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FOR THE ECOLOGICAL TRANSITION AND THE
DEMOGRAPHIC CHALLENGE

SECRETARY OF STATE
FOR THE ENVIRONMENT

DIRECTORATE GENERAL FOR
ENVIRONMENTAL QUALITY AND ASSESSMENT

SECTION 14

USER'S GUIDE

– MODULE FOR THE DEVELOPMENT OF REMEDIATION PROJECTS –



**TECHNICAL COMMISSION OF PREVENTION AND REMEDIATION OF ENVIRONMENTAL
DAMAGES**

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14. MODULE FOR THE DEVELOPMENT OF REMEDIATION PROJECTS

Given the volume of information contained in the document '*SIRMA User's Guide*', and for the purpose of facilitating documentation management, this supplementary document has been prepared for the Module for the development of Remediation Projects.

14.1. FUNDAMENTALS AND METHODOLOGY OF THE REMEDIATION PROJECTS MODULE

The remediation projects module is an IT tool that assists operators in the regulatory obligations regarding the remediation of environmental damage and the preparation of remediation projects in accordance with the provisions of Section 2 of Chapter III of Law 26/2007 of 23 October on Environmental Liability. In particular, it assists in the preparation of the forms in Annex II of the document "Structure and general contents of environmental remediation projects" and the drafting of the remediation project report.

The purpose of this module is to facilitate the user's submission of the draft remedial measures so that, once all the information relating to the remediation of the damage has been gathered, the operator can submit the resulting report to the competent authority in a short space of time—following the format established in the General Structure and Contents of Remediation Projects document—as these are administrative procedures that must be carried out relatively quickly.

As a result of the module, all the information described by the user is collected in the different printable forms in PDF format, as well as the remediation project report following the corresponding structure and contents.

14.2. ACCESS TO THE REMEDIATION PROJECTS MODULE AND DESCRIPTION

Access to the Remediation Projects Module must be done through the SIRMA browser, which is located under the ARM, IDM and MORA software applications.



Comisión Técnica de Prevención
y Reparación de Daños
Medioambientales



User: mandres1@tragsa.es

Environmental Liability Information System (SIRMA)
Remediation project - Description

Law 26/2007 Information

Legal Basis

Risk Analysis

Financial Security

Implementation reports and environmental liability enforcement

Publications

FAQs

ARM, IDM and MORA computer applications

Introduction and aim

Global ARM-IDM-MORA Project

ARM Application

IDM Application

MORA Application

ESGRA Module

Description

Create a New Report

Reports Repository

Remediation Project

Description

Create a New Project

Projects Repository

Transport Module

Description

Event tree

Geographic viewer

Description and access

My Profile

Description

The repair module computer tool assists operators in their regulatory obligations regarding damage repair within the scope of application of Law 26/2007 on Environmental Responsibility, more specifically in the preparation of the forms for the document "Structure and general contents of environmental damage repair projects" and the drafting of the repair project.

Firstly, the repair module assists the user in completing the forms in Annex II of the document "Structure and general contents of environmental damage repair projects". Once the information that makes up the forms has been completed, the application offers assistance in preparing the repair project with the corresponding structure and content; document that can be stored, printed and consulted later by the operator. When completing the corresponding repair project document, the tool allows you to display the information from the forms (which corresponds to the forms in the annexes), which can be consulted by the user to facilitate the writing of each section. of the corresponding repair project.

[Example remediation projects](#)

In the table below, the project that accompanies the SIRMA user guide as an example is available. To consult the text of the project, just click on the "Example" icon. In addition, by clicking on the "Modify / See" icon, it is possible to consult all the necessary screens to carry it out and navigate through them.

Name	Completed	Example	Modify / See
There are no records to show.			

Documentation

[User's guide](#)

[Annexes](#)

Remediation project detail

[Remediation projects](#)

General data

Remediation project: Completed
 Proyecto de reparación accidente en Instalación (X) Yes Modify Reopen project

Information to complete the forms Print

- ☒ File
- ☒ Owner, representative and notification data of the installation
- ☒ Information related to the accident
- ☒ Cartography and geology of the terrain
- ☒ Use of the territory and relevant sources of information to develop the project
- ☒ Identification of the damaging agents
- ☒ Identification of damaged resources

Information collected on cartography and geology of the terrain

☐ Basic cartography

- ☐ Map of Spain scale 1:500,000
- ☐ Provincial map scale 1:200,000

☐ Topographic map

- ☐ Topographic map scale 1:50,000
- ☐ Topographic map scale 1:25,000

☐ National cartographic base

- ☐ National cartographic base scale 1:500,000
- ☐ National cartographic base scale 1:200,000
- ☐ National cartographic base scale 1:100,000
- ☐ National cartographic base scale 1:25,000
- ☐ National cartographic base scale 1:10,000

Form 5: Identification of the agent causing the damage: physical and fire

Procedure for demanding environmental liability

PDRL number: SIRMA and date
 PDRL/001/2017 10/10/2024 09:31:26

Damaging agent type fire

Name: Incendio en pinar de Pinus pinaster

Further properties

El incendio generado en las instalaciones de Almacén de residuos, S.L. se extendió a una masa forestal próxima formada por ejemplares de Pinus pinaster. La intensidad del fuego en las instalaciones, bajo de la inflamabilidad de las sustancias almacenadas en el mismo, facilitó la propagación del incendio por radiación, generando un fuego que cambió las características de incendio de superficie (consumiendo la vegetación herbácea) y de incendio de copas activas (la elevada densidad de pino facilitó la propagación del incendio a través de las copas de los árboles). Ambos medios de propagación del incendio provocaron una afluencia masiva a la masa forestal.

