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Safety and Health Annual Report 2012

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Glossary

	Dutch	English
BHV	Bedrijfs hulpverlening	In-company Emergency Response Team
BSI	Brits Standaardisatie Instituut	British Standards Institute
CPR	Commissie voor de Preventie van Rampen door Gevaarlijke Stoffen	Committee for the Prevention of Disasters by Hazardous Substances
ECN	Energieonderzoek Centrum Nederland	Energy Research Centre of the Netherlands
EMAS	Eco-Management en Audit Schema	Eco-Management and Audit Scheme
EMS	Milieu Management Systeem	Environmental Management System
GHS	Globally Harmonized System (of Classification and Labeling of Chemicals)	Globally Harmonized System (of Classification and Labelling of Chemicals)
HFR	Hoge Flux Reactor	High Flux Reactor
HSC	Commissie voor Veiligheid en Gezondheid	Health and Safety Committee
IET	Instituut voor Energie en Transport	Institute for Energy and Transport
INO	Intern Noodplan Onderzoek Locatie Petten	Internal Emergency Plan Research Site Petten
ISO	Internationale Organisatie voor Standaardisatie	International Organisation for Standardization
JRC	Gemeenschappelijk Centrum voor Onderzoek (GCO)	Joint Research Centre
KFD	Kernfysische Dienst	Department of Nuclear Safety
NRG	Nuclear Research and Consultancy Group	Nuclear Research and Consultancy Group
OH&S	Veiligheid & Gezondheid	Occupational Health & Safety
OHSAS	ARBO-managementsysteem	Occupational Health and Safety Assessment Series
RSC	Reactor Veiligheidscommissie	Reactor Safety Committee
SES	Veiligheid, Milieu en Beveiliging (Sector)	Safety, Environment and Security (Sector)
VOC	Vluchtige Organische Stoffen	Volatile Organic Compounds
VROM	Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer	Ministry of Housing, Spatial Planning and the Environment

Executive Summary

This report is the Safety and Health Annual Report 2012 of the Institute for Energy and Transport (IET) of the JRC at the Petten site. The report includes a description of the organisational systems and structures together with the planned activities and the achieved goals. This report only refers to the activities of the JRC-Petten site of the Institute. The Institute has implemented a Quality Management System of which Environmental and Safety Management is an integral part. Internal audits and external inspections by Dutch authorities have not identified a significant deviation from legal requirements. The Institute will continue to improve the environmental and safety system in 2013 and will amongst other things focus on improving energy performance of the institute.

Introduction

The research activities of the Institute are carried out under the 7th Framework Programme (2007 to 2013) of the European Commission. The Framework Programme is the legal basis for the work of the JRC and thus also of the Institute for Energy and Transport. The Framework Programme outlines in general terms the main priorities for Research and Development (R&D) funded by the European Union. Nuclear R&D is approved by the European Council, whereas non-nuclear R&D is approved by a co-decision between the European Council and the European Parliament.

Within the current Framework Programme the activities of the Institute for Energy and Transport in Petten have not significantly changed. However there is an increase in the desktop type activity with the recent creation of a new unit which deals with the area of Energy Security. This change has no impact on safety, health and environmental issues at the Institute.

Over the last couple of years, environment, safety, health and well-being have received continuous attention and a high priority within the Commission and at the Institute for Energy and Transport. The development of a Safety Management System had been completed in 2008 to such an extent, that certification according to OHSAS standard 18001 was achieved in 2009. Environmental and Safety Management is integrated into the overall Quality Management System of the JRC-IET.

With these management systems the IET is continuously striving to be a safer and more environmentally friendly workplace for everyone on site and living in its surroundings.

The units of the Institute located in Ispra (Italy) are excluded from this report, since their safety, health and environment related activities are managed by the Ispra Site Directorate. Where 'Institute' or 'IET' is used in this report it refers to the JRC-Petten site.

The Safety, Environment and Security (SES) sector is part of the Site Management Unit and is advising the Director and Staff of IET regarding the regulations of occupational health and safety, radiation protection, environmental protection and is monitoring the respect of the regulations. These tasks are integrated in the Quality Management System.

