

PROGRESS REPORT

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ACRONYM :

SAGE

TITLE :

STRATEGIES AND GUIDANCE FOR ESTABLISHING A PRACTICAL RADIOLOGICAL PROTECTION CULTURE IN EUROPE IN CASE OF LONG-TERM RADIOACTIVE CONTAMINATION AFTER A NUCLEAR ACCIDENT

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(Partner no 1)

PARTNERS :

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NRPB (National Radiological Protection Board), the United Kingdom. (Partner no 3)
BB RIR (Brest Branch of the Research Institute of Radiology), Belarus. (Partner no 4)
BELRAD (Belarussian Radiological Safety Institute), Belarus. (Partner no 5)

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2. EXECUTIVE PUBLISHABLE SUMMARY

The overall objective of the SAGE Project is to contribute to the development of strategies and guidance for implementing and disseminating a radiological protection culture in Western Europe, in case of a nuclear incident or accident with long-term radiological consequences. The main output of the project is expected to be a handbook on radiation monitoring and protection. This includes comprehensive guidance for the health authorities, nurses, medical doctors in the private and public sectors, medical social workers, etc, and the general population on practical advice to follow in a contaminated territory in order to avoid unnecessary exposures in the course of day-to-day activities and to adopt a responsible and prudent attitude with regard to the protection of health. Other important roles within communities are also considered. These could include local government officials, elected representatives, teachers, NGOs, etc.

The Project is developed based on both a detailed analysis of the current strategies, guidance and organisational arrangements that have been implemented in France, Germany and United-Kingdom to cope with long term radioactive contamination in case of a nuclear accident and the extended experience gained in Belarus associated with the practical management of the consequences of the Chernobyl accident over the last 15 years.

To ensure the applicability of the proposed set of strategies and guidance to the Western European context, European end-users are involved in the context of the preparation of the handbook through stakeholders panels run in France, Germany and UK. The panels are composed of professionals involved in the public health area (such as nurses, midwives, medical doctors, radiation protection experts and medical social workers) as well as representatives of the local population. A panel of local stakeholders from the contaminated territories in Belarus also contributes to the development of the strategies and guidance and evaluate the practicability of the proposed radiation monitoring and protection system including the detailed identification of all technical, economical and social implications.

3. OBJECTIVES AND STRATEGIC ASPECTS

The aim of the project is to develop procedures, tools and guidance that could be used by health professionals and the population in the event of a long-term contamination situation. These would concern the following:

- Organisation of health care activities to take account of this situation within day-to-day practice, particularly through the implementation of an "inclusive" radiation monitoring system to measure external and internal exposure of the population and the contamination of foodstuffs.
- Advice for the health care professionals and the general public on the various aspects of the practical radiological protection culture needed in a contaminated environment resulting from a nuclear accident.

The key output of the project will be a handbook on radiation monitoring and protection of the population. In the handbook, professionals will find guidance on the setting up of the basic infrastructure and procedures to operate an inclusive radiation monitoring system; they will also find advice to help them in having an efficient dialogue with their patients. The general public will find comprehensive practical information on ways in which unnecessary exposures can be avoided when using or living within a contaminated area on a day-to-day basis. Advice will also be provided on the adoption of a responsible and prudent attitude in regard to the protection of health, particularly for children or other critical population groups.

A workshop will be organised toward the end of the project to give the opportunity to relevant European stakeholders (health professionals, public health authorities, NGOs, etc) to bring their views and interact with all the project partners.

4. SCIENTIFIC AND TECHNICAL PERFORMANCE

4.1. Summary of the specific project objectives for the relevant period

4.1.1. Project scientific coordination (WP1)

As scheduled, two coordination meetings have been organised during the last twelve months.

The third co-ordination meeting, took place in Paris (27-28 November 2003) at the Conservatoire National des Arts et Métiers (CNAM) facilities. The first day of the meeting was devoted to the state of advancement of Work Packages 2, 3 and 5. A representative of the Norwegian Radiation Protection Authority gave also a presentation of rehabilitation strategies and countermeasures undertaken in Norway since 18 years to mitigate the consequences of the Chernobyl accident fallout. SAGE partners mainly discussed the content and the format of the handbook (WP 4) and they prepared the dissemination Workshop to be held in March 2005 (WP 1).

The fourth co-ordination meeting took place in Minsk (7-10 July 2004), at the BELRAD institute facilities. The first half day of the meeting was mainly devoted to the state of advancement of Work Packages 2 and 5. During the second day, SAGE partners mainly discussed the content and the format of the handbook (Work Package 4). The third day (morning only) they prepared the programme of the final SAGE Workshop (Work Package 1) that will be organised in Paris on 14 and 15 March 2005. The final workshop will represent an excellent opportunity to disseminate the results of the SAGE project to an extended international community of stakeholders.