En el momento de la fuga de los servicios de extinción, el gestor del fuego fuera de las instalaciones de Almacén de residuos, S.L. mas que extinción, lo que facilitó el control y posterior extinción del incendio de la masa forestal. Los bomberos forestales lograron limitar la extensión del incendio a una superficie de 4 hectáreas con un perímetro de unos 300 metros.

Figure 14.2-1. Access to the Remediation Projects Module. Source: SIRMA

On the "Remediation Project" section of the SIRMA navigator, the different options contained in the navigation panel appear, in particular, the "Description", "Make new report" or "Report history" of the heading.

Remediation Project

Description

Create a New Project

Projects Repository

Figure 14.2-2. Navigation panel of the Remediation Projects Module. Source: SIRMA

The description section includes a brief summary of the remediation projects module's usefulness. In addition, the user manual of the SIRMA tool and its annexes, all in PDF format, are available via hyperlinks.

The following sections of this guide describe the rest of the functionalities included in the Remediation Project Module.

14.3. COMPLETE NEW PROJECT

The "Create new project" button starts the procedure for the creation of a new remediation project. The headings that need to be completed for its development are described below.

14.3.1. GENERAL DATA OF THE REMEDIATION PROJECT

The initial screen accessed when clicking on "Complete New Project" is the "General data of the remediation project" that is being developed.

The first data requested from the user is the "Name" that the user wishes to give to the report, together with which the application incorporates by default the "Date of registration" data in which the start date of the report is automatically indicated.

After this first step, click on the "Save" button if you want to start completing the report or, if not, click on the "Cancel" button to discard it.

This general data is provided for information purposes on all subsequent screens as a reference to the project being worked on, including whether or not it has been completed by the user.

Remediation project general data

Remediation project data

Name	
Entry date	User

Figure 14.3.1-1. General data of the Remediation Project. Source: SIRMA.

Once the Remediation Project has been generated with its name and date of registration, the information associated with it can begin to be entered. For this purpose, within the SIRMA tool, the remediation project module has two distinct parts: the completion of the information in the forms in Annex II of the document "Structure and general contents of environmental damage remediation projects" (which is carried out first) and the preparation of the remediation project

report (which is drafted later). These two sections can be folded and unfolded in order to show the headings that are being worked on.

14.3.2. COMPLETE FORMS IN SIRMA

As previously mentioned, the first step of the module is the preparation of the forms found in Annex II of the document "Structure and general contents of environmental remediation projects", as the information detailed in them will be used for the preparation of the project report. The information necessary to fill in these forms is represented in SIRMA by hyperlinked headings that allow access to the screens where the data necessary to draw up the remediation project can be entered.

If the symbol "Report+pencil" appears under a heading, this means that the heading has not been filled in. Once the user enters the mandatory information for each heading, the heading appears with a "check mark" symbol.

It is recommended to fill in the headings in the order in which they appear on the screen.

It is recommended to fill in the headings in the order in which they appear on the screen. To facilitate the development of the report and provide some flexibility, the application sometimes allows you to move on to subsequent sections without having completed all the information in the preceding sections (sections marked with a pencil icon). However, it is not possible to skip those sections containing required information that must be entered in order to proceed to the following screen. Therefore, until the user fills in this information, the subsequent sections related to it will appear pre-marked with a prohibited symbol.

Remediation project detail

[Remediation projects](#)

General data

Remediation project
 Completed
 Modify

Information to complete the forms ▲
 Print

- * File
- * [Owner, representative and notification data of the installation](#)
- * Information related to the accident
- * Cartography and geology of the terrain
- * Use of the territory and relevant sources of information to develop the project
- * Identification of the damaging agents
- Identification of damaged resources
- Agent resource combinations, damage quantification and significance
- * Weighting factors for evaluating remediation alternatives
- Primary remediation alternatives
- Compensatory remediation alternatives for primary remediation measures
- Complementary remediation alternatives
- Compensatory remediation alternatives for complementary remediation measures
- Type and quality of resources/services generated through remediation measures
- Remediation project schedule
- Rate and degree of recovery of damaged resources/services
- Remediation project effectiveness
- Cost, feasibility and observations of the remediation project
- Monitoring program

Figure 14.3.2-1. "Information for filling in the forms". Source: SIRMA.

The following sections describe how to fill in the headings that make up the forms in Annex II of the Document on "Structure and general contents of environmental remediation projects". By way of example, the first two headings or screens of the computer tool to be filled in by the operator are included—"File" and "Owner, representative and data for notification of the installation"—and, additionally, the headings "Weighting factors for assessment of repair alternatives", "Primary repair alternatives", "Complementary and/or compensatory repair alternatives" and "Monitoring programme", as these are sections of the computer module that are filled in individually.

14.3.2.1. FILE

When you start the file, a screen with the file data is displayed. As can be seen in the image, the "P.E.R.M. Number" is marked with an asterisk (*). This is the way in which the application indicates that a certain field must be filled in.

File

General data	
Remediation project	Completed

File data
P.D.E.L. number*

Figure 14.3.2.1-1. "File" screen. Source: SIRMA.

After completing these steps, the user must select "Save" if he/she wants to continue completing the report or "Cancel" if he/she wants to change any data.

14.3.2.2. OWNER, REPRESENTATIVE AND DETAILS FOR NOTIFICATION OF THE INSTALLATION

On the "Owner, representative and data for notification of the installation" screen, the user shall fill in certain information related to the owner and representative of the installation where the accident has occurred. As noted above, the sections marked with an asterisk (*) indicate that a particular field must be filled in.

