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In the published version of this decision, some information has been omitted, pursuant to articles 24 and 25 of Council Regulation (EC) No 659/1999 of 22 March 1999 laying down detailed rules for the application of Article 93 of the EC Treaty, concerning non-disclosure of information covered by professional secrecy. The omissions are shown thus […].		PUBLIC VERSION This document is made available for information purposes only.

Subject: **State aid SA.36653 (2013/N) – The Netherlands**
Pallas project: Aid for a new research reactor in Petten

Sir,

I. PROCEDURE

1. On 8 May 2013, following pre-notifications discussions initiated in August 2012, the Dutch authorities have officially notified to the Commission for approval a measure they intended to take in support of the Pallas project.

II. FACTS

II.1. The Pallas project

2. The Pallas project aims at the realisation of a new multipurpose nuclear research reactor in Petten, the Netherlands. The new reactor (Pallas) should replace as of 2023 the existing High Flux Reactor (HFR) owned by the European Commission (Joint Research Centre - JRC). The HFR operates since

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1961 and it is becoming increasingly difficult and expensive to operate in conformity with the applicable standards. For that reason, the HFR will likely have to close between 2020 and 2030.

3. Once operational, Pallas will be active in three main areas: production of medical radioisotopes ([40-60]*% of revenues in 2030), production of industrial isotopes ([0-20]%), and research and irradiation services ([30-50]%).

4. The implementation of the Pallas project is divided into several phases:

   Phase 0 - Preparation, business case (2009-2012),

   Phase 1 - Design, tendering, permitting, financing/business case (2013-2017),

   Phase 2 - Construction (2017-2022),

   Phase 3 - Operation (2023 – at least 2063).

5. According to a consultant employed by the Dutch government, the expected total capital expenditures necessary for finalising the construction of the reactor in 2022 amount to [400-600] million EUR.

6. Pallas has originally been an initiative of the Nuclear Research and Consultancy Group (NRG), the operator of the HFR reactor and a subsidiary of the Dutch energy research institute Energy Research Centre of the Netherlands (ECN). Pallas was supposed to be a private initiative to be realised under market conditions. ECN/NRG attempted to find private financing for the project via a public tender for the development and construction of the reactor. However, they did not succeed in attracting sufficient private financing.

7. The Dutch government then commissioned an independent economic consultant Booz & co. to review the business case for Pallas. This review confirmed that especially the early phase of the project was too risky for private investors.

8. In particular, in the early phase of the project there is a substantial regulatory risk. Research reactors are one-of-a-kind designs as each reactor is different, depending on the functions it needs to perform and specific desired characteristic. To a large extent, nuclear law and regulations (such as specific safety requirements) are set during the permitting process. This poses a major risk for investors. They need to invest in the permitting process while the outcome may be that the eventual regulations are such that the construction of the reactor is commercially not viable. Furthermore, other reactors have faced budget overruns and delays due to changes in regulations.

9. Other particular risks relate to the current price level of the medical radioisotopes. Due to specific historical reasons it is too low to finance a reactor on a commercial basis (for more details, see below Section II.3). As the prices of radioisotopes do not cover the full costs of their production, the construction and operation of a new reactor on a purely commercial involves significant risks. The future situation on the medical radioisotopes market will depend on the results of current EU and OECD initiatives (e.g. within the

* Confidential information, where possible figures have been replaced by ranges in [brackets].

framework of the European Observatory on the Supply of Medical Radioisotopes[1]) which aim at finding a commercially sustainable economic model for the sector.

10. Other risks identified by the consultant relate to the common commercial risks of uncertainty about operating expenditures and future growth figures for nuclear irradiation services.

11. The combination of these risks together with the very long time-horizon of the Pallas project leads, according to the Dutch authorities, to a situation where government financing is needed, particularly in the early phase of the project, to make the Pallas project materialise.

II.2. Description of the measure

12. In view of the public interest of the Pallas project, the Dutch government decided to support the project with public funding to cover the total expected expenditure in Phase 1 of the project.