4.1.2. Review of infrastructures in France, Germany and the United Kingdom (WP2)

The overall objective of WP2 was to evaluate the state of preparation in France, Germany and the United Kingdom in facing the situation in case of long term radioactive contamination of the environment after a nuclear accident, as far as the radiation monitoring of the situation and the involvement of stakeholders are concerned.

The final version of the WP2 report entitled “*Review of Infrastructures in France, Germany, and the United Kingdom*” (SAGE deliverable no 1) was edited by GSF on 14 April 2004 and sent by CEPN to the EC on 15 June 2004.. The .pdf version has been be put on the SAGE website.

4.1.3. Feedback experience in Belarus (WP3)

The objective of WP3 is to draw the lessons from about 15 years of practical experience in Belarus in the management of long term contamination of a territory after the Chernobyl accident, specifically by pointing out the monitoring experiences, as well as the involvement of a non governmental organisation (the BELRAD institute) and other stakeholders in the rehabilitation of life conditions process.

After the start-up meeting, it was initially scheduled to issue the WP3 report (SAGE deliverable no2) at month 17. A draft version of the report proposed by BELRAD institute entitled “*Belarussian experience in the field of radiation monitoring and radiation protection of population and role of governmental and non governmental structures in solving these problems*”, has been reviewed by the coordinator and was available since Spring 2004. A second report on “*Emergency and long-term activities undertaken to protect people from radiations and mitigate consequences of the environmental contamination: the example of the Chernobyl disaster*” had been proposed before by BB-RIR ; it will be also delivered to the EC as an annex of the precedent.

Finally, during the fourth coordination meeting, it was decided to postpone the issuing of the final version of the report to the end of 2004 because of the health problems of the main author of the final report.

4.1.4. Preparation of a handbook on practical RP culture in case of a nuclear accident (WP4)

The Work Package 4 is exclusively devoted to the preparation of a handbook on radiation monitoring and protection of the population.

During the first year, the audience, scope, format and content of the handbook were designed and validated both through the first Belarussian and West-European stakeholders panels (WP5) and the SAGE partners. As a consequence, a draft version of the handbook was prepared at the Autumn 2003. This draft version has been then discussed several times with SAGE-partners and national stakeholders during the coordination meetings, and stakeholders panels as well (in France in October 2003, January 2004, and May 2004, in Germany in March 2004, in the United Kingdom in May 2004, and in Belarus in July 2004).

This has led to a simplification of the handbook making it more clear and understandable, especially for health professionals and people who are generally not familiar and not well educated in the radiological protection field.

This version of the handbook will be reviewed again by the English, German and French stakeholders between October (third German and English panels) and December 2004 (fifth French stakeholders panel).

4.1.5. Running of Western stakeholders panel (WP5)

During the second year of the project, 8 stakeholder panels have been organised : one in the UK (11 May 2004), three in France (20 October 2003, 26 January 2004, 3 May 2004), 2 in Germany (10 November 2003, 2 March 2004) and one in the Republic of Belarus (10 July 2004).

The WP5 activities for the second year were mainly devoted:

- To circulate and discuss draft versions of the handbook
- To provide feedback and recommendations on the handbook to WP4

France

On 20 October 2003, the French Stakeholder Panel met for the second time in Paris at the Conservatoire National des Arts et Métiers (CNAM). The morning was devoted to a practical session on radiation monitoring. The group could get familiar with major equipments for

ambient dose rate, foodstuffs and whole body measurements (WBMs). An equipped van provided by IRSN (Institut de Radioprotection et de Sûreté Nucléaire) allowed to make some WBMs as well as measurements of fresh mushrooms (from France, Poland and Belarus) brought by the participants. In the afternoon, the group commented on the preliminary contents of the practical handbook on radiation monitoring and protection. On 26 January 2004, the French Stakeholder Panel met for the third time in Paris at the CNAM. The first part of the meeting was devoted to a practical case study for the interpretation of whole body measurements and their analysis with data on foodstuffs contamination. The case study was based on measurements related to French embassy's employees in Minsk (for both body and foodstuffs measurements). The analysis was conducted using the different interpretation tools developed in the handbook. On the second part of the meeting, the French regulation (general principles, organisation, major regulatory texts) was presented to the participants by the representative from the French authority (DGSNR). The last part of the meeting (in sub-groups) was devoted to comments on the second version of the practical handbook on radiation monitoring and protection. On 3 May 2004, the French Stakeholder Panel met for the fourth time in Paris at the CNAM. The meeting was particularly focussed on a detailed review of the handbook (hard copy + html version) and the related computer tool for helping the health and measurement professionals in analysing the results from body and foodstuffs measurements. Part of the meeting was also devoted to the final Stakeholder workshop, and particularly the participation of the French stakeholder panel was studied.

