

Technology

In Pakistan, questions raised over GE's faulty flagship power turbines

Problem was acute in the crucial summer months

ISLAMABAD/SINGAPORE: General Electric's flagship gas turbines ran into problems in Pakistan earlier this year, leading to delays and lengthy outages at three newly built power stations, according to several senior Pakistani officials and power executives. GE has said they were teething problems. But the questions over one of its most important products suggest another setback for the company in a year in which its shares have plunged and third-quarter results were called "horrible" by new Chief Executive John Flannery. GE is now undergoing major restructuring. There is no evidence that GE's 9HA-Class turbines have fundamental design flaws. But so far the Pakistani plants, which began running this year, are producing power at levels well below their capacity and the problem was acute in the crucial summer months, when temperatures in the country frequently exceed 40 degrees Celsius (104°F). Data from Pakistan's Central Power Purchasing Agency, seen by Reuters, showed the Bhikki, Haveli and Balloki plants jointly generated only a half of their current maximum capacity in August.

A month later all three plants showed improved output but remained well below capacity. Reuters was unable to review more recent data. "It had terrible consequences because we lost a lot of power which would have come to the grid during the peak summer," Yousaf Naseem Khokhar, the top civil servant in the Energy Ministry's power division, told Reuters. "It is now up to General Electric to rise to the challenge and to take care of these issues... before next summer starts," he said. In a statement sent to Reuters, GE said "every commercial HA site today is demonstrating exceptional performance levels for both output and efficiency". On the issues in Pakistan, GE said: "We've encountered and communicated openly about launch challenges and readily resolved issues during this time. It's important to note that challenges are common with power plants of this size and complexity during the commissioning and early operations phase." GE also said in a separate statement that the three plants are expected to deliver enough power to supply the equivalent of 7.3 million Pakistani homes over their 30-plus-year life cycle, and that will make a "meaningful difference in the everyday lives of the people of Pakistan."

The 9HA-class gas turbines, the GE power division's newest and most prestigious product, entered the Guinness World Records last year for efficiency, based on the amount of

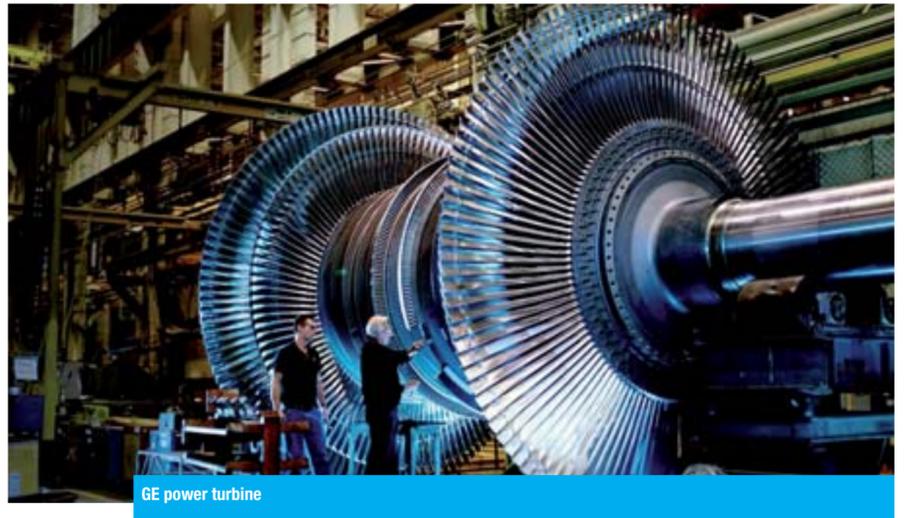
electricity generated from natural gas at the power plant in Bouchain, France, where it was first put into commercial operation in June last year. Both the 9HA and the 7HA turbines - the A stands for air-cooled - are in tough competition with similar products made by Germany's Siemens, Japan's Mitsubishi Hitachi Power Systems - a joint venture between Mitsubishi Heavy Industries and Hitachi - and Italy's state-controlled Ansaldo Energia. Flannery said in a GE investor presentation in November that "resolving initial launch issues" with HA class gas turbines would be a future priority.