In this respect, it should be clarified that the operator of the installation is considered to be the natural or legal person, public or private, who carries out the economic or professional activity or who, by virtue of any title, controls such activity or has decisive economic power over the operation of the activity that has caused the damage or the imminent threat of damage.

The requested **"Installation operator data"** are the following:

- Name*.
- CIF [*Spanish Tax ID Code*]/NIF [*Spanish Tax ID No.*].
- Address*.
- E-mail*.
- Fax/mobile phone/landline.
- Main economic activity*.
- Cadastral.
- Spanish CNAE code to which the main activity of the installation pertains.
- Annex III of Law 26/2007*. The section of Annex III of Law 26/2007 to which the activity of the installation pertains must be marked in the drop-down menu, including the case

where it does not fall under any of the headings of Annex III. In each case, the relevant sections shall be activated/deactivated.

- IPPC heading. In the event that the activity falls within the scope of application of Royal Legislative Decree 1/2016 of 16 December (IPPC), this drop-down menu will be activated, in which the section to which it belongs must be selected.
- Hazardous substances category SEVESO. In the event that the activity falls within the scope of Royal Decree 840/2015 of 16 July (SEVESO) and, in turn, within the category of hazardous substances, the category to which it belongs shall be marked, also indicating in the adjacent drop-down list whether it belongs to a higher/lower level due to the thresholds indicated in the Law.
- Hazardous substances SEVESO. In the event that the activity falls within the scope of Royal Decree 840/2015 of 16 July (SEVESO) and, in turn, within the scope of hazardous substances, it will be marked to which of them it belongs, also indicating in the adjacent drop-down list whether it belongs to a higher/lower level due to the thresholds indicated in the Law.

Owner, representative and notification data of the installation

General data

Remediation project

Completed

Installation owner data

Name*

CIF/NIF

Community

Province

Municipality*

Address*

Postal code*

Email*

Mobile phone

Landline

Fax

Main economic activity*

Cadastral (polygon, plot)

CNAE code

Annex III Law 26/2007 heading*

IPPC heading

SEVESO dangerous substances category

SEVESO level per category

SEVESO nominated dangerous substance

SEVESO level per substance

Installation representative data

Name

NIF

Position

Email

Mobile phone

Landline

Fax

Data for notification (complete only if they differ from those of the owner)

Addressee

Email

Address

Postal code

Mobile phone

Landline

Fax

Save

Cancel

Figure 14.3.2.2-1. "Owner, representative and data for notification of the installation" screen.

Source: SIRMA.

After completing the information on the screen concerning the operator, installation representative and data for the notification, the user must select "Save" if he/she wants to continue completing the report or "Cancel" if he/she wants to change any data.

Thus, the equivalent headings of the remediation project forms should be filled in following the example above, where the operator should fill in the blank boxes on all screens of the software module on a voluntary basis—data without asterisk—or on a mandatory basis—data with asterisk—. The headings that continue in the IT module are:

- Information concerning the accident
- Terrain mapping and geology
- Use of the territory and relevant sources of information for the preparation of the project
- Identification of the damage-causing agents
- Identification of damaged resources
- Combinations of resource agent, quantification and significance of damage
- Weighting factors for appraisal of repair alternatives
- Primary reparation alternatives
- Compensatory reparation alternatives for primary reparation measures
- Complementary reparation alternatives
- Compensatory reparation alternatives for complementary reparation measures
- Type and quality of resources/services generated through remediation measures
- Timeline of the remediation project
- Rate and extent of recovery of damaged resources/services
- Effectiveness of the remediation project
- Cost, feasibility and comments on the remediation project
- Monitoring programme

Of the above headings, the "Weighting factors for assessment of repair alternatives", the "Primary repair alternatives", the "Complementary and/or compensatory repair alternatives" and the "Monitoring programme" are described below, as they are sections of the computer module that are completed in a particular way.

14.3.2.3. WEIGHTING FACTORS FOR APPRAISAL OF REMEDIATION ALTERNATIVES

The first step in establishing measures to remedy the damage caused by the accident is to establish weighting factors to help determine the most appropriate recovery techniques for each resource. These criteria that assist in the selection of remediation techniques are set out in section 1.3.1 of Annex II of Law 26/2007 of 23 October.

- Impact of the alternative on public health and safety

- Probability of success of the alternative
- Extent to which the alternative will serve to prevent future damage and avoid collateral damage as a result of its implementation
- Extent to which the alternative will benefit each component of the natural resource or environmental service
- Extent to which the alternative will take into account relevant social, economic and cultural interests and other relevant factors specific to the locality
- Period of time necessary for the remediation of the environmental damage to become effective
- Extent to which the alternative achieves remediation of the site that has suffered environmental damage
- Geographical link to the damaged site
- Cost of implementing the alternative

The operator must, based on their reasoning, assign a relative weight to each criterion in order to give it a greater or lesser importance for the subsequent selection of the remediation alternative. In order to make the result of the assessment of the different remediation alternatives comparable with each other, the weight given to each of the assessment criteria shall be the same for all alternatives. The total sum of the weighting factors must be 100, so that each criterion can have a value between 1 and 100. As an example, if the user wants the criterion: "Probability of success of the alternative" to have twice the weight in the assessment as the criterion of: "Degree to which the alternative will prevent future damage and avoid collateral damage" as a result of its implementation, it may assign a weighting factor of 20 to the former and 10 to the latter.

Weighting factor for each assessment criterion

A weighting factor must be assigned to each assessment criterion, that is, giving a relative weight to each criterion to assign it greater or lesser relative importance for the subsequent selection of the repair alternative. So that the result of the evaluation of the different repair alternatives is comparable to each other, the weight assigned to each of the evaluation criteria will be the same for all alternatives. The total sum of the weighting factors must be 100.

