



# **The Spanish Protocol on collaboration in the radiological surveillance of metallic materials**

International Conference on Control and Management  
of Inadvertent Radioactive Material in Scrap Metal

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1. Background
2. Agreement making process
3. The Protocol
4. Conclusions

## 1. Background (1)

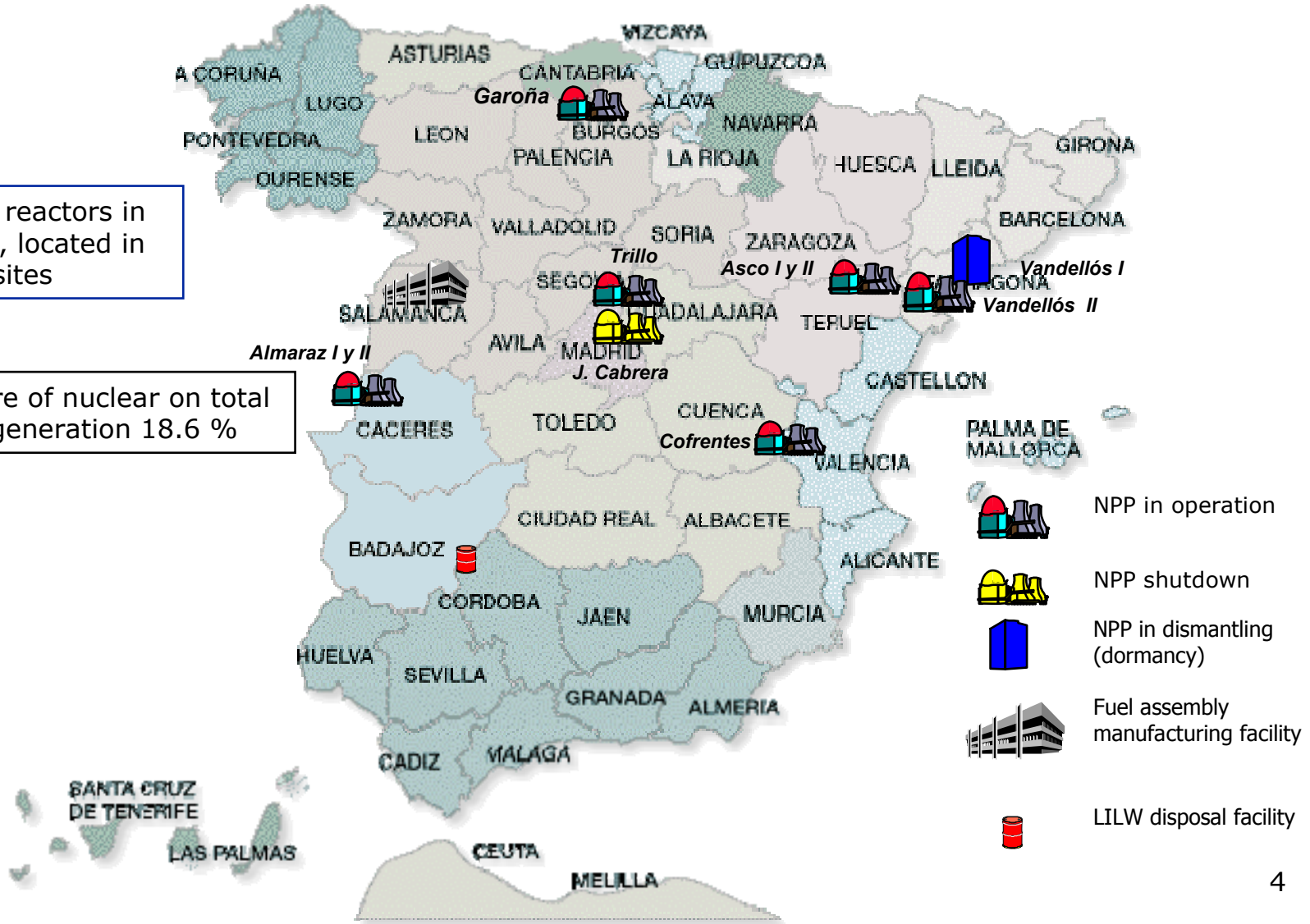
- Spain has established a framework of legal provisions and a regulatory system on nuclear safety and radiological protection



