



PALLAS 10

Y E A R

Special edition on the occasion of the 10th anniversary of PALLAS.

APRIL 2024

Ten years of PALLAS

By the village of Petten in Noord Holland (the Netherlands), nuclear medicine is produced to daily save lives for thousands of patients worldwide. It was more than 60 years ago when the High Flux Reactor in Petten was built. PALLAS, on a mission to build a new state-of-the-art production facility to become world's leading producer of radioisotopes for nuclear medicines and to enable nuclear technology research, is a 'once in a generation' project to secure continuation of the medicine production from Petten.

In 1961, the High Flux Reactor (HFR) went online. Since then, the HFR has stimulated the development of nuclear-related enterprises in and around Petten and the Netherlands. 'Petten' has become the largest supplier of medical isotopes in Europe and, with 30 percent global market share, the second largest worldwide. Every day, more than 30,000 patients are treated with nuclear medicine made in Petten. Worldwide, there are a few reactors that account for the lion's share of medical isotope production. In upcoming decade, 75 percent of the reactors will need to be replaced, including the HFR in Petten, licensed and operated by NRG (Nuclear Research & Consultancy Group).

Vital

Up until 2013, PALLAS only existed as a project organisation within NRG. 16 December 2013, the PALLAS was formally established as the Foundation Preparation Pallas-reactor (PALLAS). Becoming the most advanced initiative in the field of medical isotope production worldwide, PALLAS' objective is to build a state-of-the-art, multi-purpose reactor for the production of (medical) isotopes, and to perform high-end technological research. Coming up with a new reactor to maintain supply of medical isotopes is essential for the health of millions of people. The medical and nuclear world closely follow developments of PALLAS.

In addition to an increasing demand for irradiated medical isotopes, there is also an urgent need for production facilities, where irradiated raw materials can be processed into semi-finished products (radiochemicals), and medicines (radiopharmaceuticals) at the request of hospitals or pharmaceutical companies. Hence the initiative of PALLAS to build the Nuclear Health Centre (NHC) in Petten.

Partnerships

Since its establishment, PALLAS has been on a mission to contribute to continuous availability of medical isotopes for patients around the world, and to provide unique solutions to the research and development of new isotopes. Forging partnerships with partners and stakeholders has been crucial in order to realize the project.



In January 2018, PALLAS and representatives of ICHOS (a consortium of Argentinian INVAP and the Dutch TBI companies Croonwouter&dros and Mobilis) signed the contract for the design and the construction of the PALLAS-reactor. The collaboration delivered a concept design in September 2018. The reactor design allows for considerable operational flexibility and the capacity of producing different isotopes in large volumes. This makes PALLAS unique worldwide. By 2022, second phase of the design was completed and various approvals were granted. In the meantime, various permits have been granted to allow for the start of the project. The Preliminary Safety Analysis Report (PSAR) was submitted to the Dutch Authority for Nuclear Safety and Radiation Protection (ANVS). This report profoundly discusses the design and the safety aspects of the reactor, so does the continuous cooperation of PALLAS and ANVS contribute to a construction and an operation of a safe reactor.

Financing

Securing financing for PALLAS was essential to get the project off the ground. The original aim of the PALLAS facilities was to be commercially financed, owned, and operated. The government has provided a number of loans, so that NRG|PALLAS was able to work on the design and the business case, obtain permits, and have conversations with possible financiers. However,

Today, PALLAS is a dynamic international organisation, where almost 600 of its employees and contractors work together towards one goal – realizing the project that is daily of vital importance to thousands to people around the world.

PALLAS and ICHOS teams

according to the government, private financing based on conditions acceptable to the government was not feasible. In his letter (dated 21 January 2022), minister Ernst Kuipers of the Ministry of Health, Welfare and Sport, reports to the Parliament that the key question is whether the Netherlands will continue its leading role in the security of supply of medical isotopes or whether we consider a greater international dependence and uncertainties regarding future availability of medical isotopes to be acceptable and proportionate. On 20 September 2022, minister Kuipers announces that money has been set aside for the construction of the PALLAS-reactor in Petten, Noord-Holland, for the coming years. The Ministry reserved 30 million euros for the project in 2022 and 129 million euros per year from the year thereafter. On 19 September 2023, minister Kuipers announces that there will be full financing for the construction of the PALLAS-reactor.

