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PROTOCOL FOR COLLABORATION ON THE RADIATION MONITORING OF METAL MATERIALS

**THE MINISTRY OF INDUSTRY AND ENERGY (MINER),
THE MINISTRY OF DEVELOPMENT,
THE NUCLEAR SAFETY COUNCIL (CSN),
LA EMPRESA NACIONAL DE RESIDUOS RADIOACTIVOS S.A. (ENRESA)
LA UNIÓN DE EMPRESAS SIDERÚRGICAS (UNESID) AND
LA FEDERACIÓN ESPAÑOLA DE RECUPFRACIÓN (FER)**

MINDFUL THAT:

In recent years radioactive material has quite frequently been found in scrap, thereby giving rise to growing social concern in view of the risks involved.

The recycling of metals to produce alloys of different compositions is an industrial activity that is extremely important for the economy and the environment.

It is necessary to adopt radiation monitoring measures in an attempt to prevent and, where necessary, detect and control the presence of radioactive material in the scrap that some metallurgical plants use for the raw material in their production process.

The implementation of monitoring measures in an attempt to exclude radioactive material from the metal materials used by metallurgical plants provides a mechanism for certifying that the product is free of radioactive contamination and, consequently, represents an added guarantee as regards the quality of the product in radiation terms.

The primary object of the activities involved in the monitoring and control of the presence of radioactive material in scrap should be to prevent the inclusion of radioactive material in the scrap recycling process and, as a minimum requirement to detect its presence as closely as possible to the point of inclusion;

WHEREAS:

There is a variety of laws and regulations in Spain specifically regulating industrial activities involving nuclear and radioactive materials, and the possession, use and transfer of radioactive sources is regulated by the Nuclear Energy Act 2511964, Act 1411999 on Public Rates and Prices for services provided by the Nuclear Safety Council, and the regulations on Nuclear and Radioactive Facilities, approved by decree 286911972.

This regulatory framework is unable to prevent deliberate or unintentional acts that result in radioactive materials being included in scrap.

In view of the markedly transnational nature of the scrap market in our country, and the leading role that maritime imports play in this market, there is a need to put in place mechanisms to control metal products that enter the country through our ports.

This issue is being considered by a number of international agencies that are studying the many different aspects of the problem. Since this is also a major concern for other Member States of the European Union, it would be appropriate for these States to agree upon the joint adoption of measures that they consider necessary to improve the control of the presence of radioactive materials in scrap. To this end, the Spanish government has approached the European Commission with the request that it should promote the adoption of such measures, which, if appropriate, would have to be observed in the future.

In the meantime, it is appropriate to establish a framework for action that determines the conditions in which the aforesaid measures should be implemented.

Based on the results of the implementation of this Protocol or the development of international initiatives in this matter, essentially community initiatives, these monitoring measures could acquire legislative status in the future.

AGREE:

One. - To sign this Protocol for Collaboration on the Radiation Monitoring of metal materials and final products defined in the Technical Annex, which is an integral part hereof, with a view to introducing the monitoring and control measures stated herein.

Two. - To set up at the Ministry of Industry and Energy, for the implementation of this Protocol, a Register in which companies carrying out the activities referred to in the Technical Annex can register, thereby accepting the rights and obligations arising from registration.

Three. - To foster the registration of companies in the Register referred to in the foregoing point, particularly the registration of companies that have facilities for the smelting or the storage and preparation of scrap.

Four.- To consult every six months to analyse the results of the implementation of this Protocol and study possible amendments to the Technical Annex proposed as a result of this implementation.

Five. - To appoint the Ministry of Industry and Energy as the depository of this Protocol, which will be kept open for accession by other industry associations involved in similar activities.

In witness whereof they sign six copies of this Protocol.

In Madrid, on the 2nd day of November 1999.

For the MINISTRY OF INDUSTRY AND ENERGY

Signed: *José Manuel Serra Peris*

Secretary of State for Industry and Energy.

For the MINISTRY OF DEVELOPMENT

Signed: *Albert Vilalta González*

Secretary of State for Infrastructure and Transport

For the NUCLEAR SAFETY COUNCIL

Signed: *Juan Manuel Kindelán Gómez de Bonilla*

Chairman

For the EMPRESA NACIONAL DE RESIDUOS RADIOACTIVOS, S.A.

