GNS.

THE MAGAZINE OF THE GNS GROUP

Issue 15 – December 2024

English Edition

Excellence for Nuclear.

50 YEARS

First Loading a CASTOR® geo

Spent Fuel Cask Makes GNS History in Belgium

The Number One in Dismantling

Leading Position in the Largest Programs

GNS

Excellence for Nuclear.

Content

Loading of the first CASTOR® geo at the Belgian nuclear power plant Doel.

International Visitors in Mülheim

GNS is a long-standing partner of the Kozloduy nuclear power plant operated by Bulgaria Energy Holding and has already supplied 24 CONSTOR® casks to the nuclear power plant.

Dr. Jens Schröder, Veselina Buchkova (Chairwoman of the Supervisory Board of Bulgaria Energy Holding), Daniel Oehr, Dr. Linus Bettermann, Vilislava Dineva (Bulgarian Ministry of Energy) visiting the GNS Cask Manufacturing Center in Mülheim.

The visit to the GNS Cask Manufacturing Center by participants in the IAEA Safeguards Traineeship Programme has become something of a tradition.

IAEA
International Atomic Energy Agency

The programme is aimed at young university graduates and junior staff with the aim of increasing the number of qualified candidates from developing countries for a position as a safeguards inspector with the IAEA or their national nuclear organization.

This year, eight students from Jordan, the Democratic Republic Congo, Kuwait, Namibia, the Philippines, Rwanda, Thailand and Togo not only received a comprehensive theoretical insight into nuclear technology, but also had the opportunity to visit several exciting nuclear front-end and back-end sites in Germany.

Editorial

Excellence for Nuclear. 50 YEARS

Dear Readers,

we are celebrating our 50th company anniversary under the motto **“50 Years of Excellence for Nuclear”!**

It was only a few years ago that we defined our corporate vision in English - “Excellence for Nuclear”. But even the founding idea and the original tasks of our company were clearly and unambiguously focussed on the development and practical application of innovative solutions for processing, packaging and transporting radioactive residues and waste from nuclear power plants and nuclear facilities. So clear and precise that this was even entered in the Essen commercial register as the corporate purpose of the company, which was initially founded in September 1974 as GNT Gesellschaft für Nukleartransporte mbH.

We can rightly say: “Nuclear” is part of our DNA!

One of the very first projects of our newly founded company was the development of packaging for the transport and storage of intermediate-level radioactive waste. Soon christened MOSAIK®, these heavy shielding casks are now among the most successful nuclear packagings in the world, and their importance has actually increased due to the decommissioning in Germany.

Our CASTOR® casks have not achieved quite as high production figures, but are all the better known. Their development as the world’s first dual purpose cask for transport and storage of spent nuclear fuel and highly radioactive waste began in 1978. More than 1,700 of them are now in use worldwide and orders from our international customers already extend far beyond German requirements into the 2040s.

For some years now, the GNS Group’s scope of supply has also included steel sheet containers for the packaging of low-level radioactive waste for final disposal.

This unique portfolio makes us the world’s leading manufacturer of metal containers for nuclear waste management through to final disposal.

Together with the first casks, processes and initial plant concepts for waste treatment were developed, which are still used today in the operation and now also in the decommissioning of nuclear power plants.

In 1977, the company was renamed GNS Gesellschaft für Nuklear-Service mbH to better reflect the scope of tasks, which from the very beginning went far beyond the mere “transport” of nuclear waste. Just one word, but it is precisely this comprehensive nuclear service that is still our identity today.

Concentrating on nuclear waste management meant a clear definition of the customers to be served and an unconditional focus on their needs. This has not changed to this day and, especially in international competition, this customer focus is one of the decisive factors for success. We know “nuclear”, we want to deliver outstanding results and satisfy our customers!

To meet our customers’ expectations over five decades, we have not only developed processes and products. We have also had to constantly develop our entire company and ourselves. Regularly with countless small measures, but sometimes also with major cuts and changes as a result of changing economic and energy policy conditions.

First and foremost, this includes the takeover of the interim storage facilities in Ahaus and Gorleben in 1990 and their transfer 27 years later, together with our entire interim storage activities, to the Federal Republic of Germany as a newly established interim storage company.

We have repeatedly had to adapt our production and processing capacities to the rapid increase in demand, for example due to the end of reprocessing of German spent fuel and preparations for the German repository for ILW/LLW. Following the final decision to phase out nuclear, we built up the necessary dismantling expertise and capacity, making us Germany’s largest decommissioning and dismantling company.

This was not always possible on our own. By integrating other strong players such as WTI, H&B, EWB and, just a few months ago, AiNT, we have created a powerful group of companies from which both we and our customers benefit.

We have developed the tasks we were given half a century ago into our core competencies and thus laid the foundation for the current and future success of our two strong business areas of “Nuclear Casks” and “Decommissioning, Dismantling & Disposal”.

We would therefore like to extend a very special thank you to all current and former employees of our company who are not only part of this success story, but have actively contributed to it.

We are proud to celebrate with all of them today **“50 Years of Excellence for Nuclear”!**

In this issue of GNS magazine, we have collect the latest chapters of this success story and what we are doing together to continue it for the long term.

We hope you enjoy reading it.

Daniel Oehr
Chairman of the Management Board of GNS

Reorganization of the GNS Management

The new GNS Managing Director Dr. Martin Meyer ter Vehn (COO Decommissioning, Dismantling & Disposal/Centre) with Dr. Jens Schröder (COO Nuclear Casks) and Daniel Oehr (CEO & CFO).

New COO Decommissioning and Waste Management

Since 1 September 2024, the GNS Management Board has once again consisted of three members: The Supervisory Board of GNS has appointed Dr. Martin Meyer ter Vehn as the new Managing Director for Decommissioning & Waste Management. He is responsible for the areas of Plant Technology & Equipment, Waste Management Services, Waste Management Center and Decommissioning Projects.

Dr. Martin Meyer ter Vehn initially gained professional experience in the field of fossil power plant technology and wind turbine systems after studying metallurgy and completing his doctorate in foundry engineering at RWTH Aachen University. After holding various national and international positions in industrial and technology companies, including in China and Switzerland, Meyer ter Vehn was most recently COO of the Aachen-based company ROOQ, which develops sensor technology and practical applications for artificial intelligence in the fields of sport and medicine.

There were already changes in responsibilities in June 2024 due to the retirement of the previous Commercial Managing Director Georg Büth: GNS CEO and Chairman of the Management Board Daniel Oehr has since been responsible for all central strategic and commercial functions of the GNS Group.

Farewell after 16 years

Georg Büth joined the Management Board of GNS on 1 January 2008 and had since been responsible for the commercial department relating to controlling, finance, information systems, human resources and legal affairs.

"For more than one and a half decades, Georg Büth has not only accompanied the fortunes of GNS in commercial responsibility, but actively shaped and influenced them," GNS Supervisory Board Chairman Dr. Guido Knott expressed the shareholders' thanks to Georg Büth at the GNS Supervisory Board meeting. "Like our entire industry, GNS has undergone a profound change during this time. The founding of BGZ, which Georg Büth helped to shape, and its subsequent smooth transfer to the federal government mark not only one of the most important milestones in the history of GNS, but also in nuclear waste management in Germany as a whole. At the same time, Georg Büth has prepared GNS for a successful future beyond interim storage with future-oriented investments in GNS sites and technology as well as with strategic acquisitions, such as most recently Eisenwerk Bassum GmbH (EWB) and Höfer & Bechtel GmbH (H&B).We would like to thank Georg Büth most sincerely for these achievements and his outstanding commitment."

Daniel Oehr and Dr. Jens Schröder bid farewell to Georg Büth.

Change of management at EWB and H&B

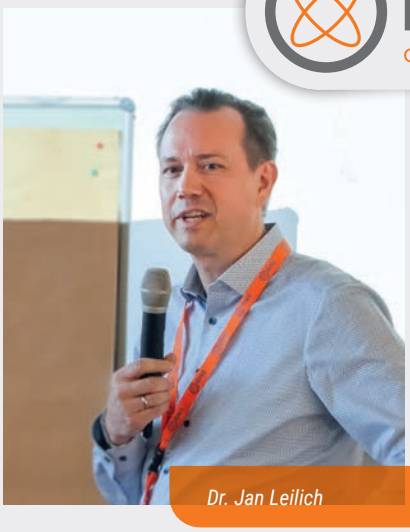
Hartmut Grunau, the long-standing Managing Partner and Chairman of the EWB Management Board since the takeover by GNS, will retire at the end of 2024 after more than 30 years. At the beginning of October, Dr. Holger Degen joined the EWB Management Board as his successor and took over as Chairman of the EWB Management Board. Together with Alexander Beckedorf, Dr. Holger Degen will continue to drive EWB's growth.

