



**Economic and Social
Council**

Distr.
GENERAL

ECE/TRANS/AC.10/2006/5/Add.1
24 May 2006

ENGLISH ONLY

ECONOMIC COMMISSION FOR EUROPE

Group of Experts on Monitoring of Radioactively Contaminated Scrap Metal

Second session
Geneva, 12-14 June 2006
Item 5 of the provisional agenda

**DRAFT VOLUNTARY PROTOCOL:
INTERNATIONAL RECOMMENDATIONS
TO MONITOR AND MANAGE RADIOACTIVE SCRAP METAL ***

Note by the secretariat

Addendum

ANNEX 1

INTERNATIONAL CLEARANCE LEVELS

Clearance is the removal of radioactive material or radioactive objects within authorized practices from any further regulatory control by the regulatory body. The activity concentration values in the following table are intended for use by regulatory bodies as a basis for deciding on the clearance of such materials. The radionuclides in the table are those most likely to be encountered in shipments of scrap metal.

The values in the table were obtained from the IAEA Safety Guide "Application of the Concepts of Exclusion, Exemption and Clearance" (IAEA RS-G-1.7 (2004)). According to this Safety Guide, national and international trade in commodities containing radionuclides with

* The UNECE Transport Division has been submitted the present document after the official document deadline.

activity concentrations below the values of activity concentration provided in the table should not be subject to regulatory control for the purposes of radiation protection.

Radionuclide	Activity concentration (Bq/g)
K-40	10
Co-57	1
Co-60	0.1
Ni-63	100
I-125	100
Cs-137	0.1
Ir-192	1
Ra-226	1
Th-232	1
U-233	1
U-235	1
U-238	1
Pu-239	0.1
Am-241	0.1

ANNEX 2

RADIONUCLIDES LIKELY TO BE OF MOST CONCERN IN SCRAP METAL

Most of the radionuclides likely to be encountered in scrap metal can be identified by instruments capable of identifying spectra consisting of gamma ray energy peaks between 60 keV and at least 1.33 MeV. The radionuclides of greatest interest and those most likely to be encountered are listed below:

- (1) In materials from nuclear installations: ^{63}Ni , ^{233}U , ^{235}U , ^{239}Pu , ^{241}Am ;
- (2) In materials from medical facilities: ^{125}I , ^{192}Ir
- (3) From processes involving naturally occurring radioactive material (NORM): ^{40}K , ^{226}Ra , ^{232}Th , ^{238}U ;
- (4) In materials from industrial applications: ^{57}Co , ^{60}Co , ^{133}Ba , ^{137}Cs , ^{192}Ir , ^{226}Ra , ^{241}Am .

Source:

UNECE Report on the Improvement of the Management of Radiation Protection Aspects in the Recycling of metal Scrap (2001)

IAEA, Detection of Radioactive Material at Borders, IAEA-TECDOC-1312, (2002)

ANNEX 3

**EXAMPLE CERTIFICATE OF SHIPMENT MONITORING
(to be part of the supplier's consignment documents)**

It is desirable for the supplier of scrap metal to provide evidence for the benefit of the buyer that shipments of scrap metal, at the time of shipment, contain no radioactive material. This should be done by means of radiation monitoring of the shipments before they leave the premises of the supplier. The monitoring must be carried out by a reliable and independent organization, that is, by an organization which is recognized as independent of the supplier and as competent to undertake radiation measurements. The independent monitoring organization should provide the supplier with a certificate for each shipment which is monitored. An example certificate is shown in the table below.