13. The Dutch government has reserved a budget of maximum 80 million EUR for this phase. The funds will be provided partly by the central government (40 million EUR) and partly by the Region Noord-Holland (40 million EUR).

14. The public funding will be provided to the beneficiary in the form of two loans under identical conditions: one from the central government and one from the regional government of Noord-Holland. The loans will be made available in tranches annually until 2017. Each tranche will be subject to a "go – no go" decision by the Dutch government. These decisions will be based on (a) execution of the project within the agreed planning and budget, and (b) the perspective of private financing for Phase 2 and 3.

15. The public investment is to be paid back before or during the operation of the reactor together with an interest, which may be related to the achieved commercial results. However, the exact pay-back period and interest rate are not yet known.

16. The beneficiary of the aid will be a newly founded legal entity in the form of a non-profit foundation. The foundation will be legally independent and its supervisory board will be appointed by the Dutch government. The objective of the foundation will be to define the design of the reactor, to execute the tendering and licensing processes and to attract private financing for Phase 2 (construction) and Phase 3 (operation).

17. During Phase 1, the foundation is expected to have 15-20 full-time equivalent employees and an annual turnover not exceeding [20-30] million EUR coming exclusively from the two public loans. At this moment, there are no other sources of income available to the beneficiary. Once private investors for subsequent phases are found, it is expected that the foundation will be

[1] See: http://ec.europa.eu/energy/nuclear/radiation_protection/medical/doc/observatory_mission.pdf.

converted into a private enterprise and taken over by the investors. The Dutch government intends to step out of the project by the end of Phase 1. During the subsequent phases, the number of employees and annual turnover are expected to grow substantially.

18. The total budget for Phase 1 is estimated to be subdivided as follows to individual subprojects[2]:

    i. Design and preparation of off plot scope – [0-10] million EUR (this subproject concerns the non-nuclear part of the project such as cooling, buildings, roads etc.);

    ii. "Permittable design" of the nuclear island – [30-40] million EUR (design of the reactor that will be tendered out, the computer code and underlying nuclear methodologies, concept designs and reports necessary for the permit application);

    iii. Permits and construction management – [10-20] million EUR (application for the nuclear energy permit and the environmental assessment report, project management and necessary external support)

    iv. Unforeseen – [10-20] million EUR (covering uncertainty on desired information by permitting authorities and recycle engineering).

19. According to these budget estimates, the actual investment as expected by the government will likely be lower than the maximum budget approved, between 70 and 80 million EUR, depending on the actual costs of the Phase 1.

II.3. The market for medical radioisotopes

20. Medical radioisotopes are used in medicine for the diagnosis and treatment of various diseases, including some of the most severe ones, like cancers, cardiovascular and brain diseases. Over 10,000 hospitals worldwide use radioisotopes for in vivo diagnosis or the treatment of about 35 million patients every year, including 9 million in Europe. The most commonly produced medical radioisotope is Molybdenum-99 (Mo-99), which decays into Technetium-99m (Tc-99m). Medical imaging techniques using Tc-99m account for roughly 80% of all nuclear medicine procedures in the world. Europe is currently the second biggest user of Tc-99m in the world, accounting for more than 20% of the global market. Tc-99m demand is expected to rise worldwide due to ageing populations in Europe and North-America and growing use in emerging economies.

21. There are four players in the supply chain of Mo-99. At the beginning of the chain, research reactors irradiate targets to create Mo-99. Processors extract the Mo-99 from the irradiated targets and produce bulk Mo-99. Generator manufacturers produce/(re)load generators with the bulk Mo-99. The generator manufacturer generally also produces so-called 'cold kits', which are pre-packed sets of sterile ingredients designed for the preparation of a specific

[2] It is noted that the expenditures by NRG connected with the preparation of the project until 2012 amounting to [0-10] million EUR will not be covered by the investment of the Dutch government.

radiopharmaceutical. At the end of the chain, radiopharmacies and hospital radiopharmacy departments elute Tc-99m from the generator and couple it with 'cold kits' to prepare radiopharmaceutical doses for the imaging of patients.