Germany

On 10 November 2003, the German Stakeholder Panel met for the first time in Neuherberg at GSF-Research Centre for Environment and Health. The SAGE-project was presented (work packages, participating countries and stakeholder panels from Belarus, France and UK). After a short overview of the Ethos project, the video "The Rehabilitation of living Conditions in Contaminated Territories: The Ethos project in Belarus" was shown. The Video and the journal about Ethos were distributed among the participants. 3 Presentations were given by the members about "legal framework and measuring systems", "level and degradation of radioactive contamination in food" and "measures against long term effects by ingested radioactivity". Another video was presented about measurements undertaken in Russia. The second meeting of the German stakeholder Group was on 2nd of March in Neuherberg. A

short summary about the third SAGE coordination meeting in Paris was given to inform the panel about the progress of the different work packages of the project. The second draft version of the handbook on radiation monitoring and protection in case of contamination of the environment was discussed in detail. One main objection was the role of the doctor. Even after a training and education in radiation protection the normal family doctor in Germany will not be able to solve the problems in case of a long term contamination, because the German public health system differs from the health care in France. Another concern was the measurement of ambient dose rates done by the “families” themselves, because the anxieties and problems of the concerned population can be increased by unsteady measurements with insufficient devices. This was an experience made after the Chernobyl accident, when many people tried to do their own measurements. A further general problem may arise because of “data security”, if measurement results of persons and households are published. Moreover, some proposals were made for the handbook: the involvement of psychologists to support concerned population groups, dissemination of actual information by internet, preparation of interactive CDs for schools and kindergartens and of a glossary in the national language for the most important terms in radiation protection. The next meeting is planned for the discussion of the next version of the handbook.

United Kingdom

The core group of the UK stakeholder panel met in London for a second time on 11 May 2004. The main focus for discussion was the advanced draft of the handbook providing guidance for those living in the contaminated territories. The stakeholders provided their initial feedback on its structure and content as well as its general applicability to the UK. Several members of the panel agreed to convene satellite stakeholder groups (comprising members of the public, public health professionals etc.) in different areas of England and Wales to further extend the consultation process. A questionnaire designed by NRPB will be used to record feedback on specific aspects of the handbook in a standardised format, i.e.

- General applicability of the handbook to the UK
- Practicability and appropriateness of information/guidance provided
- Adapting the handbook for use in the UK
- Format of the handbook

Belarus

The Belarus stakeholder panel met for the second time on 10 July 2004. During the meeting the Belarus participants gave advices on the format, structure and contents of the draft version of the handbook which was translated into Russian by CEPN. The participants welcomed the work done so far, particularly as far as the style was concerned. They proposed to include complementary material available in Belarus on how to behave in recreational areas and on recipes to reduce the contamination of foodstuff during cooking. They expressed the wish to see in the future a Belarusian version of the handbook taking into account more specifically the specificity of the Belarus situation. It was decided to finalise first the European version and then to look for opportunities after the Paris workshop for possible supports to develop a Belarusian version.

4.2. Overview of the scientific and technical progress made

4.2.1. Project scientific coordination (WP1)

The website (<http://www.ec-sage.net/>) of the SAGE project has been regularly maintained by the SAGE project coordinator (CEPN). Both public and private (for members only) areas are continuously updated.

This workshop, organised before the finalisation of the project, will provide the opportunity for the five partners of the SAGE project to present the findings of their works to interested parties, to discuss ways for the implementation of strategies and guidance they are proposing, and to prepare recommendations for further possible developments at a European level with representatives of Western European expert organisations and authorities. The SAGE project concentrated on four main topics that will be presented and discussed during the workshop:

- State of the art infrastructures in Germany, France and UK as far as long-term management of contaminated situations is concerned
- Post-Chernobyl accident radiation monitoring systems in Belarus today
- Handbook on practical radiation monitoring and radiation protection culture for people living in a long-term contaminated area, especially for local health professionals in their day-to-day relationship with patients

- Dynamics of stakeholder involvement in the development of the Handbook

Invited presentations of other experiences in managing long-term contamination will be given by Western European representatives and NGOs (Norway, Wales, France). Several French, German and English stakeholders who helped the SAGE partners in constructing the above mentioned handbook will participate in the workshop.

A particular feature of the workshop will be the participation of Belarusian health professionals who are living in contaminated territories and who were directly involved in the SAGE project.