Dr. Holger Degen is a mechanical engineer and holds a doctorate from the Fraunhofer Institute for Production Technology (IPT) in Aachen. After holding various management positions in purchasing and production, he was most recently Senior Manager for Controlling Europe at the Mercedes Car Group plant in Bremen.

Dr. Holger Degen

Sascha Bechtel, former Managing Partner and member of the Management Board of Höfer & Bechtel since the takeover by GNS, will leave the company at his own request on 31 December 2024. In October, Dr. Jan Leilich joined the company and took over as Chairman of the H&B Management Board. Dr. Jens Schröder is scheduled to leave the Management Board of H&B GmbH at the turn of the year.

Dr. Jan Leilich holds a doctorate in engineering and a degree in business administration. After more than ten years in various management positions at Framatome, Dr. Jan Leilich was at last responsible for the EDAG Group's Innovation and Digital Transformation functions as Head of Department. Together with Hagen Höfer, Dr. Jan Leilich will shape the future of Höfer & Bechtel GmbH within the GNS Group.



Dr. Jan Leilich

GNS CEO Daniel Oehr: "We are very grateful for the outstanding work of Hartmut Grunau and Sascha Bechtel in the decades of their responsibility as shareholders and in the management of EWB and Höfer & Bechtel. They are now handing over the management of their companies to new hands. With Holger Degen and Jan Leilich, we have been able to gain two strong management personalities for the GNS Group. We look forward to working with them to further strengthen EWB and Höfer & Bechtel in our GNS Group and to grow even closer together.

Change of Management in Tokyo

Motoi Mitanihara has joined the Board of Directors of GNS Japan K.K. and now heads the Japanese subsidiary of GNS Gesellschaft für Nuklear-Service mbH as Director & CEO. He has taken over this function from Dr Linus Bettermann, Director Sales of GNS, who has been instrumental in the development GNS's activities in Japan and who had headed GNS Japan since its foundation three years ago.

Motoi Mitanihara, after completing his master's degree in public administration, initially worked for 15 years in the nuclear fuel section of the Japanese ITOCHU Corporation, most recently as Deputy Head. He then worked for the Tokyo-based battery and renewables start-up PowerX as Business Development Manager.

Daniel Oehr, Motoi Mitanihara, Dr. Linus Bettermann

Dr. Linus Bettermann: "With Motoi Mitanihara, we have succeeded in gaining a competent and experienced successor for the management of GNS Japan. Thanks to his profound knowledge of the Japanese energy sector and his excellent network, he can decisively advance our business in Japan. I am very much looking forward to working with him to establish our tried-and-tested spent fuel and waste management solutions with our discerning Japanese customers."

Daniel Oehr, CEO of the GNS Group: "Thanks to the commitment of Linus Bettermann and his team in Tokyo, GNS Japan has already made excellent progress since its foundation in 2021. I am delighted that we will now further develop our market presence in Japan together with Motoi Mitanihara and tackle the next goals. With his valuable international expertise, Motoi Mitanihara will also strengthen the GNS management team. Our internationalisation strategy is thus taking further shape."

GNS Japan K.K. was founded in Tokyo at the beginning of 2021 to conduct the approval and market launch of the CASTOR® geo26JP fuel casks specially developed for the Japanese market and to promote further GNS products and services. The corporation under Japanese law now has eight permanent employees in Tokyo.

Dr. Jens Schröder Appointed to the ESK

GNS Managing Director Dr. Jens Schröder was appointed to the Nuclear Waste Management Commission (ESK) by the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) in February 2024. The appointment, which was initially limited until the end of the regular appointment period in September 2024, was subsequently extended until September 2026.

The ESK advises the BMUV on nuclear waste management matters relating to the processing, interim storage and transportation of radioactive materials and waste, the decommissioning and dismantling of nuclear facilities and final disposal in deep geological formations. It does not propose any political decisions. The members of the ESK are appointed personally, work on a voluntary basis and are not bound by instructions from the BMUV or any other institution.

The members of the ESK represent a wide range of views in the field of nuclear waste management in order to ensure that the BMUV receives expert and comprehensive objective advice.

Dr. Jens Schröder

AiNT Strengthens GNS Group

With the acquisition of Aachen Institute for Nuclear Training GmbH (AiNT) in July, the GNS Group has continued to grow in 2024. AiNT's portfolio includes a wide range of nuclear services such as radiation measurement technology, the simulation of nuclear physical processes, the radiological and material characterization of radioactive waste as well as concepts for residual material and waste management through to waste conditioning suitable for final disposal. AiNT also offers modular training programs for targeted basic and advanced training in the field of nuclear technology and the associated qualification and licensing procedures.

Christoph Kohn (Director Legal GNS), Dr. Jens Schröder (CTO GNS), Prof. Dr. Bruno Thomauske, Andrea Havenith, Daniel Oehr (CEO GNS) and Dr. Linus Bettermann (CEO WTI).

The sale by the previous owners Andrea Havenith and Prof. Dr. Bruno Thomauske secures the expertise and long-term preservation of the company with its two locations and around 20 jobs in Stolberg near Aachen. Andrea Havenith and Prof. Dr. Bruno Thomauske agree: "We are delighted to have found a strong strategic partner in GNS for the preservation and continuation of AiNT. AiNT is not only in good hands in this strong group of companies, but can also continue to develop excellently in cooperation with the other GNS units."

Daniel Oehr, CEO of GNS, puts the takeover in strategic terms: "AiNT is an excellent addition to our growing group of companies. With the expertise of its highly specialized team, we are further expanding our position as the leading nuclear service provider in Germany and strengthening our technology development and innovative power. AiNT's training programs, which are unique in Germany, are a perfect fit for our shared vision: Excellence for Nuclear."

The new Managing Director of AiNT GmbH is Dr. Luc Schlömer, who will initially take on this role alongside his function as Head of Decommissioning Planning at the GNS subsidiary WTI in Jülich. He will be supported by the Scientific Director of AiNT, Dr. Dominik Winter.

50 Years
Excellence for Nuclear

Nuclear energy took off in Germany in the 1970s. Within eight years, the West German energy utilities started building 15 nuclear power plants. At the same time, the nuclear industry was built up around the nuclear fuel cycle. While the so-called front end, i. e. the supply of nuclear fuel, could - and in some cases had to - draw on experience and capacities from more advanced partner countries, the back end, i.e. the disposal side, was largely uncharted territory. Even back then, Germany was well ahead of other countries in terms of safety and sustainability requirements.

To concentrate on tackling some of these challenges in the back end, two companies from the German utility sector, STEAG and Gelsenberg, brought together technology and waste management experts in a company set up specifically for this purpose. It was entered in the Essen commercial register on 20 September 1974 as GNT Gesellschaft für Nukleartransporte mbH. The object of the company noted in the register proves that it was not a pure transport company from the outset:

"Transport of radioactive materials and related services, waste services for nuclear power plants and nuclear facilities, planning and development work in these areas."

One of the first projects was the development of packaging for the transport and storage of intermediate-level radioactive waste. For the cask material, the choice fell on extremely robust and at the same time uncomplicated to process ductile cast iron. The MOSAIK® family of containers was born. With almost 10,000 loaded units, they are now one of the most successful nuclear casks, even far beyond Germany's borders. Now more than ever, they play a key role in waste management through to final disposal. With the shutdown of the nuclear power plants in Germany, the demand for MOSAIK® is not decreasing. GNS has now increased its annual production of these casks for the waste from dismantling to 400.

In 1978, the NPP operators commissioned GNS to develop a transport and storage cask for spent fuel to establish an alternative to wet storage - a world first at the time. More than 1,700 of these casks are now in use under the name CASTOR®. Most of them in Germany, but also far beyond on four continents. In addition to the quantities still required to unload the last domestic facilities, further orders from international customers already extend far beyond German requirements into the 2040s.

Parallel to the first casks, the waste management specialists in Essen developed processes and the first systems for waste treatment. The focus has always been on volume reduction by means of compacting and drying. With FAKIR supercompactors and FAVORIT drying facilities, GNS entered the field of processing and to this day, it is impossible to imagine everyday waste management without these types of plants.

To better reflect these diverse competences, the company was renamed GNS Gesellschaft für Nuklear-Service mbH in 1977.

In the decades that followed, GNS experienced a steep development, acting as the owner and operator of the central interim storage facilities in Ahaus and Gorleben for over 27 years and, since the takeover of all shares in GNS by the nuclear power plant operators, was THE waste management company for the German nuclear power plants – and also expanded its business with casks and waste management services for foreign customers.