EXAMPLE CERTIFICATE

<u>MONITORING STATION</u>
Location of monitoring station
Name of organization and person conducting the monitoring
Address
Contact telephone
Contact fax
E-mail
<u>DETAILS OF LOAD</u>
Origin of load - supplier of merchandise (address, contact person and telephone)
Destination of load – contact details of recipient
Identification of load (reference to transit documents being carried with the load)
Means of transport (identify truck, ship, container, etc.)
Details of carrier (contact details)
<u>MEASUREMENTS</u>
Average values measured by hand-held instrumentation at 1 metre from the surface of the load (µSv/h)
Maximum dose rate value in contact with the outer surface of the container, truck or wagon, in µSv/h (identify position)
Background radiation value in the area, in µSv/h
<u>CERTIFICATION STATEMENT</u> (by person responsible for monitoring)
E.g., “None of the measurements made in the vicinity of the load were in excess of background levels”
Official stamp of monitoring station
Date of monitoring of shipment

N.B. No certification document should be provided for a load showing radiation levels in excess of natural radiation background in the local area.

ANNEX 4

EXAMPLE OF THE CONTENT OF A UNIFIED NATIONAL COLLABORATIVE APPROACH

A unified national collaborative scheme would provide benefits to all parties involved. The industrial companies would benefit through a reduction of the likelihood of their products being affected by radioactive material and also through the knowledge that, in the event of an incident, they could obtain help through the national scheme in respect of response procedures and waste management. The national authorities would benefit from the scheme through the reduced likelihood of events leading to public radiation exposure and possible environmental damage and the evidence that they are fulfilling their mandates effectively.

The features of such a unified national collaborative approach could be:

1. **National registry**
A registry which individual companies would sign and thereby commit themselves to the national scheme. The registry would provide a means for determining the scale and scope of the monitoring network required. It would provide a clear overview of all the companies involved and, therefore, of the national situation.
2. **Harmonized detection measures**
Agreed and harmonized measures and procedures for detecting radioactive materials at key stages and points in the metal recycling process. These would include regular checks by governmental organizations on the effectiveness and efficiency of radiation detection equipment.
3. **Checks at borders**
Provision of arrangements by governmental organizations (customs' authorities) at key border points to check imported and exported material for the presence of radioactive material.
4. **Assistance in response**
Assistance by governmental organizations in responding to incidents involving the detection of radioactive material.
5. **Assistance in management**
Assistance by national expert organizations in the handling, management and disposal of any radioactive material discovered and the management of incidents involving the spread of radioactive contamination.
6. **Assistance in training**
Assistance by national expert organizations in the training of involved staff.
7. **National emergency fund**
A national emergency fund for assisting in financing radioactive waste management, disposal and facility clean-up for events caused by radioactive material in scrap metal whose owners cannot be determined. The fund would be provided jointly by industry and government.

The Spanish Protocol (ECE/TRANS/AC.10/2006/2) provides a good example of a unified national approach to countering the problem of radioactive material appearing in scrap metal. It is an incentive scheme that involves all of the main concerned governmental and industrial organizations.

ANNEX 5

GUIDANCE ON MONITORING SCRAP METAL SHIPMENTS

(Adapted from 'Detection of Radioactive Material at Borders', IAEA-TECDOC-1312, (2002))

1. TYPES OF MONITORING INSTRUMENT

Instruments for detecting radioactive material in scrap metal consignments can be divided into three categories.

- (1) *Pocket-type instruments* are small, lightweight instruments used to detect the presence of radioactive material and to inform the user about radiation levels.
- (2) *Hand-held instruments* usually have greater sensitivity and can be used to detect, locate or (for some types of instrument) identify radioactive material. Such instruments may also be useful for making more accurate dose rate measurements in order to determine radiation safety requirements.
- (3) *Fixed, installed, automatic instruments* are designed to be used at checkpoints such as those at the entries to scrap metal facilities. Such instruments can provide high sensitivity monitoring of a continuous flow of vehicles whilst minimizing interference with the flow of traffic.

The specifications for pocket-type and hand-held instruments are set out in reference [5.1]. Attention in this annex is focused on fixed, installed, automatic instruments.

2. FIXED, INSTALLED AUTOMATIC INSTRUMENTS

2.1. Application

Modern, fixed, installed radiation monitors are designed to automatically detect the presence of radioactive material being transported in vehicles (i.e. road vehicles or railroad cars or railway wagons). The monitoring systems do this by measuring the radiation level taken while a vehicle occupies the detection area, and comparing this level to the background radiation level that is measured and updated while the detection area is unoccupied. Continuous measurement of the background radiation level and adjustment of the alarm threshold enables a constant, statistical false alarm rate to be maintained. It follows that suitable occupancy sensors are needed, so that the instrument knows when to monitor the vehicles as they pass through and when to monitor background radiation levels.