The workshop is structured in order to allow participants to deepen their knowledge and understanding on what are or could be the expectations of those living in a contaminated territory. To achieve this objective time will be devoted for discussions between stakeholders after each presentation. There will also be specific sessions for topical work conducted in small groups during one afternoon. Finally a round table will allow recommendations to be elaborated that could reflect future trends on the management of long-term rehabilitation of living conditions in Western European countries in case of long term contamination of the environment.

The provisional programme of the workshop is as follows:

MARCH 2004, 14

- Introduction and Welcome address (Conservatoire National des Arts et Métiers)
- Presentation of the SAGE Project (Jacques Lochard, CEPN, France)
The rehabilitation of living conditions in contaminated territories : the ETHOS Project in Belarus – (Movie by Sylvaine Dampierre)

Session 1

- Paper no 1: The Chernobyl radiation monitoring system in Belarus today (Alexei Nesterenko, BELRAD, Belarus)
- Paper no 2: Radiation monitoring and countermeasures in Norway since the Chernobyl accident (NRPA, Norway)

- Paper no 3: Post accident radiation monitoring management in France, Germany and UK : strengths and weaknesses (Irene Fiedler - GSF, Germany)
- Paper no 4: The dynamics of stakeholder involvement in the development of the SAGE Project (Anne Nisbet, NRPB, UK)

Session 2

- Paper no 5: Presentation of the SAGE Handbook: *“Practical radiation monitoring and radiation protection culture for those living in a long-term contaminated area”* with the participation of Members of the Western European and Belarussian SAGE stakeholder panels.

Topical working Groups (The participants will be divided into four working groups. Each of them will be invited to contribute to one of the following topics. Results of the working groups will be then presented in plenary session on Tuesday). The four following topics will be addressed: Contents of the Handbook, Role of Local Stakeholders, Tools for Informing Stakeholders, Diffusion of the "SAGE approach" in Western Europe.

MARCH 2004, 15

Session 3

- Paper no 6: A non-governmental organisation’s perspective on citizen vigilance (Jean-Claude Autret, ACRO, France)
Working Groups debriefing
- Paper no 7: The management of long-term chemical contamination of the environment - a case study from Wales (Mark Temple - National Public Health Service, Wales).
- Paper no 8: Implementation of an inclusive radiation monitoring system in the Bragin District in Belarus (Alexander Morhal, Pinsk Institute of radiology or Tatiana Kotlabai, "Sprout of Life" NGO, Belarus).
- Paper no 9: Toward an integrated approach on rehabilitation strategies for long-term contaminated territories: the EURANOS Project (Gilles Hériard–Dubreuil, Mutadis, France).

Session 4

- Round table: the way forward
- Adoption of workshop’s recommendations

4.2.2. Review of infrastructures in France, Germany and the United Kingdom (WP2)

The report sent to the Commission in June 2004 includes:

- A description of the national regulatory frameworks (France, Germany and the United Kingdom) (in 2002);
- An overview of the existing organisations (in 2002) at the local and national levels who are responsible for the implementation of countermeasures during the emergency phase and if any, during the post-accidental long term phases; the inventory of the technical capabilities of measurements, analysis and dose assessments and, medical support; a description of the existing measurement programmes to monitoring nuclear facilities and environment.
- The list of professionals training related to post-accidental management (especially for professionals from the medical sector)

The review clearly shows *“that the infrastructure in all these three countries regulates the situation during and shortly after a nuclear incident but not in case that a radioactive contamination will last for long time. For that situation, it is necessary to install local information centres in the affected area with sufficient trained staff. To improve the confidence of the population in possible measures implemented by the authorities copious and understandable information and education must be provided. The concerned population must be able to control the own radiological situation by measuring their environment and their food and by reducing food contamination by appropriate reasonable measures.”*

4.2.3. Feedback experience in Belarus (WP3)

The report (to be issued in December 2004) will include:

- An analysis of short term radiation protection measures undertaken for the Belarusian population;
- An analysis of the norms of contamination of foodstuffs and of the control performed on foodstuffs in Belarus

- A description of the participation of the BELRAD NGO institute in overcoming the consequences of the Chernobyl accident in Belarus
- A description of the ETHOS project

This deliverable can allow to draw lessons and to give recommendations for the management of a nuclear accident.

In countries having their NPP and in contiguous countries, systems for monitoring the environment and foodstuffs should be organised beforehand. In all European countries,

- A national system of radiation control of foodstuffs must be organised.
- The national system must be completed by an independent network of local centres of radiation control of foodstuffs (LCRCs).
- A network of fixed and mobile radiological laboratories (including WBCs) should be created to determine the Cs-137 internal contamination (especially for children).
- Reserves of food additives allowing the decontamination of the organism should be constituted in advance.
- A specific guide on specific agro-industrial techniques should be written and distributed in order to inform and help farmers in producing clean agricultural products on slightly contaminated soils (adapted to the local productions).
- A dynamic system of permissible levels of contamination of foodstuffs and agricultural products, which operatively reflects the up to date radiological situation should be envisaged in the laws.

