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Annex to the

REPORT FROM THE COMMISSION

**Fourth Progress Report
on the implementation of the Chernobyl Shelter Fund
September 2007**

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1. INTRODUCTION

The Chernobyl Nuclear Power Plant (ChNPP) is situated 110 Km north of Kiev, its construction began in the 1970s. By 1983 four units were in operation producing about 10 percent of Ukraine's electricity. At the time of the accident two additional units were under construction. The nearby city of Chernobyl had a population of 12,500.

Following the accident of 26 April 1986 some 200,000 people were evacuated from the vicinity of Chernobyl and a Shelter (sometimes referred to as 'sarcophagus') enclosing the remains of ChNPP Unit 4 was constructed under exceedingly hazardous conditions. Units 1, 2 and 3 (adjacent to Unit 4) were put back into operation, raising the fear of another accident.

The G7 countries and the European Commission (EC) took the lead in providing assistance to mitigate the consequences of the accident. The Memorandum of Understanding between the G7 the EC and Ukraine on the closure of Chernobyl¹ by the year 2000 reflects the commitment, the Commission has played a major role in its implementation through the Tacis programme. The G7 (now G8) and the Commission have reaffirmed the intention to continue their support at several summits.

The Shelter was not intended to be a permanent solution and, in fact, it became increasingly unstable, it deteriorated allowing the ingress of rainwater. There was a risk of collapse due to seismic disturbance, extreme weather or further deterioration of the structure. The possibility of contamination of the surrounding zone will persist until the highly radioactive material contained under the Shelter is adequately isolated from the environment.

In May 1997 a group of international experts from the EU, USA, Japan and Ukraine finalized a multidisciplinary construction management programme designated as the Shelter Implementation Plan (SIP). The SIP foresaw to carry out remedial work on the Shelter directed towards making it physically stable and environmentally safe. In the same year, the G7 and the Commission and other donors requested the European Bank for Reconstruction and Development (EBRD) to set up the Chernobyl Shelter Fund (CSF) to finance the SIP.

In 2007, ten years after the agreement on the SIP between the G7 and the EC and Ukraine and its inception, most of its tasks have been completed. The required site infrastructure and facilities have been built and the stabilization of the shelter has been finished. This makes possible the start of the construction of the New Safe Confinement (NSC) which represents the last major construction project at the site.

Important delays have occurred in the implementation of the SIP, which will impact the date of commissioning of the NSC and the overall cost. The delays were mostly caused by the lack of a stable institutional environment (frequent changes in the political leadership and upper management caused disruptions), the time required for

¹ Memorandum of Understanding Between the Governments of the G7 Countries and the Commission of the European Communities and the Government of Ukraine on the Closure of the Chernobyl Nuclear Power Plant, done in Ottawa on 20 December 1995.

the regulatory reviews and technical decisions (which had not been included in the original schedule) and the requirements to create a legal and regulatory framework to address the unique situation caused by the accident and the needs of the SIP.

The initial indicative cost of the SIP (calculated in 1997) amounted to approximately USD 758 million (USD 768 million including the licensing support) and a construction time of seven years (1998-2005). A first pledging conference was held in New York in November 1997 to raise the required funds. Twenty five countries pledged some USD 400 million including Ukraine's USD 50 million in-kind contribution. This sum was sufficient to undertake work on the first tasks of the SIP. The project started effectively in April 1998 with the setting up of the Project Management Unit (PMU).

Council Decision 98/381/EC of 5 June 1998 concerning the Community contribution to the European Bank for Reconstruction and Development for the Chernobyl Shelter Fund² provided the legal basis for a Community contribution to the CSF of a USD 100 million pledge made at the 1997 G7 summit in Denver. This was paid over the years 1999/2000 from the TACIS financial envelope.

A second pledging conference was held in July 2000 in Berlin. Some USD 320 million were pledged by 22 countries bringing the total amount pledged in the two conferences close to the estimated cost of USD 768 million (see Annex 1). The Community pledged a second contribution of €100 million which was approved by Council decision 2001/824/EC³.

In 2003 the PMU presented a revised schedule and a first cost estimate, based on the actual cost of completed projects and contract values for ongoing projects, amounting to some USD 1,091 million. The EBRD, as manager of the Fund, warned that a replenishment was needed if the new schedule was to be maintained. The latest estimate served as a basis for additional pledges by the donors in London in May 2005. Taking into account the historical burden sharing, the Commission pledged an additional €9.1 million, bringing the Commission's total contribution so far to the Fund to some €240 million. However, due to delays, escalation and increases in the prices of labour and materials, a further significant increase relative to the first cost estimate was subsequently announced to the Assembly of Contributors, as discussed below (see §5.2).

According to Art. 3 of Council Decision 98/381/EC and Art 4 of Council Decision 2006/908/EC concerning the Community's contributions to the EBRD for the Chernobyl Shelter Fund, the Commission must submit progress reports on its implementation to the European Parliament and the Council. Such reports were submitted in October 1999⁴, September 2001⁵ and December 2003⁶. The present report updates the previous ones, based mainly on the progress communicated to the Assembly of Contributors and other information provided by the EBRD.

² OJ L 171, 17.6.1998, p. 31

³ OJ L 308, 27.11.2001, p. 25

⁴ COM(1999)470 of 12.10.1999

⁵ COM(2001)251 of 29.05.2001

⁶ COM(2004)481 of 14.05.2004

2. ORGANIZATIONAL ASPECTS

The CSF, which was established to implement the SIP, is administered by the EBRD on behalf of the Contributors and Donors according to the “Rules of the Chernobyl Shelter Fund”. The EBRD has concluded a Framework Agreement with the government of Ukraine in November 1997 which paved the way for individual grant agreements to be concluded between the Bank and the Recipients. The Bank has developed a Model Agreement and associated Standard Terms and Conditions which are used for all grants from the Fund. Commitments and disbursements of funds from the Fund money occurs on the basis of these grant agreements and the contracts concluded.

The Assembly of Contributors (the Assembly), which meets up to three to four times per year, governs the CSF. The contributors, including the European Commission and Ukraine are listed in Annex 3, the Russia Federation joined in 2005. The Assembly authorizes the grant agreements financed from the resources of the Fund, supervises their implementation by the Bank, reviews the effectiveness of the activities financed and approves the annual budget and financial statements of the Fund. Its first meeting took place on 12 December 1997 and the latest one on 17 July 2007 in London. Dr. Hans Blix has been the Chairman of the Assembly since the beginning.

An International Advisory Group (IAG), comprising 12 experts, was appointed in 1998 under the chairmanship of Dr Carlo Mancini. The IAG provides the highest level of independent technical advice to the CSF Contributors and the EBRD to assist in the oversight of SIP.