22. Mo-99 and Tc-99m are characterized by their very short half-lives, of 66 hours and 6 hours respectively. Given these short half-lives, the logistical arrangements in the supply chain have to ensure that supplies move very quickly and predictably to get the product delivered to the end user in its usable form. Mo-99 cannot be efficiently stored over extended periods.

23. Until recently, there were only five research reactors in the world irradiating targets to produce 90-95% of global Mo-99 supply. Three of these reactors are located in Europe (BR-2 in Belgium, OSIRIS in France and HFR in the Netherlands), one in Canada (NRU) and one in South Africa (SAFARI-1). All these reactors were constructed in the 1950s and '60s and are ageing. In 2010, the MARIA-reactor in Poland and the REZ-reactor in the Czech Republic were retrofitted for the supply of medical radioisotopes. However, their capacity is limited. After the NRU reactor in Canada, the HFR is the second largest of the seven research reactors in the world that are irradiating targets for medical isotopes. The HFR normally satisfies 60-70% of the European demand and 30-40% of the global demand.

24. The small number and age of existing research reactors capable of producing Mo-99 has resulted in a situation in which the security of supply of Mo-99 is fragile. In 2008-2010, several periods of global scarcity of medical radio-isotopes erupted due to the fact that several research reactors unexpectedly had to be shut down for maintenance at the same time. This results in global scarcity of medical radioisotopes which leads to delays in and cancellations of treatments with negative and sometimes life-threatening consequences for patients.

25. The problems with the security of supply of medical isotopes and their importance for ensuring adequate health care for European patients are recognised by the EU[3] as well as other international organisations such as the

[3] See in particular Council Conclusions on the security of supply of radioisotopes for medical use of 15/12/2009, http://ec.europa.eu/health/healthcare/docs/radioisotopes_council_ccl_en.pdf; Commission Communication on medical applications of ionizing radiation and security of supply of radioisotopes for nuclear medicine of 06/05/2010, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0423:FIN:EN:PDF and the Commission Staff Working Document accompanying the Communication of 06/05/2010, http://ec.europa.eu/energy/nuclear/radiation_protection/doc/legislation/comm_sec_0974.pdf; Council Conclusions "Towards the Secure Supply of Radioisotopes for Medical Use in the European Union" of 06/12/2010, http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/trans/118234.pdf; as well as Council Conclusions "Towards the Secure Supply of Radioisotopes for Medical Use in the European Union" of 07/12/2012, http://ec.europa.eu/energy/nuclear/radiation_protection/medical/doc/2012_council_radioisotopes.pdf.

OECD Nuclear Energy Agency[4]. In April 2009, OECD/NEA established a High-level Group on the Security of Supply of Medical Radioisotopes in order to develop a policy approach ensuring security of supply of isotopes[5]. In June 2012, the European Observatory on the supply of medical radioisotopes held its first plenary meeting with the aim to bring together all relevant information and decision makers in the EU, national governments, national and international official bodies, the medical community and the European industry[6]. The European Observatory has four strategic objectives:

i. to support secure Mo-99/Tc-99m supply for the medium and long term, across the EU taking into account the worldwide need and supply;

ii. to ensure that the Mo-99/Tc-99m supply issue is given high political visibility in international and national institutions, organisations and bodies;

iii. to encourage creation of a sustainable economic structure of the Mo-99/Tc-99m supply chain through supporting the implementation of the full-cost recovery (FCR) methodology developed by OECD/NEA,

iv. to establish periodic reviews of the Mo-99/Tc-99m supply chain and capacities with all stakeholders across the EU, taking into account the worldwide need and supply, and to forecast future needs.

26. The research made in particular by the OECD and the EU indicates that part of the problem is related to the economics of the sector as prices for the irradiation of medical radioisotopes have been and still are too low to construct new research reactors on a commercial basis[7].