4.2.4. Preparation of a handbook on practical RP culture in case of a nuclear accident (WP4)

The handbook (hard copy and associated computer web-based version) was elaborated starting on the questionings of the population and the professionals. Practical technical sheets of a varying degree of technical complexity provide from general to detailed information and advice mainly on “What to do?” and “Who can help me?” and related to the following issues:

- Radioactivity: description, units, health effects, uptake in the body,
- Radiological measurements: ambient dose rates, foodstuffs contamination, body contamination,

- Exposure routes: external irradiation, ingestion and inhalation, transfer in the environment,
- Radiation monitoring: ambient dose rates, foodstuffs contamination, body contamination,
- Piloting tools: analysis of body contamination, analysis of ambient dose rates, comparison tools, data management,
- Improvement options, contaminated waste management.

It also introduces the principles of an “individual booklet on radiation protection” which would contain personal results on radiological measurements (ambient dose rates, foodstuffs and body contamination) as well as reference information that could be used by the individual and by health professionals to help them in the interpretation of data and in the identification of possible improvement options.

Complementarily to the handbook, an internal contamination and foodstuffs analysis computer programme was developed on the basis of body uptake models proposed by the ICRP.

Starting from the results of whole body measurements (caesium-137 contamination), this computer programme allows first estimates of the possible associated intakes in terms of total and mean daily ingested radioactivity. Then these estimates can be further refined in an iterative process through a dialogue between the concerned person and the health professional or the measurement professional (see Figure here under).

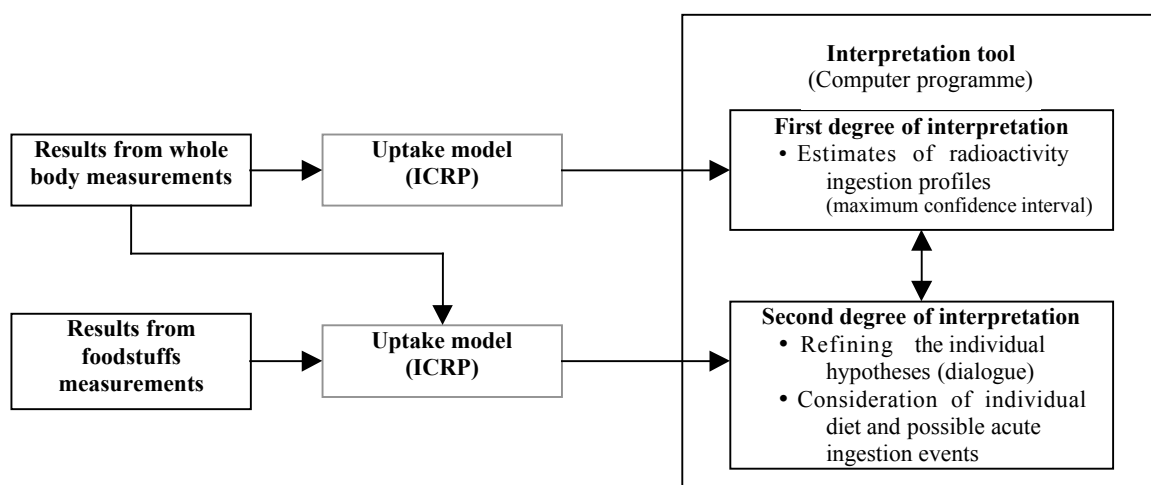
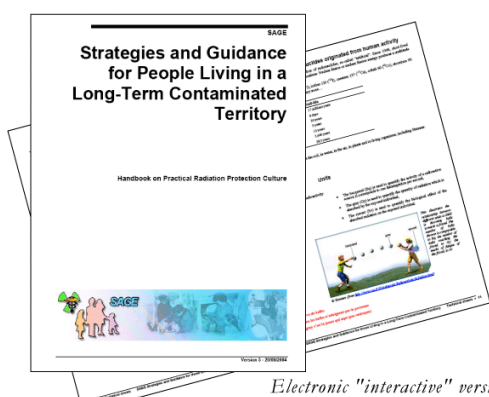


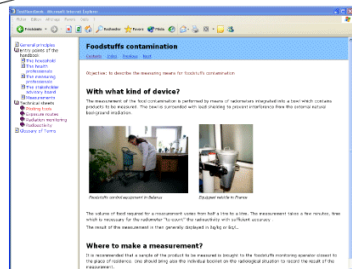
Fig. 1 Principle scheme of the internal contamination and foodstuffs analysis computer programme

The main result expected from these tools is to favour the dialogue between concerned stakeholders and especially the general population, and to feed this dialogue with quantitative information that may contribute (partly and not as a unique criterion) to the identification of individual improvement actions but also to the delineation of local and national improvement strategies.