The Ukrainian State Special Enterprise for Chernobyl Nuclear Power Plant (SSE ChNPP) was tasked with the decommissioning of the Plant supported by Ukrainian budgetary subventions and international grants. According to a Presidential Decree the SSE ChNPP is currently subordinated to the Ministry of Ukraine of Emergencies and Affairs of Population Protection from the Consequences of the Chernobyl Catastrophe. In August 2005 Mr. Igor Gramotkin was appointed as the ChNPP Director.

The Project Management Unit (PMU)

The Project Management Unit (PMU) was established in April 1998, in accordance with the terms of the Framework Agreement, to independently co-ordinate, manage, monitor and evaluate all aspects of the project implementation at all times during the execution of the project. The PMU is charged with the day to day management of the SIP in order to achieve its implementation in accordance with a predetermined time schedule, budget and quality standards. The PMU is totally accountable for the overall management of the project including strategic control, on-site management and quality assurance (QA). The good functioning of the PMU is essential for the timely implementation of the SIP within the allocated budget.

According to the terms of Grant Agreement No. 6 (PMU contract extension), Energoatom (later SSE ChNPP) employed the services of an international management consulting organization (the “PMU Consultant”) to assist in the implementation of the project. The PMU Consultant was contracted to carry out the

integration and co-ordination of all aspects of the project including project control, administration, finance, engineering, database management, environmental and health and safety issues. Its functions include, *inter alia*, strategic management of the SIP, comprising technical regulatory, financial and programmatic aspects; establishment and management of engineering, procurement and construction contracts; implementation of structural stabilization measures; definition of safe confinement concept design and achievement of necessary regulatory approval, etc.

The PMU was initially staffed jointly by the ChNPP and the Western PMU Consultant (a consortium of Bechtel National Inc (BNI) (leader), Battelle Memorial Institute (BMI) and Electricité de France (EDF) set up under Grant Agreement 1), it was led by Ukrainian and PMU Consultant co-directors. Difficulties in the operation of the PMU led to a first audit conducted by Empresarios Agrupados in 2002 which recommended the strengthened ownership of the SIP by Ukraine and a clear hierarchical chain of responsibility under a single Western PMU director.

Discussions on management issues resumed after important changes in the government and ChNPP positions. A new management audit was carried out by Empresarios Agrupados which concluded, in August 2005, that significant improvements had been made since its earlier findings in 2002, the report made number of recommendations specifically for the construction phase. However, as the Ministry of Emergencies took over the responsibility for the ChNPP in 2005 key management personnel and the organization structure were changed.

The tendering process for the NSC highlighted tensions between the ChNPP and the PMU director and possible problems with the management of the SIP. This has caused delays in the project with associated extra-costs. In 2006 the Assembly recommended the Bank to initiate an update of the management audit of 2005 as a basis for improvements and possible amendments to the Client/Consultant services Agreement. This audit was completed in April 2007 and the key conclusions/recommendations were i) the delegation of authority to the PMU and its current management and decision making process should be maintained; ii) the need to gradually transfer further responsibilities to Ukrainian staff which required the provision of competent personnel. The audit found that co-operation between the PMU Project Managers and the ChNPP was good which is very important for the final construction phase of the SIP.

The need for increasing the number qualified Ukrainian staff, to gradually replace expatriates, has been a major preoccupation of all parties concerned. This is important to reduce costs, strengthen the ownership of the project by Ukraine and to form a core of experienced staff for the operation the SIP facilities in future. Progress has been made in this respect (more than 50% of PMU management positions are already occupied by Ukrainian staff) but the recommendation is yet to fully materialize.

It is expected that reinforcement of the PMU with qualified ChNPP experts, of a calibre sufficient to continue replacing the dependency on the Western PMU staff will, in the medium-term, ensure sustainability of management after the CSF-financed work comes to an end with the commissioning of the NSC.

3. POLITICAL AND INSTITUTIONAL ISSUES

It has often been mentioned that a stable institutional environment and competent management are essential for the orderly and timely implementation of the SIP. However, given the political visibility of the projects, the sums involved and differing agendas, difficulties were inevitable. Furthermore, the unique aspects of the SIP required a special licensing process and legislation to be put in place.

The need for ownership at the senior level of the Ukrainian administration was recognized at a very early stage. Practical measures were taken in this respect, Ukraine took full membership of the Assembly and the Joint Ukraine-EBRD Committee was included in the Rules of the CSF. The Framework Agreement between the EBRD and Ukraine concluded in 1997 and ratified by the Ukrainian Parliament in 1998, created the legal basis for the operation of the CSF in Ukraine. These arrangements established a solid basis, but frequent changes of government and senior administration levels made it impossible to maintain the continuity of leadership, the institutional memory and the required stability.

Attempts like the one by the Ukrainian Chamber of Accounting to make the CSF part of the Ukrainian national budget, which was pursued until late 2004, although clearly contrary to the rules of the Fund, caused distraction and unnecessary drawing of EBRD management and contributors efforts.

One particular factor which caused serious concern was the transfer of the administrative responsibility for the ChNPP from the Ministry of Fuel and Energy to the Ministry of Emergencies in 2005. Although this was an internal Ukrainian matter, it resulted in experience and institutional memory being lost in the process, which inevitably caused disruption.

In 2006 the tendering process for the NSC created controversy. The review of complaints and extensive discussions prior to awarding the contract, particularly with the Ukrainian side, caused over one year delay, which led to a considerable cost increase due to escalation and management costs. The donors took a firm stance in that the CSF Rules should be strictly adhered to and that there could be no deviation from the conclusions of the tendering process once it was established that there were no irregularities.

Practical issues affecting the implementation of projects, like unescorted work of foreign experts at nuclear sites have slowly been resolved. A 'green corridor' procedure has been agreed in principle between the authorities in Ukraine and Belarus, which will allow simplification of the administrative procedures for the transit of personnel and equipment between Slavutych and the Chernobyl site through Belarus

The licensing approach for the SIP is also recognized as essential for the orderly implementation of the projects. In 2003 the Cabinet of Ministers approved a decree on the SIP regulatory reviews and approvals: the "SIP Implementation Order". This was followed in mid 2004 by a further decree simplifying the certification procedure for equipment procured under the CSF.

A strong, independent and competent nuclear regulator is important to ensure the safety of the public and workers and that the implementation of the projects is not

unduly delayed. The donors and the Commission in particular have played an important role in helping to strengthen the State Nuclear Regulatory Committee of Ukraine (SNRCU). The SNRCU chairs also the regulatory coordination group comprising all regulatory agencies involved in the Chernobyl projects. Consultant expertise on the preparation of regulatory decisions continued to be provided to the SNRCU. The experience in working with the regulator has been positive so far and no major problems are anticipated in future.

The institutional environment has been one of the main causes of the delays in the Chernobyl projects. It is expected that with the experienced gained over the years and most of the important decisions concerning the SIP having now been taken, the running of the projects will be smoother in future. However the NSC project, representing about half of the cost of the SIP, is yet to start. Any delays, particularly during the construction phase, would be highly costly, therefore all parties need to remain attentive so that the impact of any problems that may arise be immediately dealt with and minimized.