27. All the existing producers of medical radioisotopes use multipurpose reactors, which were originally constructed and operated with 100% government funding, mainly for research and materials-testing purposes. When Mo-99 production started, capital costs of the reactors had been paid or fully amortised for other purposes. As a result, Mo-99 was seen as a by-product. This resulted in: (a) reactor operators originally only requiring reimbursement of direct short-run marginal costs, (b) the Mo-99 process not covering any significant share of the costs of overall reactor operations and maintenance, or of capital costs or allowances for replacement or refurbishment costs, (c) no substantive price changes even as the importance of Mo-99 production increased among reactor operating activities.

28. There is a broad consensus that historic and current prices of medical radioisotopes are insufficient to provide for an economically sustainable business environment. Based on studies and initiatives of the OECD, WHO, IAEA, European Commission and European Medicines Agency, the European

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4 See OECD NEA document "The Supply of Medical Radioisotopes; An Economic Study of the Molybdenum-99 Supply Chain" of 2010, http://www.oecd-nea.org/med-radio/reports/MO-99.pdf and OECD NEA document "The Supply of Radioisotopes – The Path to Reliability" of 2011, http://www.oecd-nea.org/med-radio/reports/med-radio-reliability.pdf.

5 See: http://www.oecd-nea.org/med-radio/security/.

6 See http://ec.europa.eu/energy/nuclear/radiation_protection/medical/doc/observatory_mission.pdf.

7 See in particular the OECD reports of 2010 and 2011 referred to in footnote 4.

Council agreed "*that there is no sufficient incentive for sustainable production of Mo-99 in existing and new facilities within the current economic model underlying the Mo-99/Tc-99m supply chain*"[8]. To remedy the economically unsustainable nature of the production of medical radioisotopes, the OECD has prepared several policy recommendations, which include the implementation of the principle of full-cost recovery in commercial arrangements throughout the supply chain. This is also one of the four strategic objectives of the European Observatory described above. However, the success of these initiatives will depend on further developments and, for the time being, the market for medical radioisotopes remains economically unsustainable for purely commercial operations.

III. POSITION OF THE NETHERLANDS

29. The Netherlands claims that the above measure constitutes compatible State aid under Article 107(3)(c) as it contributes to several objectives of common interest:

III.1. Providing citizens with a high level of health protection and health care

30. The Dutch authorities stress that the security of supply of medical isotopes is fragile already now. Following several periods of global scarcity of medical isotopes in 2008-2010, the problems with the security of supply of medical isotopes and their importance for ensuring adequate health care for European patients are recognised and discussed by the EU as well as other international organisations such as the OECD Nuclear Energy Agency.

31. A special ad hoc group of the European Commission concluded that "*[i]n the mid-term the only option to assure security of supply of Mo-99 is the construction of one or more multipurpose reactors. This is also necessary in order to maintain the strategic independence of Europe in this critical medical field. The design of such reactors should be optimized since the beginning to assure a good balance between research and radioisotopes production*"[9]. Further, in its Working Staff Document of 6 May 2010, the Commission indicates that a minimum of 200 - 250% "peak reactor capacity" is considered as necessary for Europe to ensure continuity of production during normal scheduled reactor refuelling and maintenance shutdown periods.

32. The Dutch authorities recall that HFR normally satisfies 60-70% of the European demand and 30-40% of the global demand for medical radioisotopes. In view of the approaching end of the lifetime of HFR, its replacement by the Pallas reactor is crucial for maintaining security of supply of medical isotopes in Europe.

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8 See Council Conclusions "Towards the Secure Supply of Radioisotopes for Medical Use in the European Union" of 06/12/2010, page 1, http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/trans/118234.pdf.

9 See Preliminary report on supply of radioisotopes for medical use and current developments in nuclear medicine of 30 October 2009, established by an internal European Commission ad hoc Interservice Group, p.55, http://ec.europa.eu/health/healthcare/docs/radioisotopes_report_en.pdf.