With the phase-out of nuclear energy utilisation in Germany, GNS once again followed the needs of its customers and developed into a decommissioning and dismantling specialist.

The current major dismantling projects on the domestic market have one thing in common with all the other nuclear waste projects: a decisive success factor to this day is the expertise and capacities in all aspects of nuclear waste management, from packaging to dismantling, which GNS was given at the beginning of its 50-year company history.

Cooperation with EnergySolutions

Together for Asia

At the Waste Management Symposia 2024 in Phoenix (Arizona/USA), GNS and American EnergySolutions signed a Memorandum of Understanding (MOU) on future cooperation in Asia. EnergySolutions is a leading provider of nuclear waste, decommissioning, remediation and project services based in Salt Lake City (Utah/USA).

William Morrison (COO EnergySolutions), Colin Austin (Senior Vice President International Business EnergySolution), Daniel Oehr, Dr. Linus Bettermann.

The two companies intend to jointly provide nuclear services on the Asian market: The objective is the disposal of large components from the upcoming dismantling of Asian nuclear power plants by EnergySolutions in the USA. GNS enables the transports with its worldwide unique know-how in the packaging and qualification of the components.

In this way, customers in Asia are offered the opportunity to recycle metals for reuse in the nuclear industry. The partnership will focus primarily on large components, but will also look at ways to recycle other metals to reduce the amount of metal waste for disposal. This disposal route will reduce the actual amount of waste while also reducing the consumption of new resources.

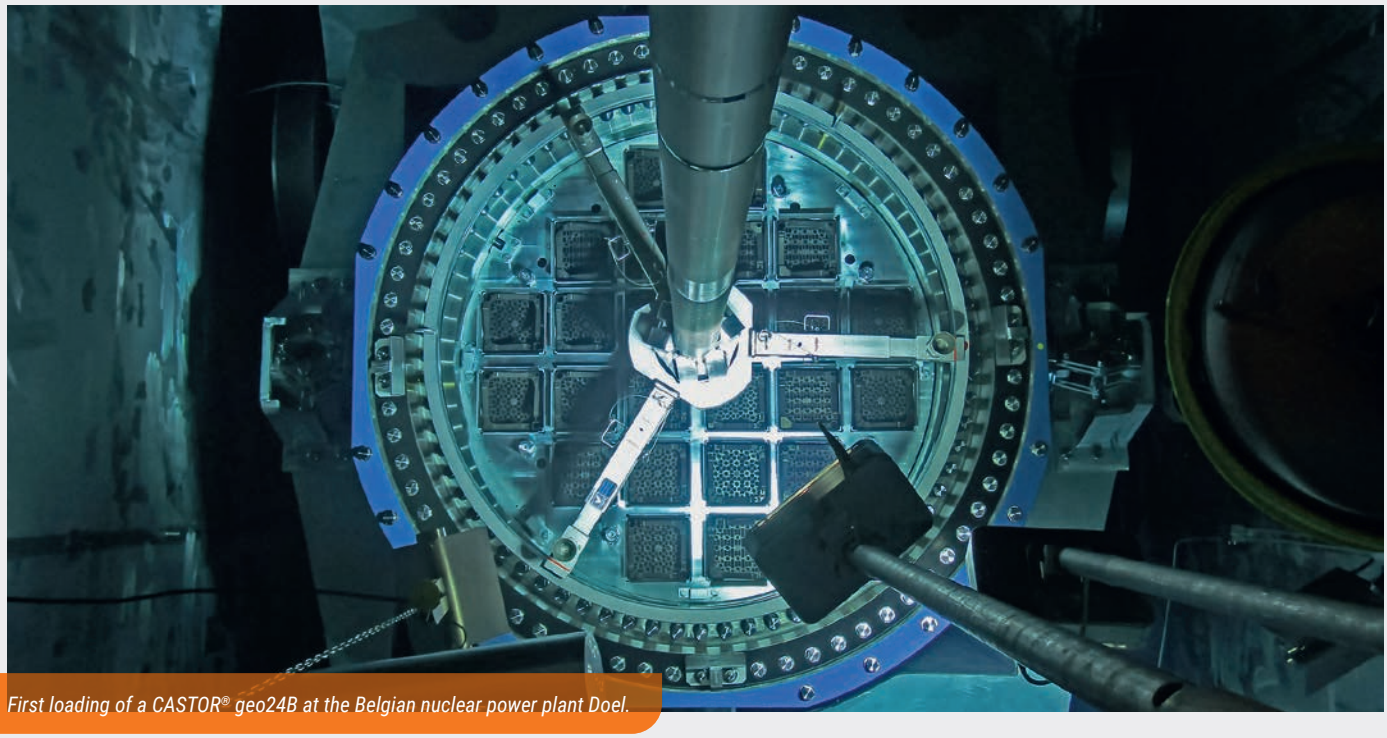
"We are excited for the opportunity to partner with GNS in an effort to enhance our abilities to service the Asian nuclear marketplace," said Ken Robuck, President and CEO of EnergySolutions. "By partnering with GNS, we will provide our clients the confidence that materials we process for them will meet all regulatory requirements for safe compliant metal management, transportation, and recycling."

"We are thrilled to team with our long-term partners EnergySolutions," added Daniel Oehr, Chairman of the Management Board and CEO of GNS. "After several successful joint projects for the melting of scraps from our European customers, this new cooperation enables us to offer a unique solution for the disposal of large components from the dismantling of nuclear power plants in Asia. It is a perfect fit for our strategy to further expand our business to Asia."

Belgium

First CASTOR® geo Loaded in Belgium

At the end of June 2024, something happened at the Belgian Doel nuclear power plant that does not happen very often, even with more than 2,000 spent fuel casks loaded in the history of GNS: the first cask of an entirely new series was loaded, dispatched and stored in the interim storage facility.



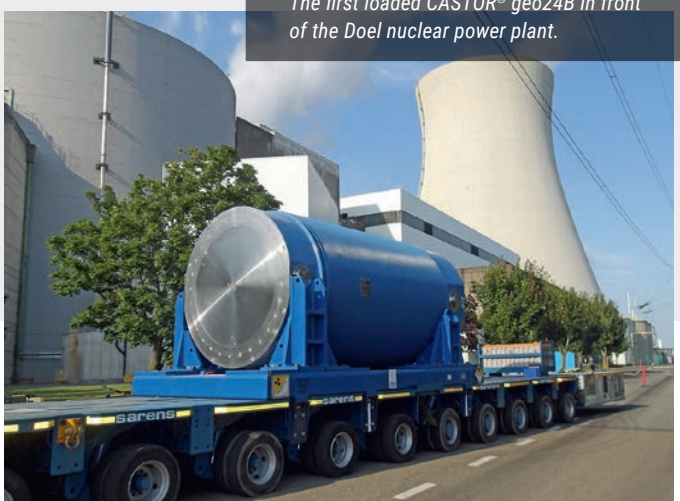
First loading of a CASTOR® geo24B at the Belgian nuclear power plant Doel.

The first CASTOR® geo24B had already been delivered to Belgium by GNS in May 2022. The license for the CASTOR® geo24B cask type has been granted in 2023. Before the actual loading, extensive cold trials were carried out at the power plant. The individual steps were accompanied by a project team consisting of GNS, the customer Synatom and the power plant operator ENGIE Electrabel.

The casks of the CASTOR® geo series from GNS are based on standardized dimensions of the main components, e.g. shaft length and diameter and fuel basket, for the typical international fuel element dimensions. The casks have a modular design and can hold up to 37 fuel assemblies from pressurized water reactors or 69 fuel assemblies from boiling water reactors.

For the Belgian nuclear power plant units Doel-3 and Doel-4, GNS supplies CASTOR® geo24B and CASTOR® geo21B casks for 24 and 21 fuel assemblies respectively from pressurized water reactors. The casks are manufactured at the GNS Cask Manufacuring Center in Mülheim.

The first loaded CASTOR® geo24B in front of the Doel nuclear power plant.



A piece of industrial history comes to an end

Last CASTOR® Order for a German Nuclear Power Plant

More than 1,400 CASTOR® casks from GNS have already been loaded with spent nuclear fuel and vitrified reprocessing waste from German nuclear power plants and stored in the on-site interim storage facilities and the central interim storage facilities. Over the next years, GNS will deliver a further 150 of the more than 100-tonne casks and dispatch them with its teams until all the German nuclear power plants have been completely defuelled.