The Head of the SES sector is responsible for monitoring legislation and is also the liaison officer towards the Dutch authorities. He is in charge of communication of safety and environmental related issues towards the staff and management.

The Site Safety Officer manages the (near-) accident register and organises accident investigations. He further coordinates safety and environmental training of staff, liaises with the fire brigade, and provides support to risk assessments as well as advises staff on a day-to-day basis. In addition, he supports the management in safety tours and can report directly to the Director.

Preventive maintenance of health-and-safety critical equipment (e.g. safety cupboards, hoisting equipment) is performed in close cooperation between the SES sector and the Infrastructure sector.

Safety and Health

Background

At the Institute for Energy and Transport, Petten site, the implementation of the Commission Decision (C(2006)1623) on ‘Establishing a Harmonised Policy for Health and Safety at Work for all Commission Staff’ has been finalized.

In order to monitor the compliance with this Decision and to constantly improve the safety on site, the Institute has set up a safety management system according to the OHSAS 18001 (2007) standard.

This occupational health and safety management system was originally certified by TNO in November 2009, and was acknowledged by BSI in November 2010.



Occupation Health & Safety Objectives

Safety Plan 2012

In 2009 the institute management has published for the first time a multiannual Safety Programme for the Petten site. In this Programme 2009-2011 the management has defined safety targets and goals and has confirmed that it will continue to improve the safety management system (SMS). Presently the first multiannual Programme has been superseded by the Programme 2012-2014. The specific goals for 2012 have been fixed in the Annual Safety Plan, see table below.

SUBJECT
Safety Policy
Review and check if safety policy is still compliant.
Annual Safety Report
Prepare and complete the IET 2011 annual safety and environmental report. Contribute to the JRC 2011 safety report.
Risk Assessment
Reviewing the risk assessment (in general) according to the Dutch regulations.
Implement Globally Harmonized System (GHS) for Classification and Labelling of Chemicals
Re-establish implementation plan for GHS. Execute implementation plan for GHS.
Handling of hazardous substances
The current storage of hazardous substances is according to CPR 15. This needs to be translated to the new guideline PGS 15. Planning the rearrangement of the storage of all hazardous substances in accordance with the PGS 15.
OHSAS 18001
Internal and external audits OHSAS 18001 performed successfully. Minimum 1 safety tours per unit, 2 safety tours for units with laboratories.
Emergency preparedness
Organise at least 2 evacuations per building and 2 INO exercises. Emergency training (BHV, EHBO, AED).
Implementation of corrective actions after audit findings
Continued planning, implementation and monitoring of actions emerging from either internal or external audits.

Table 1, OH&S Objectives

All objectives of the plan were achieved. With regard to the Safety Management System, the certifying body (BSI) has performed a so-called continuing assessment (surveillance) in May 2012 to confirm compliance of the IET-Petten with respect to the OHSAS 18001 standard.

Inspections and audits

At the Institute, Petten Site, various inspections and audits were carried out by staff of the Institute and by external bodies. There is a well-established practice for the internal inspections made by the Management, internal auditors, and members of the Sector Safety-Environment-Security. For example, each unit undergoes at least one safety-/environmentally-relevant internal inspection per year. Units with laboratories, technical areas, etc. undergo two internal inspections.

Regular site visits were performed by the European Commissions Medical Service. These visits are primarily

intended for personal medical checks but also can be used to inspect work places or to give advice on general health related issues. External inspections (e.g. Labour Inspectorate, KFD (ILD), etc.) were performed by the different local and national inspection bodies. Based on the inspection and audit reports, action plans were drawn up and the required actions were carried out. No major deviations from the licenses were identified in 2012.

Additionally, safety-relevant apparatus and equipment (e.g. safety cabinets, fire extinguishers, etc.) are inspected annually.