33. The Dutch authorities acknowledge that there are other planned new research reactors producing medical isotopes to be constructed in the future[10]. However, some of the existing reactors built in 1950s and 60s are scheduled to be closed down[11]. The Dutch authorities, therefore, argue that even taking into account other on-going initiatives, the minimum required peak capacity for medical isotopes production as defined by the Commission would not be reached if HFR is not replaced by a new reactor in the future. The Dutch authorities also note that Pallas is the only of the new facilities in Europe capable of Mo-99 production that actually sees the production of Mo-99 as its primary objective. The other projected reactors are primarily research facilities and can produce Mo-99 as a 'side-function'.

34. The Pallas project is thus considered as crucial for ensuring long-term security of supply of medical radioisotopes in the EU.

III.2. Promoting and facilitating nuclear research

35. As a multipurpose reactor, Pallas aims to continue and enhance the research and irradiation services that are currently performed by HFR, particularly testing and certification of materials and components and testing of nuclear fuels. The HFR and its operator the NRG have a strong position in European and international research and development networks. Over 75% of irradiation test projects over the past 10 years were performed by the NRG in the HFR.

36. The NRG and the HFR particularly play a key role in EU research programs on Generation IV reactors. Examples of EU research projects in which NRG participates by performing research in the HFR are PILGRIMM, ASGARD, ADRIANA, GETMAT. These are vital research activities in the development of Generation IV nuclear power plants, treatment and disposal of radioactive waste and lifetime extension of existing nuclear power plants.

37. The Dutch authorities thus argue that replacement of HFR by Pallas keeps the European nuclear research infrastructure at its current strong level and thereby contributes to the aim of promoting and facilitating nuclear research as laid down in the Euratom Treaty (in particular Articles 4-11) and promoted by the Sustainable Nuclear Energy Technology Platform[12].

III.3. Limiting transport of nuclear materials throughout the EU

38. The Dutch authorities argue that Petten, where HFR is located and where Pallas is planned to be constructed, is the only location in Europe where both production (HFR) and processing facilities (operated by Covidien) for medical isotopes are in place. This ensures that transport of radioactive material throughout Europe is kept to a minimum for the sake of safety and security of EU citizens.

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10 FRM II in Germany will produce isotopes as of 2014, Jules Horowitz Reactor in France will become operational as of 2015 and MYRRHA in Belgium will be operational as of 2022/2023.

11 OSIRIS in France in 2015, BR2 in Belgium in 2022/2023 as well as HFR itself by 2023.

12 See www.snetp.eu; DG ENER, DG RTD and JRC are members of SNETP.

III.4. Promoting nuclear non-proliferation

39. The Dutch authorities note that trough the Non-Proliferation Treaty and the Additional Protocol, all EU member states have committed themselves to nuclear non-proliferation. The production of medical isotopes is currently done with the use of highly enriched uranium (HEU) which can be used in nuclear weapons. For security reasons, the EU has committed itself to the conversion of radioisotopes processing facilities to use low-enriched uranium (LEU) which cannot be used in nuclear weapons. The European Council has stressed "*the need to work cooperatively in a joint action together with the radioisotopes processing facilities to enable the future conversion to Low Enriched Uranium targets in an efficient, timely, economically sound and sustainable way*" [13].

40. At the 2012 Nuclear Security Summit in Seoul, the Netherlands, Belgium, France and the United States issued a joint statement in which they reaffirmed their commitment "*to minimize the use of Highly Enriched Uranium (HEU) for civilian purposes, where technically and economically feasible, in order to advance the goal of nuclear security, as stated in the Washington Final Communiqué and Work Plan. (…) In the longer term [after 2015], the use of HEU will be completely eliminated for medical isotopes that are produced in Belgium, France, and the Netherlands and used in those countries and in the United States.*"[14]

41. The HFR uses LEU fuel since 2006, but requires still HEU irradiation targets. As the Pallas reactor will operate solely on LEU (fuel and irradiation targets), the Dutch authorities argue that it will represent a substantial contribution to European and global non-proliferation objectives.

IV. ASSESSMENT OF THE MEASURE

IV.1. Relationship with the Euratom Treaty

42. Article 106a(3) of the Euratom Treaty provides that the provisions of the Treaty on European Union and of the Treaty on the Functioning of the European Union (TFEU) shall not derogate from the provisions of this Treaty.