With the last order from a German utility for a CASTOR® cask, a piece of industrial history is also coming to an end. In November 2023, PreussenElektra ordered its last cask from GNS – more than 40 years after PreussenElektra also ordered the first seven CASTOR® casks in 1980 for Würgassen NPP. The last CASTOR® ordered is destined for Grohnde NPP. The last CASTOR® deliveries to German nuclear power plants are expected for 2028.

Front: Daniel Oehr (CEO GNS), Dr. Guido Knott (CEO PreussenElektra), back: Dr. Jens Schröder, Georg Büth, Dr. Linus Bettermann.

International projects are increasingly coming to the fore at GNS

"The last CASTOR® order for a German nuclear power plant is certainly a significant turning point for us," explains GNS CEO Daniel Oehr, Chairman of the GNS Management Board, "but it is by no means the end of our cask business. Based on the experience we have built up over the decades and our sophisticated product range, we already have long-term orders from foreign utilities, for example from Switzerland and Belgium. At our Cask Manufacturing Center in Mülheim, the focus of production is therefore already increasingly shifting to casks for international power plant operators and research reactors. In the last seven years alone, GNS has received orders for more than 120 CASTOR® casks from customers outside Germany. And we are working intensively to win new customers from other countries for our safety 'Made in Germany'."

Dr. Guido Knott, Chairman of the Management Board of PreussenElektra GmbH, adds: "The CASTOR® casks from GNS have been a reliable and undisputed packaging solution for our spent fuel for decades. They ensure that we can quickly defuel and thus clear the way for the dismantling of our plants. But even after the last CASTOR® cask, we look forward to continuing our cooperation with GNS, which will continue to actively support us during the further dismantling process."

More than 280 CASTOR® casks have already been loaded and stored at PreussenElektra's five sites. This figure is expected to rise to 328 by the end of the decade. A total of around 1,600 CASTOR® casks will then be in safe interim storage in Germany in the on-site interim storage facilities as well as in the central interim storage facilities and the interim storage facilities of research and federal institutions.

GNS proves its leading position in Germany's largest dismantling programs

The Number One in Dismantling

With the two major dismantling projects ZerKon and ReaDi, the GNS Group has set standards in the dismantling of nuclear power plants way beyond the German market. These programs are the first and so far the only ones of their size to be awarded by a power plant operator for its entire fleet across six sites. In the meantime, the project teams at the dismantling sites have already achieved remarkable progress and success.

Underwater dose rate measurement on a loading magazine at KKG.

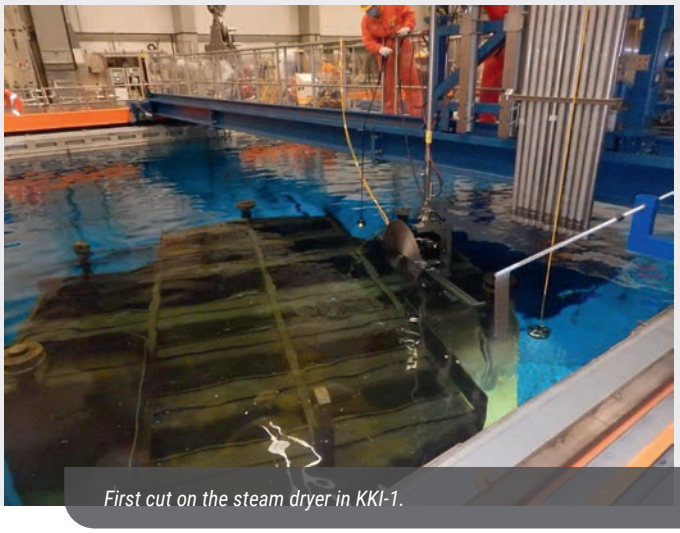
The **ZerKon program** has already successfully served the PreussenElektra sites Unterweser (KKU), Grafenrheinfeld (KKG) and Isar 1 (KKI-1), where it dismantled the reactor pressure vessel internals as well as the movable corescrap and packaged them for final disposal. Thanks to the experience gained in the ZerKon pilot project KKU and the consistent implementation of "lessons learned", the follow-up plant KKG was completed 287 days faster, i.e. in around two thirds of the time. The only boiling water reactor in the PreussenElektra fleet at KKI-1 was also fully completed before the contractually agreed deadline. This was only possible thanks to the mutual support of the ZerKon consortium teams.

Starting with the second plant, the KKG, the consortium had no delays whatsoever in the main activities of dismantling and packaging and in relation to the final deadlines. This is all the more remarkable as complex activities had to be carried out in parallel despite limited resources on the customer side, such as the reactor building crane, airlock and storage areas.

Second half for ZerKon

The closely knit ZerKon project team is currently in the planning phase for all three remaining plants Brokdorf (KBR), Isar 2 (KKI-2) and Grohnde (KWG) at the same time. Here, too, the boundary conditions are being optimized as far as possible together with the customer's project managers so that the projects can run smoothly in the upcoming implementation phase (KKI-2 from the end of 2024).

The planning team is facing completely new challenges at the KKI-2 site. Due to the only recent shutdown, radiology at this facility places particularly high demands on cutting and packaging planning. In addition, it is the only plant within ZerKon that will still have fuel assemblies in the pool during dismantling and packaging of the RPV



First cut on the steam dryer in KKI-1.

internals. As these fuel elements are to be unloaded immediately after the ZerKon activities, a delay would have considerable consequences. "Isar 2 will be the masterpiece of the ZerKon fleet," emphasizes Bernhard Kühne, consortium leader for GNS.

After the internals, it's on to the RPVs

Following on seamlessly from ZerKon, the **ReaDi program** has already completely dismantled the reactor pressure vessels (RPV) at the two sites KKU and KKG and packaged them ready for final disposal. The third of the six sites, KKI-1, also started on time.

Thanks to the extensive experience gained at the individual sites, the ReaDi consortium partners GNS and Höfer & Bechtel GmbH, which has been wholly owned by the GNS Group since 2023, were able to optimize the processes and massively reduce the implementation time at the second site. The consortium leader responsible at GNS, Burkhard Könning, describes this as "open-heart surgery in which every step must be very well planned and executed. We need outstanding specialists for this." And this is the particular strength of the GNS Group: the waste management and dismantling specialists at GNS and its subsidiaries work together flexibly and in a results-oriented manner, always with a common goal in mind. "Thanks to the cooperation within the group of companies, we set clear standards, for example in cutting and packaging planning," explains Michael Heng, overall technical project manager at H&B. "Particularly noteworthy are the variable positioning aids we have developed, which represent a major advantage for the customer as well as a unique selling point of the GNS Group."

"The Beast" on RPV cylinder of the KKG.

Lifting the RPV out of its installation position at KKG.

"In addition to the large fleet programs, our numerous other successfully completed dismantling projects also fully contribute to our 'Excellence for Nuclear' strategy," adds Boris Westerwinter, GNS Head of Dismantling Projects. "These include, above all, the trouble-free corescrap campaigns carried out outside the ZerKon fleet, for example in units B and C at Gundremmingen NPP, or the continuously running on-site campaigns for conditioning evaporator concentrates or ion exchange resins with our highly specialized and at the same time robust GNS plant technology."

Thanks to all this experience and unique reference projects from dismantling in Germany, the GNS Group has already won several international dismantling and disposal projects such as an RPV dismantling in Switzerland (p. 14) and an evaporator concentrate campaign in the UK.

Boris Westerwinter is therefore convinced: "With our globally unique dismantling track record and our proven expertise and innovative strength, we are also excellently positioned to compete for future projects!"

Switzerland

First International Dismantling Contract

GNS wins first international dismantling contract from BKW for the Mühleberg nuclear power plant.

Signing of the dismantling contract for the Mühleberg nuclear power plant.

The Mühleberg nuclear power plant was the first nuclear power plant in Switzerland to be shut down in 2019 after 48 years of operation and has been undergoing decommissioning since 2020.

In a consortium with Uniper Nuklear-Service and Framatome, GNS won the contract for dismantling and packaging the reactor pressure vessel (RVP), including its lid, at the Swiss Mühleberg power plant.

The concept of the "UFG" consortium includes the mechanical pre-segmentation of the RPV in the installation position into the largest possible pieces, followed by thermal cutting and packaging for storage.

