



**GOVERNMENT
OF THE REPUBLIC OF
MOLDOVA**



**INTERNATIONAL ATOMIC
ENERGY AGENCY**

REPUBLIC OF MOLDOVA

COUNTRY PROGRAMME FRAMEWORK

for 2012 – 2017

**For the Government of
Republic of Moldova:**

Signature

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REPUBLIC OF MOLDOVA

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November 2012

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S U M M A R Y

The new approach to the TC Programme Cycle Management Framework (PCMF) establishes the Country Programme Framework (CPF) as the starting point for the planning process. Thus, the level of definition and agreement on the opportunities identified in the CPF process must be sufficient to establish a specific and detailed plan of action that can lead to project concept(s). The CPF and its annexes define mutually agreed priority development needs and interests that are to be supported through technical cooperation activities. These activities are based on the national development plan, country specific analyses and lessons learned from past cooperation during more than 10 years.

The Technical Cooperation Country Briefing Notes for the Republic of Moldova were signed in September 1999 and may be recognized as the predecessor of the CPF. The first CPF was signed at the end of 2000 and established the following priority areas:

- Radiation protection;
- Waste management;
- Environmental radioactivity monitoring and emergency preparedness;
- Radiodiagnostics, nuclear medicine and radiotherapy;
- Other nuclear applications (agriculture, hydrology and others).

The second CPF was signed during the IAEA General Conference in 2005 and underlined the future focus in which IAEA TC projects interfaced with national projects and resources:

- Nuclear techniques in human health (nuclear medicine, radiotherapy and dosimetry, and medical radiation physics);
- Radiation processing (medical/pharmaceutical, cosmetics supply, food industry and nanotechnology);
- Nuclear techniques in agriculture (sustainable land and water management, crop protection and crop improvement, further investigation of water resources);
- Radiation safety, emergency preparedness and radioactive waste management.

It is important to mention that scientific, innovative, radiation protection and nuclear safety components were not identified separately as priorities, because their obligatory presence is believed to form an intrinsic part of any project that is launched in relation to nuclear or radiological practices.

Also, the idea was sustained that the improvement of the regulatory infrastructure in nuclear and radiation safety will be directed by an established single regulatory and independent authority in the country.

Substantial progress has been achieved so far in all areas and there is government interest and commitment to continue the technical cooperation with the IAEA in areas of nuclear technologies while placing emphasis on the following specific goals **(in alphabetical order)**:

- *To develop and maintain Moldovan human resources for nuclear and isotope technologies;*
- *To improve Moldovan's capacity on polyvalent environmental monitoring (radioactive waste management, radon mapping, searching for orphan sources, nuclear forensics and nuclear attributions);*
- *To increase and diversify access to radiation and nuclear technologies in the Republic of Moldova;*
- *To strengthen the domestic regulatory infrastructure and its capacity in respect of IAEA standards and the addressed present and future challenges;*
- *To upgrade radiodiagnostic and radiotherapy techniques through the transfer of a new generation of relevant nuclear technology and knowledge in medicine.*

The endorsement of the CPF by the relevant governmental bodies and the IAEA, in spite of being a non-legally binding document, demonstrates the common commitment and shared responsibility to implement a sustainable mid-term TC programme between the Republic of Moldova and the IAEA.

I. COUNTRY PROFILE

History. During most of its history, the majority of the territory that constitutes the modern Republic of Moldova was one half of the historic principality of Moldova which encompassed Bessarabia, but extended towards the west to the Siret River near the Carpathian Mountains. The principality of Moldova was bordered to the southwest by the principality of Walachia. In 1599, the Walachian Prince Mihai Viteazul united the Romanian speakers of Moldova, Walachia and the Transylvanian principalities. Soon, the previous divisions disappeared. According to the Treaty of Bucharest (1812) following the Russia-Turkish War (1806-1812), an expanded Bessarabia was annexed by, and incorporated into, the Russian Empire.

In 1917, during World War I and the Bolshevik insurrection, political leaders in Bessarabia created a National Assembly (Sfatul Tarii), which declared Bessarabia as the independent Democratic Moldavian Republic, federated with Russia. In February 1918, the new republic announced its complete independence from Russia and, two months later, voted to unite with Romania. In 1920, at the Paris Peace Conference, the United States, France, Britain, and the other Western countries recognized Bessarabia's incorporation into Romania. In June 1940, Bessarabia was occupied by Soviet military forces as a consequence of a secret protocol attached to the 1939 Nazi-Soviet Non-Aggression Pact. On 2 August 1940, the Soviet government created the Moldavian Soviet Socialist Republic (Moldavian SSR), with its capital Chisinau. In 1941, Romania reclaimed Bessarabia, but in 1944 the territory of Bessarabia was reincorporated into the USSR and the Moldavian SSR formally reestablished. Thus, in the period 1944-1991, the present territory of the Republic of Moldova was a part of the former USSR.

After the political change in the Soviet Union, the independence of the republic from the USSR was proclaimed on 27 August 1991. The Moldovan legislature declared the USSR's annexation of Bessarabia in 1940 illegal. On 23 May 1991, the Moldavian SSR changed its name to the Republic of Moldova. In January 1992, the Republic of Moldova became a member state of the CSCE (OSCE after 1995) and was admitted to the United Nations in March of that year. A democratically elected parliament was established for the first time in spring 1994, which ratified the new constitution in August 1994.

Electoral system. Moldova is a republic that elects the parliament directly. The parliament has 101 members, elected for a four-year term by proportional representation. Since 2000, the president is elected by the parliament by a minimum vote of three fifths of the MPs, or 61 deputies, no later than 45 days after the first session and no more than two tentative. Otherwise, the parliament dissolves itself and calls for early elections.

Parliamentary election results of November 2010. On 28 November 2010, early parliamentary elections were held. The Communists' Party secured 42 seats in Parliament, while the Liberal-Democrat Party won 31 seats, the Democrat Party 15 and the Liberal Party 12. The voter turnout was set at 41.87%. According to international observers, the early elections met most OSCE and Council of Europe commitments. The results show that the political deadlock continues. The political spectrum has not changed and no political force has obtained the necessary majority of 61 mandates in order to elect the president. The three biggest parties of the previous governing coalition form a new coalition to be able to form a government. Yet they would still lack the necessary majority to elect a president.

Government. On 30 December 2010, politicians decided to continue with a pro-Western alliance. All together, the Alliance for European Integration (AEI) had 59 seats out of 101 seats in parliament. The Parliament elected Democratic Party (PDM) leader Marian Lupu as its speaker. In spite of this new coalition, the amount of seats held by the pro-Western alliance did not create the majority necessary to elect the president of the country. Until an official leader can be named, Marian Lupu will therefore also serve as an interim president. The new cabinet headed by Prime Minister Vladimir Filat, head of the Liberal Democratic Party, was installed on 14 January 2011, when an investiture vote took place in parliament. The Government continues to implement a regulatory reform, a drastic reduction of public functionaries, multilateral development of rural areas, as well as reforms and reduction of ministries and departments.

Local elections in June 2011. On 5 June 2011, local elections were held in Moldova. According to the two rounds of local elections, the three parties of the ruling Alliance for European Integration got most mandates of the governors of the Moldovan localities.

Geography. Moldova is a landlocked country in Eastern Europe, located to the east of the Carpathian Mountains and occupying an area of 33.700 km². It is surrounded (see fig. 1) by Ukraine in the north, east and south and is bordered by Romania to the west, with the Prut River forming the boundary between these two states. Extreme points of the country are: in the north – Naslavcea village (48°29'NL, 27°35' EL) Ocnîța county; in the south – Giurgiulești village (45°28'NL, 28°12'EL), Cahul county; in the east – Palanca village (46°24'NL, 30°08'EL), Stefan Voda county; and in the west – Criva village, Briceni county, (48°16'NL, 26°37'EL). Agreements with Ukraine allow Moldova to enjoy access to the Black Sea via a small portion of the Danube in Giurgiulești. The terrain consists of rolling steppe with a gradual slope towards the Black Sea. Moldova has cold to moderate winters and generally warm summers. It has natural resources of lignite, phosphorites and gypsum, and rich black soils make it very suitable for agriculture. The central uplands, the Codri Hills, lie at an elevation of up to 429.5 meters, the northern landscape is characterized by the level plain of the Bălți steppe and the strikingly eroded Medobory-Tolry limestone ridges which border the Prut River. In the south, there is the extensive Bugeac Plain. Moldova has a network of about 3000 rivers

and streams, but only 246 of these exceed 9 kilometers in length. The main part of the Nistru River is navigable throughout the country.

As a part of the seismic Carpathian region, the Republic of Moldova is often affected by earthquakes, which may reach magnitudes of up to 8 degrees on the MSK-64 scale. Near epicenters are localized in the Vrancea region (Romania) and in the Black Sea region.

Population. Moldova has a population of about 3.56 million inhabitants (as of December 2011; recent statistical data from the left side of the Nistru River and the municipality of Tighina are not available). The urban population consists of about 1.46 million inhabitants and the rural part contains 2.1 million inhabitants. The Municipality of Chişinău is the capital with about 717 000 inhabitants (as of 2010).

The Moldovans are the indigenous people and represent about 78% of the population, located in greater number in the center and the north of the country; they account for 85% of all rural inhabitants.

In 1989, the term Moldovan was adopted for the official language with its script in the Latin alphabet. The identity between the Moldovan and Romanian languages is recognized in the Declaration of Independence (27 August 1991) and by the Decision of the Academy of Sciences. Bilingualism (Romanian and Russian), however, is more or less a norm.