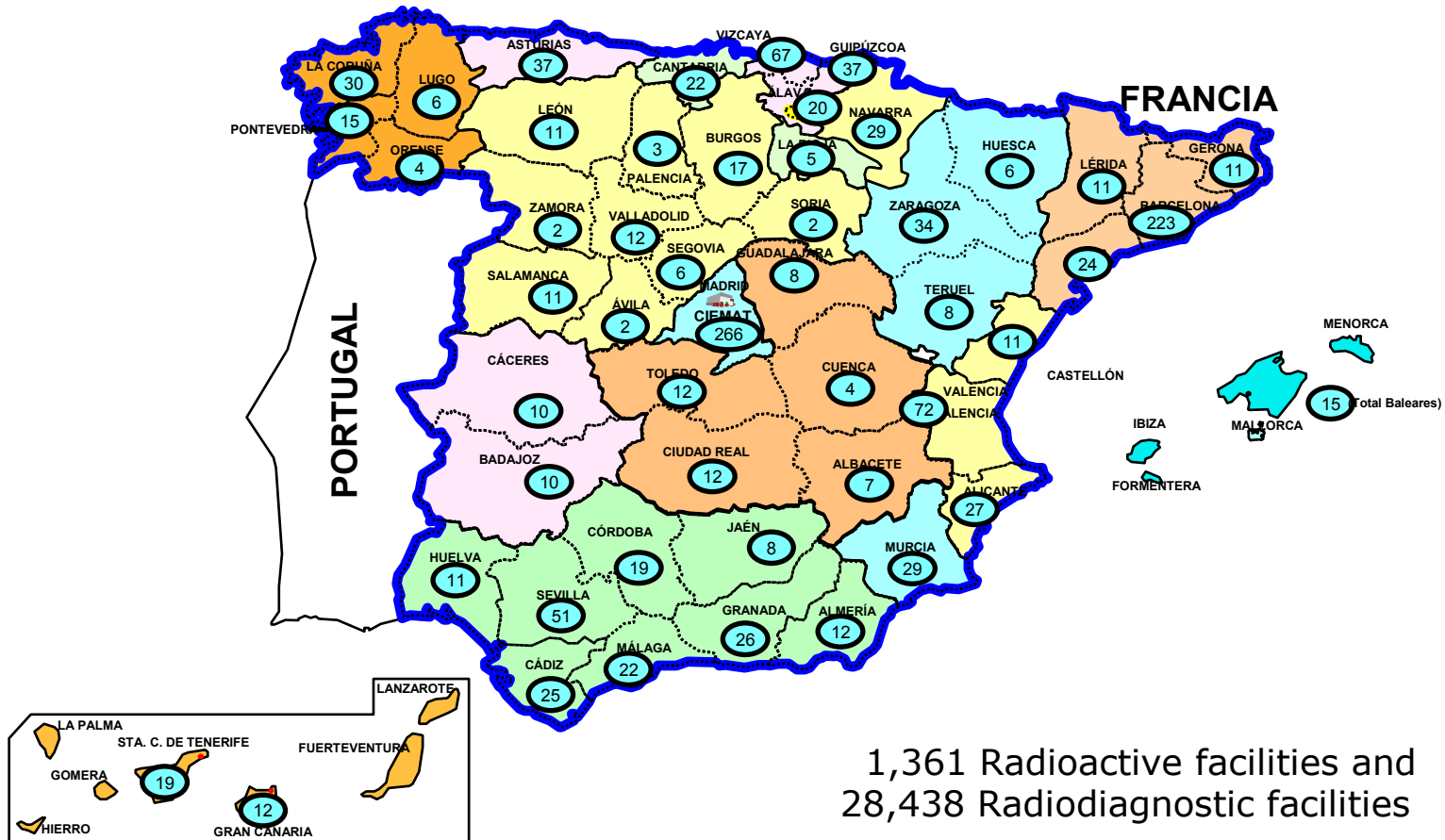
# 1. Background (2) Nuclear facilities in Spain

8 nuclear reactors in operation, located in 6 sites

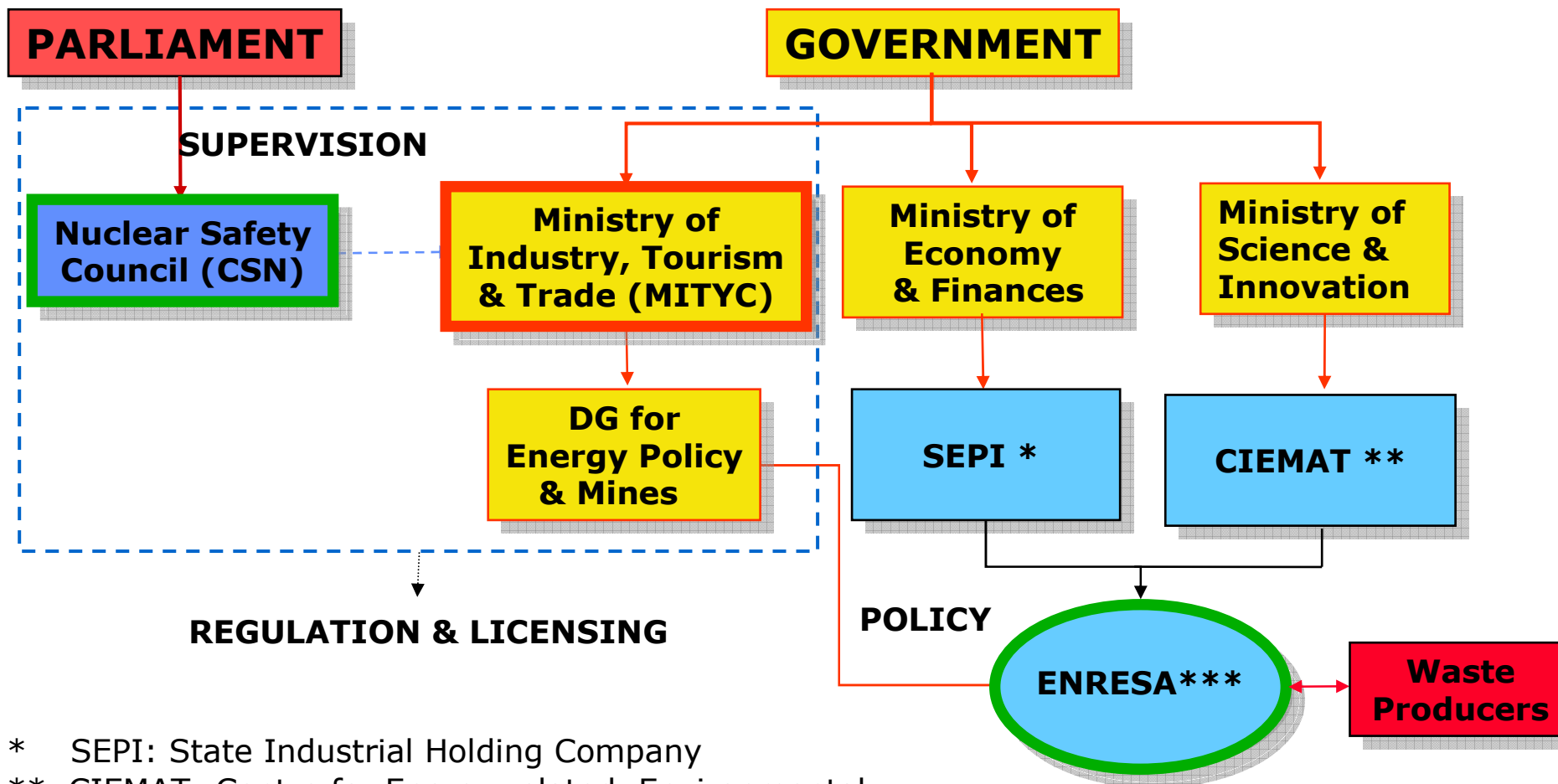
2008: Share of nuclear on total electricity generation 18.6 %