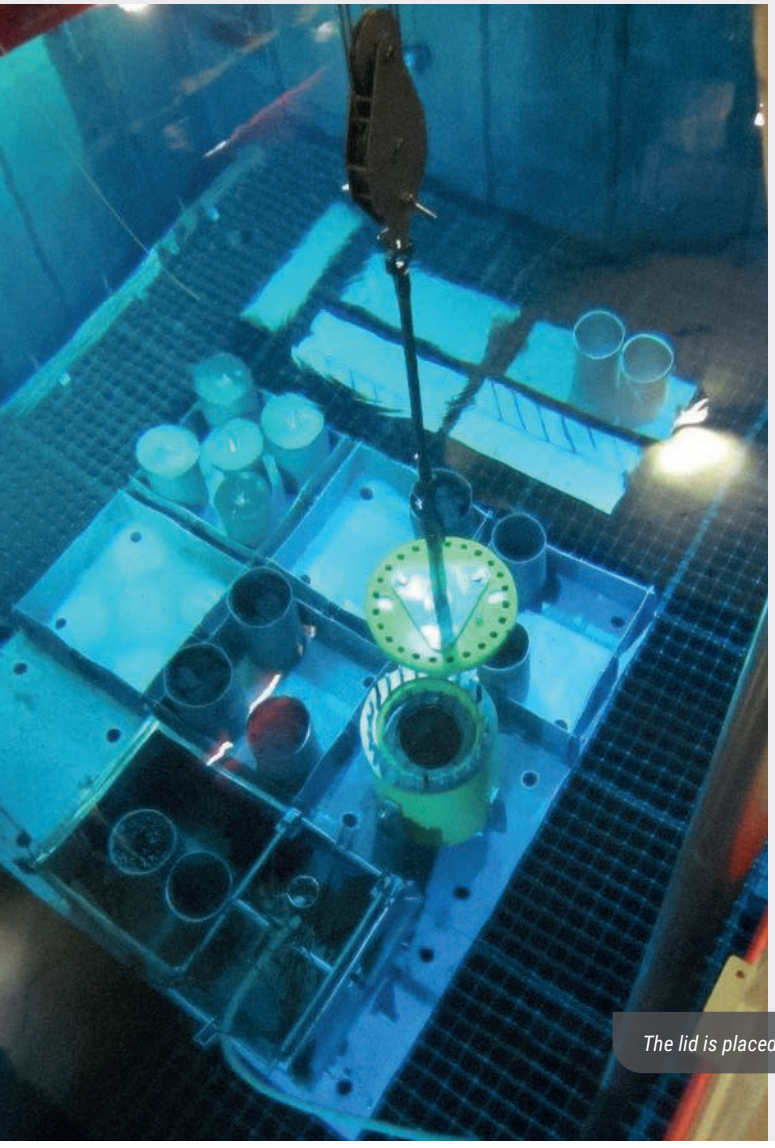
Within the project, GNS is mainly responsible for the cutting and packaging planning, the packaging of the cut pieces in LC-84 containers, as well as the challenging removal of the thermal insulation of the RPV.

Uniper and Framatome are concentrating on the mechanical pre-segmentation of the RPV into shots/rings and their cutting into pieces suitable for packaging.

The total dismantling mass of this project is approx. 270 tons. Work on site will start at the end of 2025.

Core scraps at Gundremmingen

70 Tons Cut and Packed Under Water



During the operational phase of a nuclear power plant, various components from the reactor core area are temporarily stored in the spent fuel pool. These include, for example, control elements, fuel element boxes from Boiling Water Reactors, fuel element skeletons and neutron flux measuring lances. These must be removed after the end of operation before dismantling can begin.

For units B and C of the German Gundremmingen nuclear power plant, GNS was commissioned by RWE Nuclear GmbH to dismantle and package this core scrap materials.

The processing work on site took around two years. The assembly of the GNS equipment for cutting with the underwater shear ZVA (dismantling and packaging plant) and cask loading began in Unit B in September 2022, followed directly by segmentation work. The GNS team continued directly afterwards in Block C from August 2023. In July 2024, the cutting work was completed and all GNS equipment from the controlled area was repacked and ready for removal.

A total of around 70 tons of core scrap material was dismantled. Some of these have already been packed into MOSAIK® casks, dried and transported to the Bavarian Mitterteich interim storage facility. The rest is still stored in the spent fuel pools. Packaging of the segmented materials has not yet been completed. Further cask loadings are planned for 2027 and 2028.

The lid is placed on the loaded MOSAIK® cask while it is still under water.

GNS Excellence Award

Excellence for Nuclear is the guiding principle of GNS: a vision, a promise and an incentive at the same time. Excellence is not a solitary top performance, but can only be achieved jointly and sustainably. GNS has created the GNS Excellence Awards to make corresponding efforts and successes in the company more visible. They honor outstanding project and team achievements in various categories.

Excellence in Innovation 2023: Roland Hüggenberg and Frank Jüttemann with jury members Thomas Eichhorn and Jens van der Loo.

Excellence in Customer Orientation & Sales 2023: Project team representative Tobias Petrack with Dr. Linus Bettermann and Dr. Rainer Nöring (jury).

Excellence in Project Performance 2023: Marius Compall for the project team with jury members Daniela Lozinski, Dirk Schlauch and Boris Westerwinter.

Excellence in Innovation 2024: Dr. Sascha Klappert (jury), Dr. Luc Schlömer (for the project team), Jens van der Loo (jury).

Excellence in Customer Orientation & Sales: Matthias Fuhrmann for the Works Council, Jonas Vander Stichelen and Nils Kordes for the project team, Dr. Linus Bettermann for the jury.

Excellence in Project Performance: Jury members Boris Westerwinter and Daniela Lozinski with Felix Riedel for the project team (center).

Excellence in Operations: Jury members Martin Hoffmann and Souad Pederzani with Ulrike Schatz (center), who accepted the award on behalf of Dr. Christian Schruff.

At the first award ceremony in 2023, projects from 2022 were honored in the categories **Excellence in Innovation**, **Excellence in Customer Orientation & Sales** and **Excellence in Project Performance**. The second round in 2024 saw two new additions: The **Excellence in Operations** category was newly introduced, for example for improvements in productivity and reliability, as well as cost-saving measures and the avoidance of waste. A special **Excellence in Charity** prize was also awarded.

From the large number of projects submitted, the juries formed a shortlist of the five best projects in each category. From these, the juries determined the winners of each category according to a points system.

The special **Excellence in Charity** prize was awarded to the GNS apprentices who supported three social projects with their 2023 Christmas campaign: the organization “Hilfe für verletzte KinderSeelen gGmbH”, the “Deutscher Kinderschutzbund Ortsverband Essen e.V.” and the clothing bank “Essener Kleiderkammer Lindenallee”.

	2024	2023
Excellence in Innovation	**Dismantling concrete structures: Optimized dismantling and conditioning concept**	**Increased capacity of our CASTOR®-geo product family**
Excellence in Project Performance	**FAFNIR Japan: Test Plant Acceptance with Site Acceptance Test**	**Dismantling and packaging of the reactor pressure vessel of the nuclear power plant Neckarwestheim 1**
Excellence in Customer Orientation & Sales	**Mühleberg nuclear power plant (CH): Sales success of RPV dismantling**	**Offer to defuel the Beznau nuclear power plant for the Swiss customer AXPO**
Excellence in Operations	**Electronic protocols in cask manufacturing Mülheim**	–

Daniel Oehr welcomes the more than 100 guests.

More than 100 winners

The announcement of the winners and the presentation of the awards took place at a ceremony in the lobby of the GNS headquarters in Essen, to which all team members of the projects that had made it onto the shortlists were invited. And even if not all of the more than 100 guests were able to receive an Excellence Award during the evening, they were all winners and were able to celebrate together.

Leo Birnbaum, CEO of E.ON SE, was the guest of honor at the Excellence Awards ceremony in 2023: "I am delighted that GNS has resolved not to simply carry on as before after the phase-out, but to say: This world offers new opportunities for us on the right and left. And that is what we are honoring today: Innovation is everything that drives GNS forward on its path to becoming larger, more international, more customer-oriented and setting off for new shores. This can be a sales achievement that we would not have thought possible before or that we have completed for the first time, as well as a technical innovation in the narrower sense - but it can also be a great team performance in which we do something familiar together in a new way."

Leo Birnbaum, CEO of E.ON SE.

Steffen Kanitz, member of the Executive Board of RWE Power AG and member of the Supervisory Board of GNS.

Excellence in Charity: Daniel Oehr with Maximilian Petrat, Annika Thiel, Jan Pape, Alina Jankowsky and Justin Weber.

At this year's award ceremony, guest of honor Steffen Kanitz, member of the Executive Board of RWE Power AG and member of the Supervisory Board of GNS, stated: "Decommissioning in Germany is inconceivable without GNS! You are a very important part of our dismantling strategy. And that will remain so."

And the GNS Excellence Awards will soon be entering their third round! Probably again with one or two innovations, but certainly with lots of excellent projects and team achievements.

Shortening and a new start

Apprentices at GNS

Julia Scheele and Janet Kirschner.

Maximilian Petrat strengthens the Design team.