4. STATUS OF IMPLEMENTATION OF THE SIP

The purpose of the SIP is to bring the existing Shelter to an environmentally safe condition and to remove the potential problems of collapse and continued water ingress. To achieve its objective the SIP addresses five major goals in parallel:

1. Reduce the potential for collapse of the Shelter;
2. Reduce the consequences of a Shelter collapse, should one occur;
3. Improve the nuclear safety of the Shelter;
4. Improve worker industrial safety and environmental protection at the Shelter;
5. Conversion to an environmentally safe site.

The work implementation, the phases, the programme milestones and the tasks were described in detail in the previous report.

4.1. Grant agreements

The financial commitments of the CSF are determined by grant agreements concluded between the Bank and the Ukrainian recipients. The recipient can place contracts according to agreed allocation schemes in accordance with EBRD's Procurement Policies and Rules. The Bank monitors compliance and disburses funds directly to contractors; the Bank's Nuclear Safety Department and the Recipient's PMU provide an additional layer of control. So far, the EBRD has concluded 8 grant agreements as follows.

Grant Agreement No 1 between the EBRD and the Chernobyl Nuclear Power Plant was concluded on 17 March 1998. It covered the establishment by the recipient of a Project Management Unit (PMU) for the first phase of the SIP.

Grant Agreement No 2 between the Bank and the State Nuclear Regulatory Administration of the Ministry of Environmental Protection and Nuclear Safety of

Ukraine (which was replaced by the SNRCU) was concluded on 11 May 1998. It includes the appointment of a Licensing Consultant to the Nuclear Regulatory Administration (later SNRCU) and funding for the State Scientific and Technical Centre for Nuclear and Radiation Safety (SSTC NRS) - the Ukrainian technical support organization.

Grant Agreement No 3, dated 11 May 1998, was concluded between the Bank and the Nuclear Energy Generating Company Energoatom for the Early Biddable Projects (EBP). These projects formed the major part of Phase I of the SIP and are now complete.

Grant Agreement No 4 of 6 November 1998 was concluded with Energoatom and provided for the for non-nuclear liability insurance.

Grant Agreement No 5 was signed on 20 July 1999 with Energoatom for the procurement of goods, works or services, determined as a result of the preparatory studies executed by the Early Biddable Projects. The work has been concluded and the balance of funds was reallocated according to a request by the EBRD.

Grant Agreement No 6 was signed on 10 April 2000 with Energoatom for extension of the PMU activities into phase II of the project. The initial financial provision was for a nominal period of two years from the date of signature of the new PMU Consultant contract to provide services necessary to finish any remaining phase I activities, initiate physical works necessary for the stabilization of the shelter, provide engineering systems and achieve a safe confinement strategy decision (programmatic milestone P10). The initial contract concerning the PMU activities was subsequently extended.

Grant Agreement No 7 was approved by the Assembly of Contributors on 3 April 2003 and signed with the Chernobyl Nuclear Power Plant on 9 July 2003. It provided for stabilization measures, which were selected at Programmatic Milestone P2.

Grant Agreement No 8 was approved by the Assembly of Contributors on 17 July 2007 and concluded with the Chernobyl Nuclear Power Plant on 8 August 2007, it covers the design and construction of the New Safe Confinement.

The amounts allocated to Grant Agreements (€457 million as of 30 June 2007) are typically based on cost estimates for the corresponding projects and contain provisions for contingencies. As projects develop the cost may exceed allocation or on the contrary contingencies are not used and are reallocated to the Fund as other unused funds. At times the project scope may be reduced leading to a reduction of the grant allocation with funds being made available for other projects.

As of July 2007 138 contracts, amounting to €56 million, had been concluded within the seven initial grant agreements, 86 of these had been completed. Details on current situation with contract and disbursement values are shown in Annex 5.

The Assembly of 17 July 2007 approved the allocation of €330 million to Grant Agreement No. 8 and authorized the Bank to allocate new contributions to this Grant Agreement until an amount of €490 million is reached.

4.2. Stabilization and other projects

The Shelter, which isolated the high level radiation sources and buried the remnants of the destroyed reactor of Unit 4, was completed by the end of November 1986. Some of its structural elements were distorted and presented cracks indicating a potential risk of collapse. In order to reduce this risk, a contract was concluded in July 2004 with a Ukrainian-Russian consortium (led by Atomstroyexport of Russia) to implement stabilization measures. These will reduce the risk of collapse over the next 10 to 15 years by which time the Shelter will be enclosed in the NSC (see 4.3) and the deconstruction of the most unstable parts will take place.

The work on stabilization started in November 2004 and was completed on schedule and within the budget by the beginning of 2007. This was a significant success given the difficult conditions inside the Shelter (accessibility, debris, high levels of radiation and unpredictability of further developments). Minimizing the radiation exposure of personnel was paramount; this was achieved by careful planning, training, shielding and assembly of structural members in a clean area of the construction site.

Significant progress has also been achieved on the infrastructure projects. Progress and current technical status were summarized by the EBRD (see Annex 6) in accordance with the above five goals and the 22 individual tasks (see Annex 7).

4.3. The New Safe Confinement (NSC)

The New Safe Confinement (NSC) is the designation of the arch-shaped structure which will be assembled in a safe area near Unit 4 and then slid across the old shelter. It is intended to isolate radioactive material from the environment for up to 100 years. It will also contain equipment and facilities to, when appropriate, dismantle the existing shelter and remove Fuel Containing Material (FCM).

The Safe Confinement Strategy (P10 Programmatic Decision) followed a comprehensive review under an EBP review of the potential options identified in the SIP studies and a subsequent analysis by a PMU Consortium experts working in close cooperation with the IAG and a Ukrainian expert working group. In November 2000 they reached the conclusion that the lightweight arch concept would be structurally efficient and the most versatile option to cope with the many uncertainties associated with any FCM removal and dismantling of the existing shelter. This design would also reduce the radiation exposure of the workers, as the construction would take place some distance away from unit 4. The Terms of Reference for the concept design were approved in November 2001.

The tendering for the NSC took much longer than anticipated. The design team completed the tender package for detailed design and construction by June 2003, however agreement on the final tender took until March 2004, when the invitations for technical proposals were launched. Three proposals were received in November 2004. Following an exceptionally thorough clarification of the technical and regulatory requirements, due to the impact on schedule and price, two consortia (Novarka and CH2M Hill) were invited to submit commercial proposals. These were received in September 2005 but, as they were found to be not responsive, they were

resubmitted in November 2005. The review and evaluation were completed by February 2006.

The subsequent evaluation process for the NSC proved to be rather lengthy, due to a procurement complaint and the questioning of the results by some Ukrainian officials, which required a further review in accordance with the Rules of the Chernobyl Shelter Fund and the EBRD Procurement Policies and Rules. Following a request made at the Assembly the pre-award contract discussions with Novarka were observed by Assembly representatives as well as Ukrainian observers and a monitor nominated by the Bank.