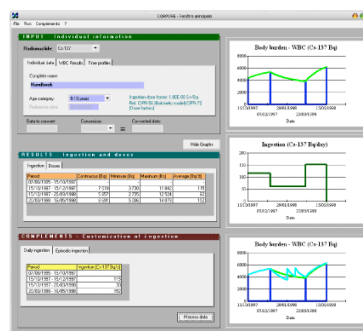
Loose-leaf modular handbook



Electronic "interactive" version



Associated computer program for internal contamination and foodstuffs analysis



4.2.5. Running of Western stakeholders panel (WP5)

A first structure for the final WP5 report (Deliverable N° 4) has been proposed during the fourth co-ordination meeting. CEPN and GSF will provide NRPB with interim reports dealing with the following items/questions to be addressed:

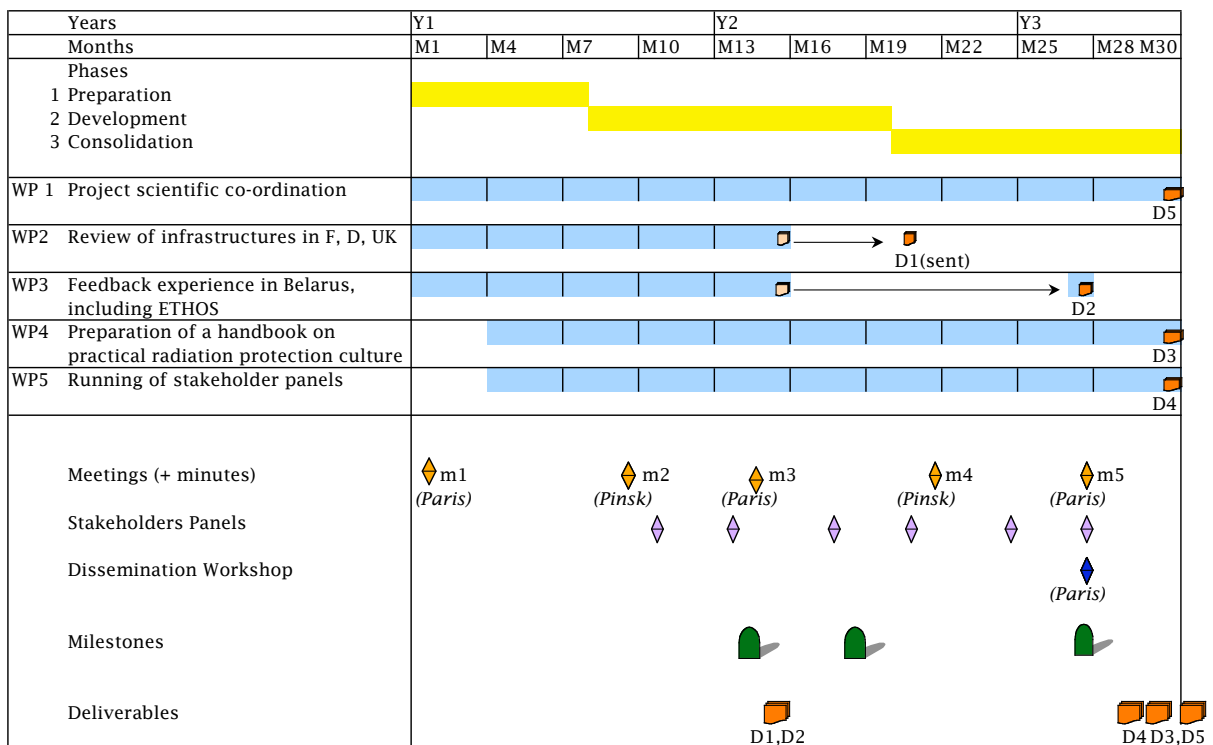
- Why stakeholders engagement is important?
- Which stakeholders participated to SAGE and why?
- What has been the method of consultation?
 (description of the process/dynamics of involvement)

- What is the initial feedback on the handbook?
 (stakeholders commitment / selected extracts of discussions)
- What is its final feedback from the stakeholders point of view?
 (assessment through a specific questionnaire: see in Annex 1 and the questionnaire in annex 3 of the third Meeting Minutes)
- How can a future collaboration between European countries be envisaged to implement/adapt SAGE recommendations?