Full speed forward

With financial means available, PALLAS started with preparatory works at the site in Petten in 2022. Old buildings were demolished, so-called lay-down area was prepared for the construction works. With the Nuclear Energy Act license granted for the construction of the PALLAS-reactor by ANVS, PALLAS can move forward full speed.

In December 2023, PALLAS partnered with FCC as its general contractor for the construction of the PALLASreactor and surrounding buildings.

Today, PALLAS is a dynamic international organisation, where almost 600 of its employees and contractors work together towards one goal – realizing the project that is daily of vital importance to thousands to people around the world.

30,000

Every day, more than 30,000 patients are treated with nuclear medicine from Petten



The highlights of 10 years of PALLAS

PALLASreactor.com

PALLAS is part of



MILESTONES

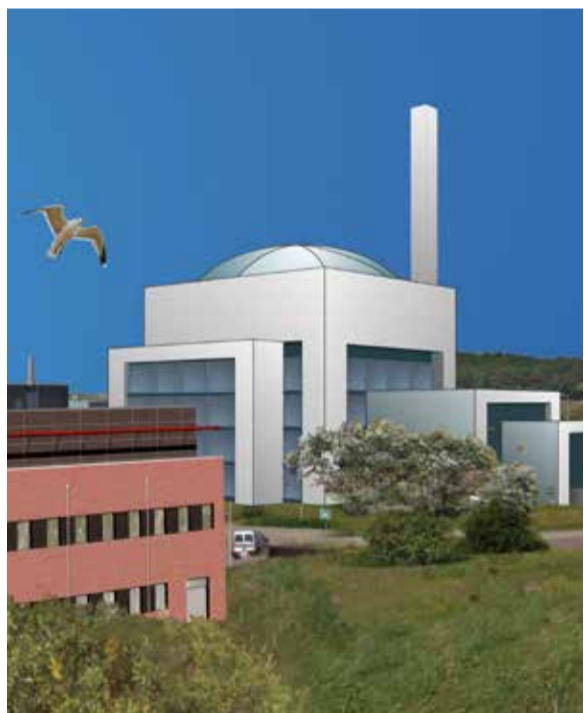
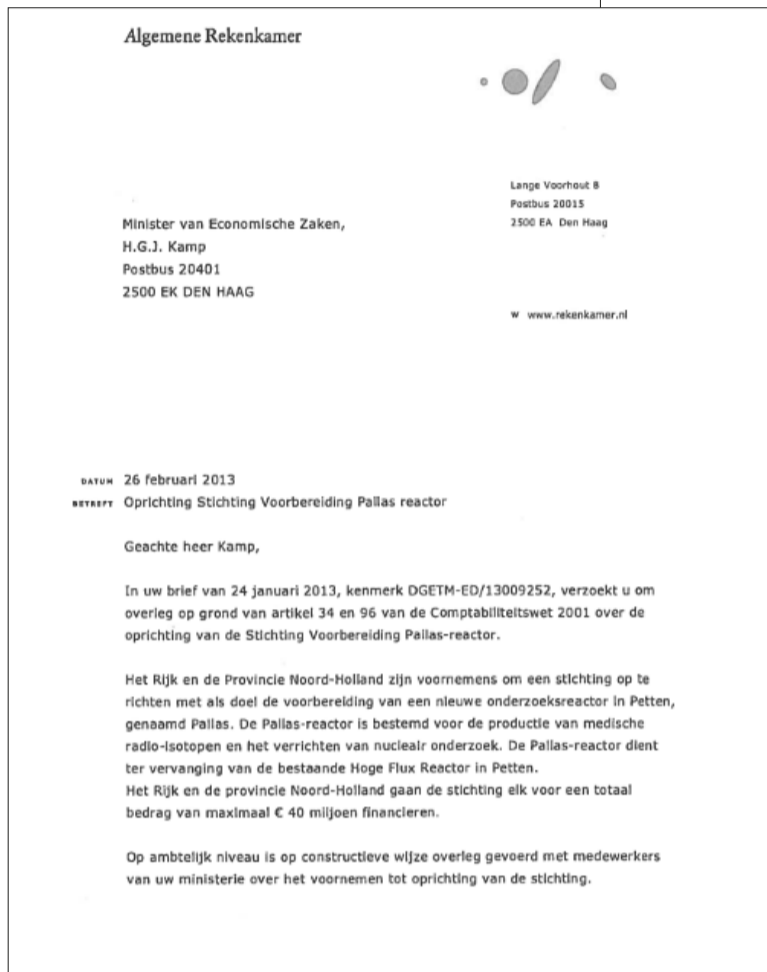
- Establishment Foundation Preparation Pallas-reactor