All outstanding issues were resolved to the satisfaction of the parties concerned and the independent observers confirmed that the pre-award contract negotiations had been duly carried out. At the Assembly of 17 July 2007 the donors authorized the Bank to give its non-objection to Grant Agreement No. 8 for the NSC and approved an initial allocation of funds. The Bank and the Ukrainian authorities signed the Grant Agreement at the beginning of August. The letter of award to Novarka was transmitted by the ChNPP on August 9 and the actual contract was signed on 24 August 2007. The current schedule foresees the completion of the NSC by December 2011.

4.4. Health, safety and environment

An Environmental Action Plan, established in 1998 according to EBRD standard policy, is regularly updated and periodically audited by the Bank's Environmental Department and its independent consultants

It is important to note that biomedical and screening programmes were put in place in 2004 and that more than three thousand people were checked. With some 86 contracts completed there have been no radiological or industrial accidents with major consequences.

4.5. Radioactive waste management

It was mentioned in the previous report that the SIP will require facilities to handle and store large quantities of radioactive waste. It had been assumed that waste management facilities, not included in the SIP itself, would be available, but a comprehensive waste management strategy is still to be implemented.

Continued attention is required by Ukrainian authorities to the waste management problems and to the co-ordination of the international projects dealing with radioactive waste so that the SIP will not be unduly delayed. Buffer facilities have been identified to solve the most urgent problems (including additional space for high level waste storage made available by the Tacis funded Industrial Complex for Solid Radioactive waste Management) so that, in the short term, waste storage will not impact the critical path for completion of the SIP.

5. REVISED SCHEDULE AND COST ESTIMATE

5.1. Schedule

The 22 primary tasks (see annex 7) were broken down into specific activities which were used to establish the preliminary schedule. On this basis the original project duration was estimated to take 8 to 9 years from the date of mobilization of contractors. However this schedule did not take into consideration the time required for regulatory approval and difficulties such as the institutional environment.

The implementation of the SIP started by the end of 1998 with the mobilization of the PMU as well as the contract awards for Licensing Consultant to the Ukrainian nuclear regulator and the Early Biddable Projects. Despite delays, neither the stabilization of the shelter nor the implementation of the SIP tasks affected the critical path of the SIP, this has always been dictated by the activities associated with the NSC.

By mid 2003 the PMU expected that the commissioning of the NSC could take place by the end of 2008, based on approval of both the concept design and detail design and construction of the NSC taking 5 years, but delays in the tendering process obliged the PMU to make successive revisions.

The key milestones of the NSC

Completed:

April 2001 Safe Confinement Strategy (P10 Programmatic Decision)

July 2001 Work on the terms of reference of the concept design begins

May-Oct 2002 Notice to Proceed/Contract award for concept design

June 2003 Concept design completed

December 2003 Concept design submitted for regulatory review

March 2004 Invitations for detailed design and construction proposal

July 2004 Approval of the concept design by the Cabinet of Ministers

November 2004 Stage 1 (technical) proposals received

September 2005 Commercial proposal from two bidding consortia

November 2005 Revised commercial proposals

February 2006 Evaluation completed

September 2006 EBRD's Procurement and Contracting Committee (PCC) review confirms evaluation

December 2006 to NSC pre-contract discussions

June 2007

August 2007 NSC contract award

Planned:

December 2008 Completion of detailed design for the NSC (16 months)

December 2011 Completion of the NSC (construction 3 years)

5.2. Cost estimate

The initial indicative cost of the SIP was put at USD 758 million in 1997 to which a lump sum of USD 10 million was added for support to the regulatory authorities, bringing the total to USD 768 million. This figure was presented as a preliminary cost estimate suitable to support international pledging of funds.

The EBRD and the PMU pointed out to the Assembly that the SIP was a concept paper providing only for the main elements of the projects. During implementation of the SIP the scope changed to take into account new needs or eliminate tasks which were not necessary. The SIP had assumed that most of the preparatory and infrastructure works would be available but, in fact, a number of these projects had to be added to the scope. The SIP did not allow time for the regulatory process which added also to the costs, neither did it include any costs associated with management of the fund. However, the largest sums which were added to the cost were the contingencies and escalation for the NSC which were not included in the 1997 indicative cost. Some of the main cost elements, notably steel, energy, concrete and Ukrainian labour have increased sharply since 1997 (far beyond the average rate of inflation).

In 2003 the PMU presented the first cost estimate based on actual cost of completed projects, contract values for ongoing projects and estimates for the projects not yet started (based on engineering and design work as far as available), as explained in the previous report. The overall cost estimate for the SIP at the time was USD 1,091,062,000, with the cost of the NSC remaining as the main uncertainty as the procurement was yet to start.

A revision of the cost estimate was presented to the donor's assembly in February 2006. It made adjustments to the previous estimate based on the progress and completion of subprojects and took into account the prices quoted by the two bidders for the NSC. This proved to be significantly higher than anticipated and the cost estimate for the SIP was raised to USD 1,204,103,000.

As the delays in the tendering process impacted the conclusion of the contract for the NSC, the cost will increase in line with the provisions of the tender. A sharp increase in the price of some commodities, in particular steel, cement and Ukrainian labour over the period from October 2005 to the summer of 2007, added about USD 80 million to the cost.

At the donor's assembly of 17 July 2007 the PMU presented its latest 'SIP cost Forecast' amounting to USD 1,390 million, an increase of USD 186 million relative to its previous estimate. The most significant changes which caused this increase

were: escalation due to delayed NSC award (USD 87.5 million), USD increase due to Euro-USD exchange rate (USD 51.3 million) and increase for NSC escalation during performance (USD 47.3 million).

The next important step in the assessment of the cost will be the completion of the detailed design of the NSC, which will provide precision on the quantities and cost of materials actually needed. This is expected to be available by the end of 2008 (some 16 months after contract award).

6. FINANCIAL OVERVIEW

6.1. Income and expenditure

At the end of June 2007 the Bank recorded total contributions of €739 million to the CSF, corresponding to the commitments made through Contribution Agreements, donations and in kind contributions. The Fund has accrued interest of €71 million, which brings the total to €810 million (see annex 4). In addition there are a number of pledges (mostly made at the May 2005 London fund-raising event) amounting to some €100 million, which are yet to be committed as Contribution Agreements and actual payments

Until 30 June 2007 €457 million had been allocated under the 7 grant agreements concluded until then. The total value of the contracts concluded under these grant agreements amount to €356 million, of which €308 million have been disbursed. Contract and disbursement values per grant agreement are shown in Annex 5.

The cumulative administrative costs for managing the fund by the EBRD amount to €5.6 million (until the first quarter of 2007). The EBRD as Fund Manager is compensated for the actual costs on the basis of annual administrative budgets approved by the Assembly. The costs include staff salaries, travel, office space, consultancy and organization of assemblies and IAG meetings, without any profit.