External Policy. Orientation towards the European Union and greater integration into cooperation arrangements in South-East Europe: Moldova has put orientation towards the EU firmly at the centre of its political agenda. In this context, the country is also systematically pursuing a policy of greater integration into cooperation arrangements in South-East Europe.



Fig. 1

Moldova is a member of the Stability Pact (SP) for South Eastern Europe, the Central European Initiative (CEI), the South-East European Cooperation Initiative (SECI) and the Black Sea Economic Cooperation Pact (BSEC). Moldova has become a member in the South-East European Cooperation Process (SEEC) in 2006, and also signed the new CEFTA (Central European Free Trade Area) Agreement in December 2006. The country is committed to greater involvement in cooperation activities within the Black Sea region, including enhanced cooperation in the framework of GUAM.

Promoting trade: Moldova became a member of the WTO in July 2001, and trade policy issues are at the heart of the Government's economic strategy. Free Trade Agreements (FTAs) with former CIS countries and South-East European countries are a priority. Since 1 January 2006, Moldova has benefited from the General System of Preferences Plus (GSP+) in trade relations with the EU. The

Government has taken significant steps towards improving the system of certification and control of rules of origin as a basis for autonomous trade preferences possibly being granted by the EU, which is mentioned as a priority in the EU-Moldova Action Plan.

II. MOLDOVAN NUCLEAR AND IONIZING RADIATION REGULATION

The main law in the field of nuclear and radiological regulation is Law No. 132 of 8 June 2012 *On Safe Deployment of Nuclear and Radiological Activities*. This organic law was elaborated and promoted with the purpose of creating legislative basis harmonized with the international requirements in nuclear and radiological fields of activity.

The present law pursues the purpose of maintaining the safe deployment of nuclear and radiological activities for exclusively peaceful purposes and observing duties which proceed from the international treaties to which the Republic of Moldova is a party. The main purposes of the law are:

- a) non-admittance of distribution of nuclear weapons, materials and equipment pertinent for the proliferation of nuclear weapons and of other explosive devices with radioactive devices;
- b) establishment of mechanisms of safe deployment of nuclear and radiological activities, their maintenance on an adequate level in all areas connected to the uses of ionizing radiation sources;
- c) prevention of non-authorized nuclear and radiological activities and use of nuclear weapons according to the Non-Proliferation Treaty and to obligations following the international treaties to which the Republic of Moldova is a party;
- d) protection of personnel, population, property and environment against harmful influences of ionizing radiation, according to international standards in the field of radiation protection, radiological and nuclear safety.

The suppositions of the given law are applied to the following activities:

- a) research, design, placement, construction, assembly, commissioning, exploitation, change, decommissioning and deactivation of nuclear and radiological facilities; manufacture, distribution, rent, transfer, processing, possession, treatment, use, temporary or permanent storage, transport, transit, import and export of ionizing radiation sources, inclusive of nuclear materials, nuclear fuel and radioactive waste; supply and use of dosimetric (radiometric, etc.) devices, materials and equipment used for the protection from ionizing radiation, and also of means for packing, containerization and transport specially designed for these purposes; market supply of products and rendering of services for nuclear and radiological activities. The main Moldovan legal framework and detailed domestic infrastructure in the field of nuclear and radiological activities are presented in Annexes 1 and 2, respectively. During last 15 years, the Republic of Moldova has signed a majority of international agreements and conventions in the field (see Annex 3).

III. NATIONAL MEDIUM TERM DEVELOPMENT PRIORITIES

According to the Government Programme, it is necessary to achieve the following five pillar reform priorities within the next few years:

- European integration,
- economic recovery,
- rule of law,
- administrative and fiscal decentralization,
- re-integration of the secessionist region.

For these purposes, the following strategic plans were adopted: the Economic Stabilization and Recovery Programme (ESRP), the National Development Strategy, the EU-Moldova Action Plan, the Eastern Partnership and the Partnership and Cooperation Agreement with the EU.

The Moldovan Government regards EU integration as the fundamental priority of internal and foreign policy. In the Government's view the most efficient way to achieve political, economic and social modernization is to implement the commitments leading the country on the path to European integration in a responsible manner. To this end, it determined to implement an ambitious agenda for EU integration. The Government has consulted widely in drafting policies and in particular, has engaged in an active dialogue with civil society organizations as its partners. Underlining the paramount importance of its European agenda, the Government of Moldova has restated in a national policy document the provisions of the EU-Moldova Action Pplan and has already embarked on dynamic, result-oriented talks with its foreign partners.

The world financial crisis has hit the Moldovan economy hard, and represents the first hurdle the country faces on its path towards the EU. The situation is further complicated by the political motivation of the previous administration, which continued with business as usual through the end of their mandate rather than addressing the crisis. A substantial response was proposed by the present Government through its ESRP. This ESRP, recently backed by the IMF, focuses on public expenditure rationalization, enhancement and targeting of safety nets, and liberalization of the highly regulated economy. The ESRP will put Moldova back on a sustainable macroeconomic path, but it cannot in and of itself bring the livelihood of Moldovans closer to the level enjoyed by citizens of nearby EU countries. This can only be achieved through dramatic improvements in public service provisions, massive investments in infrastructure, a shift towards an export-focused economy, and deep reforms of the judiciary and education systems. These transformations require a level of resources and expertise that can only be put together in partnership with Moldova's development partners, including the private sector.

Recent economic developments. Employed population – US \$1,143 million, GDP – US \$5808 million, GDP per capita – US \$1632, GDP growth – 106,9% (all figures as of December 2010). Foreign direct investment per year and accumulated – US \$2825 million. Total debt of Government – US \$773,7 million and 15,8% debt to GDP. The Republic of Moldova's economic performance over the last several years was built on poor foundations. On the surface, the country was quite successful, with its GDP growing at an average rate of 5% (2006–2008), reaching 7.2% in 2008, while monetary and fiscal positions were kept in check. The overall fiscal balance had a deficit of only 1% (2008) and efforts have been made to bring inflation down. But vulnerabilities existed: economic growth was a function of consumption, mostly of imported goods, and was fuelled by remittances from abroad which grew at an alarming rate: remittances accounted for 30% of the GDP (2008), ranking among the highest in the world. Having originally been seen as a problem that could be tackled later, the global economic crisis had a major and abrupt impact on the economy of the Republic of Moldova. After registering double-digit growth rates for most of the decade, remittances fell by 27% in 2009, reflecting plunging economic activities in countries with large numbers of temporary Moldovan workers. Foreign Direct Investment fell abruptly to 2% of the GDP from a pre-crisis level of 11.4%. Exports of goods and services decreased by a hefty 22%, although the decrease of imports was even higher, namely 35%, meaning no overall negative impact on GDP performance. The combination of these factors brought a decline in GDP performance of 9% in real terms. At the end of 2009, the number of unemployed reached 73,900 and had doubled in comparison with 2008. Reduced disposable incomes, especially for the 40% of Moldovans living in households that receive remittances, as well as an overall decrease in consumer confidence resulted in deflationary pressures.

Reform agenda. The ESRP, which the new Government approved during its first 50 days in office, aims to re-launch economic growth within two years. Already being implemented, the ESRP intends to achieve the following objectives:

- To stabilize public finances and optimize the allocation of scarce resources according to policy priorities;
- To stimulate economic recovery through market reforms and access to credit and public investment in infrastructure;
- To alleviate the impact of the economic downturn on the most vulnerable.

While providing a much-needed focus on actions that have to be undertaken in the immediate future, the ESRP is no substitute for a medium to long term reform agenda of the Government. Macroeconomic stability and an efficient public administration are still prerequisites for meeting the National Development Strategy (NDS) objectives.

The Government fully realizes that there is a need for a new NDS following the current one. In this regard, the Government is keen to use information and communication technology (ICT) as a tool to

transform the current development paradigm and to enable the transition of Moldova to the next generation in terms of economy, society and government. The development of a new NDS will be undertaken in full partnership with civil societies along with our development partners, including private investors. Progress towards negotiating a new EU – Republic of Moldova Association Agreement will provide a stronger framework for a future NDS. For now though, the focus is on crisis management and implementation of reforms. The reform programme reflects the Government's priorities and the significant investment financing needs of Moldova.

Energy. Up to 98% of primary energy resources in Moldova are imported and the country is highly dependent on supplies from Russia and Ukraine. Until recently, national tariffs for energy were regulated by public authorities who limited increases in tariffs because of concerns about the impact of price rises on the population. Tariff increases are required to fund improvements in equipment, 60% of which has been in use for over 30 years and 40% for more than 40 years. This situation leads to a reduced quality of electric power supply services as well as to increased losses during energy transportation and distribution, and ultimately to a low sector efficiency and accumulation of debt along the energy sector value chain (starting with import and ending with final consumption). In order to reduce further accumulation of debt and/or increases in energy tariffs, the government is planning to assess the efficiency of energy companies and invest in restructuring their operation, thus making them more efficient. This will require the modernization and extension of the generation capacity of the national Combined Heating Plants and energy distribution networks, as well as the construction of new energy interconnections with neighbouring countries. Undertaking this modernization will make the sector more attractive to private sector investors. Bearing in mind the Government's objective to optimize energy tariffs by improving efficiency, diversifying sources of primary energy and promoting energy conservation, the measures above will be complimented through the development of the thermal energy sector.