- Kick-off tender procedure for the design and construction of the reactor
- Introduction new logo

- Signing the contract with ICHOS
- The first phase of the PALLAS-reactor's design completed and submitted to the ANVS
- Submission of the Conceptual Safety Document to the ANVS
- PALLAS under the umbrella of the Ministry of Health, Welfare and Sport

Establishment Foundation Preparation Pallas-reactor

2013



One of the first design impressions of the PALLAS-reactor



Evolution of the logo design

2018

PALLAS partners with ICHOS for the design of the PALLAS-reactor

25 January 2018

PALLAS signs the contract with ICHOS – the building consortium of the Argentinian INVAP and the Dutch TBI construction and installation companies Croonwolver&dros and Mobilis – for the design of the PALLAS-reactor.

The new PALLAS research reactor, which will replace the High Flux Reactor (HFR) in Petten in the Netherlands, will be designed and constructed by the Ichos consortium comprising of Argentinian nuclear technology firm Invap, together with Croonwolver&dros and Mobilis, both part of TBI Holdings of the Netherlands. The contract agreement was signed on 24 January in The Hague by Pallas Foundation CEO Hermen van der Lugt, Invap CEO Vicente Campenni, Croonwolver&dros director Lennart Koek and Mobilis director Robert Jan Feijen. The deal is valued at up to €40m (\$50m) for the current preparation phase and “several hundred million” euros for the remaining phases. Three companies took part in a tender for the PALLAS-reactor launched by the Netherlands in December 2007 – France’s Areva TA, the Korea Atomic Energy Research Institute (KAERI) and Invap, which was selected as the best in June 2009. However, the authorities then decided to discontinue the project for economic reasons.

It was relaunched in 2015 with a new tender from the Pallas Foundation, which divided the project into two phases: the first phases for engineering, obtaining the construction licence, perfecting the business plan and obtaining finance; and the second for construction of the reactor. The same three companies submitted bids in March 2017, with Invap partnering TBI Holdings.



Official signing moment (left to right): Robert Jan Feijen, Director Mobilis, Lennart Koek, Director Croonwolver&dros, Hermen van der Lugt, CEO PALLAS, Vicente Campenni, CEO INVAP

A request for final offers was issued in November after two rounds of negotiations. The Pallas project organisation was part of the Nuclear Research and Consultancy Group (NRG) until the end of 2013 when it became part of the Foundation Preparation Pallas reactor. The foundation is responsible for completing the first phase of the project (the design, tendering and licensing procedure) and for attracting funding for the second phase (construction and commissioning). The finance is also in two parts. The publicly-funded phase comprises a €80m loan from the Department of Economic Affairs and Climate, together with the province of Noord-Holland, and covers the selection of the design and construction. However, construction and commissioning are to be financed privately. Pallas said the business case for the new reactor “has been further elaborated and a start has been made on approaching future customers”. Discussions are underway with potential investors.

PALLAS in media



- Initiation of the collaboration between PALLAS and NRG
- Start second phase (basic design) of the PALLAS-reactor's design
- Zoning scheme approval by the municipality of Schagen



PSAR

2019 ▶ Zoning scheme approval by the municipality of Schagen

2 April 2019

The municipality of Schagen agreed on Tuesday 2 April to the PALLAS zoning plan. This is a good step forward. The study assumes maximum design specifications of the different parts of the plan. Based on that, the maximum environmental impact has been identified for the construction phase, the transition phase and the operational phase. The survey and assessment reveal

that – even in the maximum situation – no unacceptably severe norm-breaching environmental impact would arise if the PALLAS-reactor is erected and operated on the intended spot at the Research Location Petten. The conclusion is therefore that the environmental impact does not form any barrier to revising the zoning plan. The revision of the zoning plan, the Image Quality Plan and the Safety Environmental Assessment thus make the future location of PALLAS in Petten possible.

PALLAS in media



Marnix Lam

Head of Nuclear Medicine at the UMC Utrecht and Professor of Nuclear Medicine
Hoofd Nucleaire Geneeskunde bij UMC Utrecht en hoogleraar Nucleaire Geneeskunde

“The Netherlands cannot do without the PALLAS-reactor

Nederland kan niet zonder PALLAS-reactor



INTERVIEW



Clarisa Mocciaro

1

How long have you worked at PALLAS and what was the organisation like back then when you started?