The amount of unallocated funds as of 30 June 2007 was some €300 million. This amount will rise to some €400 million provided that the outstanding pledges, yet to be formalized, will materialize.

6.2. New pledges

The SIP cost estimate which led to the USD 1,091 million figure was analysed in detail at the donors assembly in April 2004. It was made clear at the time that the uncommitted funds available under the CSF were not sufficient for the effectiveness of the future grant agreement for the New Safe Confinement. Given the time needed to raise further funds and, in order to avoid delaying the conclusion of the NSC contract once the tendering process had been completed, the donors started discussions with a view to further contributions based on the historical burden sharing.

Following agreement amongst the donors on the respective contributions, a pledging event took place at the EBRD in London on 12 May 2005. The donors pledged the equivalent of €81.496 million, including €9.1 million from the Commission, €22 million from Ukraine and, for the first time, €10 million from Russia (see annex 2).

The first instalment of the Commission's pledge (€14.4 million) has been paid into the CSF in accordance with a Council Decision of 4 December 2006⁷, a second instalment (€10 million) will be financed by the Instrument for Nuclear Safety Cooperation and paid in 2007. The remainder of the Commission's pledge will be paid over the period 2008-2011.

There are presently enough funds available within the CSF to permit the conclusion of the first phase of the contract for the NSC, but the existing funds, plus the outstanding pledges still to be converted into Contribution Agreements, will not be sufficient to cover the full cost of the contract. The Bank was requested to prepare a report, by the beginning of the fourth quarter 2007, indicating all funds needed for Chernobyl. This report will detail the funds required for the CSF as well as for the projects on spent fuel storage and waste, financed by EBRD's Nuclear Safety Account, to which the Community is also contributor. Details on when the commitments and disbursements are to be made should also be provided.

The members of the G8 plus the Commission, which represent the main contributors to the CSF, have reiterated their commitment to the completion of the SIP. In the report of the G8 Nuclear Safety and Security Group (NSSG) to the leaders for the July 2007 G8 Summit Meetings in St. Petersburg it is mentioned that:

"We remain resolute in our undertakings to Ukraine, both within the framework of EBRD programmes and under former G7 summit declarations and memoranda of understanding, that we have and will continue to support the work on a New Safe Confinement and necessary pre-decommissioning activities in respect of radioactive waste treatment and spent fuel based on fair burden sharing. ... We reassert our confidence in the EBRD to administer the funds that have been donated under both the Chernobyl Shelter Fund and the Nuclear Safety Account. ..."

More recently, in the declaration of the G8 Heiligendamm Summit in June 2007, it is stated that:

"...In recognition of the Chernobyl accident in 1986 we reaffirm our commitments – under former G7/G8 Summit declarations and memoranda of understanding and through Chernobyl Shelter Fund (CSF) and Nuclear Safety Account (NSA) programmes – to undertake joint efforts with Ukraine to convert the damaged reactor unit site into safe conditions."

7. FOLLOW UP AND SUPPORT BY THE EUROPEAN COMMISSION

As the main contributor to the CSF, the Commission follows very closely the development of the issues affecting the Fund, specially those having schedule and financial implications. The Commission services are in regular contact with other main donors, in particular those in the EU, and the EBRD. The Commission has provided its political support whenever needed, for example in upholding the Rules of the Fund (which invoke the Bank's Procurement Rules) in the tendering for the NSC.

⁷ OJ L 346, 9.12.2006, p. 28

The Commission's support to the Chernobyl projects is not limited to the CSF. Tacis has played a major role in the implementation of the 1995 Memorandum of Understanding between the G7 and the EC and Ukraine on the closure of Chernobyl. The EC has so far committed some €470 million for Chernobyl and related projects, the majority of which from the Tacis budget. These projects studied, assessed and mitigated the consequences of the Chernobyl accident and provided assistance for the decommissioning of the plant's units 1, 2 and 3. A contribution was also made by the EC to the additional costs of replacement energy following the shut down of the last operating unit in 2000. Other projects addressed the social and regional consequences of the closure of Chernobyl and provided support for power sector reform in Ukraine.

The Commission supported the construction of the Industrial Complex for Solid Radwaste Management (ICSRM), which is nearing completion, and the projects under the EBRD's Nuclear Safety Account as mentioned above. It provided also support to Ukraine for the organization of the conference marking the 20th anniversary of the accident in 2006. On the social and health side it is currently supporting the CORE programme. It is also envisaged to support a project to improve the living conditions of the children in the area affected by the accident.

The latest cost increases, inevitable as they may be, give cause for concern. The Commission will remain committed to the Chernobyl cause and plans to make an additional effort, in accordance with the historical burden sharing, but it cannot be expected to continue contributing to cover all cost increases solely from the limited budget of the Instrument for Nuclear Safety, this would be to the detriment of other nuclear safety projects. The contribution of the Russian Federation, which recently became a donor to the Fund, and the additional contribution of Ukraine helped to reduce the deficit, however it is expected that Ukraine will take increasing ownership of the projects and contribute a larger share of the financial burden.

8. CONCLUSIONS

Significant progress has been achieved on the projects under the Shelter Implementation Plan (SIP), notably on the infrastructure and stabilization of the existing shelter, which was completed on schedule and within budget.

The SIP management and environmental audits carried out in 2007 confirmed the adequacy of existing management, industrial and health and safety arrangements. However the management audit pointed again to the need to increase the number of qualified Ukrainian staff in the Project Management Unit (PMU), to replace dependency on Western PMU staff and ensure long term stability of management after commissioning of the NSC.

The schedule for completion of the SIP is currently end 2011. The critical path is determined by the New Safe Confinement (NSC) contract milestones. It is expected that the thorough analysis and preparation work will reduce the risk of costly delays during the construction phase. Good management and cooperation of all parties, in particular of the Ukrainian government and the regulators, will be essential for the successful completion of the project.

The total cost of the SIP, taking into account the cost of projects already completed or ongoing and the current cost of NSC plus escalation, has been put at USD 1,390 million.

Taking into account the pledges made in 2005 in London, there are currently enough funds available in the CSF to conclude the contract for the NSC and start the work. However, according to the latest estimates, the existing funds are not sufficient to complete the project. Additional funds will be required to complete the Chernobyl projects financed by the CFS as well as the Nuclear Safety Account.

The SIP has been under-funded from the start and will have to continue relying on the solidarity of the international community, this is becoming increasingly difficult due to competing priorities.

It is expected that Ukraine takes a more prominent role in management and financing during the major construction phase at the Chernobyl site leading to a sustainable Ukrainian management of the facilities once the NSC is commissioned.

