

ASR 2023– 2014-EU-TM-0401-M

Annex 5.1

ENVIRONMENTAL ASPECTS

1. Definition of guidelines and standards for the environment

To ensure a proper approach to the environmental management of the worksites and making this commitment into the contract of the environmental requirements as part of procurement for the management and execution of the works, the relevant tender specifications contain specific environmental documents: the “Guidelines for the Environmental Management of Construction Sites” and the “Note regarding Respect for the Environment”.

Regarding the works in which the Contractor is partly transferred from TELT to [REDACTED] or [REDACTED] the requirements have been harmonized and specific documents have been drawn up to ensure the same level of supervision on these sites as well.

The drafting of the environmental clauses for the bi-national Operational Construction Site 12 railway and non-railway installations tender began in 2022.

The specific documentation that was prepared in 2022 for each of the two countries is detailed below.

1.1 *Addresses and standards on Italian territory*

During 2022, the environmental clauses were drawn up for the following tender:

- Works for CO1site- Interconnection Bussoleno

The following instructions were drawn up during 2022:

- Instructions for uploading the project documentation of the Environmental Management Plans for operational Italian-side NLTL construction sites on the Environmental Portal
- Instructions indicating the information required for setting up the Environmental Portal in the event of new operational construction sites and/or substantial changes in the implementation of the construction site
- Instructions indicating the best practice for monitoring and managing invasive alien species in the context of the Environmental Management Plans of the construction sites.
- Instructions for filling out the environmental anomaly form on the Environmental Portal.
- Instructions indicating the minimum content required to allow executive designers to draw up the Descriptive Report of the Environmental Monitoring Plan for the operational sites for which the CO or a new CO phase is going to be started
- Instructions for defining the methods of carrying out the environmental meeting for the NLTL construction sites - Italian side.

1.2 *Addresses and standards on French territory*

During 2022, the environmental clauses were drawn up for the following tenders:

- Construction Site 11: preparation work for TELT construction site in the lower valley, lot 3: excavation of Illiaz Platform
- Construction Site 11: TELT construction site safety work in the lower valley, lot 1: fencing construction
- Construction site 11: Storage works in the Resses site.

ASR 2023– 2014-EU-TM-0401-M

Annex 5.1

2. Environmental monitoring by the Project owner

The environmental impact of construction sites is carefully monitored by TELT through:

- the monitoring of the various environmental matrices outside the construction sites,
- the involvement of a specific professional figure, the Environmental Coordinator.

The principle of scrupulous monitoring of environmental impacts with the aim of avoiding environmental damage and limiting disturbances associated with construction sites is the same in Italy and France, even if it differs in operational practice to adapt to the regulatory requirements and the environmental context of the country in which the works are carried out.

2.1 *Supervision of construction sites on the Italian side*

Design of the Environmental Monitoring Plan:

The following took place in 2022 for an amount of approximately €40k:

- The review of the Environmental Monitoring Plan Methodological Report and the descriptive report of the first macro-phase of operational construction site 04 – La Maddalena - work in progress phase, to bring it into line with the modifications introduced in compliance with requirement 148 of CIPE resolution 39 and with ██████████ opinions n. ████████ of 07/07/2021, n. ████████ of 07/07/2021
- The design of the Environmental Monitoring Plan operational construction sites 1, 2, 3 and 10 – Descriptive report of the works in the Susa plain and construction of the base tunnel - Ante Operam phase
- The design of the environmental monitoring plan - descriptive report of operational construction site 10 – work in progress phase, anticipatory works of the first phase executive project.

Implementation of the Environmental Monitoring Plan (EMP):

During 2022, the following environmental monitoring activities were carried out for an amount of approximately €1.5 million:

- work in progress phase of operational construction Site 04 for the interchange niches built in the La Maddalena exploratory tunnel
- Ante operam phase of operational construction sites 10 of Salbertrand and Torrazza Piemonte.

The final reports of the AO, of the two construction sites, have been forwarded to ████████ for technical sharing.