I have worked at PALLAS since the Tender phase in 2016. In some aspect the organization is almost the same. The vision, mission and values has not changed, and particularly for the engineering team, the people leading it are almost the same. I was the Process Lead Engineer in that phase. Fred Fortier was my counterpart. So, I have been working with Marisa, Fred, Sinda and Jan since 2016

2

How has PALLAS evolved over the years from your perspective?

In 2016 it was a small organization. Now the organization is growing to support the relevance of other stages of the project (Construction, procurement, manufacturing, etc). By starting the execution phase, the organization becomes more result-oriented, which is really important to support the execution dynamic.

3

What are your most memorable moments?

Personally, the birth of my two children. It was during Basic design and during Transition period. Work-related, of course the PSAR approval, and also the approval of the Input Specification. Finally achieving the derivation of the contract's technical requirements into the Input Specifications was a major milestone for the design.

4

What are you looking forward to/ what do you wish PALLAS in the future?

Several important milestones will occur in the future: pool installation, manufacturing of Reflector vessel, POSAR approval, construction of SCS and related systems,... My wish, which is also my driving force in this project, is the successful validation of all the technical requirements in order to have a safe and reliable facility, which allows a successful commercial operation of PALLAS.

- Start demolition of the old buildings at the future PALLAS site
 - Submission of the Preliminary Safety Analysis Report to the ANVS
 - Approval of the zoning scheme of the PALLAS-reactor by the Council of State
 - Completion of the second phase (basic design) of the PALLAS-reactor's design
 - Ongoing preparations of various permits needed to allow the construction of the reactor
 - Intensified collaboration between PALLAS and NRG, establishment of an organisational structure called personele unie
- Publication of zoning plan and SEA (Strategic Environmental Assessment)
 - Building permit for the Nuclear Health Centre obtained
 - Continued support and funding for PALLAS
 - NRG and PALLAS pursue a joint future as one organisation
 - Announcement of the architecture of the new PALLAS buildings

2020 ▶

Start demolition

At the beginning of 2020, major demolition work started on the site where PALLAS-reactor will be built. First, the old chemical laboratory, both approximately 65*50 meters, were remediated (radiologically, chemically, and asbestos and emptied. In addition to the old laboratories, the south-facing 40-meter-high chimney was taken down.



2021 ▶

NRG and PALLAS pursue a joint future as one organisation

14 January 2021

The Foundation NRG and the Foundation Preparation Pallas-reactor (PALLAS) intend to fuse together as one organisation, as announced by Bertholt Leeftink, CEO NRG | PALLAS, today during the New Year's Toast.

This spring, the proposal for the new organisation will be further detailed. "By combining our forces, we are able to make large steps forward in the development and production of nuclear medicines used for diagnostic purposes and for the treatment of patients suffering from life-threatening diseases. To this end, we need to establish a state-of-the art infrastructure that is being developed as we speak," said Bertholt Leeftink. Every day, more than 30,000 patients benefit from the Petten-produced products for their diagnoses or treatment. NRG is the world's largest producer of

raw materials for nuclear medicines. PALLAS is in the process of realising the new infrastructure that is necessary to continue to hold this position. By fusing together the two organisations – located in Petten, Alkmaar and Arnhem – major action can be taken to further enhance this position.

With its unique combination of nuclear installations and expert knowledge at the Energy & Health Campus, over the last 60 years Petten developed into a prestigious location that is worldwide held in high regard. NRG and PALLAS represent two functions in this process: production and research. The production of raw materials for nuclear medicines, research aimed at the development of new nuclear medicines, and research focused on generating carbon-neutral energy.

The products and services in the field of medicines and energy are of serious social importance, now and in the future. In order to prepare for this future, the innovation of the infrastructure is in full development. The choice to continue as one organisation allows us to combine the existing nuclear technological knowledge base that we have been creating over the past 60 years with the infrastructure, innovation and impact of the future.

Innovation and expanding the infrastructure

The reactor is the infrastructure's foundation. A smooth transition from the High Flux Reactor to the new PALLAS-reactor is essential to guarantee both the supply of medical isotopes and the research function. Preparations are being made to realise the new PALLAS-reactor. For the High Flux Reactor, in addition to the existing maintenance program, NRG initiated the continued safe operation (CSO) program in 2018, which focuses on controlling the consequences of obsolescence. This program is now examining a period lasting until at least 2030 in which the HFR should remain operational.