2.2. Installation and operation, calibration and testing

Fixed, installed radiation monitors are often known as portal monitors and typically consist of an array of detectors in one or two vertical pillars with associated electronics. Because instrument sensitivity is strongly dependent upon distance, it is important to get the vehicle as close as practically possible to the detector array. Therefore, highest effectiveness is achieved if the monitors are installed such that the vehicles are forced to pass close by, or between monitors. Careful consideration should, therefore, be given to selecting the optimum location to install fixed radiation portal monitors so they can be most effective.

The effectiveness of a fixed, installed instrument is also strongly dependent on its ability to measure the radiation intensity over the search area of interest. Therefore, when installing the monitor, it is important that the detector is positioned so that it has an unobstructed view of the search area. However, the instrument must also be protected from mechanical damage. Alarm indications should be clearly visible to the persons manning the inspection point. Training in the appropriate response procedures is required for the persons responding to the alarms. Portal

monitors need to be calibrated and tested periodically to ensure optimum performance. Automatic portal monitors should be checked daily with small radioactive sources to verify they can detect radiation intensity increases.

The use of fixed, installed radiation monitors to detect radiation sources in vehicles is complicated by the inherent shielding of the vehicle structure and its components. While standard truck-bed monitors can be effective in detecting abnormal radiation levels in shipments of metals for recycling, they are much less effective in detecting radioactive material when that material is purposely concealed.

As discussed earlier, the sensitivity of detectors is dependent upon the closeness of the detector and source as well as the slowness with which they pass each other. For large trucks, two pillars are required and the maximum recommended distance between pillars is 6 metres, dependent on the maximum width of the road vehicle to be scanned. It is important that barriers, which do not obstruct the view of the monitor, are installed to protect the monitor from being damaged by vehicles.

Since the sensitivity of the monitor is also strongly dependent on monitoring time, the instrument needs to be placed where the speed of the vehicle is controlled. Instruments vary in their capabilities, but it is recommended that the speed of the vehicle does not exceed 8 km/h and that the vehicle is not allowed to stop while passing through the monitor. It is recommended that the occupancy sensor is positioned so that it is only triggered when the monitoring system is occupied and not by other traffic in the vicinity.

2.3. Minimum performance recommendations

The instrument performance characteristics given here should be regarded as guidance only. The conditions given are not operational settings, but criteria against which performance tests can be made.

2.3.1. Sensitivity to gamma radiation

It is recommended that at a mean indication of 0.2 $\mu\text{Sv/h}$, an alarm should be triggered when the dose rate is increased by 0.1 $\mu\text{Sv/h}$ for a period of 1 second. The probability of detecting this alarm condition should be 99.9%, i.e. no more than 10 failures in 10 000 exposures. This requirement should be fulfilled in a continuous radiation field, with the incident gamma radiation ranging from 60 keV to 1.33 MeV (tested with ^{241}Am , ^{137}Cs and ^{60}Co).

2.3.2. Search region

The volume in which efficiency of detection is maintained will vary according to the instrument. The following is a description of the geometrical region in which the performance characteristics for the given alarm levels should be applicable.

Truck monitor (two pillars):

- (i) Vertical: 0.7 to 4 m;
- (ii) Horizontal, parallel to the direction of movement: up to 3 m (6 m between the two pillars);
- (iii) Speed up to 8 km/h.

2.3.3. False alarm rate

The false alarm rate during operation should be less than 1 per day for background dose rates of up to 0.2 $\mu\text{Sv/h}$. If a high occupancy rate of say, 10 000 occupancies per day were expected, this

would mean ensuring not more than 1 false alarm in 10 000, for which the recommended testing requirement is not more than 4 false alarms in 40 000 occupancies.