Evaluation criterion	Weighting factor
Effect of the alternative on public health and safety	
Probability of success of the alternative	
Degree to which the alternative will serve to prevent future harm and avoid collateral damage as a consequence of its application	
Degree to which the alternative will benefit each component of the natural resource or environmental service	
Extent to which the alternative will take into account relevant social, economic and cultural interests and other relevant locality-specific factors	
Period of time necessary for the repair of environmental damage to be effective	
Degree to which the alternative is able to repair the place that has suffered environmental damage	
Geographic link with the damaged place	
Cost of applying the alternative	
TOTAL	###

Figure 14.3.2.3-1. "Weighting factor for each assessment criterion". Source: SIRMA.

14.3.2.4. PRIMARY REPARATION ALTERNATIVES

After defining the weighting of each of the criteria weighting factors, it is time to select the primary remediation alternatives for each agent-resource combination. Note that a primary remedial action may consist of a particular combination of actions; the identification of the primary remedial action will be done for the whole combination—regardless of whether it consists of one or several actions—and the different combinations of actions identified will then be assessed.

A table appears on the screen with the combinations that the user has previously generated and a series of data on the remediation alternatives that will be filled in as the information is entered. To start with the selection of alternatives the user has to select the symbol "Manage alternatives" ("Report icon+pencil").

Combination	No. Alt.	Manage alternatives	Selected alternative	Applies	Requires Cmp.	Requires Cpl.	Alternative selection
							

Figure 14.3.2.4-1. "Table of primary remediaton alternatives". Source: SIRMA.

When this button is clicked, a new screen appears with a table where the user can enter as many remediation alternatives as he/she wishes. In addition, once each alternative is entered, the application will indicate whether it is the selected alternative—to be determined later—and whether it requires complementary and/or compensatory measures.

As in the previous sections, each alternative can be modified or viewed by clicking on the "pencil icon" or deleted by clicking on the "bin icon".

Combination primary remediation alternatives

[Remediation project detail](#)
[Primary remediation alternatives](#)

General data

Remediation project

Completed

Combination

Entry data of Alternative

Selected alternative	Applies	Requires Cmp.	Requires Cpl.	Code	Modify / See	Remove

Go to primary alternative selection

Figure 14.3.2.4-2. "Table of primary remediation alternatives for the combination". Source: SIRMA.

In this section, we must select "Alternative Registration" in order to be able to introduce as many techniques as necessary. A series of data are requested concerning the alternative, such as:

- Code*.
- Degree of intervention*. This is the degree associated with each remediation technique. This can be total, partial or based on natural recovery –select from the drop-down menu–.
- Reparation technique*. A choice is given between the application of a pre-loaded technique from the MORA –Environmental Liability Offering Model– application or the introduction of an own technique by the operator, in both cases, the feasibility of the selected technique must be indicated between "Proven", "Limited" or "Unproven".
- Evaluation of the alternative*. To carry out the evaluation of the selected alternative, the user has the option either to use the weighting factors described in the previous section or to perform this evaluation through the section "Comments on the evaluation of the primary remediation alternative."

If the option of using the weighting factors is chosen, once these have been determined on the previous screen, the user will proceed to score each of the remediation alternatives in each of the aspects considered. To complete this process, the operator will rate each aspect from 1 to 100 depending on the degree to which the alternative meets the criterion.

–It is recommended to use number ranges, setting up a scale such as: 1 (does not meet the criterion); 25 (low compliance with the criterion); 50 (intermediate compliance with the criterion); 75 (high compliance with the criterion); 100 (full compliance with the criterion)–.

It should be noted that this methodology aims to establish the most appropriate remediation technique among those considered by the user. Therefore, for a given criterion, the maximum score can be assigned to the measure that best meets it, while the values for the remaining alternatives are assigned in relation to that maximum. For example, if the technique with the highest associated cost is €1000/u.f. and the lowest is €50/u.f., a scale can be established between the two, assigning a value of 100 to the former and 1 to the latter, and arranging the other techniques based on their cost between the two ends of the scale.

Finally, it should be noted that some of these criteria are considered positive—for example, the probability of success of the alternative—while others are considered negative—for example, the cost of applying the alternative. Therefore, to ensure that the evaluation results of the different alternatives are comparable to one another, the following equation has been established:

a	Efecto de la alternativa en la salud y la seguridad públicas
b	Probabilidad de éxito de la alternativa
c	Grado en que la alternativa servirá para prevenir futuros daños y evitar daños colaterales como consecuencia de su aplicación
d	Grado en que la alternativa beneficiará a cada componente del recurso natural o servicio medioambiental
e	Grado en que la alternativa tendrá en cuenta los correspondientes intereses sociales, económicos y culturales y otros factores pertinentes específicos de la localidad
f	Período de tiempo necesario para que sea efectiva la reparación del daño medioambiental
g	Grado en que la alternativa logra reparar el lugar que ha sufrido el daño medioambiental
h	Vinculación geográfica con el lugar dañado
i	Coste que supone aplicar la alternativa
VALORACIÓN GLOBAL DE LA ALTERNATIVA (-a+b+c+d+e-f+g+h-i)	

Figure 14.3.2.4-3. "Equation of the overall assessment of the primary remediation alternatives of the remediation project". Source: Created by the authors.

- Comments on the valuation of the primary alternative.
- Other information on the alternative.