The irradiated products from the reactor have to be further processed into raw materials for nuclear medicines. To this end, a Nuclear Health Centre will

be realised that can be used to execute the necessary chemical processing steps on an industrial level. The collaboration with various national and international university hospitals and knowledge facilities must turn Petten into a European breeding ground for the development of production processes for new nuclear medicines. To this effect, research is being performed in collaboration with the academic medical centres, focused on accelerating the development of these nuclear medicines. To support this process, the FIELD-LAB is under construction.

Research and innovation

The nuclear knowledge and expertise that was gained over the past 60 years is broadly applied. The climate issue represents an important challenge to the world, and various countries are examining how to optimally arrange for a carbon-neutral energy supply. Nuclear technology may have an important part in the solution of the issue, and within that scope, NRG is doing nuclear research.

In addition to extending the operational life of existing nuclear plants, the future energy supply may be expanded by innovative nuclear reactors, like liquid fluoride thorium reactors (LFTR) or molten salt reactors (MSR). In performing this research, the High Flux Reactor, and in the future PALLAS, is intensively involved.

"The quality research that we pursue with the nuclear medicine specialists working at the FIELD-LAB, and the facilities available to realise large-scaled production, allow direct delivery to hospitals," said Bertholt Leeftink. "Nuclear medicines are perishable products. Short lines and short delivery times therefore promote treatment for more patients. The development of new nuclear medicines demands an effort from the supply chain, and by collaborating with the hospital researchers we can actually have these new medicines taken into production. By making this step, we do not only create a more efficient production and development process, but we also remain closer to the hospitals and, as such, to the patient".



Vital importance of the HFR to be continued with the PALLAS-reactor

- Nature permit granted by Omgevingsdienst Noord-Holland Noord (Environmental Service North-Holland North)
- Cabinet supports construction of the PALLAS-reactor
- Preparatory works started at the PALLAS site
- PALLAS appoints BESIX the contractor for the Pit & Foundation



“The new reactor is in the interest of security of medical isotopes for patients worldwide.”

Bertholt Leeftink
CEO NRG|PALLAS

2022 ▶

Cabinet supports construction of the PALLAS-reactor

20 September 2022

Minister Kuipers of Health, Welfare and Sport announced today, that money has been set aside for the construction of the PALLAS-reactor in Petten, North Holland, in the coming years. The ministry is reserving 30 million euros for the project this year and 129 million euros per year from next year.

The arrival of the PALLAS-reactor is important for many patients with often life-threatening diseases, such as cancer and cardiovascular diseases. These patients depend for

their treatment and diagnosis on medical isotopes produced in Petten in the ageing High Flux Reactor. With the construction of a new reactor, patients can be helped again for many decades and contributes to research into a CO₂-free energy supply.

Bertholt Leeftink, CEO NRG|PALLAS: “This is a wonderful step. The new reactor is in the interest of security of supply of medical isotopes for patients worldwide and important for maintaining the Dutch nuclear knowledge infrastructure. The Netherlands has an extremely strong position in the global market

for medical isotopes and nuclear technological research. With the arrival of PALLAS, we are able to maintain and expand this position and guarantee the preservation of high-quality knowledge and employment in the North Holland headland.”

Peter Dijk, PALLAS Programme director: “We are very pleased with today’s news. The PALLAS-team has been working hard in recent years to prepare for the construction of the PALLAS-reactor. With this decision, we can proceed with the preparatory work for the final realisation of the new build.”

1,32 bil.

Dutch cabinet sets aside financial support for PALLAS project

Preparatory works started at the PALLAS site



Opening of the new PALLAS access road

16 November 2022

Preparatory works to enable the realization of the construction of the PALLAS-reactor have started. Work is currently underway to make the original access road to the Energy & Health Campus from the 1960s accessible.

This temporary road will be made suitable for construction traffic for the PALLAS-reactor. The access road joins the Westerduinweg. During the construction of the steel sheet pile structure around the work site,

the contractor KWS Infra will use innovative machinery that does not cause vibrations, thus minimizing inconvenience.

KWS Infra is the partner carrying out the preparations for the work site and is working in the coming period on the realization of the access road and the surfacing of the work site. This work will be highly visible from Westerduinweg and is expected to be completed in early 2023.