2.3.4. Operational availability

Installed equipment should be available at least 99% of the time, i.e. less than 4 days out of service per year.

2.3.5. Environmental conditions

The system should be weather proofed and designed for outdoor operation. A desirable working temperature range would be -15°C to $+45^{\circ}\text{C}$. However, this will be dependent on conditions at the installed location and lower temperatures down to -35°C may be necessary.

3. INVESTIGATION LEVELS AND INSTRUMENT ALARM SETTINGS

The nominal investigation level is defined here as that radiation level which is selected as the trigger for further investigation. This needs to be distinguished from the instrument alarm threshold. The instrument alarm threshold must be set considerably below the nominal investigation level chosen in order to allow for statistical variations. To achieve a 99.9% detection probability, assuming the idealized case of Gaussian distribution, the instrument threshold has to be set at least at 3σ (3 standard deviations) below the desired level.

3.1 Determination of an instrument alarm threshold

The selection of a particular investigation level means that the alarm threshold of a monitoring instrument has to be set appropriately. The alarm threshold can be expressed in terms of multiples of background, or as a multiple of the standard deviation of the background count rate. Since the relationship between background dose rate and its standard deviation depends on the detection sensitivity of the instrument and the actual value of the background, a generally applicable investigation level cannot be derived. Similarly, because of unknown factors such as the amount of shielding and the energy of the radiation, it is not possible to set an investigation level in order to detect a certain quantity of radioactivity. Therefore, it becomes reasonable to set the level at a value that is as sensitive as possible without causing too many false alarms. On this basis, recommendations for an optimum investigation level can be derived from results obtained from the large scale pilot study on border monitoring systems conducted by the Austrian Research Centers and the IAEA [5.2].

A compromise must be reached in establishing a practical alarm threshold so that radioactive material being inadvertently moved can be detected yet provide an acceptably low nuisance alarm rate. For a false alarm rate of 1 in 10 000 the instrument alarm threshold must be set at least 4σ higher than average background for systems under Gaussian assumptions. Results from the ITRAP field tests [5.2] for truck monitoring indicate that an investigation level of at least 1.2 times natural background (at a normal background level of approximately $0.070\mu\text{Sv/h}$), is needed to meet the performance characteristics for the false alarm rate given earlier.

Specialist personnel involved in the selection and installation of this type of equipment are advised to consider these issues in the local context, and thereby satisfy themselves that appropriate instrument alarm settings have been made to achieve an investigation level that is practical under local conditions. Inevitably, once a unit has been in operation for a while some adjustments to the alarm settings will need to be made based on operational experience.

As discussed earlier, once an alarm has been signified the next tasks are to:

- verify that the alarm is caused by an actual increase in the radiation level;
- localize the source of the radiation, if present;
- identify the radioactive material and evaluate the situation.

4 VERIFICATION OF ALARMS

4.1. Types of alarm

4.1.1. *False alarms*

The normal, statistical fluctuations of the background radiation intensities can cause false alarms. They can also be caused by nearby radio-frequency interference, but this should not be a problem with modern, well-designed instruments.

4.1.2. *Real alarms*

The final category of alarms, real alarms are defined here as being ones that: (a) are caused by an actual increase in the radiation intensity; and (b) result from the inadvertent movement of radioactive material. Making the latter determination normally involves further evaluation of the situation.

4.2. Alarm verification by monitoring

Verifying an initial alarm usually involves repeating the measurement under the same conditions and/or using another instrument. A similar response is a good indication that there is a real increase in radiation levels.

4.2.1. *Monitoring of vehicles*

When the passage of a vehicle through a fixed installed radiation monitor triggers an alarm (as verified by repeated measurements), it will normally be necessary to remove the vehicle from the monitor for further investigation.

5. RADIOLOGICAL CONDITIONS AND RESPONSE LEVELS

In general, the level of response needed for a real alarm will be dependent upon the radiological conditions found. Most situations encountered will involve little or no hazard and can be handled by non-radiation safety specialists. It is recommended that **the response be upgraded to involve radiation protection experts** if any of the following situations are found:

- radiation level greater than 0.1 mSv/h at a distance of 1 m from a surface or object;
- uncontrolled contamination indicated by loose, spilled or leaking radioactive material.