Primary remediation alternative

General data

Remediation project

Completed

Combination

Alternative data

Code*

Degree of intervention*

Remediation technique

☐ MORA Technique

☐ Own technique

Technical viability*

Assessment of the alternative

Use weighting factors
☒ Yes ☐ No

Evaluation criterion	W.F.	Assessment
Effect of the alternative on public health and safety		
Probability of success of the alternative		
Degree to which the alternative will serve to prevent future harm and avoid collateral damage as a consequence of its application		
Degree to which the alternative will benefit each component of the natural resource or environmental service		
Extent to which the alternative will take into account relevant social, economic and cultural interests and other relevant locality-specific factors		
Period of time necessary for the repair of environmental damage to be effective		
Degree to which the alternative is able to repair the place that has suffered environmental damage		
Geographic link with the damaged place		
Cost of applying the alternative		
TOTAL		####

Comments on the assessment of the primary remediation alternative

Figure 14.3.2.4-4. "Primary remediation alternatives". Source: SIRMA.

Other information about the alternative

Brief description of the primary remediation alternative

Objective of the primary remediation alternative

Ecological considerations for the conservation of natural resources and affected services

Previous estimate of the provisional loss of resources or services

Save Cancel

Figure 14.3.2.4-4. Continued. "Primary remediation alternatives". Source: SIRMA.

The next step of the report is the "assessment of the primary remedial measure*", where the need or not for complementary and/or compensatory measures and their criteria should be marked first among the possible items. In case there is a need for any complementary/compensatory measures, a text box will appear to determine the assessment of such need.

Primary remediation alternative selection

General data

Remediation project
Completed

Combination

Selected alternative

Selected alternative*

Justification of the selected alternative and additional comments on it*

↶ ↷

B I U

≡ ≡ ≡ ≡

≡ ≡







Evaluation of primary remediation measure

☒ Primary repair measures manage to return natural resources to their basic state without generating relevant provisional losses of natural resources or services. No complementary or compensatory measures are required.

☐ Primary repair measures manage to return natural resources to their basic state after a certain period of time. Compensatory measures are needed.

☐ The basic state of the resource/service is partially recovered by applying primary repair measures without generating provisional losses. Complementary measures are required.

☐ The basic state of the resource/service is partially recovered after a certain period of time by applying primary repair measures. Compensatory and complementary measures are needed.

☐ Primary repair measures fail to return natural resources to their basic state. Complementary measures are required.

☐ Primary repair measures are not considered reasonable based on the criteria in Annex II of Law 26/2007, of October 23. Complementary measures are required.

Figure 14.3.2.4-5. "Alternative primary remediation selection". Source: SIRMA.

The last section is, in case the primary remediation measure is necessary, the information of the selected measure, where the mandatory data of the time needed for the recovery of the resource, the start and end date, and the expected cost are requested. In addition, it is requested to indicate whether it is necessary to submit the measure to an Environmental Impact Assessment, in accordance with the regulatory framework established by Law 21/2013 of 9 December on environmental assessment, as well as its relationship with the submitted cartography—in the event that it varies with the location already introduced—and a summary* where the techniques, equipment and installations, licences and authorisations to be processed, access routes, etc., of the measure itself can be indicated.

Primary remediation measure information

Recovery time*
Time unit*
Start date* (MM/dd/yyyy)
End date* (MM/dd/yyyy)
Cost (€)*

It is necessary to submit the measure to Environmental Impact Assessment*

☐ Yes ☒ No

List of presented cartography

Summary of primary remediation measure*

(Techniques, equipment and facilities, licenses and authorizations that must be processed, access routes, etc.)

↶ ↷
B I U
≡ ≡ ≡ ≡
⋮ ⋮




Save

Cancel

Figure 14.3.2.4-5. Continued. "Alternative primary remediation selection". Source: SIRMA.

In the case of selecting in the measure evaluation the option "The primary reparation measures are not considered reasonable according to the criteria of Annex II of Law 26/2007 of 23 October. Complementary measures are needed". The possibility is given to attach the economic report justifying the disproportionate nature of the cost of the primary measure, where the name of the attached document must be entered if the operator has ticked this option.

Once the primary remediation alternative has been selected, in the general table of alternatives for each combination, the one that has been selected will be marked with a green validation mark.

At the end of this screen, the application offers different options depending on the data previously entered. If the selected alternatives have associated complementary and/or compensatory measures, the corresponding screens will open for the user to fill them in. Therefore, it will be necessary to initially enter all the primary remediation techniques and, subsequently, the associated complementary and/or compensatory alternatives. Conversely, if the alternatives do not have other measures associated with them, these screens will appear with a green *check*

symbol to indicate that the necessary information has been completed, along with an explanatory text.

14.3.2.5. COMPLEMENTARY AND/OR COMPENSATORY ALTERNATIVES

Within this section, different screens will be filled in depending on the needs of the damage remediation and whether or not the primary remediation measure succeeds in returning all natural resources to their baseline state without generating interim losses to them. Thus, there is the possibility to fill in the screens "Compensatory alternatives for primary measures"; "Complementary alternatives"; "Compensatory alternatives for complementary measures". Whether it is mandatory to complete one or the other screen is determined by the selection made in the "Assessment of the primary remedial action" step in the previous section.

The structure of these screens is similar to the "Primary Remediation Alternatives" screen, where the table with the agent-resource combinations for which complementary and/or compensatory alternatives are necessary is displayed.

Combination	No. Alt.	Manage alternatives	Selected alternative	Alternative selection
				

Figure 14.3.2.5-1. "Compensatory alternative". Source: SIRMA.

Clicking on the "Manage alternatives" button (marked with an editable report icon) takes you to the screen for each combination, where you can add the alternatives you consider necessary. By selecting "Alternative Registration" the application leads to a new screen to enter the specific information.

When you enter an alternative, it appears in the table together with its code, and as in the previous sections, you can modify or view each alternative by clicking on the "Pencil" icon or delete it by clicking on the "Trash" icon.