Health. Reforms implemented in the last years in Moldova's health system to strengthen primary health care and launch compulsory health insurance have enabled progress towards achieving the Millennium Development Goals. In spite of the progress, average life expectancy at birth remains one of the lowest in Europe. High morbidity and mortality rates call for new approaches to address public health issues and to involve all social sectors in tackling the root of health problems. Furthermore, there is a clear benefit from redirecting the healthcare system towards illness prevention.

Strengthening health systems and protecting public health are priorities for the ongoing health reforms and a subject of the future Association Agreement between the Republic of Moldova and the European Union. The alignment to international and EU norms implies the adjustment of the public health system particularly to the International Health Regulations (2005).

An effective State Service for Public Health requires appropriate and coordinated supporting actions if it is to respond to new challenges that affect the population's health status. These actions include surveillance, prevention and control over communicable and non-communicable diseases, health promotion, information and health education, and assessment of social health determinants. The main proposed actions include:

- a) rehabilitation and modernization of diagnostic and laboratory services;
- b) strengthening the implementation capacity for public disease prevention and control.

The slow transition to a market economy accompanied by a significant economic crisis has had a major negative impact on the health system in general and on the hospital sector in particular. Hospital reorganization was identified as a health system priority and is stipulated within the national policy and strategic planning documents including the National Health Policy for 2007–2021 and the Health System Development Strategy for 2008–2017. In order to manage the investments needed for the hospital sector effectively, modernization will take place in accordance with the National General Plan for the Hospital Sector developed by an international consulting company with the financial support of the World Bank. While the primary health care reform is being financially supported by the European Commission through a sector policy support programme of €46.6 million, financial sources for the implementation of the General Hospital Plan have yet to be identified. The consolidation and restructuring of hospitals will enable the achievement of a fundamental change by accelerating the development, re-equipment and modernization of the whole system and thus adjusting it to EU standards. In this way, it will contribute more effectively to increasing public accessibility to quality health care, ultimately leading to an improved health status. Referring the most difficult cases to tertiary level hospitals and upgrading their infrastructure will ensure a safe environment for the delivery of high quality medical services.

Science and innovation policy. Science is developed mainly around the Academy of Sciences of Moldova. The Academy of Sciences is nominated the sole public authority of national significance in the field of science and innovations, a plenipotentiary coordinator of scientific and innovation activities, a supreme scientific forum of the country and scientific consultant of public authorities of the Republic of Moldova. Any domestic scientific institution or organization (including universities) may obtain budget support only on a competitive basis through the Higher Council for Science and Technological Development of the Academy of Sciences. In 2005, the Agency for Innovation and Technology Transfer was organized within the Academy of Sciences. By Law No. 259-XV of 15 July 2004, the Code on Science and Innovations was approved. This code regulates legal relations, connected with elaboration and implementation of state policy in the field of science and innovations, activities in the field of scientific research, innovations and transfer of technologies, scientific-technological information, accreditation of organizations in the field of science and innovations,

attestation of scientific and scientific-pedagogical personnel of highest qualification, protection of intellectual property, and the legal status of entities.

IV. NUCLEAR AND RADIATION PRACTICES

Metrology. Along with getting independent, there was a need in the country to develop a national system of standards to ensure traceability, consistency and accuracy of measurements throughout the Republic of Moldova in areas such as health and public safety, environmental protection, quality control products, processes and services etc. The National Institute of Standardization and Metrology (NISM), designated by law as the National Metrology Organism, is the owner and manager of the National Standards Base to ensure the preservation and transmission of all units of instrument measurement in the country. With the financial support from the IAEA (project MOL/6/004), completed successfully in 2007, the Laboratory of Ionizing Measurements of NISM was re-equipped with advanced metrological laboratory equipment. As a result, the **national standard of air kerma and power kerma in air** was created, which is a key component of the National Standards System. The standard destination is to store and reproduce air kerma and air kerma strength units, dose absorption transmission units, exposition and equivalent doses of radiation and their power from air kerma and air kerma strength. Creating standards allowed the provision of calibration/verification of measuring instruments (dosimeters, radiometers etc.) which greatly increased the reliability of measurements and measuring instruments, which have a significant impact on health and human protection from harmful influences of ionizing radiation.

Environmental radioactivity monitoring. Environmental radioactivity monitoring in Moldova is carried out by the State Hydro Meteorological Service since 1978, performing systematic measurements of ambient dose rate gamma radiation. At present, the spectrum of measurements concerning the radioactivity of environmental factors was expanded (atmospheric aerosols and fallout, raw surface waters, uncultivated soils). Thus, the radiological monitoring carried out by the monitoring centres of the State Hydro Meteorological Service on air quality and environmental radioactivity runs by an approved Action Programme. At the national level, systematic measurements of ambient equivalent dose rate gamma radiation are carried out daily at 7:00 h and 20:00 h according to the established monitoring programme of the State Hydro Meteorological Service at 18 meteorological stations (North – 7, Center – 7, South – 4; dosimeters Ultra Radiac 101 mrad, ДРГ 01m1, СРП 68-01). Starting in 2003, radiological observations of the following parameters are carried out at the meteorological stations and environmental quality monitoring sections: anthropogenic radionuclides ^{137}Cs , ^{90}Sr , telluric radionuclides ^{226}Ra , ^{232}Th , ^{40}K , beta and gamma gross activity. Currently, these observations are provided in atmospheric fallout, uncultivated soils and raw surface waters. In 2009, investigations were initiated on the determination of radioactive aerosols, which are sampled by using ASS500 collection facilities. Qualitative and quantitative determination of

radionuclides, as well as γ and β activity are investigated by using gamma spectrometers with scintillation NaI detectors (type AT1315, received in the framework of the IAEA TC project „Establishing a Radiological Monitoring Network for Environmental Quality”). For the purpose of improving the national network of radiological monitoring during 2007–2008, the following equipment to measure ambient equivalent dose rate gamma radiation has been received and put into operation: a dosimeter, type Ultra Radiac mrad 101; a spectrometer AT1315 by scintillation model beta and gamma; and a portable radiometer, type *iSOLO*, measuring the activities of alpha and beta radionuclides.

Other scientific research results. Most of the research in nuclear physics field is concentrated in the *Institute of Applied Physics* (IAP) of the Academy of Sciences of Moldova. The Laboratory of Statistical and Nuclear Physics at IAP carries out theoretical investigations of mechanisms of nuclear reactions initiated by hadrons, photons and heavy ions in a large range of beam energy from tens of MeV up to tens of TeV per nucleon. Theoretical investigations in the frame of common themes with the Joint Institute of Nuclear Researches at Dubna are also carried out and are included in the following international projects:

- The NICA/MPD (Nuclotron-based Ion Collider FAcility and MultiPurposeDetector) collaboration to study the fundamental problems of equations of the state of nuclear matter produced in collisions of relativistic heavy ions;
- E&T RAW (Energy and Transmutation of Radioactive Waste) collaboration to study the possibilities of new electro-nuclear methods and schemes of energy production and transmutation of radioactive wastes.

In the *Center of Optoelectronics*, investigations of micro- and nano-fiber are carried out on the basis of vitreous semiconductors, of different structures obtained by electron microscopy, optical and acoustical sensors etc. The *Institute of Chemistry* is largely using the Mossbauer spectroscopy for the study of chemical compounds in solid state by Co-57 radionuclides.

The *Institute of Genetics and Plant Physiology* uses a gamma installation type RXM-20 for a large spectrum of scientific investigations of biological objects. The *Institute of Biological Protection of Plants and Ecological Agriculture* uses gamma irradiation for the improvement and development of pest control of different crops (cabbage, tomatoes, peppers, corn, peas etc.) and multi-crops (apple, plum). Similar methods are used in the Tiraspol University for obtaining new sorts of tomatoes, but irradiation is done abroad on the basis of scientific cooperation.

Electron microscopy is used largely (*Institute of Electronic Engineering, Institute of Applied Physics, Technical University, State University*) for obtaining semiconductors and dielectric of different types

of nanotubes, nanostructures, nanofilters etc. by ion bombing. This technology is also used by electron registration of optical information.

The *Scientific Practical Center on Public Health* studies the radon concentration in industrial objects, buildings and dwellings.

Health area. *The Department of Radiology and Nuclear Medicine at the Medical Diagnostic Center of Moldova* is also a large user of nuclear technologies. For example, about 70 000 investigations, except computer tomography investigations, and about 50 000 radionuclides in vivo investigations were done during the period 2006–2010 alone. To this end, 1 mammography, 1 radiography system and 2 computer tomography systems are being used.. There are also 2 gamma cameras and 1 SPECT gamma camera, which were received with the support of the IAEA. At the *Republican Center on Nuclear Medicine and NMR Imagistic* (Republican Hospital) about 18 0000 investigations in vivo and in vitro by radiopharmpreparates were done in the period 2007–2011 alone. Also, a feasibility study for the implementation of the PET technology was recently elaborated. The nuclear medicine laboratory at the *Center of Child and Mother* uses more than 30 diagnostic methods for in vivo investigations per year. With IAEA support, digital type XRING gamma cameras were received and put into operation. The *Institute of Oncology* is the sole such institution in Moldova and has 1000 patients on evidence. Yearly, about 8000 new patients are detected in addition. For treatment purposes, radiotherapy is proposed for 80% of new patients, 40% of which are treated by the recently installed LINAC. It is necessary to mention that during the last 10 years, the Oncological Institute has received equipment for diagnosis and therapy in the amount of more than \$3 million through the IAEA TC programme (Simulix simulator, Somatom tomograph, CLINAC DHX, 3D planning systems, Therapax for radiotherapy, brachytherapy complex GammaMed Plus). A new nuclear medicine laboratory with a digital Any Scan S gamma camera was launched. More than 50 persons from the medical staff and engineers were trained with the support of IAEA technical cooperation activities.

Other. Last year, special attention was paid by IAEA TC to upgrade the technology of the Special Objects 5101, 5102 (waste storage facility). This enterprise is the sole one in the country in the field of storage of disused radioactive sources and radioactive waste.

Small components of nuclear and isotope technologies are referred to the industrial and agricultural sectors.

More attention has been paid during the last years in Moldova to nuclear security measures. Forexample, a comprehensive Plan of Actions was elaborated and signed with the Office of Nuclear Security from the IAEA regarding the improvement of physical protection and nuclear security measures in Moldovan facilities with relevant technologies. These actions involve all interesting counterparts from Moldova, such as the NARNRA as the regulatory body, and main operators such as custom services, Special Objects 5101, 5102, and the State Service on Civil Protection and Emergency

Situations. In this respect, a great contribution of the US Department of Energy as an external donor should be mentioned. The Government of Moldova and US Government recently signed the Common Plan of Actions in combating illicit trafficking of nuclear and radioactive materials, in whose implementation NARNRA is involved with many activities.

V. OVERVIEW OF IAEA – REPUBLIC OF MOLDOVA COOPERATION

The Republic of Moldova became a full member of the IAEA in 1997. However, technical cooperation between the IAEA and the Republic of Moldova began as early as 1994 within the scope of a UNDP supported regional project on radiation and nuclear safety infrastructures in former USSR countries. In general, since its membership with the IAEA, the Republic of Moldova has paid more attention to the following main directions, mentioned in the signed CPF:

- Sustaining the transfer of nuclear techniques in the human health sector for nuclear medicine, radiotherapy and radiodiagnostics;
- Implementation of new radiation processing technology for the country; first of all, for the medical and pharmaceutical sectors, cosmetics and nanotechnology. Secondly, this technology must be extended to the food industry and agricultural sectors;
- Development of a sustainable land water management, crop protection and crop improvement, investigation of water resources by nuclear and isotopes technologies;
- Special attention is paid to the establishment of adequate advanced radioactive waste management;
- All these activities were accompanied by the development of the main pillars (milestones) for nuclear and radiation safety, nuclear security/physical protection, emergency preparedness, legal infrastructures, independent decision making of the regulatory body and human resources development and maintenance.

In spite of certain retains regarding technology transfer liaisons with radiation processing, international experts underline the substantial progress of the Moldovan authorities in establishing and maintaining the main pillars mentioned for the safe use of nuclear and isotope technology in the country. The 1997–2011 cooperation programmes were focused on varying issues, such as the establishment of the national centre of the International Nuclear Information System (INIS); delivery of radiation protection equipment; upgrading the technical capabilities of the waste processing and storage facilities, and upgrading of radiodiagnosis for patients from different medical institutions. A study on energy planning was carried out to determine the energy and electricity demand forecasts for Moldova. The IAEA also provided assistance to strengthen the national radiation protection infrastructure and to improve radiation monitoring services and assessment of environmental monitoring data. As a result, the early gamma radiation warning system to alert the population in a radiation emergency was created.

Capacity building activities also included human resource development and nuclear technology support in selected fields in support of the national programme. Other fields of technical assistance were focused on strengthening the regulatory infrastructure and radiation safety; upgrading the efficiency of external beam therapy for oncology patients; radiation safety and protection of patients and personnel in X-ray diagnostics; and emergency preparedness through monitoring landslide territories and hydro-technical dam states by using nuclear methods and nuclear applications in agriculture. Upgrading nuclear medicine and radiotherapy was one of the governmental priorities. Resumption of some local nuclear medicine services has contributed positively to the national healthcare system and helped reduce the need for, and financial burden of, seeking similar services abroad.

The IAEA started their first radiotherapy projects in Moldova in 1997 as part of its Technical Cooperation Programme. In addition to national projects, Moldova also became one of the majority IAEA regional projects on quality assurance and control in radiation oncology; monitoring of the environment; prevention and reaction to emergency situations; human resources preservation; waste management of radioactive waste; and use of isotope and nuclear technologies in industry, the agricultural sector and science. Since 1997, the IAEA has contributed more than US \$ 4 000 000 from its Technical Cooperation Fund for systematically upgrading Moldova's oncological policy and strategy to radiotherapy and radiodiagnostics centers. These funds have financed the provision of specialized staff training, fellowships and equipment to Moldova, as well as a modern treatment planning system, a simulator, an computed tomography system, a THERAPAX X-ray therapy system, new Cobalt-60 sources to refurbish radiotherapy units and essential dosimetry facilities to ensure optimal doses to radiotherapy patients.

Radioactive waste management has been improved through upgrading the radioactive waste repository near Chisinau. This upgrading included the introduction of pre-treatment (segregation), treatment and conditioning of solid and liquid waste, the establishment of a near surface temporary storage of spent high-activity sealed sources and QC techniques. Also, environmental monitoring surrounding the repository has been established. The upgrading meets existing and future demands for radioactive waste management in accordance with international standards and criteria. A new waste storage for the low level waste was designed and constructed.

The National Register of Ionizing Sources has been established in the country. During 2008–2010, the inventory process was carried out with the support of the US NRC and all collected data were introduced in the electronic data base of the Register. In 2008, the authorization procedure of all activities involving ionizing sources has started. As of 1 January 2012, about 70% of all registered operators have received official authorizations from the NARNRA. A number of unused sources were transported and deposited on the radioactive waste repository.

Finally, completed (17) national IAEA projects for the Republic of Moldova during 2000–2011 are characterized by a technical cooperation investment of **\$5,357,798,00 only through the completed following national TC projects:**

Completed National Projects (18 for the period 2000-2011)

<u><i>Project Number</i></u>	<i>Title</i>	<u><i>Field</i></u>	<u><i>Completed on</i></u>	<i>Total Budget</i>
<u>MOL0002</u>	Establishing an INIS Centre	<u>0F</u>	2000-02-29	40,860
<u>MOL0003</u>	Analysis of Power Systems Using WASP and MAED Models	<u>0E</u>	2001-04-27	55,260
<u>MOL0004</u>	Human Resource Development and Nuclear Technology Support	<u>0A</u>	2001-09-14	20,556
<u>MOL2002</u>	Establishment of an Environmental Radiation Monitoring Network	<u>2C</u>	2010-05-05	101,892
<u>MOL4002</u>	Radioisotope Laboratory (stopped)	<u>4H</u>	2001-08-27	1,920
<u>MOL4003</u>	Radioactive Waste Processing and Storage Facility	<u>4O</u>	2004-01-28	103,594
<u>MOL6002</u>	Upgrading Efficiency of External Beam Therapy for Oncology Patients	<u>6C</u>	2005-03-29	487,414
<u>MOL6003</u>	Upgrading Efficiency of Brachytherapy Service for Oncology Patients	<u>6C</u>	2007-04-03	387,202
<u>MOL6004</u>	Establishment of a National Calibration Laboratory for Radiation Dosimetry	<u>6F</u>	2009-02-11	156,380
<u>MOL6005</u>	Development of Quality Assurance Programmes for Nuclear Medicine	<u>6B</u>	2007-05-02	603,697
<u>MOL6006</u>	Introduction of High Energy Beam Radiotherapy for Oncology Patients	<u>6A</u>	2012-01-31	1,966,113
<u>MOL6007</u>	Upgrading the Nuclear Medicine Laboratory in the Institute of Oncology	<u>6C</u>	2012-01-06	496,385
<u>MOL8002</u>	Monitoring Landslide Activity and Hydro-technical Dam States Using Nuclear Methods	<u>8A</u>	2007-02-09	238,096
<u>MOL8003</u>	Isotope and Nuclear Technologies for Assessment of Groundwater Resources	<u>8N</u>	2009-01-15	161,314
<u>MOL8004</u>	Feasibility Study for Establishing the National Radiation Processing Centre	<u>8H</u>	2010-04-23	68,175
<u>MOL9002</u>	Development of Radiation Monitoring Capability	<u>9E</u> <u>9F</u> <u>9G</u> <u>4O</u>	1999-07-30	258,383
<u>MOL9004</u>	Upgrading the National Monitoring and Control Laboratory Network for Radiation Protection	<u>9G</u>	2004-05-20	124,732
<u>MOL9005</u>	Radiation Safety and Protection of Patients and Personnel in X-ray Diagnostics	<u>9J</u> <u>9C</u> <u>6F</u>	2006-03-27	85,825

Based on a three party initiative (United States of America, Russian Federation and IAEA), a new storage facility for high activity sources was constructed, a new physical protection system was established, and some high level radioactive sources were removed from the country.

Human resources development and nuclear technology support has been provided also in selected fields in relation to the national programme. In addition, Moldova continues its active participation in about 22 regional/interregional TC projects of the Europe region that cover subjects of particular interest for the country.

Much attention is paid by the Moldovan authority to the combat of illicit trafficking of nuclear and radioactive materials. Recently, in September 2011, a Common Action Plan in this field was signed by the Moldovan and the US Governments. A significant contribution to this subject is also paid by the IAEA NSNS Department in the framework of the agreed cooperation with NARNRA INSSP.

If the efficiency of the Moldovan – DTC IAEA cooperation is analysed carefully, the results on the surface are very distinctly relevant and may be characterized from a financial point of view by an investment of more than US \$8 million (from the regional and national projects) in the country during the period 2001–2011 (see Annex 4).

During 2009-2011, Moldovan partners participated successfully in the following regional projects, and benefitted from training, fellowships and, in any case, from receiving equipment for chemical reagents.

Project	Title	Field
<u>RER0028</u>	Improving Educational and Training Capabilities in Nuclear Science and Applications	<u>0I</u>
<u>RER0030</u>	Strengthening Capabilities for Nuclear Knowledge Preservation	<u>0I</u>
<u>RER3007</u>	Improving Quality Management of Radioactive Waste	<u>3H</u>
<u>RER5013</u>	Evaluation of Natural and Mutant Genetic Diversity in Cereals Using Nuclear and Molecular Techniques	<u>5C</u>
<u>RER6017</u>	Improving Clinical Practice in Nuclear Medicine (Phase II)	<u>6B</u>
<u>RER6018</u>	Strengthening Regional Capacity in Medical Radiation Physics (Phase II)	<u>6F</u>
<u>RER6019</u>	Improving Clinical Practice in Radiation Oncology (Phase II)	<u>6C</u>
<u>RER6020</u>	Quality Assurance Team in Radiation Oncology: Improving the Quality of Radiotherapy Services (Phase II)	<u>6C</u>
<u>RER7005</u>	Providing Technical Support for Implementing Modern Approaches and Tools for the Assessment of Radiation Impact on Terrestrial and Freshwater Environments	<u>7F</u>
<u>RER8014</u>	Supporting Radiation Synthesis and the Characterization of Nanomaterials for Health Care, Environmental Protection and Clean Energy Applications	<u>8H</u> <u>2D</u> <u>8O</u> <u>2C</u>
<u>RER8016</u>	Using Environmental Isotopes for Evaluation of Stream water/Groundwater Interactions in Selected Aquifers in the Danube Basin	<u>8N</u>

<u>RER8017</u>	Enhancing QC Methods and Procedures for Radiation Technology	<u>8H</u>
<u>RER9079</u>	Upgrading Radiation Protection Infrastructure in Eastern Europe & Central Asia	<u>9H</u>
<u>RER9089</u>	Development of National Capabilities for Protecting the Health and Safety of Workers Occupationally Exposed to Ionizing Radiation	<u>9I</u>
<u>RER9091</u>	Establishment of National Capabilities for Response to a Radiological and Nuclear Emergency	<u>9L</u>
<u>RER9094</u>	Upgrading National Capabilities in Controlling Public Exposure	<u>9K</u>
<u>RER9095</u>	Strengthening Safety Assessment Capabilities	<u>9F</u>
<u>RER9096</u>	Strengthening National Infrastructures for the Control of Radiation Sources (TSA-1), (Phase II)	<u>9T</u> <u>0N</u>
<u>RER9097</u>	Strengthening National Capabilities for Radiological Protection of Workers and Occupational Exposure Control	<u>9I</u>
<u>RER9099</u>	Strengthening the Effectiveness of Regulatory Authorities and Advanced Training in Nuclear Safety	<u>9H</u>
<u>RER9100</u>	Developing National Arrangements and Capabilities for Preparedness and Response to a Nuclear and Radiological Emergency	<u>9L</u>
<u>RER9101</u>	Building Competence Through Education and Training in Support of Radiation Protection Infrastructures	<u>9X</u> <u>9C</u> <u>9I</u>

Ministry of Health requested IAEA's assistance through the Programme of Action for Cancer Therapy (PACT). In this regard, an ImPACT mission to Moldova was conducted on in November 2008 in collaboration with the WHO Regional and Country Offices.

VI. CURRENT TC PROGRAMME

The technical cooperation programme approved for Moldova for the last two cycles comprises: 6 TC projects with a total core budget of more than \$3,5 million. These last cycles may be characterized by changes in the interaction and policy between the IAEA and Moldova that now focus on bigger national projects, but less in numbers. For example, three big projects were launched, more than \$1 million each, for the Oncological Institute (two projects: implementation of the CLINAC's technology and of a Nuclear Medicine Laboratory) and for the Academy of Sciences (Radiation Processing Center, \$1 million) complemented with a daughter project (Laboratory Complex for this Center, \$0.6 million). All developed directions were also confirmed by the Moldovan authorities as national priorities. At present, 4 national projects are currently being implemented:

Active National Projects (as of 1 April, 2012)

<u><i>Project Number</i></u>	<i>Title</i>	<u><i>Start</i></u>	<i>Approved budget, Euro</i>
<u>MOL6008</u>	Strengthening Nuclear Medicine Practice to Improve Chronic Disease Diagnosis by Implementing SPECT/CT in Clinical Practice and Preparing a Feasibility Study for Establishing a PET Centre	2011	844,754,00
<u>MOL3002</u>	Upgrading the Conditioning and Storage Facility for Solid Radioactive Waste	2009	213,332,00
<u>MOL8005</u>	Establishment of a National Radiation Processing Centre	2007	772,186,00
<u>MOL8006</u>	Establishing Laboratories to Support the National Radiation Processing Centre	2009	574,250,00

Moldova also benefits from continuous participation in about 24 new TC regional projects (cycle 2012–2013) and from 7 continuous regional projects from previous cycles, which are addressed to priority issues, such as improvement of legislation, radiation protection, emergency preparedness, nuclear medicine and diagnosis, agriculture and veterinary science, and environment (see Annex 5).

VII. OTHER INTERNATIONAL ASSISTANCE

The Republic of Moldova has received assistance through support programmes from international organizations, i.e. the World Bank, IMF, EU, EBRD, UN, etc. (in the form of loans, humanitarian assistance grants, technical assistance in the form of free-standing and investment related technical cooperation). Moldova also benefits from bilateral donors: France, Germany, Italy, Japan, the Netherlands, Romania, the Czech Republic, Sweden, Turkey, and the United States. This assistance was not related to the nuclear field.

Since 2010, the Republic of Moldova is a full member of the Energy Community Treaty and has ratified the Kyoto Protocol to the United Nations Framework Convention on Climate Change. The protocol entered into force on 16 February 2005. With support from UNDP, the Government has developed the National Strategy for Sustainable Development in accordance with Agenda 21 of the UN Conference on Environment and Development (Rio de Janeiro, 1992). As a follow up to this initiative, a project has been developed for the elaboration of the local Agenda 21 envisaging, among others, support for the National Sustainable Development Commission and the pilot development of local level sustainable development plans. Sustainable development concerns are also integrated, for example, into the recently approved new UNDAF activities in the areas of agriculture, industry and power. The implementation of national obligations under international environmental conventions is a component within the governance area.

The EU is developing an increasingly close relationship with Moldova, going beyond cooperation, towards gradual economic integration and a deepening of political cooperation. Moldova is a partner country within the European Neighborhood Policy (ENP). A joint EU-Moldova ENP Action Plan lays out the strategic objectives based on commitments to shared values and effective implementation of political, economic and institutional reforms. The EU-Moldova ENP Action Plan is based on the Partnership and Cooperation Agreement (PCA) and encourages and supports Moldova's objective of further integration into European economic and social structures.

The EU and the Republic of Moldova are currently negotiating an association agreement to succeed the PCA. This association agreement will significantly deepen Moldova's political association and economic integration with the EU. The objective is to start negotiations on a Deep and Comprehensive Free Trade Area (DCFTA), a core element of the association agreement, as soon as Moldova is deemed to be ready to sustain the impact of far-reaching liberalization of its trade with the EU. EU-Republic of Moldova visa facilitation and readmission agreements entered into force in January 2008 and a wider Mobility Partnership was signed in June 2008. In June 2010, a visa dialogue opened, examining conditions for visa-free travel of Moldovan citizens to the EU as a long term goal.

In order to accelerate Moldova's political association and economic integration with the EU, and in line with the EU's Eastern Partnership policy, the EU and the Republic of Moldova have entered into negotiations on an association agreement. This agreement is a concrete way to exploit the very positive dynamics in EU-Moldova relations, focusing on support of core reforms, on economic recovery, governance and sector cooperation. The association agreement can also be seen as a reform agenda for Moldova, based on a comprehensive programme of regulatory approximation, around which Moldova's assistance partners can align themselves and focus their assistance. The objective is to start negotiations on a deep and comprehensive free trade area as a core element of the association agreement if and when Moldova is deemed to be ready to sustain the impact of a far-reaching liberalization of its trade with the EU. Negotiations were launched in Chisinau on 12 January 2010. The seventh negotiating round on the association agreement took place on 5 July 2011 in Brussels. The principal donors in Moldova, in addition to the EC, are the World Bank, EBRD and UNDP/UNICEF, the USA and Canada, and, of the EU countries, Sweden, the United Kingdom, the Netherlands, Germany, the Czech Republic, Denmark, Poland, Latvia, Lithuania and Romania. Switzerland and Norway are providing assistance as well.

ENPI national allocation for Moldova. Assistance provided under the national ENPI envelope for Moldova will focus on **three priority areas** selected on the basis of joint EU-Moldova policy objectives and the EC's comparative advantage as a donor based on lessons learnt from previous assistance programmes and complementarities with other donors. Among the established priorities, the following sub-priorities and direct or indirect liaisons with our IAEA-Moldova cooperation should be mentioned: sub-priority 4 (priority area 1): **Education, science**, and sub-priority 2 (priority area 2) **Sector-specific regulatory aspects.**

It is also necessary to mention other international agreements in sustaining the regulation of nuclear and radiological activities in the country. Over the last few years, the US NRC sustains NARNRA, through NGO, in their activities in the field of inventory processes, authorization and maintenance of today's activities. The Sweden Nuclear Safety Authority sustains NARNRA activities in the field of technical equipping and training of personnel. The Romanian National Commission for Control of Nuclear Activity (CNCAN) also signed the MoU with NARNRA. The Ministry of Environment of the Republic of Moldova and the European Commission signed a TACIS project, with one of its goals being the support of the NARNRA by necessary equipment for prompt response to nuclear or radiological incidents or accidents.

