

MAJOR PROGRAMME 3
NUCLEAR SAFETY AND PROTECTION AGAINST RADIATION
Summary of Regular Budget Resources for the Biennium

| Subprogramme / Programme | 2001 | Expenditure | | 2002 | Expenditure | | 2003 | Price | 2002 | 2003 |
|--|-----------------|-------------|--------|--------------------------|-------------|-------|--------------------------|------------|---------------------|----------------|
| | Adjusted Budget | incr/(decr) | % | estimates at 2001 prices | incr/(decr) | % | estimates at 2001 prices | increase % | with price increase | at 2002 prices |
| 3. Overall Management, Co-ordination and Common Activities | 785 000 | (73 000) | (9.3) | 712 000 | (15 000) | (2.1) | 697 000 | 7.3 | 764 000 | 748 000 |
| Total | 785 000 | (73 000) | (9.3) | 712 000 | (15 000) | (2.1) | 697 000 | 7.3 | 764 000 | 748 000 |
| J.1. Regulatory Infrastructure for Nuclear Safety | 1 120 000 | (125 000) | (11.2) | 995 000 | (25 000) | (2.5) | 970 000 | 7.3 | 1 068 000 | 1 042 000 |
| J.2. Development of Safety Assessment Methods and Tools | 1 218 000 | (33 000) | (2.7) | 1 185 000 | 68 000 | 5.7 | 1 253 000 | 7.1 | 1 269 000 | 1 342 000 |
| J.3. Engineering Safety of Small and Medium Sized Reactors and New Nuclear Power Plants under Construction | 204 000 | 234 000 | 114.7 | 438 000 | 9 000 | 2.1 | 447 000 | 7.5 | 471 000 | 480 000 |
| J.4. Engineering Safety of Existing Nuclear Installations | 987 000 | (178 000) | (18.0) | 809 000 | (38 000) | (4.7) | 771 000 | 7.5 | 870 000 | 830 000 |
| J.5. Operational Safety | 2 021 000 | (43 000) | (2.1) | 1 978 000 | (24 000) | (1.2) | 1 954 000 | 7.6 | 2 128 000 | 2 103 000 |
| J.6. Research Reactor Safety | 633 000 | (31 000) | (4.9) | 602 000 | 15 000 | 2.5 | 617 000 | 7.1 | 645 000 | 661 000 |
| J.7. Safety of Fuel Cycle Installations | - | 192 000 | - | 192 000 | - | - | 192 000 | 7.3 | 206 000 | 206 000 |
| J.8. Fostering Harmonization in Nuclear Safety | 1 049 000 | 39 000 | 3.7 | 1 088 000 | 9 000 | 0.8 | 1 097 000 | 5.4 | 1 147 000 | 1 157 000 |
| Programme J - Safety of Nuclear Installations | 7 232 000 | 55 000 | 0.8 | 7 287 000 | 14 000 | 0.2 | 7 301 000 | 7.1 | 7 804 000 | 7 821 000 |
| K.1. Radiation Safety Standards and Provisions for their Application | 1 135 000 | 26 000 | 2.3 | 1 161 000 | 11 000 | 0.9 | 1 172 000 | 6.8 | 1 240 000 | 1 253 000 |
| K.2. Safety of Transport of Radioactive Material | 633 000 | 10 000 | 1.6 | 643 000 | 47 000 | 7.3 | 690 000 | 7.2 | 689 000 | 738 000 |
| K.3. Occupational Radiation Protection | 712 000 | 132 000 | 18.5 | 844 000 | (43 000) | (5.1) | 801 000 | 6.2 | 896 000 | 852 000 |
| K.4. Radiological Protection of Patients | 256 000 | 209 000 | 81.6 | 465 000 | 47 000 | 10.1 | 512 000 | 6.2 | 494 000 | 542 000 |
| K.5. Safety of Radiation Sources | 1 279 000 | (460 000) | (36.0) | 819 000 | (44 000) | (5.4) | 775 000 | 7.1 | 877 000 | 833 000 |
| K.6. Nuclear and Radiation Emergencies | 865 000 | 60 000 | 6.9 | 925 000 | (10 000) | (1.1) | 915 000 | 7.4 | 993 000 | 983 000 |
| Programme K - Radiation Safety | 4 880 000 | (23 000) | (0.5) | 4 857 000 | 8 000 | 0.2 | 4 865 000 | 6.8 | 5 189 000 | 5 201 000 |
| L.1. Radioactive Waste Safety Standards and Provisions for their Application | 556 000 | 119 000 | 21.4 | 675 000 | 109 000 | 16.1 | 784 000 | 7.1 | 723 000 | 825 000 |
| L.2. Safety of Disposable Radioactive Waste: Managing Non-Reusable Radioactive Materials and Arranging for their Disposal | 781 000 | (90 000) | (11.5) | 691 000 | (68 000) | (9.8) | 623 000 | 6.4 | 735 000 | 666 000 |
| L.3. Technologies for Disposable Radioactive Waste Management | 1 372 000 | (56 000) | (4.1) | 1 316 000 | 47 000 | 3.6 | 1 363 000 | 7.0 | 1 408 000 | 1 457 000 |
| L.4. Safety of Dischargeable Radioactive Waste: Protection of the Public and the Environment | 823 000 | (127 000) | (15.4) | 696 000 | 14 000 | 2.0 | 710 000 | 7.3 | 747 000 | 762 000 |
| L.5. Safety of Residual Radioactive Materials: Termination of Practices, Decommissioning of Installations and Restoration of Sites | 618 000 | 84 000 | 13.6 | 702 000 | (50 000) | (7.1) | 652 000 | 6.6 | 748 000 | 697 000 |
| L.6. Technologies for the Decommissioning of Installations and Restoration of Sites | 559 000 | (65 000) | (11.6) | 494 000 | 2 000 | 0.4 | 496 000 | 6.9 | 528 000 | 530 000 |
| L.7. Management of Disused Sealed Radioactive Sources | 211 000 | 79 000 | 37.4 | 290 000 | (21 000) | (7.2) | 269 000 | 8.3 | 314 000 | 293 000 |
| L.8. Radioactive Waste Management Information | 862 000 | 29 000 | 3.4 | 891 000 | (24 000) | (2.7) | 867 000 | 7.3 | 956 000 | 933 000 |
| Programme L - Management of Radioactive Waste | 5 782 000 | (27 000) | (0.5) | 5 755 000 | 9 000 | 0.2 | 5 764 000 | 7.0 | 6 159 000 | 6 163 000 |
| Major Programme 3 | 18 679 000 | (68 000) | (0.4) | 18 611 000 | 16 000 | 0.1 | 18 627 000 | 7.0 | 19 916 000 | 19 933 000 |