Compensatory remediation alternatives for the primary remediation

[↩ Remediation project detail](#)
[↩ Compensatory remediation alternatives for primary remediation measures](#)

General data

Remediation project

Completed

Combination

Selected primary remediation alternative

Applies

Yes

Entry data of Alternative

Selected alternative	Code	Modify / See	Remove
			

Go to compensatory alternative selection

Figure 14.3.2.5-2. "Compensatory Remedial Alternative (Alternative Registration)".

Source: SIRMA.

Adjustment of gains and losses from natural resources or natural resource services*

☐ Exchange rate between lost resources or services and those gained through remediation

Assessment of the alternative

Use weighting factors

☒ Yes ☐ No

Evaluation criterion	W.F.	Assessment
Effect of the alternative on public health and safety	10	
Probability of success of the alternative	10	
Degree to which the alternative will serve to prevent future harm and avoid collateral damage as a consequence of its application	10	
Degree to which the alternative will benefit each component of the natural resource or environmental service	10	
Extent to which the alternative will take into account relevant social, economic and cultural interests and other relevant locality-specific factors	10	
Period of time necessary for the repair of environmental damage to be effective	10	
Degree to which the alternative is able to repair the place that has suffered environmental damage	5	
Geographic link with the damaged place	15	
Cost of applying the alternative	20	
TOTAL		####

Comments on the assessment of the complementary remediation alternative

Objective of the compensatory remediation alternative

Save Cancel

Figure 14.3.2.5-4. Continued. "Compensatory Remediation Alternative (Alternative Introduction)". Source: SIRMA.

Once the compensatory/complementary alternatives that the operator considers necessary have been defined, the next step is to select the alternative to be implemented. This function is performed through the "Go to alternative selection" button on the alternative type specific screen—Supplementary remediation alternatives for complementary measures or Compensatory remediation alternatives for compensatory remediations—.

In this section, first of all, in the "Selected alternative*" drop-down menu, where all the techniques defined in the previous section appear, the one that the operator considers the most appropriate must be selected—generally the one with the highest score, if the assessment has been made using the weighting factors—, and justify its selection in the subsequent text box, as well as any additional comments that may be necessary to enter.

Next, and only in the case of "Complementary Remediation Alternatives", the need for compensatory remediation measures is requested, where, in case of interim losses of natural resources or their services, this option will be selected. When ticked, a text box will open where the operator will explain the need to apply these measures. If selected, on completion this screen will be enabled and it will be necessary to complete the "Compensatory Remediation Alternatives for Complementary Remediation" screen.

The last step is to complete the information of the complementary remediation measure, where the recovery time, start and end dates of the measure and its cost in euros must be entered. In addition, it is requested to indicate whether it is necessary to submit the measure to an Environmental Impact Assessment, pursuant to the regulatory framework established by Law 21/2013 of 9 December on environmental assessment, as well as its relationship with the cartography presented—in the event that it varies with the location already introduced—and a summary where the techniques, equipment and installations, licences and authorisations to be processed, access routes, etc., of the measure itself can be indicated.

Selection of compensatory remediation alternative for primary

General data

Remediation project
Completed

Combination
Selected primary remediation alternative
Applies

Selected alternative

Selected alternative*

Justification of the selected alternative and additional comments on it*

↶ ↷

B I U

≡ ≡ ≡ ≡

≡ ≡

Compensatory remediation measure information

Recovery time*
Time unit*
Start date* (MM/dd/yyyy)
End date* (MM/dd/yyyy)
Cost (€)*

It is necessary to submit the measure to Environmental Impact Assessment*

List of presented cartography

Summary of compensatory remediation measure*

(Techniques, equipment and facilities, licenses and authorizations that must be processed, access routes, etc.)

↶ ↷

B I U

≡ ≡ ≡ ≡

≡ ≡

Figure 14.3.2.5-5. "Selection of compensatory remediation alternative". Source: SIRMA.

As was the case for the primary remediation, once the complementary/compensatory remediation alternative has been selected, in the general table of alternatives for each combination, the one that has been selected will be marked with a green check mark.

14.3.2.6. MONITORING PROGRAMME

The monitoring programme is the last heading in the completion of the forms. The purpose of this monitoring is the definition of parameters/indicators to be measured at different sampling points with a certain periodicity in order to check the status of the agent-resource combinations after the measures applied. To do this, the screen shows a table with all the combinations entered previously and for each combination a series of data to be entered, which can be accessed by clicking on the button marked with the "Report" icon. When the "Warning" icon appears, it means that there is data required from other sections that have not yet been entered. This screen shall be classified as completed when all items of at least one of the defined combinations have been filled in, although it would be necessary to fill in all combinations.

Monitoring program

[↩ Remediation project detail](#)

General data

Remediation project

Completed

Combination	Manage points	Manage parameters	Manage samplings	Sampling results
				

Figure 14.3.2.6-1. "Monitoring programme" general table. Source: SIRMA.

The first piece of information to report is "Manage points" where all the points where the different samples will be collected for the monitoring of the combination being defined will be located, regardless of the parameters measured at each point. To do this, when you click on "Register Sampling Point" a screen appears where you must select the coordinates of the sampling point (as on previous occasions they can be entered manually or through the MORA Viewer). In addition, a descriptive "Name*" must be assigned to the location. The points entered will appear in a table on the screen. These points can be viewed or modified via the button marked by the "Pencil" icon or deleted via the button represented by the "Trash" icon.

Once a point has been entered, the "Manage points" section will appear in the general table with the symbol represented by the "Report+green bulb" icon, indicating that at least one sampling point is already available.