The Energy & Health Campus is

located next to the ‘Zwanenwater’ and ‘Pettemerduinen’ nature reserve. All work will be carried out in accordance with the nature permit. Among other things, amphibian screens have been installed, bat boxes have been hung and work is being carried out on the basis of an ecological work protocol. Ultimately, after construction is completed, the surrounding and natural values will be restored and, where possible, improved. Habitat for protected species will be added according to the protocol established with ecologists.

INTERVIEW



Richard Balvers

1

How long have you worked at PALLAS and what was the organisation like back then when you started?

I started working for PALLAS in June 2016, nearly 8 years ago, as employee #25. The entire organisation fitted easily in half of the 2nd floor of our current office. I joined just in time to participate in the tender evaluations for the ‘Designer Nuclear Island’.

2

How has PALLAS evolved over the years from your perspective?

I remember the kick-off meeting with ICHOS in the AFAS stadium in 2018 very well, just after the ‘Designer Nuclear Island’ contract was awarded. This meant that the amount of people working in the PALLAS-reactor instantly multiplied in size. The meeting room in the stadium was filled with an enthusiastic group of people, eager and happy to start this adventure. For me as a PALLAS employee I recall the sense of ‘this is really happening, we are going to do this together!’. This feeling reoccurred several times later as well, with the demolition of buildings as the first tangible act on site, followed by the site preparation activities by KWS. And later, with the first concrete pour for the Pit & Foundation.

3

What are your most memorable moments?

The project has already had a lot of ‘firsts’ and I look forward to being a part of achieving the unique milestones in the years to come!

4

What are you looking forward to/ what do you wish PALLAS in the future?

I wish to see everybody at the opening of the PALLAS-reactor, to look back at a safe, enjoyable and successful journey.



PALLAS appoints BESIX the contractor for the Pit & Foundation

22 November 2022

NRG|PALLAS partners with BESIX that has a strong reputation when it comes to complex projects and is known for the innovative way in which it integrates engineering and construction in its processes.

- The Authority for Nuclear Safety and Radiation Protection grants the Nuclear Energy Act license for the construction of the PALLAS-reactor
- First concrete poured on the construction site
- Dutch government announces full financing for the PALLAS-reactor
- FCC Construcción selected for the construction of the PALLAS-reactor



INTERVIEW



Natasja van der Linden-Engeltjes

1

How long have you worked at PALLAS and what was the organisation like back then when you started?

I started in 2010, when NRG decided to initiate a project team for the PALLAS-reactor, when the European tender (back then also won by INVAP) was stopped, due to lack of funding. We started in this team with ~10 persons, located on the 2nd floor of building 15 in Petten, the very building we would like to demolish as soon as possible. This is where we started from scratch on project management aspects (planning, plans, IMS), defining what was needed for different aspects such as design, licensing, communication. We redefined the original (NRG) user requirements, defined the licensing basis for the reactor, ensured funding, etc. etc. In the first years it felt that we continuously had to defend the need for the new reactor to the outside world (mostly governmental bodies and potential financiers via several due diligence checks).

2

How has PALLAS evolved over the years from your perspective?

The 2010 project team shrunk to a handful of people that started working for the PALLAS entity (Stichting voorbereiding Pallas-reactor) in 2013. From then the growing started, both the amount of work as well as PALLAS organisation and the contracting of Arcadis/NRG, Tractebel/Nucadvisor, ICHOS and many more companies. My personal observation is that when you start with a few people, you are expected to handle a bigger scope, but on a more general level. The more people are joining, the more you can focus on a specific part of the work. In all the years I have never considered my work as boring or not interesting.

3

What are your most memorable moments?

There were many big and small (some happy, some sad). But what I always enjoy the most is working together with such a variety of colleagues, all skilled in another manner, all eager to make the project succeed.

4

What are you looking forward to/ what do you wish PALLAS in the future?

I am looking forward to finally "having" a new, safe and compliant reactor in Petten. It's about time!!

Nuclear Energy Act licence PALLAS-reactor issued

15 February 2023

Today, the Nuclear and Radiation Protection Authority (ANVS) has granted the Nuclear Energy Act licence for the construction of the PALLAS-reactor. After a long preliminary process during which all safety documentation was assessed by the ANVS, PALLAS submitted the applications to the ANVS and the Department of Public Works on 15 June 2022.