Shortened training period

GNS offers apprentices with very good school and company performance the opportunity to shorten their training period by six months. In 2024, three trainees took advantage of this opportunity. Janet Kirschner has completed her training as an office management assistant and is now strengthening the Cost Accounting/Internal Controlling department. Julia Scheele has completed her training as an industrial clerk and will be working in the HR Development department. Maximilian Petrat has completed his training as a technical product designer and joined the Design department.

Front: Marco Rödel, Pierre Dakota Kohmann, Karlo Pervan;
back: Almedina Meta, David Swars, Marlene Hartung, Julian Avakian.

A new start at GNS

On 1 August, GNS welcomed seven new apprentices and one trainee. Almedina Meta and Karlo Pervan have started their training as industrial clerks. Marco Rödel will be trained as an office management assistant. Marlene Hartung and David Swars joined the company as IT specialists for application development, and Julian Avakian and Pierre Dakota Kohmann as IT specialists for system integration. Cécilia Jordaney started as a trainee in the HSRE and Processes department.

Drying facilities for Gundremmingen and Emsland

Two **PETRAs** for **RWE**

GNS has designed two PETRA drying facilities for the RWE sites in Gundremmingen and Emsland and delivered them to the sites after successful trial operation and subsequent factory acceptance.

The plant for Gundremmingen consists of five drying chambers for two drums each with the associated vacuum units. Special features are the individual drum balancing, the active recooling of the drying chambers after completion of the drying process and the execution of the programming by RWE itself in the power plant's system.

The PETRA for Emsland consists of two drying chambers for four drums each with an associated vacuum unit. Due to the limited space available in the installation room, some system components are installed on a steel platform above the drying chambers.

Lukas Ix (GNS), Alexander Banken (KIMA), Nico Müschke (RWE), Christopher Wübbels (RWE), Guido Graef (RWE), Hannes Freytag (KIMA), Felix Riedel, Henrik Bergmann (both GNS).

Active support: GNS field service employees in action in Mülheim

Assembling Instead of Dismantling

The GNS dismantling team proves in its daily work that they are very familiar with Konrad containers and MOSAIK® casks. After all, since they are usually deployed in the field on dismantling projects, they package the waste from dismantling in precisely these casks and containers for interim storage and later disposal.

Due to postponements of long-planned dismantling campaigns by customers, the field staff unexpectedly had capacity available. Until their next deployment at a power plant, they are now helping out in the GNS Cask Manufacturing Center in Mülheim to meet the high demand for spent fuel casks. Their deployment is planned until the end of 2025.

At the Mülheim site, the dismantling specialists support the teams that assemble the CASTOR® casks and carry out quality assurance as part of CASTOR® and MOSAIK® assembly, as well as the warehouse management with incoming goods and the associated inspections.

Three additional field service employees support the container production at the Eisenwerk Bassum. And they may come across the containers that they assemble, coat and prepare for shipment again later during the decommissioning process when they are loaded at the power plant.

Ready to tackle the task: Harald Severin, Roger Völker, Jürgen Eberle, Ralf Winkels, Harald Löser, Detlef Warden and Ralf Bialek.

Handling equipment for Emsland and Gundremmingen

Custom Solutions Instead of Catalogue Goods

During the dismantling of reactor pressure vessels and their internals, specialized equipment is required for handling and loading the containers. Together with Eisenwerk Bassum, GNS supplied equipment for handling both the so-called Konrad containers (KC) and MOSAIK® casks to the Emsland and Gundremmingen nuclear power plants.

The factory acceptance tests by the customers took place in mid-2024. The first installations, commissioning and training followed directly afterwards at the Gundremmingen site. The fact that the equipment supplied by GNS is not always "catalogue goods" was particularly evident in the case of two KC spreaders, i.e. load handling attachments for lifting and moving the KCs by crane. For these, the specially defined specification "KTA 3+" was used for the design and production at the customer's request.

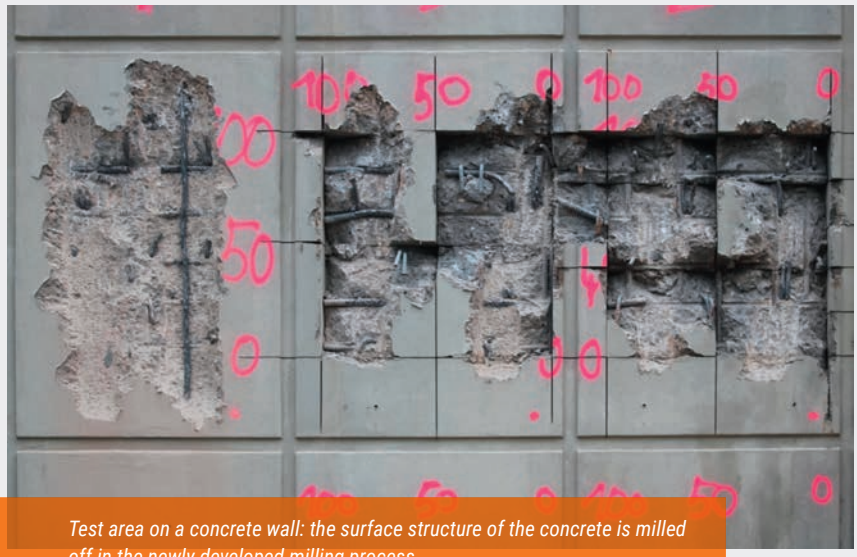
Christian Brockmann, Technical Project Manager: "The customer specification is based on the rules of the Nuclear Safety Standards Commission and therefore required an overload test as part of the acceptance process." Normally, the spreaders are loaded with a maximum of 20 tons, but for the special design and test, test weights were selected so that the load was 30 tons.

The KC spreaders have passed the 30-tonne overload test with flying colours.

Factory acceptance test for equipment in Gundremmingen: Lukas Ix (GNS), Walter Widmann (WEG), Dr. Jörg Stinnesbeck (RWE), Christian Brockmann (GNS), Wolfgang Kraus (RWE), Henrik Bergmann (GNS).

"Custom solutions are our specialty," emphasizes Lukas Ix, head of the two projects. "A good, open customer relationship is therefore particularly important to us. We have obviously been very successful in this respect in these projects, as the results of our customer satisfaction survey showed: all customers gave us the highest score."

Entering the **Concrete Age** with a whole new **Technical Approach**



Test area on a concrete wall: the surface structure of the concrete is milled off in the newly developed milling process.

The dismantling of a nuclear power plant is carried out from the inside out, i.e. starting with the most radioactively contaminated components– the reactor pressure vessel (RPV) and its internals. First, the RPV internals, which were in closest proximity to the fuel elements during power operation, are cut into easier manageable parts and packaged for final disposal while still underwater. This is followed by the removal and disassembly of the RPV. GNS has been a pioneer and market leader in this field in Germany for several years through the ZerKon and ReaDi projects (see also p. 12, 13). After removing these higher activated metal components, the biological shield, a concrete structure up to two meters thick, must be dismantled. As another component of the reactor's barrier concept, it shielded the neutron flux from the reactor core during operation. These activated concrete parts also have to be properly removed and packaged for final disposal.

In the course of the decommissioning of the Grafenrheinfeld nuclear power plant, the "dismantling, cutting and packaging of the biological shield, including RPV insulation, support ring, parts of the support plate and peripheral plant components" were won by the bidding consortium B.I.T.T. ("Bidding Consortium Insulation, Support Ring, Support Shield"), consisting of GNS with its subsidiaries WTI and H&B, as well as the other partners MBS, BuM and Reinwald.

The bidding consortium has developed a novel technical approach for the project, for which a patent application has already been filed: the activated surface structure of the concrete is milled off, producing concrete rubble with a defined bulk density as a waste product, rather than – as is usually the case – cutting the concrete structure into blocks using a wire-saw process or crushing it with a demolition hammer.

ARGE KKG B.I.T.T.

Thomas Eichhorn, the overall project coordinator, summarizes the role of GNS and the interaction within the working group: "GNS is essentially responsible for the preparatory work for the supervisory and building application procedures and for the waste campaign, the complete cutting and packaging planning, the quality assurance in the preparation of the preliminary test documents for the dismantling tools, provides handling technology as well as loading and packaging equipment for container loading, develops and manufactures the ventilation enclosure, completely coordinates the performance phase 1 "Engineering" for all parties and finally also compiles the waste package documentation for final disposal. Our partners are focusing on the production and qualification of the necessary demolition tools and the disassembly and packaging of the bioshield, RPV insulation, support ring and parts of the support shield on site."

Milling work is expected to start in the second half of 2025.

Detailed view of the milling head, excavator with mounted milling head in front of the test area for milling trials.