43. Hence, as long as the application of the TFEU does not imply derogation from the Euratom Treaty, the TFEU applies.

44. Further, the Dutch authorities do not argue that TFEU State aid rules would not be applicable to the notified measure due to any particular provision of the Euratom Treaty.

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[13] Council Conclusions of 06/12/2010. Similarly, see also Council Conclusions of 07/12/2012 (both referred to above in footnote 3).

[14] See "*Belgium-France-Netherlands-United States Joint Statement: Minimization of HEU and the Reliable Supply of Medical Radioisotopes*" of 26/03/2012,, http://www.whitehouse.gov/the-press-office/2012/03/26/belgium-france-netherlands-united-states-joint-statement-minimization-he.

IV.2. Existence of State aid

45. According to Article 107(1) TFEU, State aid is defined as any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods and affects trade between Member States.

46. The proposed measure as described above clearly involves transfer of State resources granted partly by the central government and partly by the regional government of Noord-Holland.

47. Further, the proposed measure is obviously selective as it is provided to an individual beneficiary. This beneficiary, although it received the form of a non-profit foundation, is an undertaking as it will employ approximately 15-20 full-time equivalent employees and will indeed carry out an economic activity by carrying out at least Phase I of the Pallas project.

48. By favouring one particular reactor project, the measure is liable to distort competition among multipurpose research reactors used for the production of radioisotopes and the provision of research and irradiation services. Further, in view of the EU-wide or even global character of the markets involved, the measure would clearly affect trade between Member States.

49. As regards existence of an economic advantage to an undertaking, it cannot be argued that the funding provided by the State is in line with the market economy investor principle. The Dutch authorities acknowledge that, despite efforts to find a private investor for the project, no such investor was willing to provide funding due to the high risks involved. Further, [results of a confidential expert study by Booz & co.][15]. The proposed measure thus provides an economic advantage to the beneficiary of the aid.

50. Finally, the Dutch authorities do not dispute the classification of the proposed measure as State aid.

51. In view of the above, the proposed measure constitutes State aid within the meaning of Article 107 TFEU.

IV.3. Legality of the aid

52. In accordance with Article 3 of Council Regulation No 659/1999 of 22 March 1999 laying down detailed rules for the application of Article 93 of the EC Treaty[16], aid shall not be put into effect before the Commission has taken, or is deemed to have taken, a decision authorising such aid.

53. By notifying the measure before its implementation, the Dutch authorities have fulfilled this standstill obligation. The actual execution of the project will start only once the Commission approves the notified measure.

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15 See [expert study by Booz & co.].

16 OJ L 83, 27.3.1999, p.1 with further amendments.

IV.4. Compatibility of State aid

54. The Dutch authorities in their notification do not identify any secondary legislation which could serve as a legal basis for the authorisation of the aid. Indeed, none of the existing secondary legislation is suitable for assessment of the proposed measure. In particular, the existing Community Framework for R&D&I aid[17] does not apply (apart from some exceptions not applicable in this case) to the funding of construction of research infrastructure.

55. Therefore, the compatibility of the aid is assessed directly under the TFEU provisions. The Dutch authorities put forward in the notification that the primary objective of the measure is sectorial development. Therefore, the measure will be assessed under Article 107(3)(c) TFEU which states that "… *aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest…*" may be considered to be compatible with the common market.

56. In order to be compatible under article 107(3)(c) TFEU, an aid must pursue an objective of common interest in a necessary and proportionate way. In this regard, the Commission considers it appropriate to assess the following questions:

1) Is the aid measure aimed at a well-defined objective of common interest (i.e. does the proposed aid address a market failure or another objective of common interest)?

2) Is the aid well designed to deliver the objective of common interest? In particular:

   (a) Is the aid measure an appropriate instrument, i.e. are there other, better placed instruments?

   (b) Is there an incentive effect, i.e. does the aid change the behaviour of firms?

   (c) Is the aid measure proportional, i.e. could the same change in behaviour be obtained with less aid?

3) Are the distortions of competition and the effect on trade limited, so that the overall balance is positive?