Moreover, during 2022, the ██████████ monitored the social environment by applying the indications in the methodological report shared with the local authorities.

The results were included in the:

- Work in progress report Social Environment Component – Socio-Economic Part (by ██████████
██████████)

ASR 2023– 2014-EU-TM-0401-M

Annex 5.1

- Work in progress report Social Environment Component – Socio-Communication Part for construction site CO4.

The reports were sent to the relevant ministries as part of the implementation review.

Environmental Coordination Mission:

It should be noted that the contract for the Environmental Coordination mission started in December 2020. Coordination is a mission that arises from the binational nature of TELT. Although not formally required by the Italian law, it constitutes one of the pillars of the environmental management of construction sites and guarantees technical support in coordinating the supervision in accordance with ISO standards.

In particular, during 2022, the Environmental Coordination structure took care of the development of the Integrated Environmental Control System (for a total amount of about 236k€) through the drafting of periodic monthly control and verification reports and providing specialist assistance to TELT for the in-depth study of some specific topics:

- of airborne asbestos monitoring; on the review of the alarm thresholds of the CO4 Environmental Monitoring Plan for the Groundwater Environment component
- in the review of the thresholds of the noise component of the Environmental Monitoring Plan of CO4 for the construction of the Niches
- Procedure for the management and communication of anomalies in CO4 Niches.

During 2022, as part of the environmental protection activities of the La Maddalena site, the following activities were carried out:

- Periodic meetings (24 environmental meetings in the construction site) with the project management and the group of companies
- Periodic construction site visits for cross-examination with [REDACTED] [REDACTED]
- Verification and control of data and periodic reports (weekly, monthly, yearly) of the Environmental Management System by the companies and of the Environmental Monitoring Plan, published on the environmental portal, and management of anomalies detected in the data
- Implementation of 3 “second-level internal controls” for the construction site 4 for the construction of the niches.

Annual balance and information bulletins

During 2022, the annual statement regarding the environmental control activities carried out during 2021 for construction site CO4 regarding the construction of the interchange niches was sent for implementation verification. The trial Balance of the correlations between operations and impacts was shared in advance with [REDACTED] as part of the environmental follow-up agreement.

The Balance indicates that the monitoring data shows no alteration or modification to the environmental "base line" that characterises the environment and the area in which the CO 04 construction site is located.

ASR 2023– 2014-EU-TM-0401-M

Annex 5.1

At the start of 2022, TELT added a section to its website, named "the environmental bulletin" on which the results of the impact measurements carried out by TELT through its environmental monitoring are periodically recorded. This is aimed at providing greater transparency of public information.

2.2 Supervision of the construction sites on French side

Water monitoring (LSE – Loi sur l'eau)

During 2022, water monitoring was regularly carried out in accordance with the regulatory protocols (Prefectural Decree no. 2011-165 of 11/03/11 and amendments).

In particular, the monitoring of works in progress of the construction sites CO8 (excavation of the base tunnel from the western face), CO9 (basin of Saint-Jean-de-Maurienne), CO5 (shafts of Avrieux), CO6/7 (base tunnel from Saint-Martin-la-Porte and La Praz) was carried out. The ante-operam was also completed for the zones that were activated by the end of the year.

It should be noted that water monitoring also includes the hydrogeological surveillance network. The implementation of water monitoring, entrusted to a specialized company, involved an expenditure of approximately €560k for 2022, in addition to €35k for the maintenance of the measurement network.

Monitoring of fauna - flora and ecosystems and actions to reduce impacts

During 2022 the monitoring of fauna - flora and ecosystems was regularly carried out in accordance with the regulatory framework (Prefectural Decrees no. 2011-091 of 02/28/2011, no. 2013-1105 of 11/19/2013 and amendments, no. 2016-1166 of 08/16/2016 and amendments).