Sampling point for combination

General data

Remediation project

Completed

Combination

Sampling point data

Name*

Select coordinates

X Coordinate*

Y Coordinate*

Spindle*

Reference system*

Save
Cancel

Figure 14.3.2.6-2. "Sampling point for combination". Source: SIRMA.

The next item to be filled in is "Manage parameters", which follows the same procedure as the previous section. When you click on "Register Sampling Parameter", a screen appears on which you must enter the descriptive "Name*" data of the sampling parameter you are registering and your observations, where you can enter the type of parameter being measured. The parameters entered will be displayed as a table on the screen. These parameters can be viewed or modified via the "Pencil" button or deleted via the "Trash" button.

Once a parameter has been entered, the "Manage parameters" section will appear in the general table with the symbol represented by the "Report+green bulb" icon, indicating that at least one sampling parameter is already available.

Combination sampling parameter

General data

Remediation project

Completed

Combination

Sampling parameter data

Name*

Remarks

Save
Cancel

Figure 14.3.2.6-3. "Sampling parameter for combination". Source: SIRMA.

Once at least one point and one parameter have been entered, the "Manage samples" section is unlocked and allows the sampling points to be related to the parameters, making all the combinations that the operator deems necessary. This section follows the same pattern as the agent-resource combinations. When you click on "Register Sampling", a screen appears with two drop-down menus, one with the sampling points and the other with the parameters, to make the combination. In addition, the "frequency*" of sampling should be entered, which may vary over the course of the monitoring –. For example, for the first 6 months, sampling may be done weekly and thereafter sampling may be done monthly until two years–. The samples entered will be displayed as a table on the screen. These can be viewed or modified via the "Pencil" button or deleted via the "Trash" button.

Once a sample has been entered, the "Manage samples" section will appear in the general table with the symbol represented by the "Report+green bulb" icon, indicating that at least one sample-parameter combination is already available.

Sampling for combination

General data

Remediation project Completed

Combination

Sampling data

Sampling point* Sampling parameter*

Frequency*

Figure 14.3.2.6-4. "Sampling for combination" Source: SIRMA.

Once the previous sections have been defined, all that remains is to fill in the "Sampling results", where it is possible to incorporate the information in text boxes. The first, "Comments on the structure of natural resource monitoring", is for any comments on the structure used for monitoring. The second one, "Results*" where you can either attach or elaborate a table to structure the monitoring or write up the results of the monitoring. Finally, in the "Remarks" field, any clarification of the monitoring programme can be made.

14.3.3. REMEDIATION PROJECT REPORT

Once all the information necessary to fill in the forms –included in Annex II of the document "Structure and general contents of the environmental damage remediation projects", which respond to the contents that the remediation project must include—systematising all the information required from the operator in the framework of the environmental liability regulations—, the user can begin with the drafting of the Report associated with the remediation project.

For this purpose, the module uses the table of contents set out in Annex I of the "General structure and contents of environmental remediation projects" document, providing the user with a screen with a text box for each of the sections and sub-sections of the table of contents. This table allows the introduction of texts, as well as images and/or tables so that users have the possibility to fill in as they wish each of the headings presented.

In addition to this, the tool incorporates a user assistance functionality that preloads the data entered in the preceding screens –which is equivalent to the information needed to fill in the forms of Annex II– in the corresponding sections. Thus, for each of the sections, the application will show the data related to the heading that have been previously entered by the user preloaded in the text box. Such data will appear in the format in which they were previously recorded, allowing the user to edit them if desired. The table will present these data as a mere proposal to facilitate the completion of the section, but they can be modified and deleted if desired.

Within each section and sub-section the pre-loaded data from the forms must be edited and completed so that the final text is a complete and adequate description. This is because the pre-loaded data are not written to memory but are imported individually from the user's input in the forms. The information entered in each text box will be the final format of each of the sections of the Remediation Project Report. For each of them, the application provides an explanatory text on the information it should contain.

When a pre-loaded text from the forms is opened in the memory section and, after editing if desired, the "Save" button is clicked, the memory section is filled in (green check mark). However, this text can be modified as many times as you wish at a later date. At this point, even if the data were modified in the form from which they have been imported, the information that the application preloads in the report section remains unchanged, i.e. once the information from a report section has been saved, this text prevails over the information imported from the forms.

Remediation project detail

[Remediation projects](#)

General data

Remediation project
Completed
Modify

Information to complete the forms ▼
Print

Remediation project report ▲
Print

I. BACKGROUND OF ENVIRONMENTAL DAMAGE

- I.1 Summary of environmental damage
- I.2 Aspects to highlight in relation to the environmental requirement procedure**
 - I.2.1 Incident management
 - I.2.2 Phase of instruction initiation of the procedure for demanding environmental responsibility
- I.3 Initial evaluation

II. SPATIAL AND TEMPORAL LOCATION OF ENVIRONMENTAL DAMAGE

- Information on spatial and temporal location of environmental damage

III. CHARACTERIZATION OF ENVIRONMENTAL DAMAGE

- Information on characterization of environmental damage
- III.1 Information collection
- III.2 Determination of environmental damage**
 - III.2.1 Identification and characterization of the damaging agent
 - III.2.2 Identification and characterization of the affected natural resources and services
 - III.2.3. Quantification of damage in terms of location and extent, intensity and time scale
 - III.2.4. Assessment of the significance of environmental damage
- III.3. Determination of the basic state

IV. STATEMENT OF THE MAIN REPAIR ALTERNATIVES AND JUSTIFICATION OF THE SELECTION OF THE REPAIR PROJECT

- IV.1 Identification of primary remediation measures
- IV.2 Evaluation of the need to establish complementary and compensatory remediation measures
- IV.3 Identification and description of different complementary and/or compensatory remediation alternatives