Ad 1) Objective of common interest

57. The Dutch authorities indicate four objectives of common interest pursued by the notified aid measure: (i) providing citizens with a high level of health protection and health care by ensuring security of supply of medical radioisotopes, (ii) promoting and facilitating nuclear research, (iii) limiting

[17] OJ L 323, 30.12.2006, p.1.

transport of nuclear materials throughout the EU, and (iv) promoting nuclear non-proliferation.

58. As described in detail above, these objectives are in general recognised as legitimate common interests both by the EU as well as by other international organisations such as OECD/NEA and are subject to international cooperation at various levels.

59. They are also in line with the objectives of the Euratom Treaty, in particular as regards promotion of nuclear research (Article 2(a) of the Euratom Treaty), ensuring nuclear safety (Article 2(b) of the Euratom Treaty), facilitation of investment into nuclear installations for development of nuclear energy (Article 2(c) of the Euratom Treaty) and ensuring that nuclear materials are not diverted to purposes other than those for which they are intended (Article 2(e) of the Euratom Treaty).

60. This conclusion is not affected by the fact that some of the planned activities of the multipurpose rector may not relate to all the above identified objectives (e.g. the production of technical radioisotopes is not relevant from the point of view of health protection and care). First, each of the planned activities is relevant from at least one of the above described objectives (e.g. with respect to the production of technical radioisotopes, the limitation of the transport of nuclear material and promotion of non-proliferation remain valid objectives). Second, the multipurpose character is a standard feature of such reactors which ensures a sufficiently high and efficient utilisation of the reactor and diversification of revenue sources to cover the operating costs of the reactor[18].

61. Therefore, the aid measure aims at well-defined objectives of common interest.

Ad 2a) Appropriate instrument

62. In view of the failed attempt by ECN/NRG to attract private financing for the Pallas project without public support, it seems unlikely that there would be other less distortive instruments enabling to achieve the same results.

63. This is also confirmed by the expert analysis by Booz & co commissioned by the Dutch authorities in 2012 in order to review the business project for Pallas. [results of a confidential expert study by Booz & co.].

64. The failure to realize Pallas on a fully commercial basis is in line with findings of the OECD/NEA and the European Commission that under current market conditions, new Mo-99 production facilities are unlikely to be realized on a purely commercial basis without any government support[19].

65. Therefore, without public support the Pallas reactor would not be constructed. However, mitigating the uncertainties connected with the early phase of the

[18] See e.g. Commission Staff Working Document accompanying the Communication of 06/05/2010, page 14.

[19] See e.g. OECD NEA document "The Supply of Radioisotopes – The Path to Reliability" of 2011, pages 40-41 or Commission Staff Working Document accompanying the Communication of 06/05/2010, page 14.

Pallas project through the proposed measure makes entry by private investors for Phase 2 and 3 more likely. Even though it does not eliminate all the identified risks, it removes some the biggest uncertainties and facilitates thus the participation of private financing in the later stages of the project.

66. The proposed aid measure thus represents an appropriate instrument for achieving the identified objectives.

Ad 2b) Incentive effect

67. The failed attempt by ECN/NRG to attract private investor as well as the expert study commissioned by the Dutch authorities confirms that without the proposed measure, the Pallas project would not materialise.

68. By reducing the risk profile of the Pallas project in the early phase, the proposed aid measure increases the attractiveness of the project for private investors in the subsequent phases. [results of a confidential expert study by Booz & co.][20]. The aim of the measure is thus to induce private investors to take over the project as of Phase 2.

69. Therefore, the proposed measure contains an incentive effect by changing the expected behaviour of the undertakings.

Ad 2c) Proportionality

70. The proposed aid measure in the form of a loan amounting to maximum 80 million EUR will represent only a relatively small part of the total financing necessary for the construction of the new reactor. The expected total capital expenditure between 2012 and 2022 (until the finalisation of Phase 3 of the Pallas project) is estimated as [400-600] million EUR.