Inspection of electrical equipment

	Number
Internal inspections:	
Safety and Environmental Unit Tours (inspection by Unit Head and Site Safety Officer)	1 / Unit
Fire detection, alarm and extinguisher systems (inspection by OLP fire brigade)	1
EC Medical Service	1
External inspections:	
Environmental Protection Agency Municipality Zijpe (<i>Milieudienst Kop van Noord-Holland</i>)	1
KFD/ILD, Labour Inspectorate, Environmental Protection Agency Municipality of Zijpe, Province of Noord-Holland / Regional Water Board	2
Internal audits:	
Internal Audits with respect to ISO 14001 and OHSAS 18001	1
External audits:	
External Audits by BSI with respect to ISO 9001, 14001 and 18001	1

Table 2, Internal and external inspections and audits

Health & Safety Committees

Health and Safety Committee

The Joint Committee on Health and Safety (HSC) of the Institute is a statutory committee according to European Commission rules. It is composed of members appointed by the Director and members appointed by the staff representatives. The committee is an advisory body for management and staff regarding health and safety matters.

In 2012 the committee had 4 meetings. The main areas dealt with were review of documents belonging to the health and safety management system and review of near-accident and accident reports. The Committee also discussed items of EMAS regulation and addressed the issue of availability and analysis of data on absences from work. The HSC publishes its own annual report.



Health & Safety Committee

Reactor Safety Committee

The task of the Reactor Safety Committee (RSC) is to advise the directors of JRC-IET, NRG and ECN on all nuclear safety aspects related to any of their nuclear facilities on the Petten site.

This includes all work and experiments in and around the research reactors and other nuclear facilities as well as facility operations, modification and testing. Licensing documentation, including safety related procedures and instructions affecting the Safety Technical Specifications or safety related procedures and instructions of a facility, which have to be sent to the competent authorities, are also to be reviewed.

The RSC also has the authority to investigate, request additional information and give advice on matters the committee itself believes to be relevant for nuclear safety, including matters brought to the attention of the Committee. The RSC publishes its own annual report.

Safety related training and instructions

To keep staff updated and to increase awareness, representatives of the SES sector provide information on safety and/or environment-related matters during Unit meetings. The SES sector also organises so called toolbox meetings to specific groups of staff members, such as laboratory managers, in line with the requirements of our safety and environmental management systems.

Training and instructions are useful tools to improve the institute's knowledge of workers regarding safety and health at the workplace. IET Petten therefore gives to all its new staff members (about 75 in 2012) general safety instructions within the first month of their arrival. Moreover specific safety-related subjects are presented during unit meetings, e.g. results of risk assessments, occupational incidents, etc. On individual basis staff members have the possibility to request safety-related training in accordance with their work area, e.g. course on.



Outdoor smoking area

Ergonomics at computer work stations

In 2009 risk assessments were performed for all workplaces at the Institute. One of the findings was that office work, in particular working on computer work stations, has to be classified as potentially harmful. To reduce this risk, the Institute has decided to launch a pilot course “Ergonomic PC work place”. In this context general information on ergonomics at computer work stations and individual workplace assessments have been made in 2010, 2011 and 2012. As this initiative was received very positively, it will be continued in 2013.

Third parties

Contractors and external companies working at the JRC-IET receive the document ‘Safety regulations for third parties working at the JRC-IET Petten site’ before starting their work. All external persons arriving to work on site either have direct supervision by the internal work responsible or are shown the film ‘General Safety Regulations at the Research Location Petten’ and are given job-specific instructions.



Training

The JRC-IET has organized internal and external safety-related training for its staff in 2012 as shown in the table below.

Course name	Duration	Participants
Radiation protection:		
No training given in 2012		
Safety:		
Working on height	1,5 hours	8
Instruction ATEX 1237	1,5 hours	19
Free occupiers from lifts	1 day	3
AED training	½ day	14
AED refresher course	½ day	6
Health:		
Ergonomics at computer work stations	3 hours	32
Emergency preparedness and first aid:		
Emergency Response Team (BHV) Basis	2 days	1
Emergency Response Team (BHV) Refresher course	1 days	23
BHV Team leader	1 day	2
INO exercises	3 hours	25
Evacuation drills	2 x 1 hours	All staff
Environment:		
No training given in 2011	-	-

Table 3, Training

Emergency preparedness and response

To increase the emergency preparedness of all staff, evacuation exercises were held twice in all buildings. The in-company emergency response team had an important role during these exercises. The team consisted of 26 staff members in 2012 who worked in close cooperation with the site fire brigade.

