



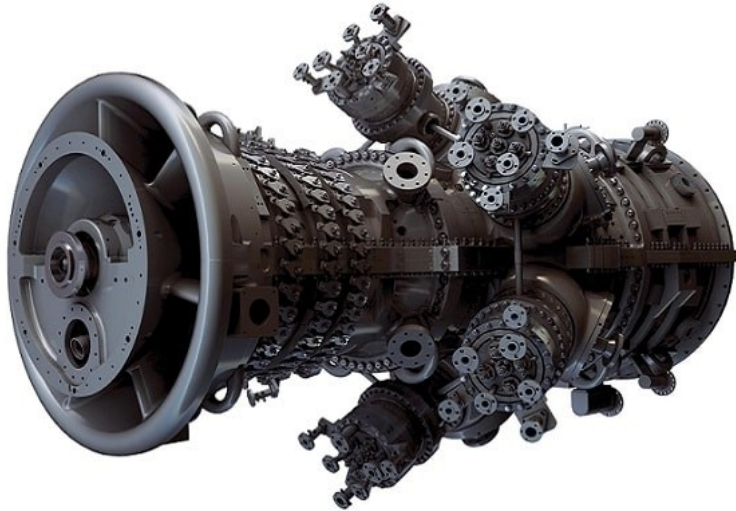
# UNITED PERFORMANCE METALS

QUALITY SOLUTIONS. TRUSTED PARTNERS.

AN ONI COMPANY

JANUARY 2023

## THE UPM MARKET INFORMER



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### GE Launches World’s First 6B Repowering Gas Turbine Solution

GE’s Power Services business is celebrating the 40th anniversary of its 6B gas turbine fleet by launching the world’s first 6B repowering solution. GE also announced it has signed its first agreement for the solution with a global chemical company to repower three 6B gas turbines and save significant amounts of fuel each year at its site in Asia. Today’s announcements mark another example of GE’s continued commitment to investing in its mature fleets to keep them competitive.

“We’re excited to mark our 40th anniversary of the 6B fleet and unveil our new repowering solution,” said Scott Strazik, president & CEO of GE’s Power Services business. “This fleet is known for its dependability—a reputation earned with global fleet reliability of 98.4 percent, which is about 2 percent higher than the industry average and translates to approximately 17 more days of availability per year. At the same time, the 6B fleet has aged, and there’s growing demand to improve performance. Today’s announcement and our recent expansion of our Advanced Gas Path technology to the 6B fleet highlight our continuing investment in our mature fleets to help power producers and industrial operators remain competitive in today’s very dynamic marketplace.”

Part of GE’s Fleet360\* platform of total plant services solution, the new 6B Repowering Solution incorporates advanced F and H class technology to elevate the machine’s performance to leading levels for its class. The repowering consists of a full “flange-to-flange” upgrade of all major components, including the combustion system, hot gas path and compressor, and it transforms the 6B unit into a GE 6F.01 gas turbine, which is also available as a new unit.

The new 6B Repowering upgrade, which fits into the existing 6B footprint, can advance performance in both gas turbine and combined-cycle operation. It’s capable of: Increasing turbine output up to 35 percent simple cycle/25 percent combined cycle, improving efficiency up to 5 percentage points in simple- and combined-cycle operations, achieving up to \$3 million in fuel savings per unit annually, achieving NOx emissions as low as 15 ppm, and extending the hot gas path inspection interval to 32,000 hours (from 24,000 hours) and major inspection interval to 64,000 hours (from 48,000 hours).

GE’s fleet spans more than 1,150 6B turbines across all corners of the world, powering energy production facilities and industrial applications in segments such as petrochemical, oil and gas, exploration and the cement production. Today, over 900 6Bs are still in operation with 55 percent in continuous operation. The 6B fleet has hit many milestones since the first unit was shipped and installed at Montana-Dakota Utilities’ Glendive Power Plant 40 years ago.

In 2018, GE began installing its industry-leading Advanced Gas Path (AGP) technology on three 6B gas turbines at Saudi Cement’s Hofuf power plant. This project marks the first AGP upgrade in the cement industry and the expansion of AGP technology to GE’s fifth fleet. For more on this story, [read here](#).