71. Further, the proposed aid measure constitutes a subsidy under payback condition to be repaid before or during the operation of the reactor. Therefore, if the aim of attracting a private investor is successful, the public funding provided for Phase 1 will likely be repaid with interest.

72. Even though, due to the high risks of failure involved, such repayment does not satisfy the market economy investor principle test, the amount of the public funding is in this way limited to the minimum necessary to realise the objectives of the project. The goal of the Dutch government is to use the measure as leverage to attract private financing for construction and operation of the Pallas reactor. As the loan will be repaid if the project is successful, the amount of public financing is kept to the minimum necessary in order to attract private financing and make the project materialise. This is also confirmed by the expert studies by Booz & co commissioned by the Dutch government.

73. It is noted that the Dutch authorities acknowledge that the aid cannot guarantee that a private investor will be found in 2017 to construct and operate the

[20] See [expert study by Booz & co.].

reactor. In that case the project could be terminated and the aid measure would then constitute a sunk cost for the Dutch authorities. […]

74. Therefore, the aid measure is considered as proportional.

Ad 3) Are the distortions of competition and the affectation of trade limited, so that the overall balance is positive?

75. The limitation of the public support to the Phase 1 of the Pallas project with subsequent privately financed construction and operation of the reactor makes sure that the distortion of competition is kept to the minimum. The beneficiary will not engage in any commercial activities in the Phase 1 of the project apart from actions necessary to realise the reactor design and to obtain the regulatory permits. The subsequent construction and actual operation of the Pallas reactor will be ensured by private investor on a commercial basis and will also entail repayment of the public loan with interest.

76. Further, the Dutch authorities argue that the Pallas project represents the only research reactor in the world that is intended to be largely financed through private parties. All existing research reactors producing medical radioisotopes are publicly financed and also the projected new reactors to become operational in the future are mostly financed from public sources with only minority private contributions.

77. In view of the above, the proposed measure in favour of the Pallas project is largely in line with the objectives of OECD/NEA as well as the European Observatory to create an economically sustainable market for medical radioisotopes undistorted by public funding. The limitation of the public funding to the Phase 1 combined with the obligation to repay the loan in case the project is successful will ensure that the pricing of radioisotopes by a private operator of Pallas will need to reflect the principle of full recovery of all underlying costs.

78. In addition, in view of the importance of the HFR reactor and capacity limitations of other existing or projected reactors, other market players are unlikely to be able to fill the gap in supply if the HFR is not replaced. Further, purely private investment into construction of any other multipurpose research reactor is currently highly unlikely. Therefore, the public support in the early phase of the project is unlikely to have any inappropriate crowding out effect on the markets concerned.

79. On the other hand, the realisation of the Pallas project contributes to several valid and well defined common interest objectives whose attainment would be endangered in case the Pallas project fails.

80. Therefore, the Commission considers that the positive effects of the proposed measure outweigh its relatively limited adverse impact on competition and trade.

Conclusion

81. It can thus be concluded that the aid for the Pallas project is compatible with Article 107(3)(c) TFEU.

V. DECISION

82. The Commission has accordingly decided to consider the proposed aid in favour of the Pallas project to be compatible with the Treaty on the Functioning of the European Union.

83. The Commission reminds the Dutch authorities that in accordance with Article 108(3) TFEU, any plans to alter or change this aid have to be notified to the Commission pursuant to provisions of Council Regulation No 659/1999 of 22 March 1999 laying down detailed rules for the application of Article 93 of the EC Treaty[21]

If this letter contains confidential information which should not be disclosed to third parties, please inform the Commission within fifteen working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to the disclosure to third parties and to the publication of the full text of the letter in the authentic language on the Internet site:

http://ec.europa.eu/competition/elojade/isef/index.cfm.

Your request should be sent by registered letter or fax to:

European Commission
Directorate-General for Competition
State Aid Greffe
J70 03/225
1049 Brussels
Belgium
Fax No: +32-2-296 12 42

Yours faithfully,
For the Commission

Joaquín ALMUNIA
Vice-president

[21] OJ L 83, 27.3.1999, p.1 with further amendments.