Preparation for final disposal

Ready for **Konrad:** Grouted with **Concrete**

GNS's own concrete silos are also part of the plant technology for backfilling Konrad containers.

Sonja Smilkoski and Pascal Niehoff explain the conditioning procedure developed by GNS at the GNS Forum 2024.

For quite some time now, GNS has been working as a "concrete builder" – however, it is not about new buildings, but about preparing Konrad containers (KC) for final disposal. In general, the means of inventory fixation are not specified for packages suitable for final disposal. Due to the requirements, e. g. from traffic law and the test certificates for containers, GNS has decided to use concrete for grouting the cavities. "However, not all concretes are the same," explains project manager Pascal Niehoff: "Unlike in conventional construction projects, such as buildings and bridges, we have to examine and evaluate the material concrete with 'nuclear accuracy'."

GNS has developed its own procedure for grouting KC using conventional robust plant technology, concreting plants and mobile test laboratories. For local shielding and remote handling above the KC, surveillance cameras are available, as are mobile scaffolding and additional mobile shielding walls for a modular structure. This means that GNS plant technology can be universally projected and deployed at any location.

It's all in the ingredients: not all concrete is the same

GNS currently uses three normal and two lightweight concretes for grouting. The use of lightweight concretes allows the maximum waste mass in the KC. Furthermore, existing containers can be grouted without repackaging, which saves additional disposal volume. However, since in some cases the use of lightweight concretes is not permitted, normal concretes can be used, which are available in redundant varieties.

Both the grouting process and the normal and lightweight concrete materials have been tested for their suitability for final disposal and have been approved for use by the Federal Company for Final Disposal (BGE).

Sonja Smilkoski, the technical supervisor of the grouting work in the dismantling process, summarizes: "We have already successfully – that is, professionally and in accordance with quality standards – applied the GNS grouting technology at the Duisburg, Jülich, Stade, Biblis and Würgassen sites. Next stop: Grafenrheinfeld."

Safe Packaging for Special Fuel Rods

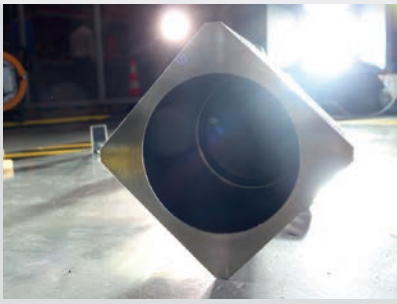
An important milestone on the way to a nuclear fuel-free future for Germany's decommissioned nuclear power plants was reached this year with the production of the last GNS IQ® quiver for special fuel rods by Höfer & Bechtel.

The project managers from Höfer & Bechtel and GNS at the acceptance of the last quiver by TÜV Rheinland at the production site in Mainhausen.

The project for quivers for special fuel rods, for which GNS was commissioned by the German utilities, began in 2011. The aim was the safe disposal of damaged fuel rods from German pressurized (PWR) and boiling water reactors (BWR). This project marked the beginning of the successful cooperation between GNS and Höfer & Bechtel and thus laid the foundation for the later integration of Höfer & Bechtel into the GNS group.

The first prototypes of the GNS IQ® for PWR were produced in 2013, followed by approval under traffic law in 2015. A total of 52 PWR GNS IQ® and 17 BWR GNS IQ® were manufactured. More than 40 GNS IQ® have already been dispatched, 32 of which are already in CASTOR® V casks.

Proven leak tightness



The leak-tightness of the GNS IQ® system has also been demonstrated experimentally: the – purely hypothetical – scenario had to be ruled out, as required by the authorities, that under accident transport conditions the complete releasable activity of the GNS IQ® collects in an assumed residual moisture in the quiver interior and enters the cask interior via liquid leakage. Drop tests with PWR and BWR GNS IQ® test specimens conducted by the Federal Institute for Materials Research and Testing (BAM) officially confirmed that the GNS IQ® are not only liquid-tight but even gas-tight.

SMR fuels

Development Contract from the USA

GNS has been an expert in packaging of radioactive materials for 50 years. In the future, it will also use this knowledge to develop an optimized HALEU transport system solution. High-Assay Low-Enriched Uranium (HALEU) is a nuclear fuel with a uranium-235 enrichment of 5 to 20 %, as is to be used in advanced Small Modular Reactors (SMR).

NANO Nuclear Energy Inc., a leading American nuclear technology company, has commissioned GNS to develop such a transportation solution. The contract includes a study for the transportation of several HALEU nuclear fuel types, including uranium oxide, TRISO particles, uranium zirconium hydride, uranium mononitride and salt fuel for molten salt reactors.

NANO Nuclear already has an approved basket for HALEU fuel made of uranium oxide, and GNS will adapt it for the other fuel types. The contract also includes the conceptual design of a new HALEU transport solution tailored to the special needs of these nuclear fuel types. GNS will conduct a comprehensive study that includes a detailed description of the transportation system, bills of materials for required components, conceptual drawings, risk assessments, and cost estimates for design, licensing, and manufacturing.

The study will be conducted under the formal quality assurance program of the U.S. Nuclear Regulatory Commission (NRC) to ensure compliance with regulatory standards and alignment with NANO Nuclear's long-term strategy for safe and efficient fuel transportation.

Illustration of the concept for the internal components and the design of the NANO nuclear energy transport system. Source: NANO Nuclear Energy Inc.

Unique GNS expertise

"We are excited to collaborate with GNS on this important study, which will contribute significantly to our goal of advancing nuclear fuel transportation technology," said Jay Yu, founder and chairman of NANO Nuclear Energy. "The optimized transportation system design will enhance our ability to safely transport a variety of nuclear fuel types, aligning with our mission to provide portable and adaptable clean energy solutions."

James Walker, Chief Executive Officer and Head of Reactor Development at NANO Nuclear Energy, adds: "This agreement with GNS represents a critical step towards our goal of achieving full self-sufficiency in transporting nuclear fuel across the country for each of our deployed microreactor systems."

GNS CEO Daniel Oehr summarizes the significance of the order for GNS: "GNS has 50 years of experience in the field of transport and storage casks for radioactive materials, particularly for various types of irradiated fuel elements. We are pleased to contribute this experience and our unique know-how into our collaboration with NANO Nuclear Energy for their groundbreaking front-end solutions. This order from the USA proves our competitive strength and underlines our international growth strategy."

First Aid Day

Well Prepared for an Emergency

Cardiac massage was practiced on special dummies.

The lobby of the GNS headquarters looked a bit like an emergency room: bandages and plasters adorned heads, arms and fingers, cardiac massage was practiced on dummies and colleagues were turned into the recovery position.

The reason for this was the first "First Aid Action Day" held at GNS, during which teams of GNS employees were trained by Malteser teams at various stations for one hour each. The program included a wide range of situations, from plasters and wound dressings to emergency calls and the recovery position, as well as defibrillators and VR glasses.

"The safety and health of our employees has always been our top priority," explains Dr. Martin Berthold, head of the GNS occupational safety and health department. "With the first-ever First Aid Day, we have established a great new module in addition to our existing first-aider system to efficiently train over 100 employees in spontaneous first aid. The flexible and competent support provided by Malteser was outstanding and was also very well received by the participants.

The treatment of cut wounds was also on the program.

Instruction and training

Getting the **Heat up** for **Field Staff**

Demonstration of a grease fire.

Around the turn of the year, our colleagues in the field are getting down to business: during this time, they jointly complete the legally required annual instruction and training in occupational safety, respiratory protection and radiation protection.

Since German customers will require first responders and fire fighters to be provided by GNS from 2023, things got hot despite the cool outside temperatures: in addition to theory and awareness-raising for hazardous situations, practical exercises were carried out and even a grease fire was demonstrated – under the watchful eyes of the Essen fire brigade, of course.

A total of 40 employees were trained in two groups and made fit for a further year in the field.

Trade Fairs and Events

Every two years, GNS invites more than 100 customers and representatives of important partner companies to the **GNS-Forum** on the decommissioning of nuclear power plants and the disposal of low- and intermediate-level radioactive waste. In 2024, the GNS-Forum took place in Cologne, Germany. In addition to numerous presentations on dismantling projects and disposal solutions from GNS, Silke Neveling (BMUV Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection) gave a talk on the status of waste disposal in Germany and Peter Berben (ENGIE) on "Update on ENGIE's nuclear decommissioning and operational lifetime extension program".