## Surcharge Totals October 2022 - March 2023



	Oct	Nov	Dec	Jan	Feb	Mar
15-5	1.1043	0.9821	1.0176	1.1326	*	*
15-7	1.534	1.4687	1.5353	1.7754	*	*
17-4	1.1194	0.9957	1.0321	1.148	*	*
17-7	1.2299	1.099	1.1528	1.3023	*	*
201	0.9963	0.8327	0.8539	0.9422	*	*
301 7.0%	1.1978	1.0707	1.1225	1.268	*	*
302/304/304L	1.314	1.1836	1.2452	1.4096	*	*
304-8.5%	1.3639	1.2336	1.3002	1.474	*	*
305	1.7214	1.5908	1.6914	1.9319	*	*
309	1.7784	1.6354	1.7365	1.9765	*	*
310	2.51	2.3623	2.5319	2.9047	*	*
316/316L	1.7951	1.7299	1.8226	2.1115	*	*
316LS/316LVM	2.88	2.83	3.06	3.59	*	*
317L	2.0847	2.0414	2.15	2.5007	*	*
321	1.4079	1.2773	1.3484	1.5304	*	*
347	1.7068	1.5805	1.6518	1.8353	*	*
409/409 Mod	0.4058	0.2948	0.2774	0.2894	*	*
410/410S	0.4093	0.2991	0.2819	0.2951	*	*
430	0.4826	0.3565	0.3399	0.3525	*	*
434	0.6004	0.4958	0.4836	0.5285	*	*
439	0.5128	0.3775	0.3609	0.3713	*	*
440A	0.4826	0.3565	0.3399	0.3525	*	*
2205	1.6341	1.5655	1.6199	1.8652	*	*
263	15.0165	11.9584	10.7724	10.9832	10.8442	11.7846
276	11.0588	9.506	9.5601	10.1487	10.0837	11.153
A286	3.7093	3.0669	3.1578	3.194	3.0092	3.4243
330	4.5889	3.6909	3.8501	3.9296	3.6937	4.2924
400	8.2954	6.6443	6.9718	7.1931	6.8268	8.0201
Custom 455	2.50	1.84	1.98	2.18	*	*
Custom 465	2.96	2.64	2.85	3.18	*	*
600	8.9053	7.3446	7.6239	7.8565	7.4646	8.7808
601	7.6205	6.1229	6.3546	6.4998	6.1684	7.2046
617	13.0248	10.5673	10.019	10.3713	10.2334	11.3131
625	10.8391	9.6866	9.8369	10.2096	10.0402	11.1493
Custom 630	1.31	1.26	1.29	1.41	*	*
718	9.7184	8.6636	8.8356	9.0313	8.7834	9.713
X-750	9.5815	7.7941	8.0417	8.2187	7.8343	9.0694
825	5.8342	4.9306	5.0611	5.1995	5.0087	5.6952
HX	7.8235	6.7705	6.8404	7.1842	7.0661	7.9429
188	22.247	17.6141	14.6262	14.555	14.287	14.5401
CCM	21.15	20.97	19.61	17.72	*	*
L-605	24.6902	19.4244	15.6932	15.5614	15.3483	15.396

\*Surcharge currently not available

## Generac Acquires Equity Stake in WATT Fuel Cell



Generac Power Systems, Inc. (NYSE: GNRC) (“Generac”), a leading global designer and manufacturer of energy technology solutions and other power products, today announced a minority equity investment in WATT Fuel Cell Corp (“WATT”), a leading developer and manufacturer of low emissions Solid Oxide Fuel Cell (“SOFC”) stacks and systems. WATT’s Imperium™ fuel cell makes power with no combustion and low emissions, using an electrochemical process that generates electricity from hydrogen molecules derived from one of several readily available fuel options such as propane, natural gas, or hydrogen.

Generac and WATT plan to collaborate on the design and development of low-emission solutions supporting the resiliency needs of Generac’s customers. The companies will combine WATT’s highly reliable, low-emission technology

with Generac’s clean energy portfolio of products, which includes microinverters and battery storage system solutions.

“We are excited about this investment in WATT Fuel Cell and look forward to collaborating towards the integration of this advanced technology into the Generac Home Energy Ecosystem,” said Patrick Forsythe, chief technical officer at Generac. “The combination of highly efficient fuel cells with solar and energy storage, provides a low-carbon solution for homeowners seeking resilience and energy independence.”

“Generac is the perfect partner to assist us in accelerating the development and commercialization of our fuel cell power generation technology,” said Caine Finnerty, president and co-founder of WATT. “Generac’s strong expertise in residential home resiliency and clean energy products will provide access to a national base of installation partners, thereby accelerating the path to a low carbon future. We look forward to all the incredible opportunities this partnership will provide.” As a part of the investment, a member of the Generac executive team will join the WATT board of directors. The investment closed on November 23, 2022.

Generac is a leading energy technology company that provides backup and prime power systems for home and industrial applications, solar + battery storage solutions, smart home energy management devices and energy services, and more. [Read more here](#)

## 탁 부회장 취임 POSCO International Aims to Become Global Energy Powerhouse

2023년 1월 2일 (월)



The merger between POSCO International and POSCO Energy will fuel the company's global energy competitiveness and help create a global powerhouse for the energy sector, the company said, Monday. The integrated corporation of POSCO International and POSCO Energy was officially launched on Jan. 1.

The company is expected to rake in annual sales of 40 trillion won (\$31.5 billion) and an operating profit of more than 1 trillion won, putting it in 11th place in terms of domestic corporate sales in 2021. The merger increased management stability through strengthening the business structure, rebranding as a global eco-friendly energy company and improving the potential to accelerate new growth businesses, the company said.