In addition to monitoring in the strict sense of the term, numerous actions were carried out to reduce the impact of construction sites on protected fauna and flora, and in particular to prepare the sites that hosted the construction sites opened in 2022 (transplanting of protected plant species, demarcation of sensitive areas close to the construction sites, verification of the absence of bats in trees and buildings concerned, etc.).

The various investigations and interventions on the ground carried out by specialized ecologists involved an expenditure of approximately €171k.

Atmosphere Monitoring

It should be noted that on the French territory, the monitoring of the atmosphere effected in accordance with the requirements of the regulatory framework ("ICPE" authorizations) is the responsibility of the construction companies.

However, in order to assure external monitoring on atmospheric quality, TELT has started a partnership agreement with the [REDACTED] ([REDACTED]) which carried out an experimental pilot program for measuring the evolution of air quality in Maurienne. The trial began in the first quarter of 2020 and lasted 2 years.

In 2022, continuous measurements were carried out on 8 micro-sensors of fine particles and on a pollutant measurement unit (in Modane), for a cost of approximately €65k.

The pilot project was therefore completed in November 2022.

ASR 2023– 2014-EU-TM-0401-M

Annex 5.1

Based on the results of the pilot project carried out together with [REDACTED] a tender was called in 2022 for taking measurements using micro-sensors. This tender will be awarded in the first quarter of 2023 and measurements resumed by the [REDACTED].

Acoustic environment monitoring

It should be noted that on the French territory, the monitoring of noise in accordance with the requirements of the regulatory framework (“ICPE” authorizations) is the responsibility of the construction companies.

However, to assure external monitoring of the acoustic quality, TELT carries out complementary measures starting from mid-2021.

In particular, a fixed measurement point was set up in Villard Clément (CO8) and precised measurements were carried out to settle the controversial points in Villarodin-Bourget (CO5a), for a cost of approximately €26k.

Environmental Coordination Mission

During 2022, the Environmental Coordination mission for the environmental supervision of construction sites in progress or which started during the year was carried out regularly and in concerned:

- Operational Construction Site 05a - Avrieux shafts: 12 COE meetings, 15 level II control visits, 1 system audit
- Operational Construction Site 06/07 - base tunnel from SMP and LPZ: 10 COE meetings, 10 level II control visits, 1 system audit
- SMP4 Operational Construction Site (completed in September 2022): 4 COE meetings, 4 level II control visits
- Operational Construction Site 08- base tunnel from SJM: 12 COE meetings, 13 level II control visits, 1 system audit
- Operational Construction Site 09 – SJM basin: 2 COE meetings, 5 level II control visits, in addition to 6 coordination meetings with [REDACTED]
- Operational Construction Site 11- reuse of excavated materials, [REDACTED] -Modane bypass road: 6 COE meetings, 6 level II control visits,
- Operational Construction Site 11 - reuse of excavated materials, [REDACTED] Saint-Antoine bridge: 6 COE meetings, 6 level II control visits.

Through the environmental coordination mission, TELT also regularly checks the results of the acoustic, atmospheric and drainage water quality monitoring carried out by the construction companies, as well as the environmental documentation produced by the company.

In 2022, the mission cost around €239k.

Annual balance and information bulletins

In November 2022, TELT presented the environmental balance sheet of the construction sites in progress as part of the annual meeting of the Environmental Committee, an instance chaired by the deputy prefect and composed of the State services responsible for the environment, local communities and associations of inhabitants and for the protection of the environment.

ASR 2023– 2014-EU-TM-0401-M

Annex 5.1

Globally, there have been no notable impacts from construction sites in the course of 2022.

At the start of 2022, TELT added a section to its website, named "environmental observatory" in which the results of the impact measurements carried out by TELT through its environmental monitoring are periodically recorded. This is aimed at providing greater transparency of public information.

3. Actions in favour of the fauna, flora and biodiversity

In compliance with the objectives defined in the environmental policy, TELT pays constant attention to ecosystems, committing itself to seize the opportunity of implementing some measures to promote solutions with lasting added value. TELT carries out a vast program of research and measures in favour of protected species and habitats, in each country according to needs and opportunities (see specific paragraphs).