Signed: *Antonio Colino Martínez*

Chairman

For the UNIÓN DE EMPRESAS SIDERÚRGICAS

Signed: *Guillermo Ulacia Arnáiz*

Chairman

For the FEDERACIÓN ESPAÑOLA DE LA RECUPERACIÓN

Signed: *Miguel Angel Lajo Plaza*

Chairman

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1. Object

The object of this protocol is to establish requirements for the radiation monitoring of metal materials and final products, as defined in point 2, with the aim of detecting the presence of radioactive materials and of avoiding the risk of their dispersion and the consequent exposure to radiation or contamination of persons, property and the environment.

2. Definitions

For the purposes of the implementation of this Protocol, the following terms shall have the meanings defined below:

Signatory company: The natural or legal person that carries out the activities referred to in point 3 and accedes to the Protocol.

Monitoring and control system: The set of human resources and technical, organisational, operational, logistical and training facilities set up by the signatory company to detect and, where appropriate, separate and analyse radioactive materials that may be found in metal materials and final products, and to adopt such urgent measures as are necessary to avoid the dispersion of the radioactive material.

Metal material: The scrap, ingots and metal semi-finished products that will serve as raw material for processing in facilities to which the Protocol applies.

Final product: The products, semi-finished products, byproducts and waste materials generated in the processing of the metal materials.

Radiological protection specialist: A technician with certified knowledge of radiological protection and instrumentation, who is employed by the signatory

company or by a duly authorised Radiological Protection Technical Unit (UTPR).

3. Field of application

The Protocol is applicable to the following activities:

- a) The recovery, storage or handling of metal materials for recycling,
- b) The processing of metal materials.

4. Register of facilities covered by the Protocol.

The Ministry of Industry and Energy (MINER) will set up a Register of Facilities of the companies that have signed the Protocol.

The signatory companies will enter each of their facilities in the aforesaid register, and provide a declaration containing the information listed in Annex 1 .

The entry will be updated every 5 years and whenever a substantial change is made in the monitoring and control system or a change of ownership of the company occurs.

No charge shall be made for the entry in the Register of Facilities of the Ministry of Industry and Energy.

5. Undertakings arising from the implementation of the Protocol

5.1 The Ministry of Industry and Energy undertakes to:

- 1) Issue a standing order for the Authorisation of the Transfer to ENRESA of radioactive material detected in the facilities, in accordance with the legal provisions in force, subject to a report from the Nuclear Safety Council.
- 2) Establish and keep up to date the Register of Facilities of the signatory companies or advise the Nuclear Safety Council of the registration of each facility and notify these signatory companies of the registration of their facilities.
- 3) Carry out actions that are necessary to resolve situations that call for exceptional measures arising from the presence of radioactive material in metal materials and final products. Such actions will be adopted in coordination, where appropriate, with the other competent public agencies and companies concerned, subject to a report from the Nuclear Safety Council that will be mandatory and binding in matters falling under its authority.

5.2 The Ministry of Developments undertakes to:

- 1) Require the presentation of the certificate referred to in 5.5.2)I) as a requirement for the authorisation of the docking of the vessel.
- 2) Inform the Nuclear Safety Council of any incident of a radiological nature that

occurs within its areas of authority when the transport of metal materials is involved.

5.3 The Nuclear Safety Council (CSN) undertakes to:

- 1) Advise ENRESA and the signatory companies of the application of the Transfer Authorisation where this is issued.**
- 2) Issue such standing technical instructions and recommendations as it considers necessary for the implementation of this Protocol.**
- 3) Take cognizance of the entries of facilities in the Register of the Ministry of Industry and Energy and, where appropriate, issue such technical recommendations or instructions as it considers necessary to guarantee that the reported monitoring and control system meets the requirements agreed in the Protocol.**
- 4) Inspect the monitoring and control system set up by the signatory company and forward to the latter such instructions as it considers relevant to compliance with the requirements agreed in the Protocol.**
- 5) Advise the competent authorities and the signatory companies on matters of radiological safety and protection with a view to compliance with this Protocol.**
- 6) Promote the organisation of activity-focussed radiological protection training and information campaigns among the employees of companies in the metal recovery and smelting sector.**