POSCO International has been pushing to switch the focus from a general trading company and transition to strengthen core businesses in the fields of energy, food and parts and materials. Enhancing the profitable energy sector is expected to have a positive impact not only on the advancement of the export sector but also on the growth of food and new growth sectors. With the merger of the two companies, their earnings before interest, taxes, depreciation and amortization (EBITDA) will increase from 1.3 trillion won last year to 1.7 trillion won this year, and the debt ratio will be reduced from 200 percent to 160 percent, significantly improving its financial status.

The merger also further strengthened its image of becoming an eco-friendly energy company. Through the merger, POSCO International will connect the entire LNG value chain from exploration to production, storage and power generation. It is expected that the profits generated will be used to accelerate the eco-friendly energy business. The company has been able to speed up investment in promising companies and technology development, such as expanding its mobility business, entering the eco-friendly bio industry and establishing a low-carbon production/power generation system using hydrogen.

In the steel sector, the company plans to further strengthen its competitiveness as a professional exporter in order to become a global top-tier company, while actively developing new demand for future growth industries. [Read more here](#)

## GE and MYTILINEOS To Supply Approximately 200 Megawatts of Reserve Power to the Electricity Supply Board of Ireland



GE Gas Power (NYSE: GE) and MYTILINEOS, today announced they have secured an order from the Electricity Supply Board of Ireland (ESB) for the construction of a new gas-fired power plant in Dublin, within ESB's existing North Wall Power Plant. The new temporary reserve power plant will be powered by 6 GE LM2500XPRESS gas turbines delivering a combined capacity of up to approximately 200 megawatts (MW) to help meet the electricity demand and help ensure stability of electricity supply in Ireland. Under the terms of the agreement, GE and MYTILINEOS will work together for the construction, and Operation and Maintenance (O&M) of the plant.

The temporary reserve power plant installed in Dublin will have natural gas fuel capability and can operate on blends of hydrogen fuel in the future with relatively small modifications to further reduce carbon emissions and lead to lower-emitting footprint for the plant. The Dry Low Emissions (DLE) combustor configuration allows up to 35-50% by volume of hydrogen when blended with natural gas. The additional temporary emergency generation will not be available to the open electricity marketplace; instead, it will only be operated in the case of shortage of capacity, reaching power plant full production capacity in just minutes.

“We’re excited to bring temporary power to ESB’s North Wall site before the 2023-24 winter peak demand season to help provide a reliable source of reserve power that will be a major contributor to mitigating the risk of power supply shortages,” said Joseph Anis, President & CEO, Europe, Middle East & Africa, GE Gas Power. “We’re pleased to work on this project with MYTILINEOS, an internationally recognized leading constructor of large-scale energy projects with whom we have executed over sixty projects that provide grids in various countries with more than 1.5GW of fast power using GE aero derivative gas turbines. With them, we will provide a source of emergency power for the Irish electricity grid, and one whose emission levels can be reduced using blends of hydrogen fuel in the future.” “It is a great pleasure to work yet again in cooperation with our longtime business associate GE Gas Power for the construction of an efficient gas fired power plant...” said Evangelos Mytilineos, Chairman & CEO of MYTILINEOS. [Read more here](#)



### UPM Focus: Power Generation with Pete Stalnaker

United Performance Metals serves a number of industries, including the Power Generation industry. For this month’s issue of the UPM Market Informer, we sat down with our resident expert on the Power Generation sector, one Pete Stalnaker who is our Regional Outside Sales Manager. Pete has been a part of the UPM team for close to thirty years and his knowledge has advanced UPM’s capabilities over that period.

The beginning of UPM’s journey into the power generation industry is a humble one. Stalnaker stated that the company first became involved in the power generation industry through “picture frames”.

The next step that UPM took that increased the company’s presence in the power generation space was to start supplying metals for steam and gas turbines. Steam and gas turbines are still a major part of UPM’s power generation division and Stalnaker says that these turbines won’t be going anywhere anytime soon. Other parts that play a role in the power generation sector feature metal that comes from UPM. These parts include swuzzles, side seals, and cap and piston rings. These parts are key components of gas turbine engines, which in turn convert natural gas/fuels into usable power.

United Performance Metals also plays a large role in helping companies create rotors for gas turbines. “Rotors are essential in the functionality of gas turbines and the alloys/material we stock can be seen in those rotors. It’s some cool technology”, said Stalnaker.

When asked about the future of the power generation sector, Stalnaker had this to say: “One of the major trends in the power generation industry right now is the shift towards hydrogen fuel cells. People are very interested in creating sustainable, clean energy, and hydrogen fuel cells are one way to potentially do just that. New gas turbines are potentially going to be upgraded to run on hydrogen. The technology is in place to have these gas turbines run on hydrogen, but our parts will not be affected. United Performance Metals’ place in this industry is solid, as we provide much of the necessary materials that our customers need in order to assemble their turbines, even with the new hydrogen fuel.” For more information about United Performance Metals’ role in the power generation industry, please contact us at [marketing@upmet.com](mailto:marketing@upmet.com).