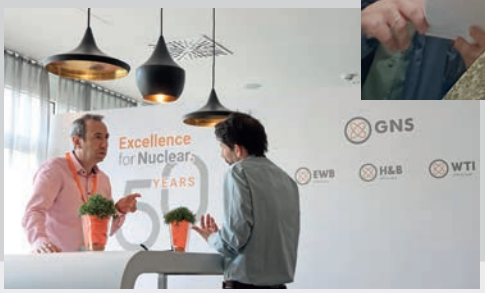
Once a year, GNS invites its international spent fuel cask customers to the **CASTOR® User Group Meeting**. One of the main items on the agenda is always the open feedback session with customers and users of the casks. This is supplemented by various presentations on all aspects of the use and further development of the GNS casks.

In 2024, more than 50 participants met in Aachen, Germany, for the seventh edition of the CUG meeting, followed by a joint visit to JEN Jülicher Entsorgungsgesellschaft für Nuklearanlagen mbH with the on-site disposal facilities and their CASTOR® casks.

KERNTECHNIK

In 2024, the **KERNTECHNIK**, organized by the German Kerntechnische Gesellschaft (KTG) and the industry association KernD, took place in Leipzig, Germany. GNS not only contributed six technical presentations, but was also present with an exhibition stand and the well-attended "GNS Lounge".

Kerntec, an event organized by KernD specifically for the next generation in the nuclear industry, was integrated into **KERNTECHNIK**, at which GNS was also represented.



ICOND

In November 2023, GNS participated in **ICOND 23** in Aachen, Germany, with a booth and two presentations. Among others, GNS CEO Daniel Oehr gave a key-note on "Germany after shutdown: On the way to becoming a world champion in dismantling?".

Not only GNS celebrated its 50th anniversary in 2024 (p. 8), but also the **Waste Management Symposia** in Phoenix, USA, the world's largest conference for the management and disposal of radioactive waste, decommissioning, packaging and transport, site selection and site remediation. For the first time, GNS was represented with a booth: Together with Uniper and KernD, GNS ran the "German Booth" in the World Pavilion and gave three technical presentations. In addition, a cooperation agreement was concluded with EnergySolutions (p. 9).

WM SYMPOSIA

At the **Nuclear Engineering Career Day** on the campus of the FH Aachen - University of Applied Sciences, around 100 students from nuclear and related fields of study networked with around a dozen companies, including GNS and its subsidiary WTI from Jülich.

GNS was also represented at other German career fairs such as the **Stuzubi** in Essen, the career portal of RWTH Aachen University, the training fair **Vocatium** and the **Bonding** event at RWTH Aachen University.

On **Land**, on **Water** and **on Wheels**

Geht Nicht Schneller

Almost gold at the first attempt

While some GNS casks have already covered quite a distance on water, the sporting activities of GNS employees have been focused on land in recent years. This changed in 2024, when the GNS dragon boat team "**G**eht **N**icht **S**chneller" (Can't Go Faster) competed in the dragon boat festival on Lake Baldeney in Essen for the first time.

A total of 22 GNS employees with more or less personal rowing experience were at the start at the beginning of June; for the preliminary rounds and time trials, the boat was manned by 18 rowers and a drummer. 18 boats took part and the GNS boat made it into the final, where it missed the gold medal by only a scant few seconds.

GNS at the 2024 Essen company run

"Excellence for Nuclear" also outside the usual work environment: Despite the Kerntechnik 24 taking place in Leipzig at the same time, 44 runners lined up at the starting line for GNS at the Essen company run this year.

Not only the number of GNS participants set a new record, the placings were also impressive: Jan Seewald was the fastest GNS runner in the men's race, finishing in a great 21st place, while Anja Hövel was the fastest female GNS runner in 185th place. The fastest GNS team, consisting of Jan Seewald, Malte Löwecke and Christian Schruff, made it to 10th place out of a total of 1,281 teams in the company ranking.

More than 13,500 runners from 560 companies registered for this year's company run, with 10,476 actually being evaluated. The 5 km route, which ran from the Essen Philharmonic Hall to the Grugapark, was also well attended.

City cycling and cycling to work

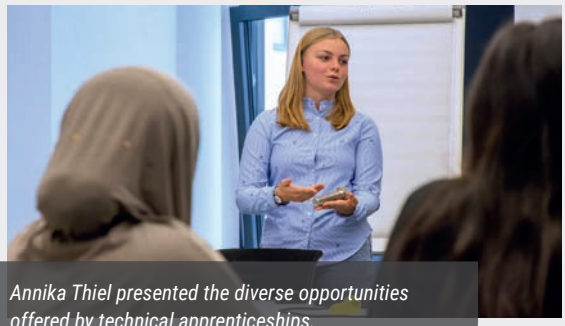
With almost 60 employees, GNS was represented in 2024 in "Mit dem Rad zur Arbeit" and "Stadtradeln", some of them participated in both events.

32 active cyclists rode 5,830 km during the 21-day "Stadtradeln" campaign, finishing 37th out of 228 teams in Essen.

Ten teams with up to four cyclists were "cycling to work" from May to the end of August, covering almost 30,000 km. The front-runner was a GNS plant: the GNS KETRA team rode 7,490 km on 268 days – an average of 67 days per participant.

Girls' Day 2024

After a pandemic-related break, GNS invited girls back to Girls' Day in 2024, which this year focused on IT and design. 12 girls between the ages of 13 and 16 started their day with an introduction to GNS's business areas and a round of introductions from some of the apprentices.



Annika Thiel presented the diverse opportunities offered by technical apprenticeships.

In the following workshop, they were able to practice programming and implement their first creative ideas with the "Scratch" program. Afterwards they got an impression of how technical drawings are created and models are produced on the 3D printer.

They used the afternoon to visit the Mülheim plant and to "encounter" the quite imposing CASTOR® casks.

Ironman Frankfurt 2024

Sometimes even Top Form doesn't help

Instead of 27 degrees and sunshine like the day before, the athletes at the Ironman Frankfurt 2024 started at 20 degrees and in the rain – actually quite good conditions. One of the starters that day was GNS department head Jan Seewald, who wanted to qualify for the Ironman Hawaii for the third time (see also GNS Magazine 12). The training camp on Mallorca and various competitions in advance had shown that he was at his best.

Perseverance counts: Jan Seewald finished the Ironman Frankfurt 2024 against all odds.

Headaches and chafing wetsuits did not stop Seewald, and he set a swim time of just over an hour. On the bike, too, it initially looked good despite continuous rain and a crash in front of him, until the chain broke at kilometer 75.

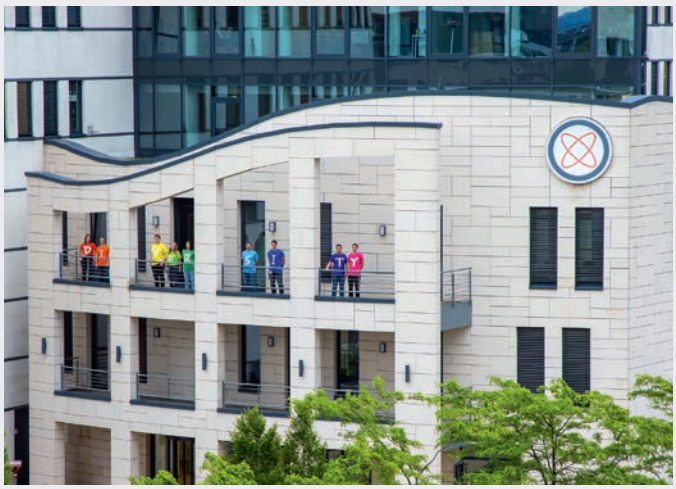
With the help of a volunteer from the refreshment station, Jan Seewald was able to continue his journey after a 50-minute pit stop. The helper rode his bike ten kilometers home, found a suitable chain and came back.

The time was ruined, but Seewald finished the bike stage with a net cycling time of four and a half hours. During the subsequent marathon, things went according to plan again: after a fast start, he crossed the finish line in 3 hours and 7 minutes.

Lesson learned: sometimes, even being in top form won't help when the unexpected happens. But even then, giving up is not an option.

GNS has Signed the **Diversity Charta**

6,000 companies and institutions in Germany have already signed the “Diversity Charter”, an employer initiative that promotes diversity in companies and institutions. The aim is to strengthen the recognition, appreciation and inclusion of diversity in the German working world. Organizations should create prejudice-free working environments in which all employees are valued regardless of their age, ethnic origin, gender, gender identity, abilities, religion, sexual orientation and social background.



GNS would also like to officially communicate this idea, which is already being practiced, to the outside world and has also signed the Diversity Charter.

In 2024, GNS participated in the annual “Diversity Day” for the first time. A “colorful” day was organized by GNS trainees, which started with a keynote speech and offered a lot, from a photo contest to a quiz and a culinary world tour.

Imprint

GNS

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