4.3. Comparison of planned activities and actual work accomplished by the partners

4.3.1. SAGE “Gantt Chart”

Based on the changes mentioned here above (see § 4.1.3), the Gantt chart is modified as follows:



Note: the timing of stakeholder panel meetings varies according to partners' countries.

SAGE Man Power and Progress Follow-up Table (2nd year)

Work Packages (n°/title)	Partner (Name, abbrev.)	Man-Months										Technical Progress			Comments on major deviations
		Planned efforts at start of period (MM)				Actual Effort (MM)		Forecast Effort (MM)		Deviation (MM)		Planned (%)	Assessed (%)	Deviation (%)	
		Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total	Totals	Y1+Y2	Y1+Y2	Y2		
		a	b	c	d	a1	a2	c1	d1	d1-d					
WP1 Project Scientific Co-Ordination	CEPN	1,60	1,10	0,80	3,50	2,60	1,00	0,80	4,40	0,90	77%	82%	-5%		
	GSF	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.		
	NRPB	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.		
	BBRIR	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.		
	BELRAD	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.		
	TOTAL WP1	1,60	1,10	0,80	3,50	2,60	1,00	0,80	4,40	0,90	77%	82%	-5%		
WP2 Review of Infrastructure in France, Germany and the UK	CEPN	0,75	0,25	0,00	1,00	1,25	0,50	0,00	1,75	0,75	100%	100%	0%		
	GSF	3,25	0,75	0,00	4,00	4,75	4,00	0,00	8,75	4,75	100%	100%	0%		
	NRPB	0,75	0,25	0,00	1,00	0,75	0,05	0,00	0,80	-0,20	100%	100%	0%		
	BBRIR	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.		
	BELRAD	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.		
	TOTAL WP2	4,75	1,25	0,00	6,00	6,75	4,55	0,00	11,30	5,30	100%	100%	0%		
WP3 Feedback Experience in Belarus including ETHOS	CEPN	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	WP3 report must be reviewed by his main author (from BELRAD), who is unavailable for health reason till the end of 2004	
	GSF	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.		
	NRPB	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.		
	BBRIR	12,00	3,00	0,00	15,00	22,00	4,00	1,00	27,00	12,00	100%	96%	4%		
	BELRAD	9,50	0,50	0,00	10,00	13,50	2,00	2,00	17,50	7,50	100%	89%	11%		
	TOTAL WP3	21,50	3,50	0,00	25,00	35,50	6,00	3,00	44,50	19,50	100%	93%	7%		
WP4 Preparation of a handbook on practical RP culture in case of a nuclear accident	CEPN	2,00	2,50	1,50	6,00	6,50	4,50	2,00	13,00	7,00	75%	85%	-10%		
	GSF	0,00	2,50	1,50	4,00	-	4,00	1,50	5,50	1,50	n.a.	n.a.	n.a.		
	NRPB	0,00	1,00	1,00	2,00	-	0,90	1,00	1,90	-0,10	n.a.	n.a.	n.a.		
	BBRIR	21,00	20,00	10,00	51,00	38,00	7,00	10,00	55,00	4,00	80%	82%	-1%		
	BELRAD	13,00	16,50	2,50	32,00	18,00	4,00	2,50	24,50	-7,50	92%	90%	2%		
	TOTAL WP4	36,00	42,50	16,50	95,00	62,50	20,40	17,00	99,90	4,90	83%	83%	0%		
WP5 Running of Western stakeholder panels	CEPN	1,25	1,75	0,50	3,50	1,25	0,70	0,50	2,45	-1,05	86%	80%	6%	4 Stakeholder panels will be organised end of 2004.	
	GSF	1,25	1,75	0,50	3,50	1,25	3,50	0,50	5,25	1,75	86%	90%	-5%		
	NRPB	0,25	2,75	2,00	5,00	1,25	1,40	3,00	5,65	0,65	60%	47%	13%		
	BBRIR	0,00	0,00	0,00	0,00	-	-	-	-	-	n.a.	n.a.	n.a.		
	BELRAD	0,00	0,00	0,00	0,00	-	-	-	-	-	n.a.	n.a.	n.a.		
	TOTAL WP5	2,75	6,25	3,00	12,00	3,75	5,60	4,00	13,35	1,35	75%	70%	5%		
TOTALS SAGE: FIKR-CT2002-00205	CEPN	5,60	5,60	2,80	14,00	11,60	6,70	3,30	21,60	7,60	80%	85%	-5%		
	GSF	4,50	5,00	2,00	11,50	6,00	11,50	2,00	19,50	8,00	83%	90%	-7%		
	NRPB	1,00	4,00	3,00	8,00	2,00	2,35	4,00	8,35	0,35	63%	52%	10%		
	BBRIR	33,00	23,00	10,00	66,00	60,00	11,00	11,00	82,00	16,00	85%	87%	-2%		
	BELRAD	22,50	17,00	2,50	42,00	31,50	6,00	4,50	42,00	0,00	94%	89%	5%		
	TOTAL	66,60	54,60	20,30	141,50	111,10	37,55	24,80	173,45	31,95	86%	86%	0%		