# 1. Background (3) Radioactive and radiodiagnostic facilities



# 1. Background (4) Institutional Framework



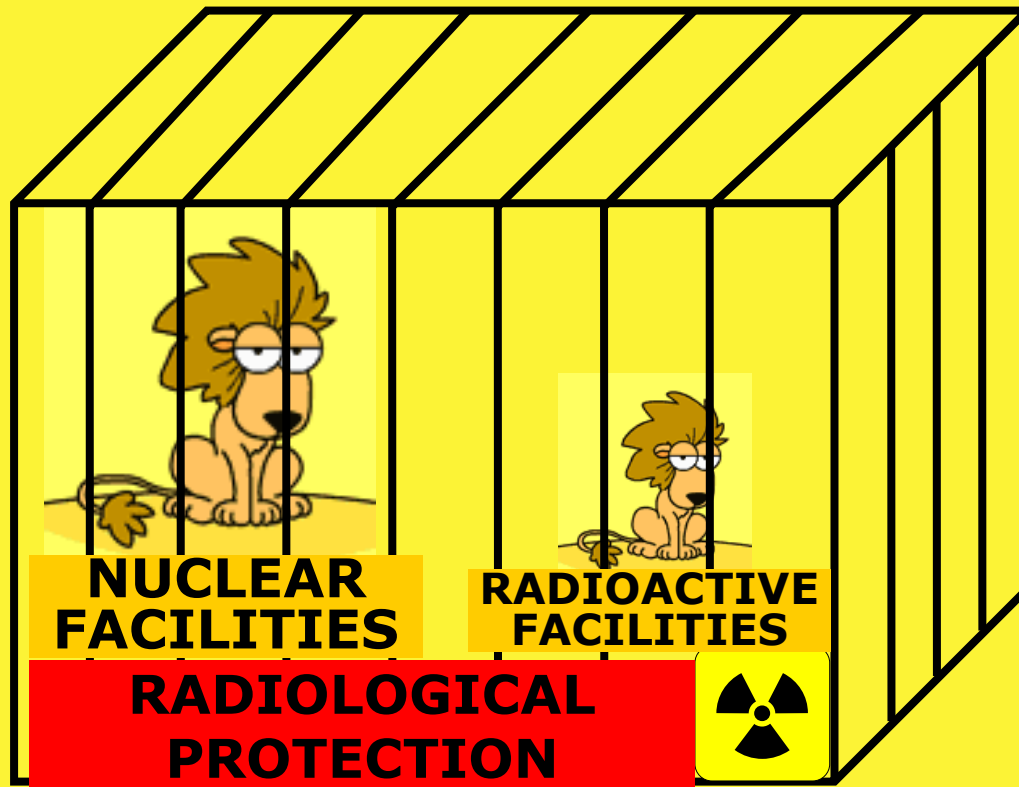
- \* SEPI: State Industrial Holding Company
- \*\* CIEMAT: Centre for Energy related, Environmental & Technological Research
- \*\*\*ENRESA: National Company for Radioactive Waste

## 1. Background (5)

- Metals and steel related industries are important industrial sectors in Spain and depend to a large extent on the import of scrap (6-7 mill. tons)
- Experience has shown that a “non-nuclear industry” can provoke radiological risk



# 1. Background (6)



**RECOVERING  
& SMELTING  
INDUSTRY**

All potential radiological risks under surveillance but ...

... unforeseen radiological risks appear



# 1. Background (7)

- The incident that took place in May, 1998, (smelting of a Cs-137 source in a steel factory located in the south of Spain ), revealed the need of adopting measures to avoid, as far as possible, the repetition of similar events and, if need be, limiting their consequences
- It gave raise a social concern that materialised in many parliamentary initiatives coming from the most important political parties
- The problem was not unknown for the Spanish Authorities (CSN)
- Some steel companies was aware of this risk too.