Tough year

GE's shares have fallen more than 40 percent this year, and the 125-year-old company announced this month it was cutting 12,000 jobs in its power division, about a fifth of the workforce, to cut costs. Operating profit of the power division, once the strongest part of GE's operations, fell 51 percent in the third quarter against the year-ago period. Flannery said the division, which brought in 28 percent of GE's revenue last year, was "challenged" but could be turned around in one or two years. Pakistan, desperate for additional electricity to avoid crippling blackouts, teamed up with GE to build the power stations at Bhikki, Haveli and Balloki, all in the most populous province Punjab, at breakneck speed. GE won the contracts to supply Pakistan with six turbines for the three power plants in 2015,

based on the lowest priced deal per megawatt of capacity. The first problem was the deliveries were delayed by up to three months and missed some of the summer months this year, several Pakistani officials said. They said they were told the delays happened because a part of the turbine needed further testing. The plan was to fire up the turbines in simple cycle mode - delivering around 800 MW per power plant - in the spring of 2017 and then to upgrade to 1,200 MW combined cycle output after the summer. The delays infuriated Islamabad, because getting additional power during the summer was a crucial factor ahead of 2018 parliamentary elections. One of the two turbines at the Bhikki power plant was delayed by about a month. At the Balloki and Haveli plants, the turbines were delayed by about three months, two senior Pakistani officials aware of the situation said.

Then, in early May, a combustion seal leak was detected at one of the turbines at the Bhikki plant. To fix this, and to apply



GE power turbine

the same remedy to the five other turbines, GE airlifted all the units to France for repairs. Pakistan's Prime Minister Shahid Khaqan Abbasi, who was then the petroleum minister, told Reuters in July that GE spared no expense to fix the problems. "They found the problem, they took out the part, they went back to the vendor, they re-machined them, they came back - all on dedicated transport flights," Abbasi said.

Turbine damage

But that meant one Bhikki turbine was offline for about 40 days and the other for about 50 days. The other two plants had not begun operations at the time, but came online in July and August. In a third setback, one of the turbines at the Haveli plant was badly damaged during a power outage three weeks after it was inaugurated in July, the Pakistani officials said. At such times, batteries and a generator act as back-ups to ensure a pump continues to push lube oil into the turbine.

"Both didn't work," said one of the Pakistani officials, adding the diesel generator had no fuel. The turbine crashed, with damage estimated at \$33 million, and although it was refitted with a new rotor by GE, it is still to resume operations.

The power station is being built by China's SEPCOIII Electric Power Construction Corporation. SEPCOIII did not return queries for comment. "GE and SEPCOIII are working together to determine the cause behind the loss of functionality of the planned backup power system," GE said in a statement. A senior Pakistani official in Islamabad said the delays and outages had cast GE in a bad light. "Frankly speaking, they have lost a lot of credibility here in the government because of these plants," the official said.

In September, Pakistan awarded its most recent power contract to Siemens, after bidding by several companies, including GE. Stephen Tusa, an analyst at JPMorgan in New York, wrote in a recent note that although GE has assured investors that the Pakistan problems have been resolved, they could re-emerge in other plants around the world. "The risk is that if these issues are not remedied, GE has already 'sold' another around 30 units (around 10 plus of which are in operation), some of which are at higher output ratings," he wrote. "Remedies would have to be applied up the curve, something we view as a challenge, especially as senior management tries to cut costs aggressively. Stay tuned." —Reuters

Obama urges 'leaders' not to split society with online biases



LONDON: An undated handout picture issued by Kensington Palace courtesy of the Obama Foundation on December 17, 2017 shows Britain's Prince Harry (R) interviewing former US president Barack Obama (L) in Toronto, Canada as part of his guest editorship of BBC Radio 4's Today program. — AFP

LONDON: Former US president Barack Obama said the way people communicate via social media risked splintering society and leaders had to ensure the Internet did not cocoon users within their own biases. "All of us in leadership have to find ways in which we can recreate a common space on the Internet," Obama said in an interview conducted by Britain's Prince Harry, broadcast on BBC radio yesterday. "One of the dangers of the Internet is that people can have entirely different realities, they can be just cocooned in information that reinforces their current biases."

Obama has previously warned that social media platforms can lead people to make snap judgments about complex decisions although he has refrained from criticizing his successor Donald Trump who regularly uses Twitter. Obama said in the interview broadcast yesterday that social media should promote diverse views in a way that "doesn't lead to a Balkanisation of our society" and moving online communities offline helped people to see that many issues were not as simple as they might seem in a chatroom. "It's also by the way harder to be as obnoxious and cruel in person as people can be anonymously on the Internet," he said. "Meet in the pub... Meet at a place of worship. Meet in a neighborhood and get to know each other."

Obama spoke to Harry in an interview conducted by the prince as a guest editor for BBC radio's daily morning news show and focused on their shared interest in promoting causes. The interview took place in September. Harry was asked by the BBC whether he would invite the Obamas to his wedding next year with US actress Meghan Markle. "I don't know about that," Harry said. "We haven't put the invites or the guest list together. Who knows whether they are going to be invited or not. I wouldn't want to ruin that surprise." The Sun newspaper said on Tuesday that British government officials had urged Harry not to invite the Obamas to his wedding for fear of angering Trump. —Reuters

Russia loses contact with Angola satellite

MOSCOW: Russia has lost contact with Angola's first national telecoms satellite launched from the Baikonur space pad, a source in the space industry said yesterday. The incident involving the Russian-made Angosat-1 is a new embarrassment for the country's once proud space industry after Russia in November lost contact with a weather satellite after it was launched from a new cosmodrome in the country's Far East.