4.4. Planned activities for the next period

4.4.1. Project scientific coordination (WP1)

The last coordination meeting will be organised on 16 March 2005, the day after the final workshop (in Paris).

The scientific coordinator will seek sponsorship as well as prepare the organisation of the final workshop which will be held on 14-15 March 2005 at the Conservatoire National des Arts et Métiers (Paris, France).

4.4.2. Review of infrastructures in France, Germany and the United Kingdom (WP2)

A synthesis paper presenting the "*Strengths and weaknesses of the national organisations in a long-term post-accidental situation*" will be prepared by Mrs. G.Voigt and I.Fiedler and a PowerPoint presentation will be prepared for the the final SAGE workshop in March 2005.

4.4.3. Feedback experience in Belarus (WP3)

The report (deliverable no 2) will be issued as soon as possible (it is now expected at the end of 2004).

A complementary paper presenting what is "*The Chernobyl radiation monitoring system in Belarus today*" will be prepared and presented at the final SAGE workshop. BELRAD will take this in charge when Alexei Nesterenko will return from convalescence.

4.4.4. Preparation of a handbook on practical RP culture in case of a nuclear accident (WP4)

The last draft version of the handbook now entitled "*Strategies and Guidance for those living in a long-term contaminated territory: Handbook on practical radiation protection culture*" will be prepared at the beginning of year 2005 and key elements taken from the final version will be also presented at the workshop. The handbook will be available on the web just after the last co-ordination meeting (31 March 2005).

4.4.5. Running of Western stakeholders panel (WP5)

Three stakeholders panels are still scheduled during the last period:

- the third and last German stakeholders panel in October 2004,
- the third and last English stakeholders panel in October 2004,
- the fifth and last French stakeholders panel in December 2004.

The final report of WP5 will be issued in March 2005 (see § 4.2.5).

5. LIST OF DELIVERABLES

Deliverable no1: “Review of Infrastructures in France, Germany, and the United Kingdom”.

(Authors: I. Fiedler, G. Voigt)

- Edited by GSF on 14 April 2004 (M19).
- Sent by CEPN to the EC on 15 June 2004 (M21).

Deliverable no 2: “Belarussian experience in the field of radiation monitoring and radiological protection after the Chernobyl accident”.

(Authors: V. Nesterenko, A. Nesterenko, A. Sudas)

- As mentioned here above (§ 4.1.3.), the issuing of the final report has been postponed to the end of 2004 (M27).

Deliverable no 3: ”Strategies and Guidance for those living in a long-term contaminated territory: Handbook on practical radiation protection culture”

(Authors: SAGE partners, with the contribution of French, English, German, and Belarussian stakeholders)

- Final version scheduled at M30 (end of March 2005).

Deliverable no 4: Feedback on Stakeholders panels

- Final version scheduled at M30.

Deliverable no 5: Proceedings of the workshop

- Final version scheduled at M30.

6. DISSEMINATION AND USE OF THE RESULTS

As already mentioned, a web site (<http://www.ec-sage.net/>) dedicated to the SAGE project was issued since March 2003. It presents the background, the objectives of the project, as well as partners, work packages, milestones and the project progress. A specific section available only to partners presents all the working documents of the teams (draft reports, slide presentations, stakeholders panels meeting minutes...).

An oral presentation of the SAGE project was made during the International Radiation Protection Association 11th International (IRPA Conference) by Mr. S. Lepicard (CEPN): « Strategies and Guidance for a Practical Radiation Protection : the SAGE project ».

Another oral presentation of SAGE was made during a symposium on « Off-Site Nuclear Emergency Management: Impact of the European Commission's Research Programme » (held in Rhodos, Greece, 21-24 September 2004) by Mr. S. Lepicard (CEPN).

A poster has been submitted and accepted to be presented at the EUROSAFE 2004 forum « Towards Convergence of Technical Nuclear Safety Practices in Europe » (Berlin, 8-9 November 2004).

Most of European Radiation Protection authorities will be invited to attend the final workshop which has to be considered as the starting-point for disseminating the results of the SAGE project through Europe.