**MAJOR PROGRAMME 3
NUCLEAR SAFETY AND PROTECTION AGAINST RADIATION**

Core Activities Unfunded in the Regular Budget

| Subprogramme / Programme | 2002 Estimates | | | 2003 Estimates | | |
|--|----------------|-------------------------------|--------------|----------------|-------------------------------|--------------|
| | Total | Less | | Total | Less | |
| | | Extrabudgetary Funds Expected | Net Unfunded | | Extrabudgetary Funds Expected | Net Unfunded |
| 3. Overall Management, Co-ordination and Common Activities | - | - | - | - | - | - |
| Total | - | - | - | - | - | - |
| J.1. Regulatory Infrastructure for Nuclear Safety | 2 020 000 | 2 020 000 | - | 2 020 000 | 2 020 000 | - |
| J.2. Development of Safety Assessment Methods and Tools | 234 000 | 114 000 | 120 000 | 234 000 | 114 000 | 120 000 |
| J.3. Engineering Safety of Small and Medium Sized Reactors and New Nuclear Power Plants under Construction | 57 000 | 57 000 | - | 57 000 | 57 000 | - |
| J.4. Engineering Safety of Existing Nuclear Installations | 171 000 | 171 000 | - | 171 000 | 171 000 | - |
| J.5. Operational Safety | 456 000 | 456 000 | - | 456 000 | 456 000 | - |
| J.6. Research Reactor Safety | 137 000 | 137 000 | - | 137 000 | 137 000 | - |
| J.7. Safety of Fuel Cycle Installations | 114 000 | 114 000 | - | 114 000 | 114 000 | - |
| J.8. Fostering Harmonization in Nuclear Safety | 68 000 | 68 000 | - | 68 000 | 68 000 | - |
| Programme J - Safety of Nuclear Installations | 3 257 000 | 3 137 000 | 120 000 | 3 257 000 | 3 137 000 | 120 000 |
| K.1. Radiation Safety Standards and Provisions for their Application | 98 000 | 78 000 | 20 000 | 98 000 | 78 000 | 20 000 |
| K.2. Safety of Transport of Radioactive Material | - | - | - | - | - | - |
| K.3. Occupational Radiation Protection | 94 000 | - | 94 000 | 52 000 | - | 52 000 |
| K.4. Radiological Protection of Patients | 105 000 | - | 105 000 | - | - | - |
| K.5. Safety of Radiation Sources | 170 000 | 170 000 | - | 170 000 | 170 000 | - |
| K.6. Nuclear and Radiation Emergencies | - | - | - | - | - | - |
| Programme K - Radiation Safety | 467 000 | 248 000 | 219 000 | 320 000 | 248 000 | 72 000 |
| L.1. Radioactive Waste Safety Standards and Provisions for their Application | 200 000 | - | 200 000 | 200 000 | - | 200 000 |
| L.2. Safety of Disposable Radioactive Waste: Managing Non-Reusable Radioactive Materials and Arranging for their Disposal | 250 000 | - | 250 000 | 250 000 | - | 250 000 |
| L.3. Technologies for Disposable Radioactive Waste Management | 105 000 | 13 000 | 92 000 | 78 000 | - | 78 000 |
| L.4. Safety of Dischargeable Radioactive Waste: Protection of the Public and the Environment | 40 000 | - | 40 000 | 40 000 | - | 40 000 |
| L.5. Safety of Residual Radioactive Materials: Termination of Practices, Decommissioning of Installations and Restoration of Sites | 175 000 | 130 000 | 45 000 | 190 000 | 130 000 | 60 000 |
| L.6. Technologies for the Decommissioning of Installations and Restoration of Sites | 32 000 | 13 000 | 19 000 | 24 000 | - | 24 000 |
| L.7. Management of Disused Sealed Radioactive Sources | - | - | - | - | - | - |
| L.8. Radioactive Waste Management Information | 162 000 | 100 000 | 62 000 | 119 000 | 100 000 | 19 000 |
| Programme L - Management of Radioactive Waste | 964 000 | 256 000 | 708 000 | 901 000 | 230 000 | 671 000 |
| Major Programme 3 | 4 688 000 | 3 641 000 | 1 047 000 | 4 478 000 | 3 615 000 | 863 000 |