ACRONYMS

ChNPP	Chernobyl Nuclear Power Plant
CSF	Chernobyl Shelter Fund
EBRD	European Bank for Reconstruction and Development [the Bank]
EBP	Early Biddable Projects
FCM	Fuel Containing Material
IAG	International Advisory Group
ICSRM	Industrial Complex for Solid Radwaste Management
NAEK Energoatom	Nuclear Energy Generating Company Energoatom
NSC	New Safe Confinement
PMU	Project Management Unit
SIP	Shelter Implementation Plan
SNRC[U]	State Nuclear Regulatory Committee [of Ukraine]
SSE ChNPP	[Ukrainian] State Special Enterprise for Chernobyl Nuclear Power Plant
TACIS	Technical Assistance to the Commonwealth of Independent States

ANNEX 1
PLEDGES TO THE CSF - NEW YORK (NOVEMBER 1997) AND BERLIN (JULY 2000)

Contributor	Contribution Before July 2000		Berlin 2000 Pledging Conference	
	Ccy	Contribution	Ccy	Contribution (1 €= 0.95)
Austria	€	2.500.000	€	2.500.000
Belgium	€	2.500.000	€	600.000
Canada	US \$	20.000.000	US \$	13.000.000
Denmark	€	2.500.000	€	2.500.000
EC	US \$	100.000.000	€	100.000.000
Finland	€	2.500.000	€	1.000.000
France	€	18.520.000	€	23.250.000
Germany	US \$	23.610.000	US \$	25.610.000
Greece	€	2.500.000	€	2.500.000
Iceland	US \$	10.000	US \$	15.000
Ireland	€	2.515.790	€	3.085.000
Italy	US \$	16.820.000	€	17.820.000
Kuwait	US \$	4.000.000	US \$	2.000.000
Luxemburg	€	2.500.000		0
Japan	US \$	22.500.000	US \$	22.500.000
Netherlands	NLG	6.000.000	€	3.000.000
Norway	US \$	5.000.000	NKR	20.000.000
Poland	€	2.500.000		additional bilateral pledge of €3.000.000 announced
Portugal	US \$	200.000	US \$	200.000
Slovak Rep.	€	2.000.000		0
Slovenia	-	-	US \$	300.000
Spain	US \$	3.000.000	US \$	2.000.000
Sweden	€	2.500.000	SEK	24.000.000
Switzerland	€	4.000.000	SFR	7.000.000
Ukraine	US \$	50.000.000		0
UK	US \$	16.820.000	US \$	18.320.000
USA	US \$	78.000.000	US \$	80.000.000
Subtotal	US \$	~ 395.000.000		~ 321.767.250
1€=0.95\$	EUR	~ 415.789.000		~ 338.702.368
Total	US \$			~ 716.767.250
	EUR			~ 754.491368

ANNEX 2

Pledges to the CSF, London May 2005

Country	USD (millions)	EURO (millions)	Other (millions)	EURO equivalent (millions) ¹
Austria		2,500		2,50
Canada	7,000			5,509
EU		49,100		49,100
Finland		1,000		1,000
France		10,700		10,700
Germany		12,400		12,400
Greece		1,000		1,000
Ireland		2,565		2,565
Italy		8,500		8,500
Japan	10,000			7,870
Netherlands		2,800		2,800
Russia	10,000			7,870
Sweden (SEK)			12,000	1,303
Switzerland		1,000		1,000
UK ² (GBP)			10,000	14,650
Ukraine ³	22,000			17,314
US	45,000			35,415
Total	94,000	91,565		181,496

Notes:

¹ The Euro million column is for information only as contributions will be recorded at historic exchange rates according to the Fund Rules. Exchange rates used are:

Exchange rate: USD to Euro on 12 May 2005 0.787

Exchange rate: GBP to Euro on 12 May 2005 1.465

Exchange rate: SEK to Euro on 12 May 2005 9.210

² The UK contribution has already been received and been exchanged at the date of receipt.

³ Ukraine has declared it will assume responsibility for the SIP task "deconstruction of unstable parts" which is valued at USD 22 million

ANNEX 3
CONTRIBUTION AGREEMENTS FOR THE CHERNOBYL SHELTER FUND AS AT 31
JUNE 2007

Contributors	Currency	Total contributions in currency	Exchange rate per CSF Rules	Total contributions EUR equiv.	Total Country contribution EUR equiv.
Austria	EUR	7,500,000	1.0000	7,500,000	7,500,000
Belgium	EUR	2,500,000	1.0000	2,500,000	
Belgium	BEF	24,000,000	40.3399	594,944	
Belgium	EUR	1,194,000	1.0000	1,194,000	4,288,944
Canada	USD	32,200,000	1.1105	28,995,948	
Canada (Note 1)	USD	800,000	1.1105	720,396	
Canada	CAD	8,000,000	1.5358	5,209,147	34,925,491
Denmark	EUR	2,500,000	1.0000	2,500,000	
Denmark	DKK	18,500,000	7.4962	2,467,917	4,967,917
EC	EUR	190,406,000	1.0000	190,406,000	
EC	EUR	14,400,000	1.0000	14,400,000	204,806,000
Finland	EUR	4,500,000	1.0000	4,500,000	4,500,000
France	EUR	41,770,000	1.0000	41,770,000	41,770,000
Germany	USD	23,610,000	1.1105	21,260,693	
Germany	EUR	26,825,000	1.0000	26,825,000	
Germany	EUR	12,400,000	1.0000	12,400,000	60,485,693
Greece	EUR	5,000,000	1.0000	5,000,000	5,000,000
Ireland (Note 6)	EUR	8,020,925	1.0000	8,020,925	8,020,925
Italy	USD	16,820,000	1.1105	15,146,330	
Italy	EUR	17,820,000	1.0000	17,820,000	32,966,330
Japan (Note 6)	USD	46,336,521	1.1105	41,725,818	41,725,818
Kuwait	USD	4,000,000	1.1105	3,601,981	
Kuwait	USD	2,000,000	1.1105	1,800,991	5,402,972
Luxembourg	EUR	2,500,000	1.0000	2,500,000	2,500,000
Netherlands	NLG	6,000,000	2.2162	2,707,337	
Netherlands	EUR	3,000,000	1.0000	3,000,000	5,707,337
Norway	USD	5,000,000	1.1105	4,502,476	
Norway	NOK	20,000,000	8.0848	2,473,778	6,976,254
Poland	EUR	1,598,290	1.0000	1,598,290	
Poland	USD	1,001,350	1.1105	901,710	2,500,000
Russian Federation	USD	10,000,000	1.1105	9,004,953	9,004,953
Spain	USD	3,031,433	1.1105	2,729,791	
Spain	EUR	2,000,000	1.0000	2,000,000	
Spain	EUR	350,000	1.0000	350,000	5,079,791
Sweden	EUR	2,500,000	1.0000	2,500,000	
Sweden	SEK	24,000,000	8.5935	2,792,809	
Sweden	SEK	12,000,000	8.5935	1,396,404	6,689,213
Switzerland	EUR	5,000,000	1.0000	5,000,000	
Switzerland	CHF	7,000,000	1.6260	4,305,043	9,305,043
Ukraine (Note 2)	USD	50,000,000	1.1105	45,024,764	45,024,764
UK (Note 3)	USD	16,820,000	1.1105	15,146,330	
UK (Note 3)	GBP	22,130,000	0.6828	32,410,662	47,556,992
USA	USD	142,282,000	1.1105	128,124,268	
USA (Note 4 & 7)	USD	11,800,000	1.1105	10,625,844	138,750,113

