore Pollution Prevention CCP (AAL00-RSK-601-Y-TTM-0024)
- Environmental Monitoring Plan (IAL00-ERM-643-Y-TAE-1028).