5.4 The Empresa Nacional de Residuos Radioactivos (ENRESA) undertakes to:

- 1) Remove and hold the radioactive materials transferred to it after being detected in the facilities of signatory companies.**
- 2) Provide technical advice to the signatory companies and collaborate with the latter in returning radioactive materials to the shipper where the latter is a foreigner.**
- 3) Collaborate on training programmes for technicians who will be required to take action in the event of radioactive material being detected.**
- 4) Collaborate on radiological protection training and information campaigns among the employees of companies in the metal recovery and smelting sector.**
- 5) Sign a contract with the signatory company for the handling of radioactive materials in accordance with the provisions of point 6.3. 1).**

5.5 The signatory company undertakes to:

- a) Carry out radiation monitoring of metal materias and final products. To this end:**

I. It will install, operate and maintain a system for monitoring and controlling radioactive material in metal materials and final products.

II. Assign to the monitoring and control system specialist radiological protection personnel, with instrumentation, with temporary work areas and the necessary operating and communication procedures to detect, separate and isolate any radioactive materials that may be detected.

III. Provide its personnel with basic radiological protection and monitoring training appropriate to their activities and inform them of the characteristics of the company's monitoring and control system.

b) In connection with cross-border movements, imports or trade within the European Union involving metal materials:

I. Require from the shipper an inspection certificate for the goods, issued by a reputable goods inspection and control body or agency, which states that his facilities have adequate radiation monitoring and control systems for the metal materials shipped and that the goods have been subjected to radiation monitoring.

II. Not to unload on Spanish territory shipments that do not have the certificate referred to in the previous point.

c) Undertake, by itself or in collaboration with ENRESA, the necessary actions to return any detected radioactive materials to the foreign shipper.

d) Report immediately to the CSN the detection of radioactive material in a shipment of metal materials or in final products, using the format set out in Annex 2.

e) Adopt the measures required to prevent the dispersion of the radioactive material.

f) Sign a contract with ENRESA for the handling of the radioactive materials in accordance with the provisions of point 6.3. I).

g) Transfer detected radioactive material to ENRESA.

h) Collaborate on radiological protection training and information campaigns among the employees of companies in the metal recovery and metal smelting sector.

6. Actions in the event of the detection of radioactive material.

6.1 The signatory company shall do the following:

a) In the case of the detection of radioactive material in a consignment of metal materials that arrives at the facility.

- 1) Immobilise the consignment in the facility in which it was detected.**
- 2) Notify the specialist radiological protection personnel who, using the appropriate radiation protection procedures:**

I. Will inspect the consignment in detail until they identify and separate the part or parts that contain the radioactive material.

II. Will evaluate the nature and levels of radioactivity that they contain.

III. Will safely isolate the radioactive material.

IV. Will prepare a report describing the actions taken, their results and whether the radioactive material is exempt from nuclear regulation or must be transferred to ENRESA, in accordance with the criteria specified by the Transfer Authorisation.

3) Inform the Nuclear Safety Council using the format laid out in Annex 2 and forward the conclusions of the report prepared by the radiation protection specialists.

4) Transfer the radioactive material to ENRESA as required by the Transfer Authorisation.

5) Hold the radioactive material in safe conditions until it is removed by ENRESA.

b) Where radioactive material is detected in the process (pouring test in the case of a smelting plant), the signatory company shall do the following:

1) Take samples of all the final products and perform an analysis on them.

2) If the concentrations measured in these final product samples exceed the exemption levels laid down in Appendix III of Directive 96/29/EURATOM, the person in charge of the facility shall immediately:

I. Halt all contaminated phases of the process.

II. Immediately suspend the release from the facility of final products that have been in contact with the contaminated phases of the process.

III. Call in a duly authorised Radiological Protection Technical Unit, which will determine the extent of the contamination in the process line and its immediate surroundings.

IV. Immediately report the situation to the Nuclear Safety Council and to the recipients of final products that may have been in contact with the contaminated phases of the process.

6.2 Upon receipt of a radioactive material detection report, the Nuclear Safety Council shall do the following:

a) If radioactivity was detected in metal materials:

1) Instruct the signatory company to transfer the radioactive material to ENRESA in accordance with the Transfer Authorisation.

2) Advise ENRESA that the radioactive material will be transferred to it in accordance with the transfer Authorisation.

b) If radioactivity was detected in final products, the Nuclear Safety Council shall:

1) Inform the Ministry of Industry and Energy and recommend a course of action to it.