Total :				735,454,551	735,454,551
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Donors (Note 5)					
Iceland	USD	10,000		9,107	9,107
Israel	USD	250,000		280,710	280,710
Korea	USD	400,000		381,143	381,143
Portugal	USD	200,000		169,205	169,205
Slovak Rep.	EUR	2,000,000		2,000,000	2,000,000
Slovenia	USD	300,000		320,555	320,555
Total:				3,160,720	3,160,720
Grand Total:				738,615,271	738,615,271

Notes:

- (1) The 1997-2000 contribution includes USD 0.8 million of bilateral assistance for the SIP.
- (2) Consists of cash contribution and in-kind contribution. Yearly appropriations to be confirmed following reconciliation. In addition, at the May 2005 pledging event, Ukraine declared it will assume responsibility for the SIP task "deconstruction of unstable parts" which is valued at USD 22 million.
- (3) The first contribution was pledged in USD but received in GBP. The USD equivalent of GBP amounts received is calculated using the exchange rate on the date of receipt.
- (4) The 1997-2000 contribution includes bilateral assistance for the SIP in the amount of USD 11.8 million.
- (5) According to CSF Rules Section 2.06. Donations made in currencies other than EUR will be recorded in EUR at the relevant rate of exchange at the date of receipt.
- (6) Ireland and Japan contributions recorded as payments received not as Contribution Agreements. Japan contribution is recorded using the historic exchange rate in Euro.
- (7) The amount corresponds to confirmed commitments made by the US (until now only payments received have been recorded).

ANNEX 4

CSF Income and Expenditure

(As of 30 June 2007)

Income	Euro¹
Contributions	724,108,331
Donations	3,160,720
Bilateral projects	11,346,240
Sub-total	738,615,291
Interest gained	71,018,652
Total (A)	809,633,943

Allocations/Expenditure	Euro¹
Grant Agreements	457,006,400
Ukrainian in-kind	26,692,778
Bilateral projects	11,346,240
Administrative costs ² (C)	15,585,497
Total (B)	510,630,915

Payments	Euro¹
Received	670,207,207

Contracts	Euro¹
Contracts awarded	356,174,099
Disbursements	308,023,248

Notes

1. using historic exchange rates)
2. to end Q.1 2007

Balance currently uncommitted (A-B): €299,003,008

ANNEX 5

CSF Disbursements made to 30 June 2007 (in euro)

	Amount Allocated	Contracts within Grant ¹	Total Disbursed	Balance Remaining within Grant Allocation
GRANT 1	28,000,000.00	25,465,048.81	25,705,873.59	2,294,126.41
PMU Services Contract				
GRANT 2	22,540,000.00	22,919,125.31	17,141,364.07	5,398,635.93
SNRCU Licensing				
GRANT 3	142,000,000.00	110,575,092.79	93,829,889.57	48,170,110.43
Early Biddable Projects, Site Infrastructure, Works and Equipment				
GRANT 4	20,500,000.00	16,744,963.09	12,976,293.36	7,523,706.64
Project Insurance				
GRANT 5	73,100,000.00	45,319,439.53	32,806,661.93	40,293,338.07
Goods, Works and Services				
GRANT 6	94,516,400.00	95,699,812.75	90,178,789.98	4,337,610.02
PMU Contract Extension				
GRANT 7	76,350,000.00	39,450,616.27	35,384,375.41	40,965,624.59
Stabilisation				
	Total Committed to Recipients for all Grants	Total Contracts	Total Disbursements to 30 June 2007	Total Balance Remaining in all grants after all disbursements
	457,006,400.00	356,174,098.55	308,023,247.91	148,983,152.09

Note

1. Original Exchange Rate applicable on Award of Contract, thereafter, Amendment Exchange Rates as of Amendment date

ANNEX 6

PROGRESS ON THE SHELTER IMPLEMENTATION PLAN AND CURRENT TECHNICAL STATUS⁸

Objective 1: Reduce Collapse Probability (SIP Tasks 1 -8)

Stabilisation Design Integration and Mobilisation (Task 1) have been essentially completed. The stabilisation design, a task substantially bigger than the assumed integration of the designs existing in 1997, [as addressed elsewhere in the report] was completed and approved by regulators in 2003.

All infrastructure works in support of stabilisation and new safe confinement construction have been completed with the exception of the engineering networks which are 97% complete. The main completed projects are:

- The 1430 Person Change Facility
- Personnel training Centre (2 – on-site and in Slavutich)
- Small Stroibaza Facility and Administration (CAB) Building
- Sewage Distribution Pump Station and Sanitary Lock
- Medical Facilities
- Lay-down area for temporary storage – Level 1 & 2 radioactive waste

The Engineering Networks project consists of 16 utility systems, power, water, sewerage and communications which are operational. The exceptions are the sewage pipe to the Change Facility which is scheduled to be operational by August 2007, an information channel data transmission link between Chernobyl site and Slavutich which is scheduled to be operational in the third quarter of 2007, and the sewage treatment plant.

Stabilisation works (Tasks 2 to 5) have been completed and the contract was closed out in April 2007.

The eight measures defined and implemented were:

- Measure 2 Strengthening of the Western section and associated wall along axis 50
- Measure 3a Stabilisation of the de-aerator frame
- Measure 3c Damaged ceiling slabs stabilisation at elev. 38.6m
- Measure 5 Strengthening of Northern buttress wall along axis C with concrete
- Measure 8 Connecting of the Southern “hockey sticks” with the Southern plates

⁸ As reported by the EBRD in the Integrated Report on the Chernobyl Shelter Fund Shelter Implementation Plan Ref CSF-07/02, July 2007

Measure 11 Connecting the Northern plates to the buttress wall

Measure 14 Strengthening of the Western support of the Mammoth beam

Measure 14a Strengthening of the Eastern support of the Mammoth beam

Structural (Task 6), Geotechnical (Task 7) and Seismic (Task 8) Investigations have been completed in Phase 1 of the SIP with some additional interventions carried out during design stage of the NSC. This information was used as design input for the stabilisation and NSC design. Structural and seismic monitoring became part of the Integrated Monitoring System.

Objective 2: Reduce Collapse Accident Consequences (SIP Tasks 9, 10 & 11)

The primary EBP deliverables of Task 9 (Emergency Preparedness) were the risk analyses, Shelter Emergency Plan and technical specifications for emergency preparedness equipment. The Shelter Emergency Plan has been incorporated into the overall Chernobyl Emergency Plan. The task is complete.