PALLAS is therefore very pleased with this new milestone which marks another step towards the realisation of the PALLAS-reactor. Rijkswaterstaat has also issued the Water Act permit for the intake and discharge of cooling water. With these permits coming into effect, the permit under the Environmental Law (General Provisions) Act for the construction of the buildings and cooling water pipes will also come into force. Every day, 30,000 patients depend

on the production of medical radioisotopes from Petten in North Holland. This number is expected to increase due to the introduction of new treatments with medical isotopes from reactors and the growth in the number of patients with cancer and cardiovascular diseases worldwide. PALLAS has therefore taken the initiative to build the PALLAS-reactor in Petten. Obtaining the permits is an important milestone in the realisation of the reactor.



Full financing for the PALLAS-reactor

19 September 2023

Minister Kuipers of Health, Welfare and Sport announced today that there is full financing for the construction of the PALLAS-reactor in the North Holland town of Petten. This is a major step towards realising the new PALLAS-reactor in Petten. With this, the Netherlands will maintain its world position in the production of medical isotopes. Isotopes are essential ingredients for nuclear medicine, for diagnostics and therapy of patients with life-threatening diseases such as cancer.

8%

The expected annual increase of treatments with therapeutic isotopes in Europe

Bertholt Leeftink, CEO NRG|PALLAS: "This decision is confirmation that the PALLAS-reactor is of strategic importance for the Netherlands and Europe. It will strengthen the security of medical isotopes supply for nuclear medicine. For patients, it means faster access to innovative (cancer) treatments. On the world market for medical isotopes and nuclear technological research, the Netherlands holds a strong position. This decision enables us to expand this position. Moreover, the PALLAS-reactor is essential for the Dutch nuclear knowledge infrastructure. This will preserve high-quality knowledge and employment in the North Holland headland."

Peter Dijk, PALLAS Programme Director: "This is tremendously good news, which we are very happy about. The team has been working hard to prepare for the construction of the PALLAS-reactor. With this decision we can proceed with the preparatory works and attract a contractor for realisation of the new build."

The use of nuclear medicine is booming, especially for

new therapies. About 200,000 patient treatments with therapeutic isotopes take place annually in Europe. This number is expected to increase by 8 percent annually. Targeted and personalized therapies are very promising because they can be used much more precisely than traditional treatments. This innovative approach has fewer harmful side effects, is more effective and less stressful for the patient.

The new PALLAS-reactor is also needed for nuclear technological research and is essential for maintaining the nuclear knowledge infrastructure. NRG|PALLAS has specific expertise in nuclear energy technology, nuclear safety, radiation protection and radioactive waste management.

Energy & Health Campus

The new PALLAS-reactor will be located at the Energy & Health Campus (EHC) in Petten. More than 1,600 employees are employed by different companies on the EHC. To strengthen the supply chain and maintain and increase the innovative power and production capacity for medical isotopes, work is also underway in Petten on the realisation of the Nuclear Health Centre production facility. In addition, NRG|PALLAS is building the FIELD-LAB. In the FIELD-LAB programme, NRG|PALLAS collaborates with university medical centres and pharmaceutical industry partners towards new applications of nuclear medicines.

Continued

The minister informed the House of Representatives on Budget Day 2023 about the status of the PALLAS project. The construction of the reactor can finally proceed if the Parliament does not object to the creation of a new state-owned company and if the European Commission approves the public investment in the reactor.

“The construction of the PALLAS-reactor is a unique and complex project, for which collaboration is key.”

Peter Dijk
PALLAS Programme Director



INTERVIEW

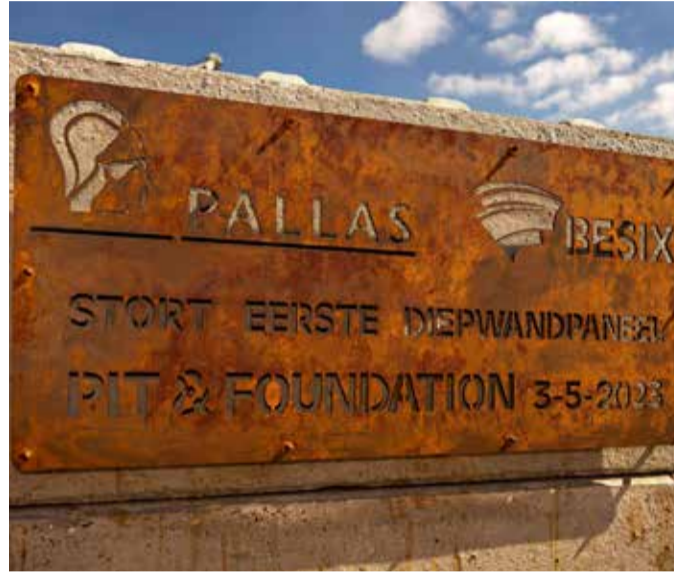


Maartje Hageman

4 May 2023



Works on diaphragm walls



First concrete poured on the construction site

1

How long have you worked at PALLAS and what was the organisation like back then when you started?