The value of 0.1 mSv/h at 1 m has been selected in view of the fact that this is the limit for legal transport of radioactive material as detailed in the IAEA 'Regulations for the Safe Transport of Radioactive Material', IAEA Safety Requirements No ST-1 .[5.3].

References

- [5.1] International Atomic Energy Agency, Detection of Radioactive Material at Borders, IAEA-TECDOC-1312, (2002)
- [5.2] Austrian Research Centres Seibersdorf, Illicit Trafficking Radiation Detection Assessment Program (ITRAP), Final Report, OEFZS-G-0002, Seibersdorf (2002)
- [5.3] International Atomic Energy Agency, Regulations for the Safe Transport of Radioactive Material (2005 Edition), Safety Standards Series No. TS-R-1, IAEA, Vienna, (2005).
- [5.4] UNECE Report on the Improvement of the Management of Radiation Protection Aspects in the Recycling of metal Scrap (2001)
- [5.5] US Environmental Protection Agency, Pilot Study to Detect Radioactive Materials in Imported Scrap Metal at Seaports in USA, in UNECE Monitoring, Interception and Managing Radioactively Contaminated Scrap Metal, (2004)

ANNEX 6

**GUIDANCE ON REPORTING DETECTED RADIOACTIVE MATERIAL IN SCRAP
(Adapted from the Spanish Protocol [6])**

1. Detection of radioactive material in metal scrap at the entrance to the installation (*)

Date of detection:
IDENTIFICATION OF INSTALLATION OR DETECTION LOCATION
Detection location
Address
Contact person
Contact telephone
Contact fax
E-mail
ORIGIN OF LOAD
Country of origin
Supplier of merchandise (<i>address, contact person and telephone</i>)
Means of transport (<i>identify truck, ship, container, etc.</i>)
PRELIMINARY INVESTIGATION DATA
Average values measured by fixed instrumentation (<i>wherever possible, attach monitoring record obtained from the equipment</i>)
Environmental background radiation value in the area, in $\mu\text{Sv/h}$
Extent of the area in which there is an increase in radiation levels over background levels
Maximum measured dose rate in contact with the outer surface of the container, truck or wagon, in $\mu\text{Sv/h}$ (<i>identify position</i>)
Maximum dose rate measured in driver's cab, in $\mu\text{Sv/h}$

(*) *The notification shall be made initially with the information available up to that moment. Any further information should be submitted as soon as it becomes available.*

2. Actions performed following detection *(Circle the appropriate reply)*

Unloading and segregation from the rest of the load	YES	NO
Identification of material	YES	NO
Plastic coated	YES	NO
Shielded	YES	NO
Others (please indicate)		
IDENTIFICATION OF SEGREGATED MATERIAL		
Description of material (<i>contaminated parts, radioactive sources with or without shielding, radioactive lightning rods ...</i>)		
Photographic information attached (<i>circle as appropriate</i>)	YES	NO
Dimensions and weight		
Physical status (<i>intact, deteriorated, oxidized, corroded, ...</i>)		
Nature (<i>lead, steel, ceramic, brass, aluminium, ferroalloy, copper, ...</i>)		
Encapsulated source (<i>circle as appropriate</i>)	YES	NO
Housed inside the shielding container	YES	NO
Labels, signs, plates, marks		

RADIOLOGICAL CHARACTERIZATION			
Measure of dose rate in contact	$\mu\text{Sv/h}$		
Measure of dose rate at 1 metre	$\mu\text{Sv/h}$		
Material contaminated superficially with β - γ emitters Bq/cm^2			
Material contaminated superficially with α emitters	Bq/cm^2		
Radionuclide(s)			
Activity or concentration of activity	Bq, Bq/g		