**Major Programme 3: Nuclear Safety and Protection Against Radiation
Core Activities Unfunded in the Regular Budget (CAURBs)**

NET UNFUNDED

| Prog./Subprog./ Proj. Code | DESCRIPTION OF CAURB | Priority | Amount in 2002 | Amount in 2003 | TOTAL US\$ |
|---------------------------------------|---|-----------------|---------------------------|---------------------------|-----------------------|
| J. | SAFETY OF NUCLEAR INSTALLATIONS | | | | |
| J.2 | Development of Safety Assessment Methods and Tools | | | | |
| J.2.03 | Provide assistance to Member States in the implementation of Safety Standards in quality assurance and information exchange and analyses of the experience gained in their use. | Medium | 120 000 | 120 000 | 240 000 |
| J. | Programme Total | | 120 000 | 120 000 | 240 000 |
| K. | RADIATION SAFETY | | | | |
| K.1 | Radiation Safety Standards and Provisions for their Application | | | | |
| K.1.03 | Provide general information on regulatory infrastructure for radiation safety for wide use, including availability on the Internet. | Medium | 5 000 | 5 000 | 10 000 |
| K.1.06 | Prepare detailed practical manuals based on existing guidance on occupational exposure, on medical exposure and on public exposure. | Medium | 15 000 | 15 000 | 30 000 |
| K.3 | Occupational Radiation Protection | | | | |
| K.3.01 | Co-ordinate a CRP on radiation levels and health effects in areas with elevated levels of natural radiation and on the consequent radiation protection approaches. | Medium | 37 000 | 12 000 | 49 000 |
| K.3.05 | Organize participation of all interested Member States in the intercomparison exercises on measurements of the quantity personal dose equivalent Hp(d) in mixed (neutron-gamma) fields. | Medium | 22 000 | 5 000 | 27 000 |
| K.3.05 | Carry out intercomparison exercises on the determination of the quantity activity of alpha emitters in human breath. | Medium | 35 000 | 35 000 | 70 000 |
| K.4 | Radiological Protection of Patients | | | | |
| K.4.02 | Co-ordinate CRPs on dose assessment and optimization of protection in computer tomography and on radiation protection problems posed by endovascular use of radiation sources. | Medium | 80 000 | - | 80 000 |
| K.4.03 | Co-ordinate a CRP to evaluate and intercompare the use of mathematical phantoms for the determination of organ doses and effective doses to patients. | Medium | 25 000 | - | 25 000 |
| K. | Programme Total | | 219 000 | 72 000 | 291 000 |

**Major Programme 3: Nuclear Safety and Protection Against Radiation
Core Activities Unfunded in the Regular Budget (CAURBs)**