## 2. Agreement making process (1)

- From September 98 to November 99
- Participants
  - Administration
    - MITYC, CSN, M. of Public Works (National ports), and ENRESA
  - Industrial sector
    - Steel Utilities Association (UNESID)
    - Metal Recovering Association (FER)

## 2. Agreement making process (2)

Positive attitude of all parties

## 2. Agreement making process (4)

### **The national regulatory system on nuclear safety and radiological protection**

- was used to work with activities subject to a rigorous and specific regulations

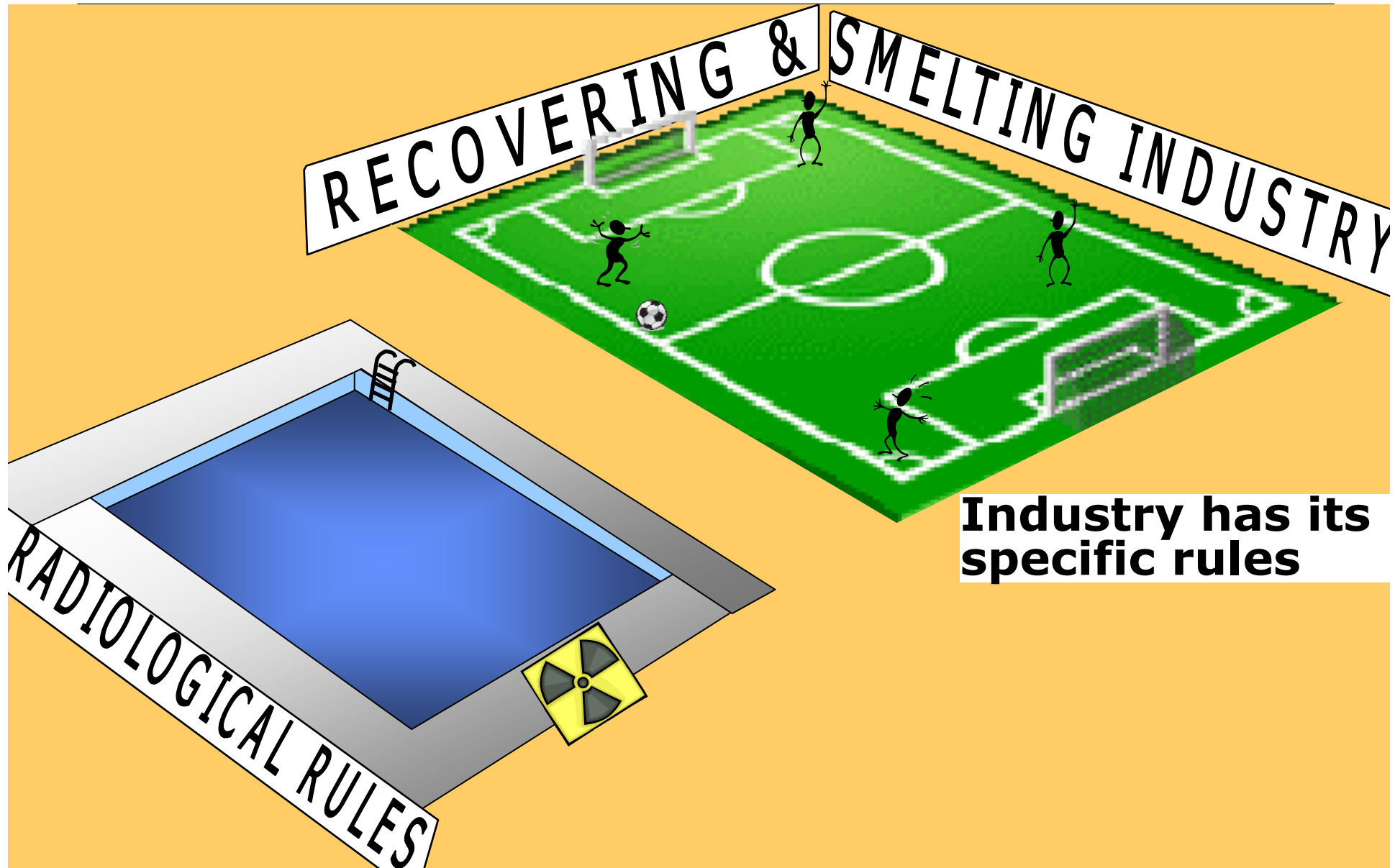
### **Arguments of the industrial sector**

- The industry was not used to work having in mind the radiological protection regulations
- They rejected to be related with the radiological or nuclear field, as a result of the distrust that radioactivity provokes in sectors not involved with this field
- They considered themselves as “victims” of a system that is failing to control its materials; and they are carrying out a social work recovering orphan radioactive sources