A binational research project on the *Erica Carnea*, a protected species located in France and rare in Italy also took place in 2022. This research started at the end of 2021 and involves the botanists of the [REDACTED], the botanists of the [REDACTED]. The final research report will be published in the first quarter of 2023.

3.1 *Actions on the Italian territory*

In implementation of the specific dispositions on biodiversity of CIPE Resolutions no. 30 and no. 39, TELT continued its commitment in participating in the technical round tables, coordinated by the [REDACTED], for the sharing of the experimental environmental monitoring protocols, implementing the Protocol of Intent between the [REDACTED] and TELT on biodiversity. In particular, the monitoring of biodiversity improvement interventions continued in order to increase the level of ecosystem complexity and therefore of animal and plant biodiversity, in compliance with Disposition no. 121 of CIPE Resolution 39/2018 which indicates that "the compensation interventions of the transformed forest area must be developed with a view to reconstituting and strengthening the ecological and faunal corridors present in the Valley."

During 2022, the biodiversity working group developed field activities in order to verify the effectiveness of the actions introduced in the area for the creation of ecological corridors. The research shows that forest compensatory works, with a view to improving biodiversity and therefore ecological restoration, can increase the presence of some animal species in the areas close to the construction site.

3.2 *Actions on the French territory*

On the French side of the project, in accordance with the prefectural decrees no. 2013-1105 (and subsequent amendments) and no. 2016-1166 (and subsequent amendments), TELT continued the implementation of the 23 projects dedicated to fauna, flora and biodiversity on a target area of about 150 ha in Maurienne, with the involvement of about twenty partners including municipalities, land and pastoral associations, protection bodies of natural areas, etc.

Between agreements, indemnities, works, specialist assistance, the expenditure for the implementation of these measures for 2022 was approximately €192k.

ASR 2023– 2014-EU-TM-0401-M

Annex 5.1

In June 2022, the progress of the implementation of these measures was presented and discussed within the Compensation and Accompanying Measures Monitoring Group, chaired by the sub-prefect and composed of experts and operators in the sector, nature defence associations, as well as by the competent administration.

The presentation was also followed by the visit of some compensation sites.

Moreover, in agreement with the supervision bodies (in particular with the [REDACTED] [REDACTED] and with local partners, TELT continued the actions undertaken for collective agricultural compensation.

In addition to the management of the agreements with the various partners, and with the support of ecologists and agronomists, these activities also involve the implementation of landscaping works and green spaces, for an expense, in 2022, of approximately €250k.

4. Implementation of ISO 14001 - Environmental management

In November 2022, the renewal audit of the ISO 14001-2015 certification was carried out by [REDACTED]. The outcome of the audit was positive and TELT's certification was maintained.

5. Relations with the competent bodies in the field of the environment

The organization of the environmental bodies is different on both sides of the border. TELT therefore adapts the management of relations with Bodies differently in the two countries.

5.1 Relations on the Italian side

[REDACTED] [REDACTED] is the body responsible for the environmental supervision of TELT construction sites and, as foreseen by CIPE resolutions, plays an "environmental follow-up" role currently being formalized through a specific agreement.

Technical relations with [REDACTED] take place through frequent meetings and site inspections. The sharing of data from environmental monitoring must take place through a specifically designed tool, the Environmental Portal.

In particular, in 2022 the portal managed all the operational construction sites both in the work in progress phase and in the Ante Operam phase such as the construction site 04 - Maddalena, the construction site 10 - Salbertrand and Torrazza and the construction site 02C – car and truck terminal, the construction site under the responsibility of the Delegated Contractor [REDACTED].

5.2 Relations on the French side

Relations with the state services responsible for the environment ([REDACTED]) take place through bi-monthly meetings (Revue de dossiers).

TELT has been developing, also for the French side, an environmental portal with characteristics similar to those requested on the Italian side which was made accessible to the administration at the beginning of 2021 and is in continuous development to collect monitoring data.