The Emergency Dust Suppression System (Task 11) was cancelled after rigorous analyses demonstrated that high radiation doses during implementation and operation would create risks that would exceed the benefits of the system. Instead, the existing Shelter Dust Suppression System was extended and upgraded. Except for continued operational support of construction activities, Tasks 10 and 11 are completed.

Objective 3: Improve Nuclear Safety (SIP Tasks 12, 13 & 14)

The first completed task pertaining to Task 12 (Criticality and Nuclear Safety) was an upgrade of the existing nuclear monitoring system, financed through US and Canadian contributions. After rigorous studies, nuclear criticality incidents – often quoted in the public domain as a major risk – were assessed as virtually impossible. Minor local criticality could not be excluded due to a lack of complete knowledge of FCM disposition. The new Integrated Monitoring System will incorporate instruments to check neutron and gamma fluxes in the areas of significant FCM accumulations.

Radioactive water (Task 13) contained in the Shelter was also been perceived as a substantial environmental risk. The preliminary Safety Analysis Report of the conceptual design for the water management system is complete. The analysis confirms that the problem of water arises from the penetration of rain and condensation. The construction of the NSC will result in a substantial reduction of water entering the Shelter from the environment (rain, snow). The concept design also indicates that the existing water in Shelter would be evaporated over a fairly short period of time (3 years). However, the ability to process the liquids generated during the decontamination and handling of the unstable structure will require a study and a technical decision to be made.

The approach to FCM characterisation (Task 14) took into account the existing database developed under the Franco-German Initiative and eliminated the need for procurement of characterisation equipment. The study of the long-term behaviour of FCM has defined requirements for the long-term monitoring and concluded the work on Task 14.

The SIP assumed that the facilities for storage and disposal of the radioactive waste encountered during interventions and construction works at and around the Shelter, which contains a significant radioactive inventory, would be available, but so far the necessary

infrastructure is not in place. The requirements were identified in the Chernobyl Integrated Waste Management Study developed in co-operation with the European Commission. The CSF is financing certain essential equipment such as waste drums, casks and monitors to facilitate SIP operations.

Objective 4: Improve Worker and Environmental Safety (SIP Tasks 15, 16 17 & 18)

The radiological protection programme (Task 15) has been completed. The Radiological Protection Strategy and the technical specification were the basis for procuring or upgrading radiation protection equipment. Procurement of personal protection equipment continues in support of ongoing works.

Task 16 (Industrial safety, fire protection and access control) is largely completed, with the exception of fire protection and the access control system.

The industrial safety strategy developed by EBP B has been the basis for procurement of equipment and the implementation of health and safety measures and procedures. Two training facilities support the programme. Refurbishment of a hospital wing in Slavutich, a medical centre with an accident facility, and new ambulances, all financed by the CSF, provide systematic medical care and screening programmes.

The concept design for fire protection has been completed and approved by the regulators. The contract for detailed design, awarded in March 2006, with additional scope identified by ChNPP, is scheduled for completion in June 2007. At the time of writing, construction of the fire protection system is scheduled to be completed by the second half of 2008.

The design and construction contract for access control (physical protection), awarded to Alstom in July 2002, is now approximately 60% complete. Substantial scope changes were necessitated by the evolution of the NSC design. This, together with the contractor's performance and staffing issues, has delayed completion. Currently, enclosure of the industrial zone to support the construction of the NSC foundations is scheduled for 2007, to be followed by completion of the entire programme, including the areas inside the Shelter.

Monitoring elements of the various SIP tasks – structural, seismic, criticality and radiation protection – have been included in Task 17 (Integrated Automated Monitoring System, or IAMS). The design and construction contract for IAMS was awarded in October 2003. Overall, the contract is 68% complete. Following substantial changes to the scope, the technical design received regulatory approval in November 2005. Factory equipment testing and installation design are close to completion. Commissioning and handover of the system is scheduled for November 2007.

The Integrated Shelter Database (Task 18) was successfully completed and commissioned in March 2007.

Objective 5: Long-term Strategy and Study for Conversion to Environmentally Safe

Site (SIP Tasks 19, 20, 21, 22)

The preliminary FCM strategy, defined in the P7 decision, defers removal until a final repository becomes available (certainly several decades away) with continued surveillance of FCM. The final study of the long-term behaviour of FCM has been completed. With this time

perspective, the originally planned development of prototype removal technologies involving substantial cost and radiation exposure was not considered a valid option.

Evaluation of pre-conceptual designs for several approaches to the NSC led to the P10 decision which was formally approved in April 2001 by decree of the Cabinet of Ministers. The conceptual design of the arch-shaped confinement was completed in the third quarter of 2003 and received approval by the regulatory authorities and the Cabinet of Ministers in July 2004.

The evolution of the NSC is addressed in some detail above. Three further contracts are directly related to NSC implementation. Removal of the berm wall, an annex of the Shelter which contains an unknown quantity of radioactive materials, is required, as it stands in the way of the NSC. The progress of this demolition and waste management task has been slow, but completion is scheduled for late 2007. Site clearance for the NSC, including excavation of temporary and permanent foundations, should start this summer.

Finally, the design and construction of the new, much reduced ventilation stack, is at the procurement stage. The existing ventilation stack, which poses a risk of collapse and would significantly complicate the completion of the NSC, will be dismantled under the NSC contract.

ANNEX 7

Overview of the Tasks of the Shelter Implementation Plan⁹

(SIP Technical Goals/Objectives and Associated Tasks)

Reduce Collapse Probability (Structural Stabilisation)	
Task 1	Stabilisation and Shielding Design Integration and Mobilisation
Task 2	Stabilisation and Shielding of Western Section
Task 3	Stabilisation and Shielding of Mammoth and Southern Section
Task 4	Stabilisation and Shielding of the Eastern and Northern Section
Task 5	Stabilisation of the Roof, Roof Supports and Covering
Task 6	Structural Investigation and Monitoring
Task 7	Geotechnical Investigation
Task 8	Seismic Characterisation and Monitoring
Reduce Collapse Accident Consequences	
Task 9	Emergency Preparedness
Task 10	Dust Management
Task 11	Emergency Dust Suppression System
Improve Nuclear Safety	
Task 12	Criticality and Nuclear Safety
Task 13	Contained Water Management
Task 14	Fuel Containing Material (FCM) Characterisation
Improve Worker and Environmental Safety	
Task 15	Radiological Protection Program
Task 16	Industrial Safety, Fire Protection, Infrastructure, and Access Control
Task 17	Integrated Monitoring System
Task 18	Integrated Database (Configuration Management)
Long Term Strategy & Study for Conversion to Environmentally Safe Site	
Task 19	FCM Removal and Waste Management Strategy & Study
Task 20	FCM Removal Technology Development
Task 21	Safe Confinement Strategy
Task 22	Implementation of Safe Confinement to Support Deconstruction and FCM Removal

⁹ Original 22 Tasks described in the 1997 Taxis report, Chernobyl Unit 4, Shelter Implementation Plan