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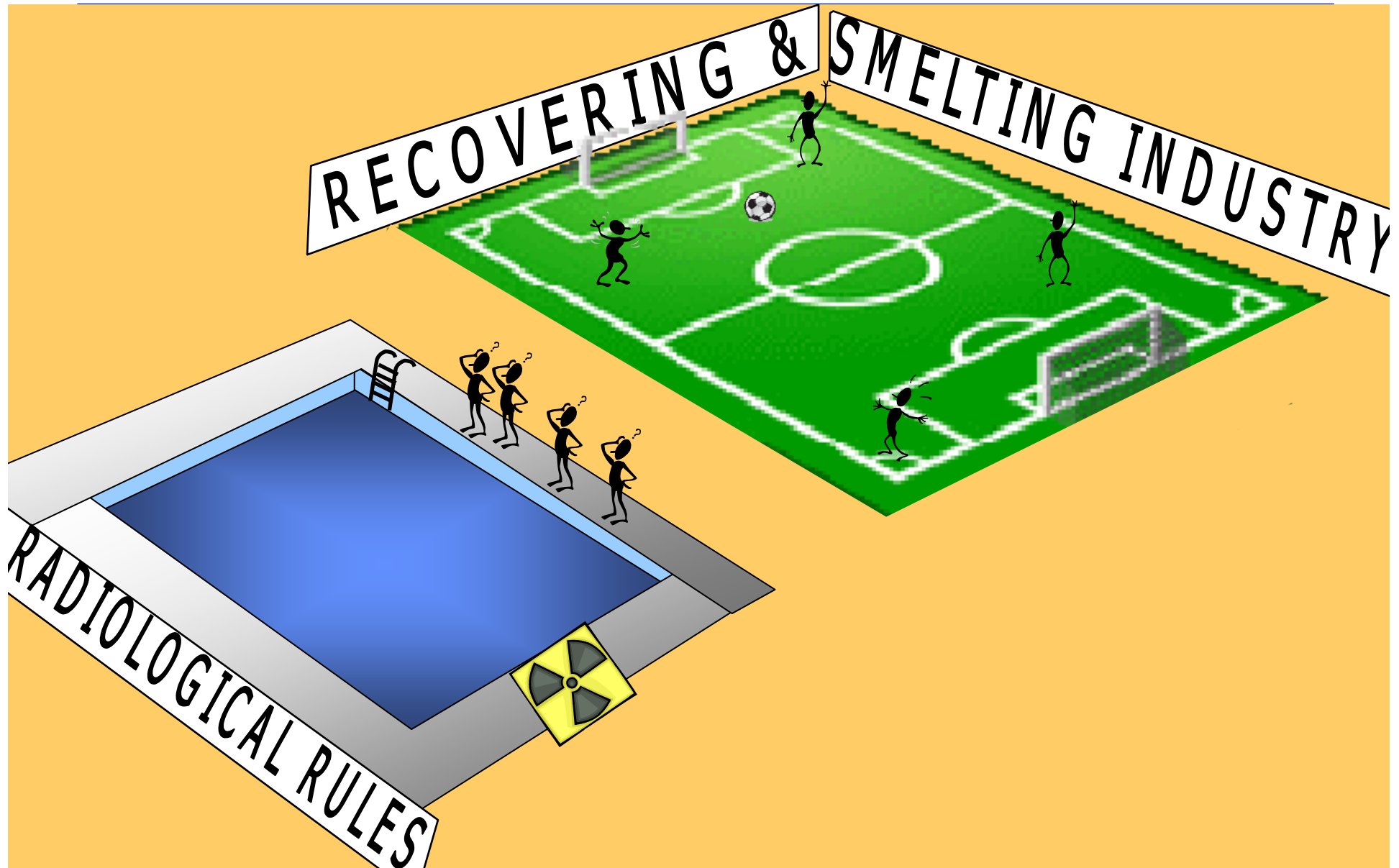
## 2. Agreement making process (5)





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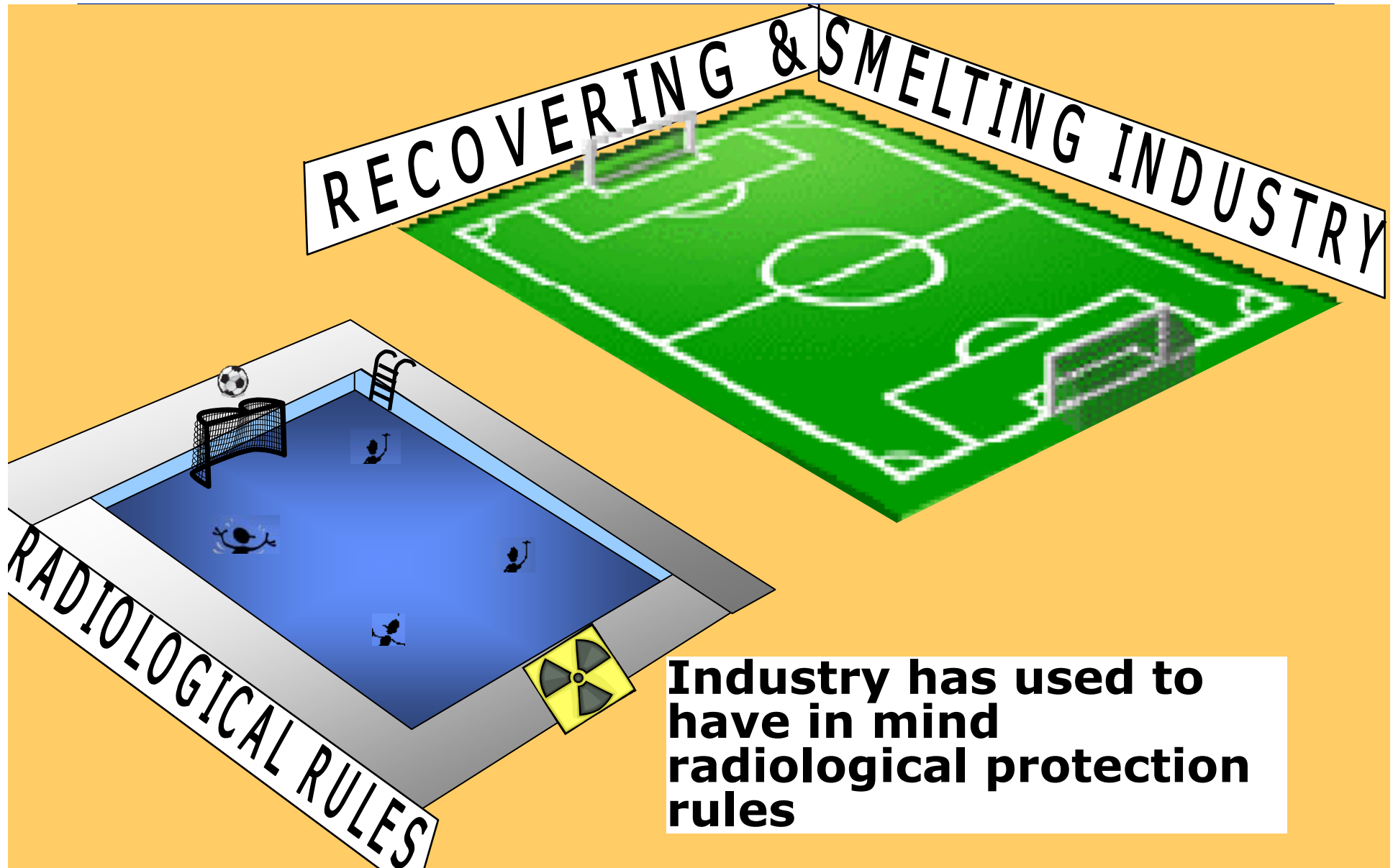
## 2. Agreement making process (5)