3. Detection in final products (*)

Date of detection:		
IDENTIFICATION INSTALLATION OR DETECTION LOCATION		
Detection location		
Address		
Contact person		
Contact telephone		
Contact fax		
E-mail		
IDENTIFICATION OF PROCESS AFFECTED BY THE RADIATION EVENT		
Affected product (<i>processed scrap, ingots, smoke dust, slag</i>)		
Description of event (<i>Briefly describe the event including time and location of detection, the instrumentation used and the radiological values obtained</i>)		
Parts of installation affected (<i>Identify the parts of the installation and vehicles with radiation levels in excess of the background levels for the area and take samples of all resulting products for subsequent analysis</i>)		
Shutdown of process phases affected (<i>If so, indicate date and time</i>)	YES	NO
Exit of materials from the installation (<i>If so, identify means of transport used and destination</i>)	YES	NO
Notification of Expert Radiation Protection Organization (<i>If so, indicate name, date and time of contact and initiation of activities</i>)	YES	NO

(*) *The notification shall be made initially with the information available up to that moment. Any further information should be submitted as soon as it becomes available.*

ANNEX 7

EXAMPLE STRUCTURE FOR A NATIONAL EMERGENCY FUND

1. INTRODUCTION

At the present time there are no examples of national emergency funds directly applicable to the potential situations which could arise due to radioactive materials in metal scrap. In the case of Spain, a national fund is not established by the Protocol but certain of the costs which would arise from radioactive material being discovered in scrap metal are allocated between the company concerned and the government agencies involved.

However, there are examples of other types of national funds established to cover unplanned situations and events. Such funds exist in several States or regions to help recovery from, or management of,:

- large scale natural disasters, e.g. Tsunami,
- the potential effects of high risk industries, e.g. nuclear incidents
- situations posing a hazard to the public, e.g. land contamination with hazardous materials
- long-term potential hazards, e.g., radioactive waste disposal

Generally, the funds for responding to natural disasters are provided by central government. Where the situation has been caused by an industrial accident, the funds may be partially or wholly provided by the concerned industry. In cases where the industry responsible is not able to provide the necessary funds for remediation or where the responsible company cannot be identified or no longer exists then it may be necessary for there to be intervention by government. An important indicator of the need for intervention is where there is the risk of potential harm to the public.

2. POSSIBLE STRUCTURE FOR A NATIONAL EMERGENCY FUND

Ideas for the possible structure of a national emergency fund to cover the costs of response and remediation associated with an accident involving radioactive material in scrap metal can be drawn from the examples of national funds in Section 3.

Possible structure:

- a) The funding to cover such events should be provided both by industry and by government.
- b) The contribution from industry could be raised by means of a tax on scrap metal in transit.
- c) In the event of an incident involving radioactive material in scrap metal, the costs of providing response, recovery, radioactive waste disposal and remediation would be covered by the fund up to a limit above which the government would be responsible for the costs.
- d) A Board to administer the fund would be established. The members of the Board would be drawn from industry and government. When applications are made to the fund, the Board would determine:
 - i) if funding is justified, e.g. to determine if sufficient efforts have been made to recover the costs from the supplier of the scrap metal, or, if the supplier cannot be found, to determine if the potential costs to the receiving company are such as to warrant use of the fund.

- ii) the extent of the funding
- iii) the need to call upon governmental support.

3. NATIONAL EXAMPLES

UNITED STATES OF AMERICA

1. The **Price-Anderson Nuclear Industries Indemnity Act** (commonly called the Price-Anderson Act) is an act of the Congress of the United States which covers all non-military nuclear facilities constructed in the United States before 2026. The main purpose of the Act is to indemnify the nuclear industry against liability claims arising from nuclear incidents while still ensuring compensation coverage for the general public. The Act establishes a no fault insurance-type system in which the first \$10 billion is industry-funded according to a scheme described in the Act (any claims above the \$10 billion) would be covered by the federal government). At the time of the Act's passing, it was considered necessary as an incentive for the private production of nuclear energy. This was because investors were unwilling to accept the then-unknown risks of nuclear energy without limitations on their liability.