V. GENERAL DESCRIPTION OF THE ALTERNATIVE CHOSEN FOR THE REMEDIATION PROJECT

- V.1. Characterization of the remediation project
- V.2. Evaluation and justification, if applicable, of the decision that the remediation project be subjected to an environmental impact assessment

VI. MONITORING PROGRAM

- Project monitoring reference model

VII. REFERENCES

- Bibliographic references used

Figure 14.3.3-1. "Remediation project report". Source: SIRMA

14.4. PRINT PROJECT

Once all the information requested in each section of the remediation project has been completed, the application enables the option to print the project in PDF format. On the one hand, the 15 forms following the contents of Annex II of the document "General structure and contents of environmental remediation projects" and, on the other hand, the report of the remediation project.

If the project is printed before it has been completed, it will be printed with the watermark "Draft".
If printed after completion, the final version will be printed without a watermark.

To do this, click on the "Print" button next to the two main headings on the initial menu screen of the remediation projects module.

Remediation project detail

[Remediation projects](#)

General data

Remediation project
Completed

Information to complete the forms ▼
Print

Remediation project report ▼
Print

Figure 14.4-1. Print remediation project "Annexes" and "Report". Source: SIRMA.

After clicking on print forms, you will access a screen with a list of all the available forms—depending on the characteristics of the project, some forms may not be necessary, e.g., the forms may not be required: "Form 6: Identification of the agent causing the damage: biological" in case no damage by biological agents has occurred— followed by the button with the icon "Printer", which has to be clicked to be able to "Print" and "Save as PDF" the form. This module screen is included below.

Print forms

[Remediation project detail](#)

General data

Remediation project

Completed

Yes

Form	Print
Form 1: Spatial and temporal location of environmental damage	
Form 2: Identification of damage-causing agent / affected natural resource combinations relevant to the environmental damage repair project	
Form 3: Information collection	
Form 4: Identification of the agent causing the damage: chemical	
Form 7: Identification and characterization of the affected natural resources	
Form 8: Quantification of damage in terms of location and extent, intensity and time scale	
Form 9: Assessment of the significance of the damage	
Form 10: Determination of basic status	
Form 11: Identification of primary remediation measures	
Form 12: Evaluation of complementary and compensatory remediation measures	
Form 13: Identification of complementary and compensatory remediation measures	
Form 14: Characterization of the remediation project	
Form 15: Monitoring program	

Figure 14.4-2. Remediation project forms print screen. Source: SIRMA.

To print or save these documents as PDF, you should look for the option "print" and "Save as PDF" in the browser you are using.

On the other hand, after clicking on print the remediation project report, you access a screen that brings together in a single document all the texts relating to the report that have been included in the module. In order to print or save this document as a PDF file, you should look for the option "print" and "Save as PDF" in the browser you are using.

14.5. FINALISE PROJECT

There is the possibility to finalise the whole project—both forms and project report—by clicking on the "Finalise project" button on the main "Remediation project data" screen, as shown below.

Remediation project detail

[Remediation projects](#)

General data

Remediation project

Completed

Modify

Complete project

Figure 14.5-1. Finalise remediation project. Source: SIRMA.

When clicking on "Finish project", the user is asked to confirm the completion.

Complete remediation project

Remediation project data

Name	Entry date

Confirm Cancel

Figure 14.5-2. Confirmation of the completion of the remediation project. Source: SIRMA.

Upon confirmation of the completion of the report, the following changes occur in the module:

- The screens are locked so that they cannot be edited. The user can consult the remediation project, but not edit it.
- On the forms and in the report, the date of completion of the editing of the report is engraved under the heading "Date of completion SIRMA".
- In the place where the end button used to appear, "Reopen project" now appears, as shown in the figure below.

Remediation project detail

✶ [Remediation projects](#)

General data

Remediation project	Completed	Modify	Reopen project

Figure 14.5-3. Reopen remediation project button. Source: SIRMA.

The reopen project functionality unlocks the project screens and makes it possible to edit the project again. However, if the remediation project is edited after this point, the new edit date will be saved in the printable documents.

14.6. PROJECT HISTORY

The project history of the Remediation Projects Module collects all reports (completed and uncompleted) that have been created by the user. To access this information, click on "Project history" in the "Remediation Project" section of the application browser.

Within the history, you can access a list of all the reports available for that user. The information collected from each report is as follows:

- Name. This is the name given to the report by the user.

- Date. Report completion date.
- Version. Version of the tool to which the report pertains.
- Finalised. Indicates whether the report is finalised or not. In this regard, it is worth remembering that finalised reports may be modified, but the date of completion will be updated to the last date on which the report is finalised.
- Configure/View. This button enables the user to either modify the report or just view and consult it.
- Delete. It offers the possibility to delete reports.

Consultation of remediation projects

Search panel

Name

Date from

Date to

Completed

[Entry data of Remediation project](#)

Name	Date	Version	Completed	Modify / See	Remove
		REPV1	No		
		REPV1	Yes		
		REPV1	No		

3 registers found. Page 1

Figure 14.6-1. Information collected in the project history of the Remediation Projects Module.
Source: SIRMA.

As additional functionalities of the "Report history" it is worth mentioning the possibility to sort the projects (by clicking on the title of the column according to which you want to sort the reports) and the option to search for projects by using the "magnifying glass" field and button at the top right hand side of the list.



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QUALITY AND ASSESSMENT

TECHNICAL COMMISSION OF PREVENTION AND REMEDIATION OF ENVIRONMENTAL DAMAGES