NET UNFUNDED

| Prog./Subprog./ Proj. Code | DESCRIPTION OF CAURB | Priority | Amount in 2002 | Amount in 2003 | TOTAL US\$ |
|---------------------------------------|---|-----------------|---------------------------|---------------------------|-----------------------|
| L. | MANAGEMENT OF RADIOACTIVE WASTE | | | | |
| L.1 | Radioactive Waste Safety Standards and Provisions for their Application | | | | |
| L.1.01 | Hire WASSC co-ordinator for the review of radioactive waste safety standards. | High | 100 000 | 100 000 | 200 000 |
| L.1.02 | Hire one Professional for the implementation of training and services on management of radioactive waste. | High | 100 000 | 100 000 | 200 000 |
| L.2 | Safety of Disposable Radioactive Waste: Managing Non-Reusable Radioactive Materials and Arranging for their Disposal | | | | |
| L.2.02 | Prepare commonly shared principles and criteria for the geological disposal of radioactive waste. | High | 250 000 | 250 000 | 500 000 |
| L.3 | Technologies for Disposable Radioactive Waste Management (NEFW) | | | | |
| L.3.01 | Co-ordinate a CRP on new developments and improvements in processing of "problematic" waste streams. | Medium | 54 000 | - | 54 000 |
| L.3.01 | Prepare a technical document on technologically enhanced naturally occurring radioactive materials (TENORM) - status, approaches and existing solution. | High | 19 000 | 31 000 | 50 000 |
| L.3.02 | Prepare a workshop with proceedings on the technology assessment related to radioactive waste disposal from a societal point of view. | High | 19 000 | 31 000 | 50 000 |
| L.3.03 | Prepare a technical document on the status of radioactive waste repositories. | High | - | 16 000 | 16 000 |
| L.4 | Safety of Dischargeable Radioactive Waste: Protection of the Public and the Environment | | | | |
| L.4.01 | Co-ordinate a CRP on improving and testing environmental assessment model predictions. | Medium | 40 000 | 40 000 | 80 000 |
| L.5 | Safety of Residual Radioactive Materials: Termination of Practices, Decommissioning of Installations and Restoration of Sites | | | | |
| L.5.01 | Organize workshops and speciality courses in decommissioning of small industrial, medical and research facilities. | High | 30 000 | 30 000 | 60 000 |
| L.5.01 | Organize workshops and speciality courses on the safe storage, deferred dismantling and decommissioning of research reactors. | High | 15 000 | 30 000 | 45 000 |

**Major Programme 3: Nuclear Safety and Protection Against Radiation
Core Activities Unfunded in the Regular Budget (CAURBs)**

NET UNFUNDED

| Prog./Subprog./ Proj. Code | DESCRIPTION OF CAURB | Priority | Amount in 2002 | Amount in 2003 | TOTAL US\$ |
|---------------------------------------|---|-----------------|---------------------------|---------------------------|-----------------------|
| L.6 | Technologies for the Decommissioning of Installations and Restoration of Sites (NEFW) | | | | |
| L.6.01 | Prepare a technical document on quality management of decommissioning. | High | 19 000 | 24 000 | 43 000 |
| L.8 | Radioactive Waste Management Information (NEFW) | | | | |
| L.8.01 | Conduct a workshop on NEWMDB. | Medium | 31 000 | - | 31 000 |
| L.8.02 | Prepare a workshop with proceedings on communicating to the public scientific and technical information on waste management and disposal. | High | 31 000 | 19 000 | 50 000 |
| L | Programme Total | | 708 000 | 671 000 | 1 379 000 |
| | TOTAL MAJOR PROGRAMME 3 | | 1 047 000 | 863 000 | 1 910 000 |

MAJOR PROGRAMME 3
NUCLEAR SAFETY AND PROTECTION AGAINST RADIATION
Core Activities Unfunded in the Regular Budget

Outputs which will not be produced or which will be delayed or hindered if funding is not provided
(see Net Unfunded column of the preceding CAURBs Table)

Programme J

Subprogramme J.2. *J.2.03.* Assistance to Member States in the implementation of Safety Standards in quality assurance and information exchange and analysis of the experience gained in their use.

Programme K

Subprogramme K.1. *K.1.03.* General information on regulatory infrastructure for radiation safety for wide use, including availability on the Internet.

K.1.06. Detailed practical manuals based on existing guidance on occupational exposure, on medical exposure and on public exposure

Subprogramme K.3. *K.3.01.* Timely results of the CRP on radiation levels and health effects in areas with elevated levels of natural radiation and on the consequent radiation protection approaches.

K.3.05. Participation of all interested Member States in the intercomparison exercises on measurements of the quantity personal dose equivalent Hp(d) in mixed (neutron–gamma) fields, and on the determination of the quantity activity of alpha emitters in human breath.