2. **Superfund** is the common name for the United States environmental law that is officially known as the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, 42 U.S.C. §§ 9601 to 9675, which was enacted by the United States Congress on December 11, 1980 in response to the Love Canal disaster. This law created a tax on petroleum and chemical industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, \$1.6 billion was collected, and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA was later amended to increase the amount of the 'Superfund' to \$8.5 billion.

EUROPEAN UNION

Solidarity Fund

The European Union Solidarity Fund [**COM(2005) 108** final] is set to enter into force in January 2007, it will replace the legislation governing the current version of the EU Solidarity Fund (EUSF) (Regulation (EC) No 2012/2002).

Scope of the Fund: The EU will provide financial assistance in cases where the extent of the damage caused by a disaster is such that it hampers a country's ability to respond effectively. The current Regulation proposal broadens the scope of EUSF assistance, which has so far been limited to natural disasters. From now on, the EU will also be able to react to industrial and technological disasters, public health emergencies and acts of terrorism .

The extent of a disaster will be determined according to:

- a quantitative criterion, when the amount of direct damage is estimated to be either 1 billion or more (in 2007) or 0.5% of the affected country's gross national income. This new threshold makes more cases eligible for aid from the Fund. Regional and local disasters causing damage at a level below this threshold are the responsibility of the

Member State concerned, although they may be eligible for assistance from other Community funds;

- a political criterion, which will allow the Commission to propose the Fund be used for emergencies in cases where the material damage alone would not normally qualify for assistance. This is particularly useful for dealing with the consequences of acts of terrorism and epidemics.

Emergency assistance: EUSF aid will be granted to finance emergency measures by public authorities or bodies in Member States.

These include:

- restoring essential infrastructure for power generation, water supplies and sewage, telecommunications, transport, health and education;
- immediate medical assistance and measures to protect against imminent health threats, mainly by providing drugs, medical products and vaccines;
- providing temporary accommodation and immediate disaster-relief measures for victims;
- setting up emergency preventive systems;
- emergency measures to protect the local culture and environment;
- emergency clean-up operations in the disaster area;
- medical, psychological and social assistance for direct victims of terrorism and their families

Source:

<http://europa.eu.int/scadplus/leg/en/lvb/g24217a.htm>

NEW ZEALAND

Contaminated Sites Remediation Fund

The Government has made funding available from the Contaminated Sites Remediation Fund (CSRF) to assist regional councils to encourage investigation and remediation of contaminated sites. To qualify, the sites must pose a known or potential risk to human health and the environment within their regions.

Contaminated sites that are posing or likely to pose a high risk to human health, and which are prime candidates for the CSRF are those that are:

- located in environmentally or culturally sensitive areas; or
- where the landowners do not have the financial resources to undertake the work themselves but want to do something about the problem.

Source:

<http://www.mfe.govt.nz/issues/hazardous/contaminated/remediation-fund.html>

ASIA

Asian Tsunami Fund

The Asian Development Bank (ADB) Board of Directors approved the setting up of a multidonor Asian Tsunami Fund, [PDF] with ADB making its own initial contribution of US\$600 million, to deliver prompt emergency funding to tsunami-affected countries.

The Fund will pool and deliver grants for emergency technical assistance and investment projects to support reconstruction and rehabilitation in India, Indonesia, Maldives, Sri Lanka, and now Thailand.

ADB will accept contributions to the Fund from bilateral, multilateral, and individual sources, including companies and foundations.

The money will be used exclusively for prompt restoration of services to affected people. Possible sectors could include public services such as water supply and sanitation, electricity, and communications; infrastructure such as roads, railways, and ports; health and education services; agriculture and fisheries; housing; restoring livelihoods; and containment of environmental damage.

Source:

<http://www.adb.org/Documents/News/2005/nr2005020.asp>

<http://www.adb.org/Documents/Papers/Tsunami/Asian-Tsunami-Fund.pdf>

HUNGARY

Radioactive Waste Management Fund

A central nuclear financial fund was established in 1998 for the funding of radioactive waste management and decommissioning of nuclear facilities. The Public Agency for Radioactive Waste Management (PURAM) was established to carry out these activities.