I joined PALLAS in 2016 as a secretary. PALLAS consisted of a small team and we had only half of the second floor of our current office. Back then, we did not have an IT or HR department and the secretariat was responsible for this the support work. That made me learn a lot in those areas of those topics, which I still benefit from today. My English in the professional field also improved quickly, as did my knowledge within the nuclear field in general. At the time, the organisation was in the design phase and confidentiality and anonymity had top priority, as there were still many uncertainties at the time about the project going ahead. I am proud of what that small group has accomplished and happy that we can welcome more and more colleagues to realize this unique project.

2

How has PALLAS evolved over the years from your perspective?

PALLAS is a one-of-a-kind project and of vital importance. This is reflected in the entire organization and its motivated employees. Everyone brings their own piece of specific knowledge to make this project successful. From the beginning, I admired the driving force of all colleagues to realize this project and this force is still here today. This is a big part of why I enjoy working for PALLAS.

3

What are your most memorable moments?

For me, the most memorable memories are the annual company outings, where you get to know your colleagues in a different environment from work. Over the years we have had several fun events, the most memorable being the boat trip in Amsterdam with the 5th anniversary. If you know you know! Another memorable moment is my promotion to HR. I am happy and grateful to have been given this opportunity and look back fondly on my time at the secretariat. I am proud that the PALLAS organisation gives its employees the opportunity to continue learning and grow into new positions.

4

What are you looking forward to/ what do you wish PALLAS in the future?

Within my area of work, I look forward to further professionalizing the department, ensuring that the merger with NRG goes smoothly and ensuring job satisfaction within our team and the entire (NewCo) organization. For PALLAS in general, I hope that we achieve our goals and realize the PALLAS-reactor in good cooperation within the team and with our stakeholders so that we can help and cure patients all over the world with our medical solutions.

FCC Construcción selected for the construction of the PALLAS-reactor



Yago Mijangos, Bertholt Leeftink and Peter Dijk at the signature moment in Petten

5 December 2023

PALLAS has chosen FCC Construcción (FCC) as the contractor for construction of the state-of-the-art PALLAS-reactor.

Following the tender procedure, the contract was recently signed with FCC. FCC, with more than 120 years of experience, is among the leading construction companies in Europe and in the world. The coming period will be used for all the preparations necessary for the start of the PALLAS-reactor construction.

The arrival of the PALLAS-reactor is important for many patients with

often life-threatening diseases, such as cancer and cardiovascular diseases. For their treatment and diagnosis, these patients depend on medical isotopes produced in Petten in the ageing High Flux Reactor. With the construction of the new reactor, patients can be helped again for many decades. The PALLAS-reactor will also contribute to research into a CO₂-free energy supply.

Bertholt Leeftink, CEO NRG|PALLAS: “This is an important step to realize the PALLAS-reactor. The new reactor is in the interest of security of supply of medical isotopes for patients worldwide and important for maintaining the Dutch nuclear knowledge infrastructure.”

“With FCC we have found a partner to construct the new PALLAS-reactor. The construction of the PALLAS-reactor is a unique and complex project, for which collaboration is key. We are convinced that we have found a competent partner in FCC,” says Peter Dijk, Programme Director PALLAS.

Director of Western Europe, FCC, Yago Mijangos: “For FCC Construcción, participation in the PALLAS project is undoubtedly an exceptional opportunity to demonstrate our experience and capacity in designing and executing industrial infrastructures, which have a high degree of specialization, innovation and technology.”

120

FCC has over hundred years of experience in construction

10 years and beyond



Artistic impression of the Reactor & logistics building, Support Building and Office building (from left to right)



A diver inspects the quality of works in the pit of the PALLAS-reactor



A patient treated with nuclear medicine from Petten



Visit of minister Kuipers (in the middle) at the construction site



PALLAS board



PALLAS colleagues at the construction site



The tender teams celebrates the contract signature with FCC



An ecologist checks for protected species, following an ecological work protocol



Lunch break at the construction site