For the members of the JRC-IET Petten emergency crises team an INO on-site exercise was organised by the SES sector, in order to train them for their tasks during emergency situations.

Besides the standby duty of the members of the JRC-IET Petten emergency crises team, several other relevant functionaries are on emergency standby duty, e.g. for the Plant Simulation Testing Laboratory, Fuel Cell Testing facility, the Infrastructural Service as well as the Acting Site Safety Officer.

Occupational incidents

Within the Institute an internal reporting system is in use for occupational incidents. The purpose of this system is to get information on potential and actual hazards and to continuously improve the health and safety situation. Over the last four years no incidents that required reporting to the authorities have occurred at the Institute. In 2012 there were 4 occupational incidents classified as accidents (in 2011: 1), 2 as minor accidents (in 2011: 0) and 26 as near accidents (in 2011: 27) reported. No minor contamination incidents were reported to the nuclear authorities in 2012.

Type of incident	2009	2010	2011	2012
Reportable accident			0	0
Accidents			1	4
Minor accidents			0	2
Near-accidents			26	26
Total:	36	32	27	32

Table 4a, Occupational incidents

Root cause of incident	2009	2010	2011	2012
Organisational	14	13	10	17
Technical	14	9	13	4
Human	8	10	4	11
Total:	36	32	27	32

Table 4b, Occupational incidents -Root Causes-

The number of occupational incident notifications over the past four years has been slightly increased since the start of 2012. In 2013 the reporting of occupational incident reporting will be continued to be promoted via presentations at unit meetings, newcomer trainings, etc.

Work permits

The established work permit system is a suitable tool to improve the safety and health of workers on site. The system covers the following types of work and work areas:

Controlled areas	All areas where special instructions based on the possible risks in this area are needed.
Excavation work	For work where the knowledge of the existence of underground cables, pipes, drain system, etc. is essential.
Naked flame	For work involving the use of naked flame, or other activities involving the risk of fire, or work when dust is created which smoke detectors can see as smoke.
Confined space	Work in confined spaces such as pits, tanks, reservoirs, crawling spaces or spaces with inadequate or no ventilation.
Working on height	For work on height > 2.5 m where there is a risk of falling or of falling objects and for activities that can cause falling, such as openings in floors.

Table 5, Types of work permits

Work permits are valid for a limited period of time. However, for JRC-IET staff annual work permits for specific activities and places can be issued after related safety training. Such general work permits were issued, for example, to staff of the Infrastructure sector concerning working on heights.

The following work permits were given out:

Type of work permit	2009		2010		2011		2012	
	External	Internal	External	Internal	External	Internal	External	Internal
Controlled area	6	0	43		53		37	0
Excavation	38	1	21	2	10		16	0
Naked flame	27	6	29	2	15	5	28	6
Confined space	9	0	5		0	0	20	0
Working on heights	72	9 *	76	11*	63	23*	51	6*
Total	168		189		169		164	

Table 6, Number of work permits

*) Including annual work permits

Note 1) Work permits can cover more than one day and more than one person. The number of work permits per year depends on the kind of activities going on at the Institute.

Note 2) From 2009 on the numbers are split into external permits (for work carried out by external companies) and internal permits (for work carried out by JRC-IET staff).

The number of work permits in 2012 has slightly decreased by 3% since the year before. The majority of work permits were given to external companies. Since April 2008, notes are sent to the responsible unit head if work was performed for which the required work permit either was missing or was not complied with (registered as an occupational incident). There were 6 such instances in 2009, 6 in 2010, 1 in 2011 and 2 in 2012, corresponding to 4%, 3%, ca. 0% and 1%, respectively, of the total number of work permits granted in the respective period, showing an overwhelming compliance with the safety system, especially in recent years.