Subprogramme K.4. *K.4.02.* Timely results of the CRPs on dose assessment and optimization of protection in computer tomography and on radiation protection problems posed by endovascular use of radiation sources.

K.4.03. Timely results of the CRP to evaluate and intercompare the use of mathematical phantoms for the determination of organ doses and effective doses to patients.

Programme L

Subprogramme L.1. *L.1.01.* Review of radioactive waste safety standards by WASSC co-ordinator.

L.1.02. Implementation of training and services on management of radioactive waste.

Subprogramme L.2. *L.2.02.* Commonly shared principles and criteria for the geological disposal of radioactive waste.

Subprogramme L.3. *L.3.01.* Earlier implementation of the CRP on new developments and improvements in processing of "problematic" waste streams.

L.3.01. Assessment of status, approaches and proposed solutions for Technologically Enhanced Naturally Occurring Radioactive Materials (TENORMs).

| | | |
|--------------------------|----------------|---|
| | <i>L.3.02.</i> | Workshop with proceedings on the technology assessment related to radioactive waste disposal from a societal point of view. |
| | <i>L.3.03.</i> | Technical document on the status of radioactive waste repositories. |
| Subprogramme L.4. | <i>L.4.01.</i> | CRP on improving and testing environmental assessment model predictions. |
| Subprogramme L.5. | <i>L.5.01.</i> | Workshops and speciality courses on the safe storage, deferred dismantling and decommissioning of research reactors, and on decommissioning of small industrial, medical and research facilities. |
| Subprogramme L.6. | <i>L.6.01.</i> | Technical document on quality management of decommissioning. |
| Subprogramme L.8. | <i>L.8.01.</i> | Training in the use of a new database on radioactive waste management. |
| | <i>L.8.02.</i> | Improved understanding of the dialectics between the scientific and technical community and society in radioactive waste management related matters. |

MAJOR PROGRAMME 3
NUCLEAR SAFETY AND PROTECTION AGAINST RADIATION
Other (UN and Member States) Extrabudgetary Requests

| Subprogramme / Programme | 2002 Estimates | | 2003 Estimates | |
|--|----------------|----------|----------------|----------|
| | UN | MS | UN | MS |
| | Organizations | Requests | Organizations | Requests |
| 3. Overall Management, Co-ordination and Common Activities | - | - | - | - |
| Total | - | - | - | - |
| J.1. Regulatory Infrastructure for Nuclear Safety | - | - | - | - |
| J.2. Development of Safety Assessment Methods and Tools | - | - | - | - |
| J.3. Engineering Safety of Small and Medium Sized Reactors and New Nuclear Power Plants under Construction | - | - | - | - |
| J.4. Engineering Safety of Existing Nuclear Installations | - | - | - | - |
| J.5. Operational Safety | - | - | - | - |
| J.6. Research Reactor Safety | - | - | - | - |
| J.7. Safety of Fuel Cycle Installations | - | - | - | - |
| J.8. Fostering Harmonization in Nuclear Safety | - | - | - | - |
| Programme J - Safety of Nuclear Installations | - | - | - | - |
| K.1. Radiation Safety Standards and Provisions for their Application | - | - | - | - |
| K.2. Safety of Transport of Radioactive Material | - | - | - | - |
| K.3. Occupational Radiation Protection | - | - | - | - |
| K.4. Radiological Protection of Patients | - | - | - | - |
| K.5. Safety of Radiation Sources | - | - | - | - |
| K.6. Nuclear and Radiation Emergencies | - | - | - | - |
| Programme K - Radiation Safety | - | - | - | - |
| L.1. Radioactive Waste Safety Standards and Provisions for their Application | - | - | - | - |
| L.2. Safety of Disposable Radioactive Waste: Managing Non-Reusable Radioactive Materials and Arranging for their Disposal | - | - | - | - |
| L.3. Technologies for Disposable Radioactive Waste Management | - | - | - | - |
| L.4. Safety of Dischargeable Radioactive Waste: Protection of the Public and the Environment | - | - | - | - |
| L.5. Safety of Residual Radioactive Materials: Termination of Practices, Decommissioning of Installations and Restoration of Sites | - | - | - | - |
| L.6. Technologies for the Decommissioning of Installations and Restoration of Sites | - | - | - | - |
| L.7. Management of Disused Sealed Radioactive Sources | - | - | - | - |
| L.8. Radioactive Waste Management Information | - | - | - | - |
| Programme L - Management of Radioactive Waste | - | - | - | - |
| Major Programme 3 | - | - | - | - |