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## 2. Agreement making process (5)





### **Main topics of discussion**

- Responsibility
- Roles
- Radioactive material management costs
- Operational procedures
- Transboundary implications
- Surveillance in harbours

### Considered options

1. To issue a Royal Decree
  - Obligatory
  - No references existing
  - Implementation requires a coercive system
  
2. To sign a collaboration protocol
  - Voluntary
  - Safety objective coincident with industrial sector interest
  - Additional benefits for companies

## 3. The Protocol (1)

- Signed on November 2, 1999
- Contracting Parties
  - Drafters + Trade Unions
- Implementation procedure
  - Facility register
  - Technical Annex
- Encouraging the signature
- Periodic meetings for implementation supervision and tendencies analysis
  - There is a Technical Commission for tracking the Protocol, and a Technical Working Group directed by CSN
  - On this basis a new revision of the Technical Annex was elaborated and entered in operation in January 2005

## 3. The Protocol (2)

### Implementation procedure

- Facilities register
  - Creation and maintenance by the MITYC
  - Facility inscription
  
- Technical Annex set up technical, administrative and safety commitments



### 3. The Protocol (3) Facilities register (<https://oficinavirtual.mityc.es/IVR/>)



Inicio Registro IVR - Microsoft Internet Explorer

Archivo Edición Ver Favoritos Herramientas Ayuda

Dirección <https://oficinavirtual.mityc.es/IVR/>

GOBIERNO DE ESPAÑA MINISTERIO DE INDUSTRIA, TURISMO Y COMERCIO energía

REGISTRO DE INSTALACIONES DE VIGILANCIA RADIOLÓGICA

Consulta de Instalaciones

► Conexión

Inicio

**Registro de Instalaciones de Vigilancia Radiológica**

Sector	Facilities registered
Recovering	106
Steel	27
Other metals smelters	5
<b>Total</b>	<b>138</b>



## 3. The Protocol (4)

### Content of the Technical Annex

- Objective, Scope, Definitions
- Registration
- Commitments of the Parties
- Actions in case of detection
- Special interventions
- Financing aspects

## 3. The Protocol (5)

### Content of the Technical Annex

#### ■ Objective

- To reduce the risk derived from presence of radioactive materials existing in metallurgical scrap and products resulting from its recycling

#### ■ Scope

- Facilities where metallurgical scrap is processed by melting, fragmentation, cutting, etc.

#### ■ Registration

- Free and voluntary and means the acceptance of Protocol commitments

## **Ministry of Industry, Tourism and Trade (MITYC):**

- To create and maintenance the Register and communicate registrations
- To grant a generic transfer authorisation of radioactive material detected from the facility to ENRESA
- To govern special interventions in case of generalised contamination



## Ministry of Public Works:

- To inform CSN in case of event

### **Nuclear Safety Council (CSN):**

- To issue (generic or case by case) safety guidance
- To inspect surveillance systems
- To set up radiological criteria
  - Investigation and Exemption levels
- To inform company and ENRESA on applicability of the generic transfer authorisation
- To promote training activities
- Direct intervention if needed

### **National Company for Radioactive Waste (ENRESA):**

- To give technical advise
- To collaborate to re-send abroad radioactive material
- To take away radioactive material
- To collaborate in training activities
- To subscribe an specific agreement with the companies

## **The subscribing company (1):**

- To install, maintain and operate a surveillance system in each facility
- To surveillance radiation level in scrap and processed materials
- To take appropriate measurement to avoid radiological risks