Radiological workers

In 2012, 39 staff members of the Institute for Energy and Transport in Petten (about 15% of all staff) were registered as a radiological worker, including 6 staff members who left the Institute and 2 staff members who joined the Institute during 2012. The measurement and registration of staff exposure to ionising radiation is contracted out to NRG.

The Table below gives the values of the cumulative doses for the last 5 years: 2008-2012. Just over 80% of all radiological workers were Category A (annual allowable dose limit of < 20 mSv). The remaining radiological workers were Category B (annual allowable dose limit of < 6 mSv). For comparison, a non-radiological worker (citizen) has an annual allowable dose limit of < 1 mSv.

Year	Doses (mSv)		Number of persons			
	Cumulative	Average	Total	< 1mSv	1-6 mSv	6-20 mSv
2008	8,15	0,14	57	57	0	0
2009	5,99	0,11	53	53	0	0
2010	4,73	0,12	40	39	1	0
2011	6,47	0,16	41	39	2	0
2012	3.23	0.08	39	39	0	0

Table 7, Annual dose of registered radiological workers

From the table it is clear that the average exposure of registered radiological workers at JRC-IET Petten remains low, as was the case for the previous years. The measured doses for 2012 are well below the limits as defined in the Council Directive 80/836/Euratom and amending Directives.

Health related activities

Medical service

The staff members of the Institute are under the supervision of the Medical Service of the Commission located in Luxembourg. The number of visits to Petten by the company Doctor was 6 times per year.

One task of the company doctor and his staff is to perform the annual medical examinations of all staff; another one is to advise on work related matters. In this advisory role inspections of working places were carried out. In addition to the annual medical check-up, the radiological workers have two extra test related to their job that are carried out for an external company.

The Medical Service is also carrying out annual vaccination campaigns against seasonal influenza in October and November. At the level of the Commission, information on health, safety and wellbeing is distributed regularly to all staff members.



Medical Services

Gym facility

The Institute has facilitated a gym room where staff members can follow their personal training programme developed in consultation with the qualified resident gym instructor or participate in the different group lessons (like e.g. Body Balance or Kick Boxing classes).

In 2012 about 45 % of the Institute staff members used the facility, a substantial increase of 20% in comparison to 2011. This increase in usage of the gym room may be attributed to an increased interest in physical fitness, especially from the younger newcomers in 2012. The total amount of instruction

time in 2012 was more than 500 hours. All gym activities take place outside core hours. The Institute has launched a framework contract for maintenance of all the equipment. The gym facility is a demonstration of the importance the management places on the health and well-being of the staff.



Gym facility at JRC IET

Bicycles

In 2010 the institute acquired 20 service bikes for staff to be used on the premises. These bikes can be used by staff during working hours as transportation between buildings or during lunch time to go to the forum restaurant. This initiative was a success in 2012 and is expected to be so in 2013.



Zero emissions, environmentally friendly transport

Other activities

Outside working hours, staff members of the Institute have the possibility to participate in a number of sport activities organised by colleagues, such as football, volleyball, badminton, horseback riding and tennis.

JRC-IET Petten site infrastructure projects related to SHE in 2012

The infrastructure sector of the Institute is dealing with the management of utilities and facilities. Standard tasks of this sector are the organisation of SHE relevant maintenance and certification e.g. fume hoods, ventilation cupboards, ladders, cranes, first aid equipment.

Also specific SHE related projects are launched and/or supervised by this sector. In 2012 there were four main activities. Firstly, the building management system was upgraded in order to be better able to monitor the Energy Consumption on site via an Energy Monitoring and Control (EMC) component. Secondly, the outside lighting was renewed. LED components were installed and the control installation was renewed. This resulted in energy savings of 43 % and exploitation cost savings of 72 %. Emphasis was put on the light colour to guarantee the least influence on the environment possible. Thirdly, the generation of energy from renewable sources was driven forward. A call for tender was launched to install 485 solar panel with a total of 120 kWp on several roofs on site. The call was finalized and the contract signed. The installation however will be done in 2013. The same counts for the fourth project with SHE influence, the removal of Freon/R22 cooling installations on site. A call for tender was successfully launched and finalised. The implementation and installations will be done during 2013.



Solar panel

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