2) Issue such instructions and recommendations as it considers necessary having regard to the information provided by the signatory company.

3) Order such actions by the technical personnel and support services of the Nuclear Safety Council as it considers necessary.

6.3 Upon receipt of the Nuclear Safety Council report, ENRESA shall do the following:

1) Remove the radioactive materials in accordance with the transfer authorisation, for which it will sign the appropriate contract with the signatory company.

2) Hold the radioactive material under safe conditions until a decision is made on how it is to be definitively disposed of, which may involve:

a. Return to the supplier if the latter is a foreigner,

b. Transfer to another authorised agency

c. Disposal as radioactive waste

d. Any other legally authorised form of disposal

3) Give the signatory company the necessary support in completing the required formalities for returning the radioactive material to the shipper, if the latter is a foreigner.

7. Special actions

When, in the judgement of the Nuclear Safety Council, the situation resulting from the contamination produced by the dispersion of radioactive material in a facility so requires, the Ministry of Industry and Energy, taking urgent action on the basis of the prior report of the Nuclear Safety Council, may require the adoption of such exceptional measures as it considers appropriate, in coordination, where necessary, with the other competent public agencies or affected companies.

8. Apportionment of the costs

The costs arising from the implementation of the Protocol shall be borne in accordance with the following criteria:

a) The costs arising from the disposal of the radioactive materials detected either in metal materials or in final products shall be borne by the signatory company, without prejudice to the entitlement of the latter, where applicable, to recover them from the supplier or shipper.

b) The provisions contained in the foregoing point 8a) shall not apply to costs arising from the disposal of the radioactive sources that have been detected in metal materials proceeding from the national territory, which shall be for the account of ENRESA, pursuant to the Second Additional Provision of Act 14/1999 of 4 May, concerning Public Rates and Prices for services provided by the Nuclear Safety Council.

c) Actions carried out by the Nuclear Safety Council arising from the agreements contained in this Protocol shall entitle the Agency to recover from the signatory company the cost of the performance thereof which shall be calculated in accordance with the provisions of article 31 of Act 14/1999 of 4 May, concerning Public Rates and Prices for services provided by the Nuclear Safety Council.

ANNEX 1

INFORMATION THAT MUST BE INCLUDED IN THE DECLARATION FOR THE REGISTRATION OF FACILITIES OF COMPANIES THAT ARE SIGNATORIES TO THE PROTOCOL ON THE RADIATION MONITORING OF METAL MATERIALS

1. Name of signatory company

2. Description of the facility

2.1. Location

2.2. Basic characteristics of the facility

2.3. Description of the processes carried out at the facility

2.4. Plans of buildings, roads, entrances, etc.

2.5. Approximate average annual production

3. Description of the monitoring and control system

3.1. Automatic instrumentation

3.2. Mobile instrumentation

3.3. Process monitoring instrumentation

3.4. List of procedures

3.5. Brief description of the isolation area

3.6. Intervention by local plant personnel or by a Radiological Protection Technical Unit

4. Person responsible for radiation monitoring in the facility

5. Express declaration of acceptance of the Protocol for Collaboration on Radiation Monitoring of Metal Materials signed by the authorised signatory of the company.

ANNEX 2

REPORT ON THE DETECTION OF RADIOACTIVE MATERIAL TO THE NUCLEAR SAFETY COUNCIL

On the _____ day , at _____,at the facilities of the company

the presence of radioactive material was detected in:

() a batch of scrap

() a batch of ingots

() a batch of semi-finished metal product

() the final products

() other items, to be specified

() photographic information is enclosed

coming from:

supplied by:

transported by:

The batch was isolated in the designated isolation area and the radiological protection specialists

() of the facility

() of the radiological protection technical unit

have carried out a preliminary inspection of the batch and consider that it contains:

_____ items superficially contaminated with concentrations of Bq/cm² Beta/Gamma emitters _____ Bq/cm² Alpha emitters

_____ sources housed () YES () NO in its shielding

Other items, to be

specified _____

A contact dose rate of _____ microSv/h was measured and at a distance of 1 meter from _____ microSv/h was measured and the following protection measures were adopted:

() Identification of the storage area

() Isolation of the contaminated material

() Installation of additional shielding

() Decontamination of the contaminated material

_____ on the _____ of _____ of

For the signatory company:
