EURATOM SUPPLY AGENCY

Annual Activity Report

2024

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Mission and governance

1. MANDATE AND STRATEGIC OBJECTIVES

The Supply Agency of the European Atomic Energy Community, also known as the Euratom Supply Agency (ESA), was established by Article 52 of the Euratom Treaty [1]. The Agency was set up to take responsibility for the common supply policy for ores, source materials and special fissile materials, with the purpose of ensuring the regular supply of the materials concerned to Community users. The policy is based on the principle of equal access to sources of supply for all Community users.

ESA's strategic objective is the security of supply of nuclear materials, in particular nuclear fuel, for power and non-power uses.

The prerogatives of ESA stem from the Euratom Treaty and its secondary legislation. The Agency has the exclusive right to conclude contracts for the supply of nuclear materials coming from inside or outside the Community, as well as a right of option on nuclear materials produced in the Community. It also monitors transactions for providing services in the nuclear fuel cycle, including by acknowledging the notifications that market players must submit to it, in which they give details of their commitments.

In the interest of its Treaty missions, the Agency's Statutes [2] entrust it with a market observatory role to identify market trends that could affect the security of the EU's supply of nuclear materials and services. This mission extends to aspects of the supply of medical radioisotopes in the EU in the light of Council Conclusions on this issue [3].

ESA also provides the Community with expertise, information and advice on any subject connected with the operation of the market in nuclear materials and services.

2. GOVERNANCE

The Euratom Treaty has endowed ESA with legal personality and financial autonomy, enabling it to make independent decisions on matters within its remit. The Agency operates under the supervision of the European Commission. The Agency's Statutes set out its governance in more detail.

In line with these Statutes, the Advisory Committee supports the Agency in carrying out its tasks by giving opinions and providing analyses and information. The Committee also acts as a link between ESA, producers and users in the nuclear industry, as well as Member State governments. ESA provides the Committee and its working groups with a secretariat and logistical support.

1 Treaty establishing the European Atomic Energy Community (consolidated version published in the Official Journal of the European Union C 203, 7.6.2016, p. 1).

2 Laid down by Council Decision of 12 February 2008 establishing Statutes for the Euratom Supply Agency (2008/114/EC, Euratom) (OJ L 41, 15.2.2008, p. 15).

3 Towards the secure supply of radioisotopes for medical use in the EU', 3053rd Employment, Social Policy Health and Consumer Affairs Council meeting, 6 December 2010; 17453/12, ATO 169/ SAN 321, 7 December 2012 and 11293/24 ATO 48/RECH 317/SAN 384 17 June 2024. See also the European and Social Committee opinion EESC-2024-00265-AS, 16 May 2024.

The Rules of the Agency, approved by the European Commission, determine the manner in which demand is to be balanced against supply of nuclear materials [4].

ESA was headed by an acting Director-General between October 2023 and April 2024. A new Director-General, appointed by the Commission on 27 February 2024, entered office on 1 May of the same year.

3. ADVISORY COMMITTEE

At its in-person meeting on 25-26 June 2024, the Advisory Committee delivered a favourable opinion on the ESA financial and budgetary statements for the year 2023, and on ESA's 2023 draft annual report. The Committee examined the short- to long-term security of supply situation as presented by the Agency and took note of progress made by its working group on prices and security of supply. Furthermore, the Committee was informed by the Commission about the work of the European Industrial Alliance on Small Modular Reactors (SMRs) and discussed to set up an Advisory Committee working group on SMRs and advanced modular reactors (AMRs).

At its 19-20 November hybrid meeting, the Committee discussed the short- and long-term security of supply of nuclear materials and the progress made by its working group on prices and security of supply. The Committee gave a favourable opinion on ESA's 2025 work programme and the draft estimate 2026 budget, together with ESA's 2026 draft establishment plan.

The Committee also agreed to postpone the start of its working group on SMRs/AMRs due to developments within the European Industrial Alliance on SMRs, namely the work planned there under Technical Working Group (TWG) 7, on the fuel cycle and waste management.

Furthermore, the Committee took note of the progress of the Nuclear Observatory and ESA Management of Information (NOEMI) project, presented by ESA.

4 The Rules in force have been published in the Official Journal of the European Union L 218, 18.6.2021, p. 58.

4. PRINCIPAL ACTIVITIES

4.1. Contract management

As in previous years, ESA published quarterly the number of transactions including contracts, amendments and notifications on the front-end activities that have been processed, including a breakdown into spot natural uranium contracts concluded by EU utilities, and spot natural uranium contracts concluded by all parties. The overall number was 259, an increase of 17% compared to the previous year. This amounted to a high workload for the small contract team, notably in relation to files requiring particular inquiries, review and follow-up.

Table 9. Contracts by type in 2024

Type of contract (*)	2024	2023
Natural uranium (**)	**64**	**39**
Purchase/sale by EU utilities/end users	***25***	***23***
Multiannual	12	11
Spot	13	12
Purchase/sale between EU producers/ intermediaries	***8***	***0***
Multiannual	0	0
Spot	8	0
Exchanges and loans	***0***	***0***
Contract amendments	***31***	***16***
Special fissile materials	**41**	**50**
New contracts	***21***	***27***
Purchase by an EU utility/end user	12	18
Sale by an EU utility/end user	5	4
Purchase/sale between two EU utilities/ end users	0	0
Purchase/sale other	2	4
Exchanges / Loans	2	1
Contract amendments	***20***	***23***
Enrichment notifications (***)	**38**	**36**
New notifications	***28***	***26***
Notifications of amendments	***10***	***10***

(*) Transactions for small quantities (as under Article 74 of the Euratom Treaty), services (as under Article 75 of the Euratom Treaty) other than enrichment and information communicated on any contracts other than supply contracts are not included
(**) Including feed contained in enriched uranium product (EUP) purchases
(***) Contracts with primary enrichers only

The incoming files registered in connection with requests under Chapter 6 of Title II of the Euratom Treaty ("EA") and related secondary legislation continue to represent a significant fraction (over 75%) of ESA workload linked to the supply, processing, conversion, shaping, transfer, import or export of ores, source materials or special fissile materials.

Indeed, the volume of cases with reference to Art. 52 EA (about 5 in 10), as well as those pursuant to Art. 75 EA, remain above average over the last three years. While the remaining fraction of incoming files registered, including notification dossiers linked to Art. 74 EA, has also grown, it remains small (about 2 in 10) as in recent years[5].

4.2. Security and diversification of the nuclear fuel supply chain

ESA plays a crucial role in ensuring the regular and equitable supply of ores and nuclear fuels for all users from Euratom Member States, while preventing excessive dependence on any single third-country supplier. Diversification of supply sources, which also contributes to the viability of the domestic nuclear industry, is a significant means of securing supplies in the medium and long term, as mandated by the Euratom Treaty.

ESA also monitors market developments to identify trends that could affect the security of supply of nuclear materials and services, while putting forward recommendations and indicating measures to mitigate potential risks. In this respect, the Agency continued to work closely with its Advisory Committee as well as market actors and stakeholders.

In line with its strategic objective and the Commission's policies, the Agency has been striving to ensure and diversify sources of supply in the nuclear fuel cycle for power and non-power uses.

Security of supply of nuclear materials for power uses

The Agency continued to advise users to prioritise long-term commitments, particularly for securely sourced conversion and enrichment services, and to minimise exposure to providers based in or controlled by high-risk jurisdictions, or heavily dependent on unreliable supply chains. ESA encourages the diversification of suppliers to reduce dependence on any single non-EU design, supplier or region, and the creation of strategic inventories of nuclear supplies, thereby sustaining the viability of the EU industry throughout the fuel cycle, while closely monitoring and discouraging sources of supply deemed to be of high risk. The EU market analysis presented in the previous chapters suggests that these recommendations were generally followed.

As more Member States are embarking upon nuclear energy use and new nuclear technologies, such as SMRs and AMRs, new actors have entered the market. These new stakeholders, unfamiliar with the Agency's requirements and procedures, need additional support and guidance. ESA provided assistance to and raised awareness among these stakeholders regarding its security of supply policies and recommendations, as well as the users' obligations under the chapter of the Euratom Treaty on supply. The Agency also guided them through the relevant procedures.

Responding to market and geopolitical uncertainties, ESA continued to follow up on the short- to long-term challenges related to security of supply of nuclear materials and fuel, both from an economic perspective and in terms of inventory robustness.

ESA paid particular attention to contractual transactions that appeared vulnerable to geopolitical risks, notably because of the place of economic or geographical origin of supplies. As a result, ESA had to engage in an increased number of negotiations on specific contractual conditions to

5 Because files earmarked with reference to Art. 52 EA may also involve notifications flagged pursuant to Art. 75 EA, and because some dossiers may relate to multiple transactions, the above-mentioned numbers need not add up.

strengthen the EU's security of supply.

In collaboration with the Commission, the Agency focused on achieving the objectives of the REPowerEU Plan, which stresses the importance of diversification options also for Member States that depend on Russia for nuclear fuel and calls for working within the EU and with international partners to secure alternative sources of uranium and boosting the conversion, enrichment and fuel fabrication capacities available in Europe or in the EU's global partners.

To this end, ESA, in cooperation with the Commission, continued to follow up on the steps towards alternative design and supplies of fuel for the Russian-designed VVER reactors, including the medium-term plans of major EU fuel manufacturers. The Agency also monitored the operational autonomy of VVER plants, taking into account both stored fresh fuel and forthcoming deliveries.

Furthermore, the Agency provided input to the Commission on possible additional policy and regulatory actions or other measures that could be undertaken to address the security of supply of nuclear materials. ESA also collaborated with the Commission on the multilateral efforts to address global challenges in nuclear fuel supply security.

The Agency continued to monitor transport challenges related to nuclear materials and fuels from Russia, as well as deliveries originally routed through Ukraine. Previously identified challenges related to the transport of nuclear fuel through regions in conflict or with increased logistical risks continue to exist. Although alternative routes have been identified, the delivery challenges have not been alleviated in all cases. The ongoing Russian war of aggression against Ukraine remains a source of uncertainty in this regard.

Market uncertainty, driven primarily by geopolitical events, persisted throughout the reporting year. The renewed interest in nuclear energy as a low-carbon alternative to fossil fuels, both in the European Union and globally, as well as the emergence of new technologies such as SMRs and AMRs, contribute to uncertainties about the short- to long-term security of supply.

Therefore, ESA continued to closely monitor the nuclear market, tracking trends, prices and global supply chain developments, and to analyse them from an economic and industry viewpoint. The identification of market trends likely to affect the EU's medium- and long-term security of supply of nuclear materials and services remained a top priority.

In this respect, the Agency produced comprehensive statistical reports on nuclear market trends and updated previous years' forecasts of EU and global demand and supply of front-end fuel cycle services. These were based on data from contracts concluded or acknowledged by the Agency, information obtained from EU utilities through the annual survey and market data from various sources. The findings were supplemented by insights into market developments gathered from specialised media, stakeholders and open sources.

Within its remit, ESA assisted the Commission in handling European Parliament questions, petitions and national parliament resolutions, as well as in assessing notifications under Article 41 and international agreements communicated under Article 103 of the Euratom Treaty. The Agency also provided input on matters within its remit related to the legislative work of the Commission.

The Agency contributed to briefing requests, questions and requests for information having the security of nuclear supplies as their core subject that came from the College and senior managers of the European Commission, Members of the European Parliament, national parliamentarians, the press and nuclear sector associations.

Security of supply of nuclear materials for non-power uses

In line with its strategic objective, ESA continued to scrutinise security of supply of high-enriched uranium (HEU) and high-assay low-enriched uranium (HALEU), required to feed the production

of medical radioisotopes and to fuel research reactors. These strategic materials are currently not produced in the Community and have to be imported, mainly from the US.

Some EU research reactors still need supply of HEU until their conversion to HALEU, in line with international nuclear security and non-proliferation commitments. In 2024, in cooperation with the US and the Euratom Member States concerned, ESA reviewed progress in implementing the Memorandum of Understanding with the US Department of Energy-National Nuclear Security Administration [6] (DoE-NNSA) on the exchange of HEU and updated the cooperation arrangements in relation to the future supply of HALEU.

In addition, some EU research reactors that produce vital medical radioisotopes are dependent on Russian fuel and materials. In this respect, ESA continued to call for action to address security of supply vulnerabilities. Some EU research reactor operators that had already licensed alternative fuel phased out the Russian supply of fuel. Some are participating actively in Euratom research projects to develop alternative fuel design and break the Russian monopoly on the supply of fuel to medium-power research reactors of original Soviet design.

4.3. Market monitoring and analysis

Market monitoring

In response to the Russian war of aggression against Ukraine, ESA continued to monitor the impact of geopolitical developments in the EU and update its analysis of current and future conversion and enrichment capacity worldwide. In its market analysis, ESA confirmed its previous conclusion that EU utilities' demand for both natural uranium and fuel fabrication and related services faces an increased risk related to Russian supply and the new geopolitical situation. Analysis from the nuclear industry (converters and enrichers) indicated that total Western geopolitical region conversion capacity may not be sufficient in the absence of new investments. Similarly, the capacity of the same countries to supply enrichment would be insufficient if the services from other countries such as Russia were not available. The Agency assessed that replacing the additional conversion and enrichment capacity could take several years. European industry requires adequate signals to maintain and build up capacity both for natural and reprocessed uranium, especially for conversion, fuel design and fabrication. This is because industrial investments would not be viable without some form of political and contractual commitment for the long term.

Annual report 2023

In its 2023 annual report, ESA gave an overview of its own activities and developments in the nuclear fuel markets and nuclear energy, both in the EU and worldwide.

As in previous years, ESA conducted a survey of EU nuclear power operators. The survey provided a detailed analysis of supply and demand for natural uranium and for conversion and enrichment services in the EU in 2023. The Agency published three indices for natural uranium prices with calculated weighted averages of the prices paid by EU utilities under multiannual and spot contracts. Its analysis contained forecasts of future demand for uranium and enrichment services and assessed the security of supply of nuclear fuel to utilities in the EU. ESA provided detailed analyses of future contractual coverage for natural uranium and enrichment services and of diversification of supply. It also carried out an analysis of EU inventories of nuclear material.

The report set out ESA's findings and recommendations on supply and demand for nuclear fuels. It reflected the Agency's diversification policy and work on security of supply and discussed the

6 'Memorandum of Understanding between the Department of Energy/National Nuclear Security Administration (DOE/NNSA) of the United States of America and the Euratom Supply Agency concerning the Exchange of Highly Enriched Uranium Needed for Supply of European Research Reactors and Isotope Production Facilities', originally signed in 2014 and renewed for five more years in 2021.

security of supply of medical radioisotopes. As the political and economic events in 2021-2023 seriously impacted the global nuclear market, ESA's recommendations became more relevant and urgent than ever.

ESA's recommendations in its 2023 annual report took account of developments since the start of the Russian war of aggression against Ukraine. ESA made three groups of recommendations to boost the security of supply and overcome the current areas of vulnerability. For the second time, the ESA report included a specific group of recommendations on tackling vulnerabilities in the security of supply of medical radioisotopes.

The report was published on ESA's website in August and its print version was made available in November [7]. The report was sent to the European Parliament, the Council and the Commission, and was presented to the Council Working Party on Atomic Questions.

Publication and knowledge sharing

ESA regularly publishes reports [8] and information on price trends on its website [9] to provide transparency with regard to the EU's natural uranium market, reduce uncertainty and help improve security of supply.

In 2024, ESA's nuclear fuel market observatory issued four quarterly reports on the uranium market. The reports include general data about natural uranium supply contracts concluded by ESA or notified to it, and the quarterly spot price index for natural uranium [10]. The Agency also issues a weekly nuclear newsletter for Commission staff.

4.4. Supply of medical radioisotopes

Medical radioisotopes are essential for radiology and nuclear medicine. While many of these are produced domestically, the EU remains dependent on Russian production for certain critical stable isotopes and radioisotopes.

The supply of precursor material to produce medical radioisotopes remains a particular source of concern. The EU is, to a certain extent, dependent on Russia for the enrichment of the stable isotopes needed to produce several important medical radioisotopes, in particular Ytterbium-176 (Yb-176), which is needed to produce Lutetium-177 (Lu-177) [11]. Enriched isotopes would be also needed in the longer term to develop non-fission alternative production routes for Technetium-99m (Tc-99m), Molybdenum-98 (Mo-98) and Molybdenum-100 (Mo-100), which are at present partly sourced from Russia.

ESA continued to provide expertise and analysis of the situation and worked closely with the relevant Commission services and other stakeholders. The Agency regularly updated the Council Atomic Question Working Party [12] on the supply situation. ESA also liaised with the industry association Nuclear Medicine Europe (NMEU) to gather relevant information.

7 ESA Annual reports.

8 ESA Publications.

9 Market Observatory.

10 Provided at least three spot contracts have been concluded.

11 The EU is a large supplier of Lu-177, which has seen spectacular growth in recent years.

12 Council of the European Union – Working Party on Atomic Questions.

SAMIRA

ESA contributes to the implementation of the Strategic Agenda for Medical Ionising Radiation Applications (SAMIRA) [13]. SAMIRA is the energy sector's contribution to the EU's Beating Cancer Plan, and a response to the Council's successive conclusions on non-power nuclear and radiological technologies and applications.

In cooperation with the Commission, the Agency leads on certain SAMIRA activities aimed at securing the supply of source materials for radioisotope production. This includes: (i) ensuring the supply of HEU until the full radioisotope production chain is converted to operate with HALEU; and (ii) exploring options for the future supply of HALEU to the EU (see below for developments in these areas).

In addition, ESA contributes to the development of the European Radioisotopes Valley Initiative (ERVI), which aims to provide a framework to ensure the security of supply of medical radioisotopes.

European Observatory on the Supply of Medical Radioisotopes

In order to secure the supply of widely used medical radioisotopes, focusing on Molybdenum-99/Technetium-99m (Mo-99/Tc-99m), ESA continued to co-chair the European Observatory on the Supply of Medical Radioisotopes in 2024, together with NMEU.

Set up in 2012, the Observatory monitors the EU supply chain for Mo-99/Tc-99m and engages in a variety of topics on the EU supply of widely used medical radioisotopes. It is composed of representatives of the Commission, EU Member States, international organisations and industry. The Observatory is a vehicle for gathering information on potential shortages and for dispatching it to interested parties, sometimes directly through ESA. It enables stakeholders to contact appropriate EU bodies and services promptly to raise awareness of and facilitate responses to supply issues at Member State and EU level.

In 2024, the Observatory continued its close cooperation with the NMEU's Security of Supply Working Group on the supply of Mo-99/Tc-99m and Iodine-131 (I-131). Following Mo-99 production disruption caused by the delayed restarts of the High Flux Reactor (HFR) (twice) and the Open-Pool Australian Light Water Reactor (OPAL), which are research reactors, the Agency ensured a steady flow of information from the NMEU's Emergency Response Team to Commission services, Member States (through the Council Working Party on Atomic Questions and the Health Security Committee) and various stakeholder groups.

The 21st plenary meeting of the Observatory, held on 25-26 September 2024 in Geneva, hosted by the European Organization for Nuclear Research (CERN), saw the participation of around 40 members (from the Commission, industry, international organisations and Member State administrations). The meeting provided an opportunity to hear about CERN's role in radioisotope mass separation, as well as about the European Commission's PRISMAP project, managed by CERN, which provides a wide range of radionuclides for medical research. The project built a strong network of world-leading European facilities, including nuclear reactors, medium- and high-energy accelerators and radiochemical laboratories.

The Observatory reviewed the global research reactor scheduling for the remainder of 2024 and 2025. The Commission's Directorate-General for Energy provided an update on the latest developments related to the creation of an ERVI in the context of the SAMIRA action plan. The European Medicines Agency presented its ongoing initiatives to secure supply of medicines in the EU and to prevent shortages of medicinal products. Several Commission departments also presented their activities related to medical radioisotopes and SAMIRA. The meeting also heard

13 Commission Staff Working Document on a Strategic Agenda for Medical Ionising Radiation Applications (SAMIRA), SWD(2021) 14 final, 5.2.2021.

presentations from three facilities in France - the Institut Laue–Langevin (ILL) research reactor, the Jules Horowitz Reactor (JHR), which is currently under construction, and the Orano Stable Isotopes facility. Alongside the new Dutch research reactor Pallas, these facilities will bring more radioisotope production capacity to the market. NMEU, the European Association of Nuclear Medicine (EANM) and the Organisation for Economic Co-operation and Development's (OECD) Nuclear Energy Agency (NEA) also presented their activities, including the Workshop on Medical Radioisotopes Supply planned for October in Paris. Following the meeting, a technical visit to the two CERN facilities ISOLDE and MEDICIS was held.

ESA presented the Observatory's activities and the results of its 2023 and 2024 meetings to the Council Working Party on Atomic Questions in October. It reported on the 2024 disruptions to supply of medical radioisotopes and the related mitigation measures taken by the Observatory in response to them.

4.5. Cooperation with stakeholders and partners

Throughout 2024, ESA continued its contacts and collaboration with EU institutions, Member State authorities, utilities, industry and nuclear organisations to strengthen the security of supply of nuclear materials in the light of the Russian war of aggression against Ukraine. It monitored developments given the market situation and provided advice and follow-up to ensure appropriate application of the common supply policy and the mitigation of new risks.

ESA worked closely with the Commission to promote diversification of supply and contributed to the work of the relevant Commission departments. In the context of the REPowerEU initiative, ESA engaged, together with the Commission, in a multilateral assessment of demand for, and capacity of, front-end nuclear fuel cycle services in like-minded non-EU countries.

The Agency regularly reported to the Council's Working Party on Atomic Questions on its activity throughout the year, as well as on the supply situation of nuclear materials, services and medical radioisotopes in the EU, and the market trends.

In February, ESA took part in the Belgian EU Presidency workshop on securing access to radiopharmaceuticals for European patients, held in Brussels. Following this, ESA was closely involved in the discussion to prepare the Council Conclusions on the security of supply of radioisotopes for medical use, adopted in June 2024.

Also in February, ESA participated in the fifth annual VVER Fuel Forum in Bratislava. The primary focus of the forum was to share experiences and best practices with VVER-1000 and VVER-440 fuel deployment in operating reactors. The Agency emphasised the importance of expediting fuel diversification efforts amid the global energy disruption as a consequence of Russia's full-scale invasion of Ukraine.

The Agency has long-standing and well-established relationships on nuclear energy with international organisations, namely the International Atomic Energy Agency (IAEA), the NEA and nuclear industry associations. In 2024, ESA continued to cooperate with these organisations by participating in working groups, conferences and seminars.

ESA continued to support the joint NEA/IAEA Uranium Group, which is responsible for publishing the two-yearly report 'Uranium Resources, Production and Demand' ('the Red Book')[14], to which ESA contributes by its analysis of supply and demand for nuclear fuel in the EU. The report provides up-to-date information on established uranium production centres and mine development plans as well as projections of nuclear generating capacity and reactor-related

14 NEA (2023), Uranium 2022: Resources, Production and Demand, OECD Publishing, Paris

requirements.

In March, ESA participated in the Nuclear Energy Summit, organised jointly by the IAEA and Belgium, where it contributed to a roundtable discussion on 'Securing the Fuel Supply Chain'. This was a reflection focused on ensuring the availability of capacity and the building of new infrastructure to meet the projected increase in demand by 2050, as well the fuel supply chain of SMRs and AMRs under development.

The Agency took part in the French Nuclear Society (SFEN) annual convention, which was held in March in Paris and brought together key stakeholders from the nuclear industry. As part of this event, the Agency participated in the first roundtable discussion, entitled 'Supply Today'. This session focused on the current landscape of nuclear supply chains, addressing challenges, opportunities and strategies to ensure a stable and sustainable supply of nuclear materials and technology.

In April, the Agency participated in the European Parliament's Science and Technology Options Assessment (STOA) Panel workshop, 'Strategic Autonomy and the Future of Nuclear Energy in the EU: Use and Availability of High-Assay Low-Enriched Uranium (HALEU)'. This event provided a comprehensive overview of HALEU developments, including its applications, the latest technological advancements, the potential of SMRs, its availability and its supply chain. Also in April, ESA attended the European Research Reactor Conference (RRFM) organised by the European Nuclear Society (ENS) in Warsaw. The conference programme revolved around a series of plenary sessions dedicated to the latest global developments in research reactor technology and management.

In May, ESA was invited to present its activities at the General Assembly of NMEU. The meeting also provided an opportunity to engage with stakeholders on the supply of medical radioisotopes.

In September, ESA attended the 2024 World Nuclear Symposium in London. Agency representatives met participants from the nuclear industry, utilities and the emerging EU market, providing insights into the market situation, learning about market developments and exchanging information on existing and future supply challenges.

In September, ESA was also represented in the Euratom delegation to the IAEA's General Conference.

In October, ESA presented the work of the Observatory at the Second International Workshop on Medical Radioisotopes Supply, co-organised by the OECD NEA, the US DoE and the European Commission's JRC, held in Paris. The event gathered around 130 onsite and 100 online participants, including governmental decision-makers, private sector representatives, health organisations and researchers, to chart the development of supply chains for conventional and innovative nuclear radioisotopes in the medical field.

The Agency held regular meetings with utilities to discuss risk preparedness and implementation of mitigation measures, also following-up on the fuel diversification process. It also met with the EU nuclear industry representatives to share information and market outlook.

5. MANAGEMENT

Legal status

The Supply Agency of the European Atomic Energy Community was established by the Euratom Treaty[15] ('the Treaty') and is mostly governed by Title II, Chapter 6, of the latter.

The Agency is endowed with legal personality and financial autonomy[16] and operates under the supervision of the Commission[17] on a non-profit making basis. It has its seat in Luxembourg[18]. The Statutes[19] define the governance of the Agency in detail.

ESA's objective is the security of supply of nuclear materials, notably nuclear fuel, for civilian, power and non-power uses, by means of the common supply policy. To that end, the Agency is entrusted with specific prerogatives under the Treaty, in particular the exclusive right to conclude supply contracts. Likewise, ESA plays a market-monitoring role by identifying market trends likely to affect the security of the European Union's supply of nuclear materials and services.

In line with its statutory mission, powers and responsibilities, ESA is assigned the task of providing the Community with expertise, information and advice on any subject connected with the operation of the market in nuclear materials and services.

5.1. Budgetary and financial management

The option for ESA to collect a charge on transactions to defray its operating expenses, as per Article 54 of the Euratom Treaty, was postponed indefinitely, by the Council, in 1960. Consequently, the Agency's administrative expenses must be covered entirely by the European Union budget. The European Commission is responsible for adopting ESA's budget and ESA's Director-General serves as the authorising officer for executing that budget. ESA's financial operations comply with the relevant provisions in its Statutes and the EU Financial Regulation[20], along with accounting rules and methods set by the European Commission. ESA covers part of its operational costs through its own budget, while the European Commission directly funds another portion.

Budget

The Agency's 2024 budget was EUR 270 000, which was 4.6% higher than the final 2023 budget of EUR 258 160. ESA was financed entirely by the EU budget contribution under Section III – Commission, budget item 20 03 14 01 'Euratom contribution for operation of the Supply Agency'.

ESA's Advisory Committee was consulted on the 2024 draft budget through a written procedure launched on 10 January 2023 and closed on 25 January 2023. The Committee delivered a

15 Article 52 of the Treaty establishing the European Atomic Energy Community (OJ L 27 6/12/1958 p. 534).

16 Article 54 of the Euratom Treaty.

17 Article 53 of the Euratom Treaty.

18 Article 2 of the Statutes. To that end, a seat agreement has been concluded by ESA and the European Commission with the Luxembourgish Government.

19 Council Decision of 12 February 2008 establishing Statutes for the Euratom Supply Agency (OJ. L 41, 15/02/2008).

20 Regulation (EU, Euratom) 2024/2509 of the European Parliament and of the Council of 23/09/2024 on the financial rules applicable to the general budget of the Union, repealing Regulation (EU, Euratom) No 1046/2018 (2018 Financial Regulation).

favourable opinion.

Later in 2023, ESA management decided to simplify the Agency's budget structure to streamline and reduce administrative burden and to improve efficient budget implementation, given the budget's small size and the administrative nature of expenditure. Following the structural change, the 2024 budget was presented by ESA's Accounting Officer at the Advisory Committee meeting on 14 December 2023 in Luxembourg.

ESA's 2024 budget was adopted by the Commission on 13 December 2023[21]. During the year no budget amendments were performed.

ESA's revenue and expenditure were in balance.

Budget execution

In 2024, in accordance with Articles 28 and 68 of the EU Financial Regulation, the Director-General signed three decisions involving internal budget transfers to address emerging requirements.

The operating costs covered by the ESA budget included:

- ESA Advisory Committee meetings;
- development of the NOEMI core business information systems and related infrastructure;
- duty travel and participation in seminars, conferences;
- subscriptions to nuclear market information media and data sources;
- ESA publications and communication activities.

As of 31 December 2024, ESA had recorded a high level for the budget execution of current year's funds of 99.53% or EUR 268 732.25 (ref. 4.2.4) of commitment appropriations (98.47% or 254 212.46 in 2023) with cancellations amounting to EUR 1 267.75 or 0.47% (EUR 3 947.54 or 1.53% in 2023). The executed payments on the same funds amounted to EUR 182 306.19, giving an implementation rate of 67.52% of available appropriations (EUR 122 916.67 or 47.61% in 2023).

The carrying forward of outstanding commitments of 2024 (committed amounts not yet paid for) to the 2025 financial year stood at EUR 86 426.06 or 32.01% of committed amounts (EUR 131 295.79 or 50.86% in 2024). That amount mainly involves IT services for the ICT project NOEMI.

In 2024 the Agency achieved an implementation rate on payments for carried-over funds from the previous year of EUR 125 632.64 or 95.69% of available funds (EUR 101 304.31 or 97.74% in 2023) with cancellation amounting to EUR 5 663.15 or 4.31% of the same appropriations.

In-kind contribution from the Commission

Most of the Agency's operating costs are directly financed by the Commission. In addition, in 2024, the Euratom Supply Agency was exempted from charge-back on any baseline services provided to it by the Commission, including for hosting the IT system in a secure environment.

The basic categories of expenses covered largely relate to staff (e.g. salaries and allowances, socio-

21 C (2023)8660.

medical infrastructure, training), infrastructure (e.g. buildings, offices and associated costs), general information and communication technology infrastructure and services, EC administrative software applications and hosting of ESA's IT systems.

In 2024, the Agency's total operating cost covered by the Commission amounted to EUR 2 903 410.73 (EUR 2 738 844.43 in 2023). This includes direct personnel costs for the Agency's staff, estimated at EUR 2 226 233.33 (EUR 2 087 800.00 in 2023), and other related operating costs (for building and other administrative costs, ICT and hosting of ESA's IT system) which totalled EUR 677 177.40 (EUR 651 044.43 in 2023).

These off-budget expenditures and the underlying transactions are not disclosed in ESA's accounts but are included in the Commission section of the EU annual accounts.

Financial accounts

In 2024, the assets owned by the Agency totalled EUR 1 210 786.64 (EUR 1 058 925.85 in 2023). They were financed by liabilities of EUR 156 750.66 (12.95%) and equity of EUR 1 054 035.98 (87.05%).

The 2024 provisional accounts, budget outturn and report on budget implementation were submitted to the European Court of Auditors and the Commission's Accounting Officer on 28 February 2025. The final accounts were issued on 16 May 2025. After receiving a positive opinion from the Advisory Committee, they were submitted to the EU institutions on 13 June 2025.

Accounting officer

Based on the Service Level Agreement with the Translation Centre for the Bodies of the European Union concluded in March 2023, which designated the accountant of the Translation Centre to fulfil the role of the accounting officer for ESA, the Commission formally appointed him in September 2024[22].

5.2. Human resources

Human resources	2024		
Number of officials (or temporary agents)	**Authorised[23]**	**Actually filled as of 31.12.2024**	**Effective throughout the year**
Administrators (AD)	8	8	7.67
Assistants (AST)	9	7	7
Assistants secretarial (AST/SC)		2	2
Total	**17**	**17**	**16.67**

22 Appointment of the accounting officer of the Euratom Supply Agency – C (2024) 6832.

23 Establishment plan under the EU General Budget 2024, Definitive Adoption (EU, Euratom) 2024/207, OJ L, 22.2.2024, p. 1185, footnote (3).

Staff allocation

ESA staff are Commission civil servants (officials), and the number of staff set out in ESA's establishment plan is incorporated into the global staff numbers of the Commission. ESA received no new posts in 2024.

Following the departure of the former Director-General in September 2023, a new Director-General, appointed by the Commission, entered office on 1 May 2024. There were no departing staff members during 2024. At the end of 2024, the Agency had a staff of 17 persons (8 in administrator and 9 in assistant posts).

As in previous years, the recruitment of staff in Luxembourg remains more difficult than, for example, in Brussels, because of the discrepancy between the salary levels and the high cost of living. Due to the small size of the Agency, it is critical to fill all vacated posts at the shortest possible notice.

Equal opportunities

The Agency offers equal opportunities to foster a rich, diverse and inclusive working environment. ESA staff is well gender-balanced at all levels. In 2024, the staff was composed of eight women (47%) and nine men (53%). At the end of 2024, 13 different EU nationalities were represented in the Agency.

5.3. Information management and communication

NOEMI

The Nuclear Observatory and ESA Management of Information (NOEMI) project has made significant progress in 2024. A key milestone achieved was the finalisation of the security plan, which included the integration of a dedicated solution to strengthen access security. Additionally, several process improvements were implemented, including the integration of current 'Proforma' import and the addition of in-app calculation tools.

At the end of 2024, the tool for producing reports was finalised, thus reaching another important milestone in the project's development. Looking ahead to 2025, the plan is to integrate full-text search feature, a notification system and a tool for auditing system and user actions, as part of the security plan. The project team will then shift its focus to business management tasks, dashboard functionalities, and additional reports functionalities, with an expected final delivery in 2026.

Security

In 2024, the Agency designated a local information security officer (LISO), shared with the European Commission DG for Energy in Luxembourg.

The LISO follows IT security and identifies shortfalls and improvements. His tasks are also to raise IT security awareness, including good practice and management of classified and sensitive information. He also advises on IT projects and IT systems security. In particular, he follows up and reviews the implementation of the NOEMI security plan and of the measures identified on the basis of vulnerability tests.

The Agency's staff is fully security-cleared. The validity of security clearances is subject to regular

review.

Communication

ESA implements its own comprehensive communication and outreach policy, tailored to address the evolving needs of its stakeholders. In response to the ongoing security of supply challenges in Europe and the uncertainty surrounding the nuclear fuel and medical radioisotopes supply chain, the Agency maintained a strong commitment to targeted outreach and continuous dialogue with key stakeholders.

Notably, the Agency has observed a significant influx of new entrants in the nuclear market, particularly from the emerging Small Modular Reactor (SMR) and Advanced Modular Reactor (AMR) industry. To support these newcomers, as well as traditional stakeholders, ESA provides guidance on the supply provisions outlined in the Treaty and secondary legislation, including on the submission and notification of contracts.

In addition, the Agency has been approached by various media outlets, including press and specialised news organisations, seeking expertise and insights on matters related to nuclear fuel supply.

5.4. Audit and discharge

Audit by the European Court of Auditors

The European Court of Auditors (ECA) audits ESA’s financial and budgetary accounts and the underlying transactions on an annual basis in line with internationally accepted public-sector auditing standards. The Court’s responsibility is to provide the European Parliament and the Council with a statement of assurance as to the reliability of the annual accounts and the legality and regularity of the underlying transactions.

ESA duly notes the Court’s observations and takes the necessary measures as needed. It also carefully follows any observations of a 'cross-cutting nature' that accompany the Annual Report of the EU Agencies.

ECA has approved the Agency’s accounts for the 2023 financial year and issued an unqualified opinion on both the accounts and the legality and regularity of revenue and expenditure transactions.

However, ECA followed-up on the 2022 observation that ESA had systematically awarded contracts below EUR 15 000 (very low value contracts according to the Financial Regulation) without issuing corresponding evaluation reports and award decisions. The Court found two similar cases in early 2023, prior to the implementation of the ESA’s measures.

On 4 July 2024, the Agency submitted the follow-up replies to ECA regarding he Court’s observations on the 2023 audit. ESA took note of European Court of Auditors’ follow-up point, which refers, indeed, to cases which were prior to the introduction of the new procedures.

Discharge

The European Parliament, acting on a Council Recommendation, is the discharge authority for ESA.

On 11 April 2024, the European Parliament granted the Acting Director-General of the Euratom Supply Agency discharge in respect of the implementation of the Agency’s budget for the 2022

financial year[24]. Furthermore, on 7 May 2025, the European Parliament granted the Director-General of the Euratom Supply Agency discharge for the implementation of the budget for the financial year 2023[25] .

5.5. Internal control and assurance

Internal control and risk management

ESA has an internal control framework, designed to provide reasonable assurance of achievement of the five key objectives outlined in Article 36 of the Financial Regulation. These objectives encompass:

1. ensuring the effectiveness, efficiency, and economy of operations;
2. maintaining the reliability of reporting;
3. safeguarding assets and information;
4. preventing, detecting, correcting, and following up on fraud and irregularities;
5. managing risks related to the legality and regularity of underlying transactions.

This framework complements the EU's Financial Regulation and other relevant rules and regulations relevant in this context, with the aim of aligning the Agency's standards with the highest international standards, as set by the COSO principle-based system.

In 2024, ESA conducted a comprehensive review of its risk assessment, covering all aspects of the Agency's work and operational and administrative processes. Consequently, the Agency reviewed and refined its controls, introducing adjustments to ensure that they are aligned with the identified risks and areas requiring monitoring.

Management assurance

ESA conducted a comprehensive self-assessment of the effectiveness of its internal control system. This evaluation comprised three components:

1. an assessment of predefined monitoring indicators, which included a survey to gather feedback and insights from staff;
2. a review of audit results, including new and outstanding recommendations, to identify areas for improvement and ensure that corrective actions were implemented;
3. an examination of non-compliances and exception cases to determine their root causes and implement measures to prevent their recurrence.

The annual assessment for 2024 confirmed that the Agency's internal control system is operating effectively, with no significant risks identified that could impact the reliability of its operations or financial reporting or that could lead to a reservation in the Annual Declaration of Assurance. Based on the internal control system, its assessment and the assurance they provide, the Director-General

24 Decision (EU, Euratom) 2024/2333 of the European Parliament of 11 April 2024 on discharge in respect of the implementation of the budget of the Euratom Supply Agency for the 2022 financial year, 10 October 2024

25 European Parliament decision of 7 May 2025 on discharge in respect of the implementation of the budget and the closure of the accounts of the Euratom Supply Agency for the financial year 2023 (2024/2030(DEC))

– as Authorising Officer – was able to sign the declaration of assurance, which is included as Annex A of this report.

5.6. Improving effectiveness and efficiency

As a result of the challenging geopolitical environment and of new developments in the nuclear context, ESA has experienced a substantial increase in its operational and policy support workload. As a result, the contract management and analytical functions of the Agency need to be strengthened.

The examination of transactions that could be vulnerable to geopolitical risks, notably because of the place of economic or geographical origin of supplies, often with a need to discuss specific contractual conditions to strengthen security of supply, represents a major, rising workload. ESA also has to respond to an increased demand for advice and support from new stakeholders and to accommodate new contractual parties.

In addition, ESA is tasked with following more complex market developments and faces an increased demand for analytical work and input on market statistics, often in a short time frame. In addition, there is a need to set up the system of monitoring and long-term forecasts for a broad spectrum of medical radioisotopes and production methods.

In the last few years, efficiency gains were made by obtaining additional support by the Commission, for example by sharing the local information security officer function with a Commission department and by developing synergies with other Agencies, for example by appointing the accounting officer of the Translation Centre as the Agency's accounting officer.

The Agency will continue to explore how further specialised support could be obtained by sharing functions, tools or systems with Commission services or other Agencies (e.g. on data protection or for other administrative functions, such as organising duty travel). As the number of tasks and the expectations of stakeholders continue to grow, ESA has made significant progress in increasing its effectiveness and efficiency and, despite its limited resources, has managed to deliver on its objectives. At the same time, ESA is not in a position to continue to fully address the increased work through internal efficiency gains and the reallocation of human resources.

Annex A Declaration of assurance for 2024

EURATOM SUPPLY AGENCY

The Director General

Luxembourg,
ENER.AAE/MH

DECLARATION OF ASSURANCE
AAR 2024

I, the undersigned, Michael HÜBEL, Director General of the Euratom Supply Agency since 1 May 2024,

In my capacity as authorising officer,

- Declare that the information contained in the Annual Activity Report, forming part II of the Annual Report, gives a true and fair view ([1]);
- State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees on the legality and regularity of the underlying transactions.

This reasonable assurance is based on the declaration of assurance provided by the Acting Director General who was in function from 1 October 2023 to 30 April 2024 (see Annex I) and on my own judgment which is limited by the time of my appointment on 1 May 2024.

Based on the above confirm that I am not aware of anything not reported here which could harm the interests of the Euratom Supply Agency.

Electronically signed
Qualified electronic signature by: MICHAEL HÜBEL
Date 2025-05-21 14:51:34 UTC
Michael Hübel
ESA Director General

([1]) True and fair in this context means a reliable, complete and correct view on the state of affairs in the Agency.

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Correspondence: ENER.EEA, L-2920 Luxembourg
Michael.Huebel@ec.europa.eu

EURATOM SUPPLY AGENCY

Luxembourg,
ENER.AAE.1/SC

DECLARATION OF ASSURANCE
AAR 2024

I, the undersigned, Stefano CICCARELLO, Acting Director-General of the Euratom Supply Agency from 1 October 2023 to 30 April 2024

In my capacity as authorising officer during the period mentioned above

- Declare that the information contained in the Annual Activity Report, forming part II of the Annual Report, gives a true and fair view ([1]);
- State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees on the legality and regularity of the underlying transactions.

This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment and the lessons learned from the reports of the Court of Auditors for several years prior to the year of this declaration.

I confirm that I am not aware of anything not reported here which could harm the interests of the Euratom Supply Agency

Electronically signed

Stefano CICCARELLO

([1]) True and fair in this context means a reliable, complete and correct view on the state of affairs in the Agency

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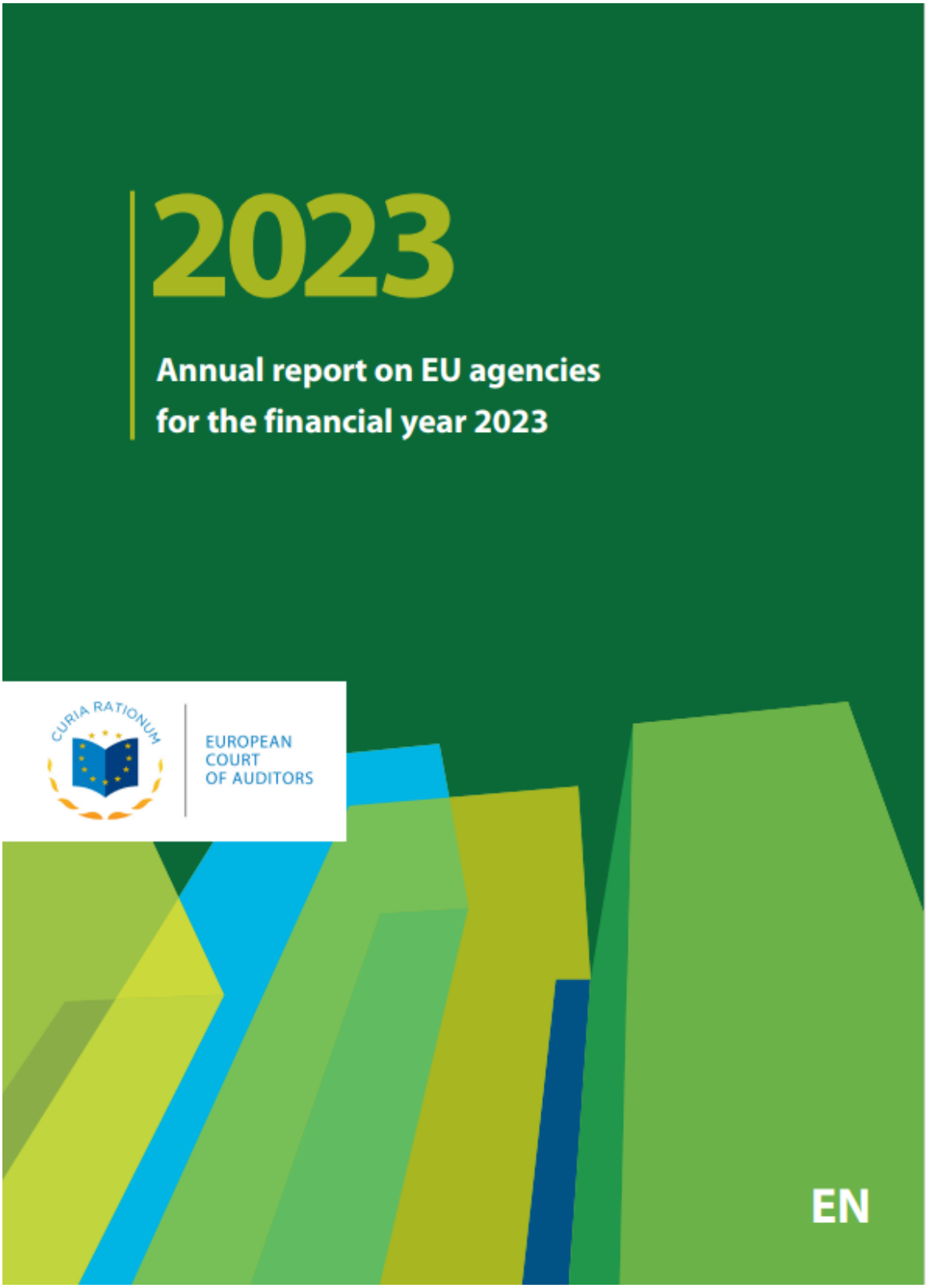
Annex B Report of the Court of Auditors for 2023

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More information on the European Union is available on the internet (http://europa.eu).

Luxembourg: Publications Office of the European Union, 2024

Agencies funded under MFF heading 7 – European Public Administration

3.34. Euratom Supply Agency (ESA)

Introduction

3.34.1. The Euratom Supply Agency (ESA), located in Luxembourg, was established in 1958, with the adoption, by the Council of the European Atomic Energy Community, of ESA's statutes, subsequently repealed and replaced by Council Decision 2008/114/EC, Euratom. ESA's main task is to ensure that there is a regular supply of nuclear materials, in particular nuclear fuels, to EU users. It does so by managing a common supply policy based on the principle of equal access to sources of supply. *Figure 3.34.1* presents key figures for ESA[116].

Figure 3.34.1 – Key figures for ESA

* Budget figures are based on the total payment appropriations available during the financial year.

** "Staff" includes EU officials, EU temporary staff, EU contract staff and seconded national experts, but excludes interim workers and consultants.

The increase in ESA's 2023 budget is linked to the implementation of an IT project (Nuclear Observatory and ESA Management of Information) and to the service level agreement with the Translation Centre of the European Communities for the provision of accounting services to ESA – both requiring additional funds in 2023.

Source: Annual accounts of ESA for the 2022 and 2023 financial years; staff figures provided by ESA.

Information in support of the statement of assurance

3.34.2. Our audit approach, the basis for our opinion, the responsibilities of ESA's management and of those charged with governance, and the auditor's responsibilities for the audit of the accounts and underlying transactions, are described in section 3.1. The signature on page *370* forms an integral part of the opinion.

[116] More information on ESA's role and activities is available on its website: http://ec.europa.eu/euratom/index.html.

The ECA's statement of assurance provided to the European Parliament and the Council – Independent auditor's report

Opinion

3.34.3. We have audited:

(a) the accounts of the Euratom Supply Agency (ESA), which comprise the financial statements[117] and the reports on the implementation of ESA's budget[118] for the financial year ended 31 December 2023, and

(b) the legality and regularity of the transactions underlying those accounts,

as required by Article 287 of the Treaty on the Functioning of the European Union (TFEU).

Reliability of the accounts

Opinion on the reliability of the accounts

3.34.4. In our opinion, ESA's accounts for the year ended 31 December 2023 present fairly, in all material respects, ESA's financial position as at 31 December 2023, the results of its operations, its cash flows, and the changes in net assets for the year then ended, in accordance with its financial regulation and with accounting rules adopted by the Commission's accounting officer. These are based on internationally accepted accounting standards for the public sector.

[117] The financial statements comprise the balance sheet, the statement of financial performance, the cash flow statement, the statement of changes in net assets and a summary of significant accounting policies and other explanatory notes.

[118] The reports on the implementation of the budget comprise the reports, which aggregate all budgetary operations, and the explanatory notes.

Legality and regularity of the transactions underlying the accounts

Revenue

Opinion on the legality and regularity of revenue underlying the accounts

3.34.5. In our opinion, the revenue underlying ESA's accounts for the year ended 31 December 2023 is legal and regular in all material respects.

Payments

Opinion on the legality and regularity of payments underlying the accounts

3.34.6. In our opinion, the payments underlying ESA's accounts for the year ended 31 December 2023 are legal and regular in all material respects.

Follow-up of previous years' observations

3.34.7. An overview of the action taken in response to the ECA's observations from previous years is provided in the *Annex*.

Annex – Follow-up of previous years' observations

Number	Year of ECA observation	ECA observation (summary)	Corrective action taken and other relevant developments (summary)	Status of ECA observation (Open / Closed)
1	2022	ESA systematically awards low-value contracts (below €15 thousand) without issuing corresponding evaluation reports and award decisions. This is not in line with points 30.3-30.4 of Annex I to the Financial Regulation.	In 2023 ESA revised its procedures and introduced a new template for low-value contracts covering both an evaluation report and an award decision. However, we still found two similar cases in early 2023, prior to the introduction of the new template.	Open

ESA's reply

3.34.7. The Euratom Supply Agency takes note of European Court of Auditors's observations which refer indeed to cases which were prior to the introduction of the new procedures.