VIII. FOCUS ON FUTURE TC COOPERATION

This chapter reviews very briefly the general needs of the counterparts from Moldova in the field of development of nuclear and radiological activities for peaceful purposes.

Metrological sector. Currently in Moldova, there are several pieces of equipment in various fields that work with the use of X-rays, which are provided in medical diagnostic laboratories, customs posts, exceptional service laboratories, research laboratories of the Academy of Sciences, etc. There are measuring instruments (about 450 units) used for the control of emitted radiation doses which currently cannot be calibrated/checked metrologically due to the lack of necessary equipment. This can be rectified by extending the measurement capabilities of the INSM Laboratory ionizing sizes through providing the metrological laboratory with the necessary equipment.

Currently, the laboratory specification of ionizing metrological equipment necessary for the extension of the calibration capabilities in the measurement of X rays (Roentgen) was included as a part of technical assistance in the IAEA's national project for 2012-2013. These will help ensuring control of radiation doses to patients and professional employees of medical institutions according to international standards.

One of the national priorities, from a health point of view, is **studying the distribution of natural sources of radon** in the Republic of Moldova (radon mapping) and the evaluation of radiological risks for the population exposed. Measurements made in this field require calibration/verification of the measuring instruments used (radonmeters). In the context of this subject, the equipment of the Laboratory of Ionizing Measurements from NISM with a **special room and appropriate equipment** required for calibration/verification of radonmeters would be most welcome.

Spectrometry is an important area requiring attention. At the moment, there is no insurance of measurement traceability in this area in the country. A solution to this compartment would be to equip the laboratory with a **standard spectrometer (alpha, beta and gamma)** that would ensure the transmission of measurement units in all country spectrometers through calibration/verification.

In the field of maintenance of meteorological monitoring of the environment, it is necessary to upgrade the national monitoring network by:

1) Equipping the Monitoring Centre on Air Quality and Environmental Radioactivity by:

- a high resolution spectrometer (extra pure germanium electronic cooled) for the determination of gamma activity of the collected aerosols and biota elements;
- online determination of the ambient equivalent dose rate gamma radiation;
- software for forecasting and modelling scenarios of potential radioactive contamination in a transboundary context in case of nuclear accidents;
- assurance of continuous radiological monitoring in the nearest areas of Special Objects 5101, 5102 and in the activity areas of nuclear medicine centres;
- determination of radionuclide concentrations in biota

Further developments in physics, e.g. of the CEM and QGSM models and MC code modifications, are of a great interest **for medical isotope and Rare Ion Beams production**, R&D on Accelerator-Driven Systems, R&D of **neutron sources on the basis of proton and deuteron accelerators (IFMIF, SNS projects)**, accelerator science and technology, various applications, especially in medical physics and external beam (e^- , p, ion) radiation therapy, where detailed data on yields, energy spectra and angular distributions of secondary particles and fragments are essential.

The Laboratory of Statistical and Nuclear Physics at IAP is also interested in the *implementation of nuclear technologies in economics and industry of the Republic of Moldova: production of short-lived radioactive isotopes for medicine; use of high radioactive gamma sources for the sterilization of products and medical or biological objects*. These may sustain further development of the Academy of Sciences' projects regarding the establishment

of the Radiation Processing Center and the affiliated Laboratory Complex for these purposes.

The perspectives outlined by the Information and Intelligence Service are to prevent and combat nuclear and radiological illicit trafficking, consolidation capacities and the expanding of the international cooperation in this field. Therefore, as an opportunity for cooperation with the IAEA, the eventuality of the following shall be noticed: organization of methodological training in the field for teachers and operative staff, endowment with teaching materials and technical equipment which have operational utility.

Further plans of using nuclear and isotope technologies in the medical sector are liaisons with extended implementation of digital radiography, mammography with 3D tomo-synthesis, SPECT CT gamma camera, and finally, a PET CT. Of course it is necessary to continue human resource training of personnel.

Taking into account that during the last year, there were two tentative incidents of illicit trafficking of nuclear material through the territory of the Republic of Moldova, it is necessary to start **developing a well equipped nuclear forensics laboratory**, which will serve all state authorities involved in combating illicit trafficking. The affiliation of such laboratory will be determined further.

The spectrum and volume of the TC assistance for Moldova is strongly dependent on the availability of TC resources including extra-budgetary contributions of the country or by donor countries. Many of the mentioned subjects are covered by the regional programmes approved for the next 2012–2013 cycle, interests of which for Moldavian partners are mentioned in Annex 5.

Substantial progress has been achieved so far in all areas and there is Government interest and commitment to continue the technical cooperation with the IAEA in the areas of nuclear technologies while placing emphasis on the following specific goals (in alphabetical order):

- *To develop and maintain Moldovan human resources for nuclear and isotope technologies;*

It means that it is necessary to continue support to Moldovan authorities and stakeholders to maintain human resources development in the field, which is not the part of the current TC national projects, but was part of past TC activities. Thus, it is necessary to sustain fields of activities, such as the study and development of water resources in Moldova, prevention of natural disasters caused by the current situation of dumps, effective use of geological radar systems for mapping and evaluation on old engineering underground communications, etc.

- ***To improve the Moldovan's capacity on environmental monitoring;***

The Moldovan capacity in monitoring the environment with regard to the study of radioisotope migration is limited. The subjects related to the operative presentation of dynamic data about the radioactive pollution of the environment to the citizens through a billboard in the central part of the city could neither be solved to this date.

Mapping the radon concentration in Moldova remains a very important problem, because this may influence recommendations from a health point of view for the development of the habitat area for citizens.

The biggest and highly important subject is a liaison with a further rise of the technological capacity for adequate radioactive waste management; assurances of continuous monitoring of migration of radionuclides through soil in the area of storage; assurance of efficient internet connections with NARNRA and the State Service on Civil Protection and Emergency Situations for operative transfer of results of monitoring, etc.

Another, but not last, part of these activities is to establish many side actions and a domestic laboratory network for the identification of orphan sources found or received from combatting illicit trafficking actions.

- ***To increase and diversify access to radiation and nuclear technologies in the Republic of Moldova;***

These domains involve such fields as the development of new sorts of crops and vegetables; new methods of stimulation or inhibition of growth of kinds of useful bacteria in microbiology; preservation of pharmaceuticals and of medical supply; transplantology; analysis and development of water resources; development in nanotechnology; radiochemistry, etc. It is very important to sustain researchers for them to present their results at international conferences and symposia in the field of nuclear and radiation technology.

- ***To strengthen the domestic regulatory infrastructure and its capacity with respect to IAEA standards and to address present and future challenges;***

In spite of the fact that the organic law for the regulation of nuclear and radiological activities has formally established single regulatory bodies in this field, other laws in the country are not adequate for these objectives. Also, according to the law, NARNRA is in charge of a very large domain of related activities in good compliance with international standards, but has only limited staff (14 units), which does not permit to cover all activities. Also, the allotted budget is far from being sufficient for performing all duties according to the law. 80% of the equipment of NARNRA was received in the

framework of technical cooperation with the IAEA, USA NRS, Swedish SSM, but its maintenance remains a problem.

It is necessary to upgrade the interaction between subjects of domestic infrastructure for the prevention, detection and reaction to different malicious acts with nuclear and radioactive materials.

Presently, the searching of orphan sources also remains an unsolved subject, in spite of efforts undertaken by NARNRA.

The establishment of very well equipped stationary laboratory analysis of nuclear and radioactive materials in the country is one of the milestones in strengthening NARNRA's capacity in respect to international standards.

- *To upgrade radio-diagnostic and radiotherapy techniques through the transfer of a new generation of relevant nuclear technology and knowledge in medicine.*

Of course, radiodiagnostic and radiotherapy were the main fields sustained in TC during the last 20 years in Moldova. Taking into account that Moldova is one of the poorest European countries, characterized by a growing number of oncological patients, it is obvious to continue this TC activity. Additionally, the recently launched policy of decentralization of services in the country by means of developing new radiodiagnostic and treatment centers for oncological patients, should be taken into account. This means establishing new medical entities outside the capital (in the northern, southern and eastern parts of Moldova), which will embark on new radiodiagnostic and nuclear and isotope treatment technologies. Moldovan authorities are ready to sustain these activities through budget investment and its new policy of large cooperation through PPP (private public partnerships).

In order to maximize the impact of radiotherapy and radio-diagnostic services and improve patient outcomes, this field of the cooperation is coordinated with WHO and integrated into 2013-2017 UNDAF for Moldova.

Ministry of Health of Moldova will continue cooperation with the IAEA Programme of Action for Cancer Therapy (PACT).

The endorsement of the CPF by the relevant governmental bodies and the IAEA, in spite of being a non-legally binding document, demonstrates the common commitment and shared responsibility to implement a sustainable mid term TC programme between the Republic of Moldova and the IAEA. The priorities presented above were identified by the relevant state authorities while taking into account their interfaces with national projects and resources.