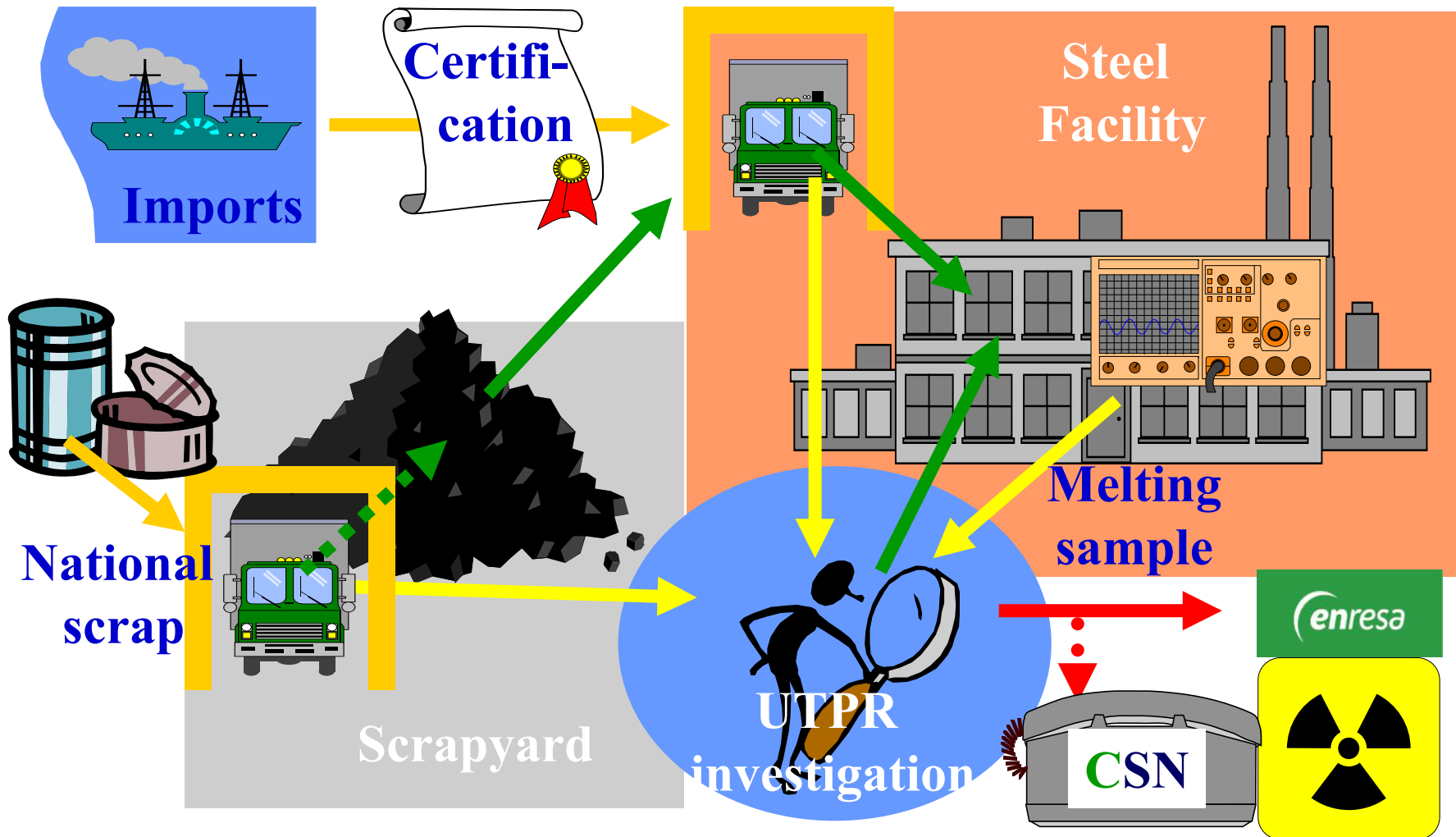
### **The subscribing company (2):**

- To require radiological surveillance certification to the supplier
- To inform CSN on each relevant detection event
- To subscribe an agreement with ENRESA
- To collaborate in training activities



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### 3. The Protocol (12) Interventions



### 3. The Protocol (13) Interventions

In the event of radioactive material being **detected in a shipment** of metallic materials arriving at the installation, the company must:

- immobilize the shipment within the installation,
- alert the technical personnel specialized in radiological protection,
- isolate the radioactive material under safe conditions and keep the radioactive material in custody under safe conditions until it is removed by ENRESA.
- notify the CSN using the form included in the Protocol,
- transfer the radioactive material to ENRESA under the terms established in the generic authorization

### 3. The Protocol (14) Interventions

In the event of radioactive material being **detected during the process or resulting products**, the company must:

- immediately notify the CSN,
- with advice from the CSN, attempt to ascertain whether the detection is real, either through its own personnel or with the support of a UTPR,
- if the detection is real, the company, with advice from the CSN, shall:
  - interrupt affected process,
  - immediately suspend the exit from the installation of products that have been in contact with the contaminated source,
  - where applicable, provide immediate notification to any organization that has received products suspected to have been affected by the incident,
  - require the intervention of a UTPR authorized for this purpose, which shall determine the extent of the contamination



### 3. The Protocol (15) Special interventions

- If generalised contamination is detected, the company must inform urgently to CSN
- CSN assess the situation and recommends appropriate measures to MITYC
- MITYC, upon proposal of CSN, governs intervention activities, in coordination, where necessary, with other competent public organizations and with the affected company