"Contact has temporarily been lost," the source told AFP, adding specialists were now looking into the matter. The source said officials had stopped receiving "telemetry data" but called it a "rather common situation" and expressed the hope that contact would be re-established. The reason for the loss of contact was not immediately clear.

Earlier yesterday the Russian space agency Roscosmos said that the satellite had been successfully launched and reached orbit. The Zenit-2SB rocket carrying Angosat to orbit was supplied by Ukrainian maker Yuzhmash, making the launch a rare joint project between the two countries since 2014, when Moscow annexed Ukraine's Crimea peninsula.

The Angosat project was agreed by Russia and Angola in 2009 and includes the satellite, its launch, and on-ground infrastructure in a suburb of the capital Luanda. The approximately \$280 million project has been financed with a credit from Russia's state banks. The satellite was designed for a 15-year mission to boost satellite communications, internet access and radio and TV service.

Around 50 Angolan aerospace engineers trained around the globe were meant to oversee the functioning of the satellite from a control centre built near Luanda. Russia initially wanted to use its new Angara rocket to



This handout picture provided by Russia's Roscosmos space agency and taken early yesterday shows a Zenit rocket carrying Angosat-1, the first national telecoms satellite for Angola, lifting off from the launch pad at the Russian-leased Baikonur cosmodrome. —AFP

launch the satellite but opted for the Zenit rocket. The launch was initially scheduled for the summer but had been pushed back several times due to delays.

In late November Russia lost contact with its Meteor-M weather satellite after its launch from the new Vostochny cosmodrome in the Far East - only the second such launch from the new spaceport. Apart from the

Meteor weather satellite, the rocket carried 18 payloads from institutions and companies in Canada, the United States, Japan, Germany, Sweden and Norway. In October, Russia successfully launched from the northern cosmodrome of Plesetsk a European satellite dedicated to monitoring the Earth's atmosphere, the protective layer that shields the planet from the sun's radiation. —AFP

Crowdfunding saves tumbling down French chateau

POITIERS, France: It's a modern story of an ancient fairytale castle: a crowdfunding effort online has raised 1.6 million euros (\$1.9 million) to restore a chateau in western France. Around 25,000 people from 115 countries have become shareholders in the chateau de La Mothe-Chandeniers which has turrets, a moat and an elderly owner who had not maintained it.

The 19th-century building has fallen into disrepair with trees and vegetation sprouting out of its roof and windows, raising fears that it might be knocked down and redeveloped by property developers. Thanks to a joint effort by online fundraising site Dartagnans.fr and a local association Adopte un Chateau (Adopt a Chateau), sufficient money has been raised to buy and restore the structure. "It's a record in France and probably in Europe in terms of the amount raised and the number of contributors," the head of Dartagnans, Romain Delaume, told AFP on Tuesday. The website offered buyers the chance to become shareholders in the castle at the cost of 51 euros: 50 euros as a donation for the restoration work and one euro to buy a share in a joint company set up to manage the site. Organizers initially hoped for around 10,000 people, but thanks partly to reports in the French media the final number of donors came in at just under 19,000.



The ruined castle of La Mothe-Chandeniers, in Les Trois-Moutiers, central western France. —AFP photos



Many of them bought shareholdings for friends and family as presents, meaning that the total number of owners of the chateau will be around 25,000. Most of them are from France, but people from as far afield as Afghanistan, Burkina Faso and Peru now have a small slice of history in the French countryside near the wine-growing Loire valley. "Bravo for this initiative both collective and private," wrote the aristocratic speaker of France's parliament, Francois de Rugy, on Twitter. "France's historic buildings need a diverse range of ideas to be saved and developed."

The current chateau de La Mothe-Chandeniers dates back to the 19th century but the site has been home to a castle since at least the 13th century. It was pillaged after the French Revolution in 1789 and heavily damaged in a fire in 1932 before being

bought by its current owner, an 82-year-old local man, in 1982. A thorough survey will be undertaken in the next few weeks to check the scale of the damage to the structure and the site will then be secured pending the start of restoration work. Various ideas have been floated for the future from turning it into a "collaborative and creative laboratory", somewhere for artists to work, or a bed-and-breakfast holiday destination. Getting all the shareholders to agree might be a challenge. They will be invited for a visit "as soon as possible in 2018," said Delaume, and will be asked to take part in the restoration work. He also stressed that not all of the building can be returned to its former glory because a complete overhaul has been estimated to cost at least 3.0 million euros. Another round of fundraising in the future has not been excluded. —AFP