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X. ANNEXES

ANNEX 1

MOLDOVAN LEGAL FRAMEWORK WITH IMPACT ON NUCLEAR AND RADIATION ACTIVITY

Moldovan Laws:

- ❖ Law No. 132 of 8 June 2012 “On safe deployment of nuclear and radiological activities”;
- ❖ Law No. 1163-XIV from 26.07.2000 “On the export, import, re-export and transit of strategic goods”;
- ❖ Labor Code (art. 385, in force from 22.05.2008);
- ❖ Contravention Code, (Art. 113(5), 147, 155¹);
- ❖ Penal Code (Art. 134/8, 134/9, 134/10, 292, 295, 295¹, 295²);
- ❖ Law No. 10-XVI from 03.02.2009. “On Public Health” (regulate radiation sanitary & hygiene aspects);
- ❖ Law No. 235-XVI from 20.06.2006 about general principles on regulation of entrepreneurs’ activity;

Government and Departmental Decree:

- ❖ No. 328 from 23.03.2007 about Regulation on Structure and Staff Limit of the National Agency for Regulation of Nuclear and Radiological Activities;
- ❖ No. 606 from 15.05.2002 “On the National System of Control of Export, Re-Export, Import and Transit of Strategic Goods in the Republic of Moldova”;
- ❖ No. 388 from 26. 06. 2009 about Regulation on Management of Radioactive Waste;
- ❖ No. 212 from 13. 03. 2009 about Regulation on Authorization of Nuclear and Radiological Activities;
- ❖ No. 1220 from 30. 10. 2008 about Regulation on State Control and Supervision of Nuclear and Radiological Activities;
- ❖ No. 1017 from 01.09.2008 about Regulation on National Register of Ionizing Radiations Sources and of Legal or Physical Authorized Persons;
- ❖ No. 1104 from 28.11.1997 about Procedures of Legal Expertise and State Registration of the Departmental Norms;
- ❖ No. 632 from 24.08.2011 about Regulation on Radiation Protection and Nuclear Security on Radiotherapy Practices.
- ❖ Minister of Health Decree on Basic Norms of Radioprotection. Hygienic Rules and Requirements. In force from April, 05, 2001.

ANNEX 2

MAJOR NATIONAL NUCLEAR INFRASTRUCTURE

National Agency for Regulation of Nuclear and Radiological Activities (NARNRA).

The National Agency for Regulation of Nuclear and Radiological Activities is the national authority in charge of regulation, authorization and control in the nuclear and radiological fields and has been founded to fulfil the Law on the Safe Development of Nuclear and Radiological Activities, № 111-XVI of 11 May 2006 (Official Monitor of the Republic of Moldova, 2006, № 98-101, art.451).

NARNRA is the central branch body under the Ministry of Environment and, as a legal person, has a stamp with the coat of arms of the country, bank accounts, material resources and other necessary attributes. Financing of the NARNRA is carried out from the state budget, stipulated by a separate article and other legal sources, too.

NARNRA is independent in its decision-making on the regulation of nuclear/radiological activities and is guided by the Constitution of the Republic of Moldova, legal acts, decrees of the President of the Republic of Moldova, government decisions, orders and dispositions of the Ministry of Environment, which do not influence the decision-making and financial independence of the regulator, by the international conventions and agreements in the field of nuclear and radiological activities, to which the Republic of Moldova is a party, and other normative acts, as by the present statute.

NARNRA as the central branch body in the field of regulation of nuclear and radiological activities carries out functions of the national coordinator in relation with the IAEA and other international profiles.

Other state authorities and institutions with power in the nuclear and radiological field.

The Ministry of Health owns, manages and sets national standards for hospitals, elaborates and implements the Government's health care policy, coordinates the implementation of the national health reform which addresses the health finance reform; health care provision; stewardship and governance; human resource development and other units which are included in the structure of the ministry. The Ministry of Health regulates and supervises activities of different institutions which use ionizing radiation sources in their activities (Republican Clinical Hospital, Republican Diagnostic Center, Moldovan-German Center of Diagnostics, Center of Child and Mother, Moldovan-Turkish Health Center, hundreds of curative and diagnostic state and private cabinets, etc.). It is necessary to underline that nuclear medicine and radiodiagnostic practices are familiar for many clinics and

hospitals in Moldova, but historically, the Republican Clinical Hospital is recognized as the main center of development for nuclear and imagistic medicine with radiotracers.

- **The National Scientific-Practical Centre of Public Health (NSPCPH)** may be characterized as an institution which regulates, from the sanitary and epidemiological point of view, all activities in the country which may have a certain influence on human health. Among its activities, the following are related to ionizing radiation:
 - supervision and hygienic estimation of radionuclides in food stuffs at all stages of their manufacture; potable water, including sources of potable water; building materials and other widely used products; delivery of hygienic certificates for domestic or imported products
 - monitoring the influence of radiological and nuclear activities on the health of the population, and emitting respective conclusions on the basis of current legislation
 - hygienic normalization of radiological factors; sanitary and epidemiological supervision of facilities carrying out nuclear and radiological activities, according to current legislation;
 - monitoring of irradiation of the personnel working with ionizing radiation sources, of patients under medical investigation and the population in case of radiological (nuclear) accidents;
 - scientific and research activities in the field of medical and biologic effects of ionizing radiation.
- **The National Institute of Oncology** is the sole hospital in the country under the Ministry of Health with duties for curing, radiotherapy and nuclear medicine of oncological patients. At present, the institute is the sole medical centre which is authorized to practice radiotherapy in the country.

The State Service on Civil Protection and Emergency Situations (under the Ministry of Internal Affairs):

- implements the international conventions on early notification of a nuclear accident and assistance in the case of a nuclear accident or radiological emergency as focal point and competent body;
- coordinates the implementation of the International Convention on Physical Protection of Nuclear Material, to which the Republic of Moldova is a party;
- organizes and coordinates activities of a national network of monitoring, observation and laboratory control over environmental radionuclide contamination in case of radiological and nuclear accidents;

- plans and coordinates the implementation of measures for the protection of the population and the environment in case of radiological and nuclear accidents, such as terroristic acts with uses of nuclear materials or ionizing radiation sources;

The Ministry of Environment is responsible for:

- the elaboration and implementation of different state strategies in the field of environmental protection;
- the monitoring, selection and analysis of the information on environmental background contamination through the affiliated State Hydro-Meteorological Service;
- the forecast of dispersion and movement of radioactive pollutants; research of influences of radioactive pollutants and consequences for the natural ecosystem.

Waste Storage Facility “Special Objects 5101 5102” (affiliated to the State Service on Civil Protection and Emergency Situations) is the sole enterprise authorized for collection, storage and treatment of unused radioactive sources in the country.

The Ministry of Agriculture and Food Industry as the central authority in the agro-industrial field, through its radiological laboratory carries out:

- radiation monitoring of soils, agriculture, vegetable and zoo-technical products;
- scientific research on the impact of radioactive pollution on agricultural zones;
- departmental supervision of radiological activities in the agro-industrial sector.

The Customs Service under the Ministry of Finance carries out the control and admittance, on the basis of the NARNRA authorization, of import, export or transit of ionizing radiation sources, equipment, materials, and also information concerning the proliferation of nuclear weapons or other nuclear explosive devices.

The National Institute on Standards and Metrology under the Ministry of Economy carries out:

- coordination of activities in the field of metrology;
- State registration of standards and so-called technical regulation documents;
- calibration and verification of means of measurements.

The Academy of Sciences of Moldova carries out scientific research and professional training of high qualification in the field of nuclear sciences.

The National Commission of Radiation Protection (to be reviewed in future) is a consultative body under the Government in the field of safety of nuclear and radiological activities, whose decisions have recommendatory character. Its regulation, nominative component and powers are approved by the Government.

There are also a number of NGOs in the country, commercial or non-profit, whose activities focus on sustaining nuclear and radiological practices.

ANNEX 3

**REPUBLIC OF MOLDOVA vs IAEA
MULTILATERAL AND SAFEGUARD AGREEMENTS**

International legal instruments	Signature / Instrument	Deposit/ In force
GENERAL		
IAEA Statute	Accession	24.09.1997
Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the IAEA (RSA))	Signed	24.09.1998
Agreement on the Privileges and Immunities of the IAEA;	Acceptance 28 Febr. 2008	22.12.2008
SAFEGUARDS AND NON-PROLIFERATION		
Treaty on the Non-Proliferation of Nuclear Weapons		11.10.1994 (a)
Safeguards Agreements between the Agency and the Republic of Moldova in connection with the NPT	Ratified, March 2006	17.05.2006
SQP to the Safeguard Agreement between the Republic of Moldova and the IAEA	Ratified on June 2011	01.09.2011
Model Protocol Additional to the Safeguard Agreement between the Republic of Moldova and the IAEA (be ratified)	Signed on 14 Dec. 2011	13.09.2006
NUCLEAR SAFETY		
Convention on Early Notification of a Nuclear Accident	Accession	07.06.1998
Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency	Accession	07.06.1998
Convention on Nuclear Safety	Accession	05.08.1998
Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management	Accession	24.05.2010
Code of Conduct on the Safety and Security of Radioactive Sources	Applied	
IBSS for Protection Against Ionizing Radiation and for Safety of Radiation Sources (must be replaced by IAEA Safety Standards Radiation protection and Safety of Radiation Sources: IBSS. General Safety Requirements, Part 3, No. GSR, Part 3, Interim, IAEA, Vienna, 2011)	Applied	2000
NUCLEAR SECURITY		
Convention on the Physical Protection of Nuclear Material & Amendment to the Convention on the Physical Protection of Nuclear Material;	Accession	06.06.1998
Amendment to the Convention on the Physical Protection of Nuclear Material	Ratification 24 April 2008	22.12.2008
International Convention for the Suppression of Acts of Nuclear Terrorism	16 Sept. 2005	18.04.2008
CTBTO Treaty	24 Sept. 1997	16.01.2007
UN Security Council Resolution 1540;	Sustained	Reporting
LIABILITY		
Vienna Convention on Civil Liability for Nuclear Damage;	Accession	07.05.1998