### 3. The Protocol (16) Financing provisions

- Companies are responsible for all costs
- In some cases, companies charge to supplier the costs
- Management of Spanish material can be charged to ENRESA Fund

## 3. The Protocol (17) Complementary documents

- Register inscription (each facility)
- Authorisation to transfer RM to ENRESA
  - Generic
  - Defines Investigation and Exemption levels
- CSN Safety Guide
- Radiological Surveillance Certification (scrap supplier)
- ENRESA/Company agreement

### 3. The Protocol (18) Liaison with Spanish regulation

Agreements as the Protocol (with others potential affected sectors) are foreseen in ***Royal Decree 229/2006, of February 24<sup>th</sup>, on the control of high activity sealed radioactive sources and orphan sources,*** which transposes Directive 2003/122/EURATOM

## 4. Conclusions (1)

### **The Spanish system has the following characteristics:**

- is based on a specific legal framework
- is materialized in a Protocol for collaboration
- considers as a fundamental aspect information on risks and training in radiological protection to workers
- has established a Technical Commission for tracking to evaluate possible improvements

### **Three pillars of the system:**

**1. information on risk**

**2. use of surveillance equipment**

**3. collaboration**





## 2. use of surveillance equipment



## 2. use of surveillance

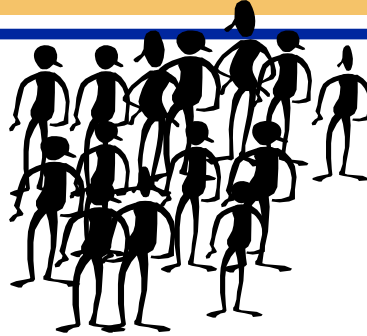






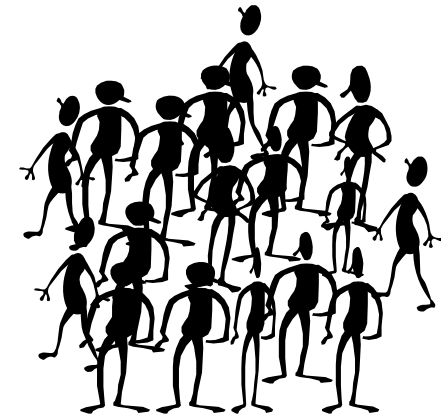
## 4. Conclusions (2)

**National entities  
related with  
radioactive matters**



**3. collaboration**

**Workers**



**Concerned  
industrial sectors**



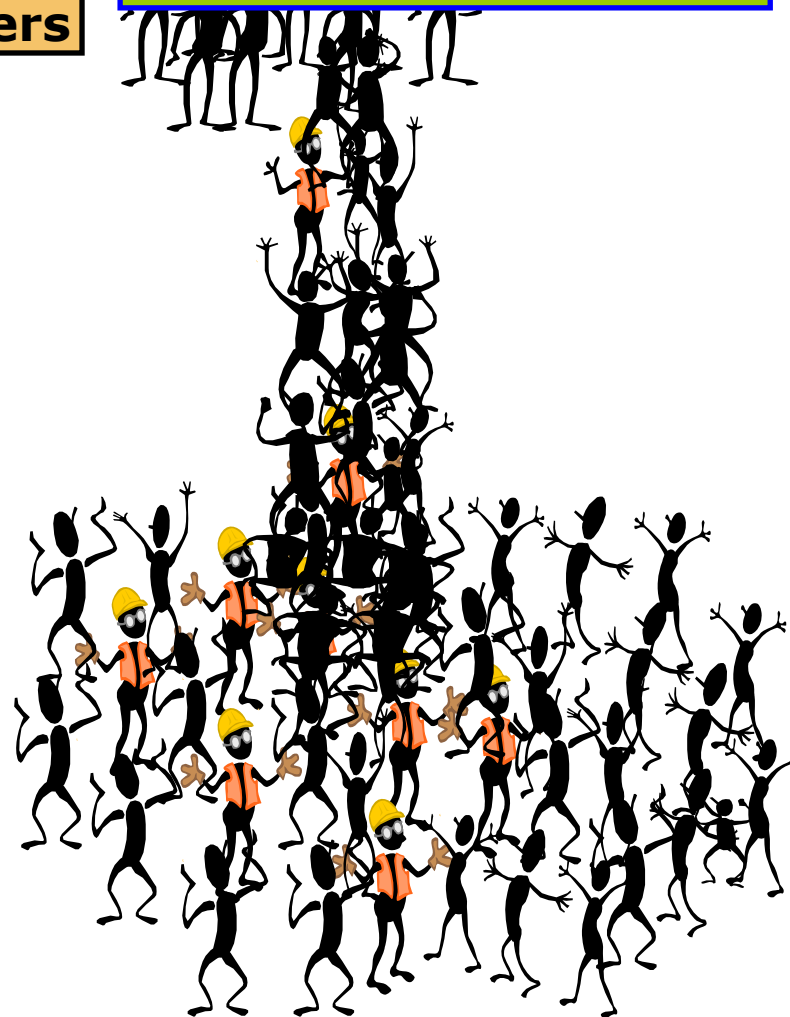
### 3. collaboration

National entities  
related with  
radioactive matters

**RADIOLOGICAL  
SURVEILLANCE OF  
METALLIC MATERIALS**



**Workers**



**Concerned  
industrial sectors**



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## The Spanish Protocol

***Thank you  
for your attention***