ANNEX 4

EUROPE REGIONAL PROJECTS for 2012-2013

SN	Project Code	Project Title	Proposed Main Counterpart (s)
1	RER0033	Supporting Quality Assurance for the Measurement and Monitoring of Radioactivity in the Environment	Ministry of Environment (ME) Ministry of Agriculture and Food Industry (MAFI)
2	RER0034	Enhancing the Characterization, Preservation and Protection of Cultural Heritage Artefacts	Agency of Innovation and Technology Transfer (ASM)
3	RER1007	Enhancing Use and Safety of Research Reactors through Networking, Coalitions and Shared Best Practices	-
4	RER1008	Supporting Air Quality Management	ME
5	RER1009	Developing Coordinated Non-Destructive Testing Activities to Comply with International Organization for Standardization (ISO) Codes for Training, Certification and Harmonization	Ministry of Economy (MEc)
6	RER1011	Introducing and Harmonizing Standardized Quality Control Procedures for Radiation Technologies	ASM, MEc
7	RER2006	Establishing a Safety Infrastructure for a National Nuclear Power Programme	-
8	RER2007	Enhancing Nuclear Power Infrastructures for Countries Considering Developing or Expanding Nuclear Power Programmes	-
9	RER2008	Strengthening Regulatory Capabilities for Licensing and Overseeing New Designs of Generation III and III+ Nuclear Power Plants	-
10	RER2009	Strengthening Capabilities for Nuclear Power Plant Lifetime Management for Long Term Operation	-
11	RER5016	Supporting Coordinated Control of Transboundary Animal Diseases with Socioeconomic Impact and that Affect Human Health	MAFI
12	RER5018	Supporting Fruit Fly Pest Prevention and Management in the Balkans and the Eastern Mediterranean	
13	RER6022	Strengthening Knowledge of Radiation Oncologists and Radiation Therapists	Ministry of Health (MH)
14	RER6023	Strengthening Medical Physics in Radiation Medicine	MH
15	RER6025	Building Capacity for Medical Physics in Radiation Oncology at the International Training Centre (EARTH) for the Commonwealth of Independent States (CIS) Region	MH
16	RER6026	Strengthening Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT) and Positron Emission Tomography (PET)/CT Hybrid Imaging Applications for Chronic Disease Diagnosis	MH
17	RER6027	Supporting Comprehensive Cancer Control	MH
18	RER9105	Establishing National Legal Frameworks	NARNRA of the ME
19	RER9106	Supporting Decommissioning and Waste Management for the Chernobyl, Ignalina and A1 Nuclear Power Plants	-
20	RER9107	Strengthening Radioactive Waste Management Capabilities	Ministry of Internal Affairs (MIA)

SN	Project Code	Project Title	Proposed Main Counterpart (s)
21	RER9109	Strengthening Education and Training Infrastructures and Building Competence in Radiation Safety	NARNRA
22	RER9110	Strengthening the Inspection Capabilities and Programmes of the Regulatory Authorities	NARNRA
23	RER9111	Establishing a Sustainable National Regulatory Infrastructure for Nuclear and Radiation Safety	NARNRA
24	RER9112	Enhancing Management, Organization and Effectiveness of the Regulatory Authorities	NARNRA
25	RER9117	Upgrading National Capabilities for Controlling Public Exposure	MH
26	RER9118	Strengthening and Harmonizing National Capabilities for Response to Nuclear and Radiological Emergencies	MIA
27	RER9119	Supporting Human Resource Development in Nuclear Security	NARNRA
28	RER9120	Supporting Decommissioning Implementation for Facilities Using Radioactive Material	MIA
29	RER9121	Supporting Environmental Remediation Programmes	-
30	RER9122	Supporting Safe Management of Uranium Production Legacy Sites	-
31	RER9123	Supporting the Return to Normal Radiological Environmental Conditions for the Territories Affected by the Chernobyl Accident	-
32	RER9124	Improving Operational Safety of Nuclear Power Plants	-
33	RER9125	Strengthening Nuclear Safety Assessment Capabilities Through the use of the Safety Assessment, Education and Training (SAET) Programme	NARNRA
34	RER9126	Advancing Safety Assessment Capabilities, Harmonizing Safety Assessments and Creating Synergy between Deterministic and Probabilistic Safety Analyses	-

ANNEX 5

RESOURCE ESTIMATES AND FORECAST FOR 2014 – 2017

Dated updated: 09-11-2012

1.	Historical reference figure for approved national program (average of 2009 – 2011, 2013-2014 from TCF), as an indicative planning figure ¹ for the period of coverage.	3,000,000
	Estimated Government cash contribution ² for the planning period	10,000.00
	Estimated Government in-kind contribution ³ for the planning period	0
.	Total estimated resources	3,010,000
2.	Preliminary estimates of TCF for the agreed projects reflected in the CPF	
	(i) <i>Strengthening the regulatory infrastructure</i>	\$200,000
	(ii) <i>Human health</i>	\$2,100,000
	(iii) <i>Radiation and nuclear technologies</i>	\$180,000
	(iv) <i>Radioactive waste management, environment</i>	\$240,000
	(v) <i>Manpower development</i>	\$100,000
	Total estimated costs, USD	2,820,000
3.	Total estimated resource (1) less total estimated costs (2), USD	-190,000
4.	Estimated TCF resource requirements, USD	2,820,000

¹ The country indicative planning figure does not obligate the Agency to provide such funding, nor does it suggest the expectation of continued levels of Agency funding. The sole purpose is to assist planning and prioritization of the country framework.

¹ The indicative government cash contribution does not commit the government to the stated amount, but indicates the intent and likelihood of such support.

¹In-kind contributions represent the value assigned to non-cash contributions such as providing experts, training courses, and infrastructure. Planning for in-kind contribution can also include bilateral trade and intergovernmental cooperation agreements in the respective programme area.

ANNEX 6

PLAN OF ACTION

a) General requirements

Background	The plan of action is a joint activity undertaken by the CPF Development Team, under the direction of the Moldovan CPF Coordinator that is intended to provide the necessary inputs to initiate a project concept note. It is designed to provide an operational bridge between identified needs, interests and priorities of Moldova (as reflected in the CPF) and the major follow-up steps necessary to expand an idea for solving a problem or realizing an opportunity into an operational set of step-wise actions. The actions and steps identified establish the required understanding, agreements, information and data, and meet whatever preconditions such as studies, capacity assessments, reviews or feasibility studies that are needed to organize a TC solution for overcoming the problem or realizing an opportunity.
Key Elements of the Plan of Action	The Republic of Moldova and TC agree on what actions need further elaboration and are to be included in the CPF. The detailed plan sets out the major steps or actions to be taken, the responsible parties, the expected result and the time frame for completing these actions. The plan provides the context and content for organized and step-wise actions that lead to the formulation of a project concept.
Implementation Strategy	<p>The principal steps or actions needed to elaborate each idea are captured with due regard to the appropriate sequence of events and interdependence of actions. The date on which the concept is integrated into the action plan is recorded, along with any potential resources required to complete the action.</p> <p>If successfully translated into a project concept note, the respective project concept number is eventually recorded and the completed actions are transferred to the Archive of Completed Actions. If the planned actions are found to be unfeasible or inappropriate, they are nonetheless transferred to the archive of completed actions. In this way, a permanent record is established of agreements and understandings leading to the development of the national program.</p>

b) Country's and DTC IAEA detailed plan of actions

<i>CPF Referenced Planning Opportunities</i>	<i>Proposed Action</i>	<i>Action Party</i>	<i>Expected Output</i>	<i>Time Frame (from-to)</i>	<i>Resource Requirements</i>	<i>Project Concept Number</i>
CPF mission	Expert mission	IAEA, NARNRA Academy of Sciences, MoHealth - NSPCPM	CPF draft containing main outlines of future national TC programs	December 2011 – February 2012	IAEA staff, NLOs	
Reviewing of CPF and preparation for signature	Drafting, reviewing by TD	IAEA PMO, TOs, NLOs	Final version of updated CPF	March-October 2012	IAEA PMO, TCEU management, TD staff, NLO	
Signature of CPF	Signing		Endorsement of an updated CPF	November 2012	Country representative DDG-TC	
Program Cycle Management Framework	Submission	IAEA, NARNRA Academy of Sciences, MoHealth projects CPT via NLOs	List of project concepts developed	30 May 2012	IAEA, NARNRA, Academy of Science, MoHealth and NLOs	TC cycle 2014-2015
Program Cycle Management Framework	Submission	IAEA, NARNRA Academy of Sciences, MoHealth project CPT via NLOs	List of project concepts developed	30 May 2014	IAEA, NARNRA, Academy of Science, MoHealth	TC cycle 2016-2017
TC cycle 2016-2017	Expert missions	IAEA, NARNRA Academy of Sciences, MoHealth project CPT via NLOs	Elaboration of designs of accepted project concepts	October 2014 - March 2015	IAEA, NARNRA, Academy of Sciences, MoHealth & other relevant ministries and NLOs	
UN – Moldova Partnership Framework (UNPF) Action Plan 2013-2017	To attend the Action Plan events	IAEA staff, PMO	Review, Update and assessment of the Action Plan	January 2013- December 2017	IAEA staff, PMO	