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## INDONESIAN POWER SECTOR

By John McBeth/Jakarta

Distinctive black markings along its flanks, a large gray fish glides across the aquarium at the far end of Eddie Widiono's tasteful, wood-paneled office in south Jakarta. The Sumatran *belida* is said to have mystical qualities, but there's nothing mystical about the way it strikes out and swallows one of the dozens of tiny red carp trying to stay out of its way.

The *belida* may be something of a metaphor for Widiono, president-director of Perusahaan Listrik Negara (PLN), Indonesia's state-owned electricity utility. The former marketing director will need almost mystical powers if he is to head off a looming power crisis. And if blackouts do begin in earnest across populous Java, he could be swallowed up himself as a convenient scapegoat.

This is not a time for the faint-hearted. With demand eating up supply, no new power stations being built on the Java-Bali grid, and PLN taking the unprecedented step of urging major industries to either shut down or go onto generators during peak hours, some power executives believe only emergency government action can prevent shortages on the scale of Manila's power crunch in 1989-91 that shaved 6% off Philippines GNP.

Critics point to the lack of a real energy policy in a country brimming with natural resources. Officials, for example, have often called natural gas the wave of the future for power generation, yet so far little has been done to make that happen. "I don't know if it's a policy we need as much as a quick decision," says Widiono. "The policy is clear – to use domestic gas. An energy task force would help to overcome the bureaucratic barriers between oil and gas and the financial and tax sectors."

Only 16,200MW of the Java-Bali grid's 18,500MW is deemed reliable,

with peak demand often breaching the 14,000MW level in early evening. That has reduced the reserve ratio to 13% -- well below the 25-30% the World Bank regards as acceptable. On Sumatra reserve levels are even lower, with the oil-rich eastern province of Riau developing at such a clip that PLN's only real option is to bring in hydro-generated power from West Sumatra where there is over-capacity.

Widiono, who wins praise from the power community for getting the utility back on its feet, is remarkably sanguine about the possibility of being blamed for something he had nothing to do with. "That's the risk for anyone sitting in that chair," he says. "It's the same in any country." Well, not quite. Most countries would never have got into this hole, much of it the result of turf-jealous bureaucrats and poor planning and judgements by Indonesian and international agencies alike.

And, of course, the economic crisis. Because it receives all of its revenue in rupiah, the 1997 financial collapse bankrupted PLN, which pays for its oil and gas and private power in dollars. Almost overnight, its selling price dropped from US7 cents to 1.7 cents -- one of the reasons why the International Monetary Fund (IMF) insisted on scrapping a string of private power projects. Three years later, the price is back at 4.6 cents, still short of PLN's average 5.5 cent production cost, but on track to reach 7 cents by the target date of 2005.

Widiono believes that will be enough to attract new investment to a country that has so far done more to deter investors than lure them in. In the meantime, the Review has learned, Widiono has asked General Electric to do almost the impossible -- build an emergency 800MW oil-fired plant in West Java within the next year. That would help fill an existing shortfall in the massive 2,300MW in extra power Java will need before 2005 to head off a crisis.

Even then, too many of PLN's hopes are riding on the rusting shell of Tanjung Jati B, a planned 1,320MW coal-fired plant on Java's northern coast that Hong Kong entrepreneur Gordon Wu abandoned in 1997. Sumitomo is interested in reviving the project, which is only 20% complete, but Widiono says financial details for the billion-dollar-plus plant still have to be worked out between Japanese banks and the Indonesian Government. Experts say the earliest it could be running now would be 2006.

After what happened to Karaha Bodas, a cancelled geothermal project now at the centre of a messy arbitration dispute, that will almost certainly entail demands for a sovereign risk guarantee Jakarta is reluctant to make. "I can't see any banks coming in without strong government support," says one Western finance official. "The Finance Ministry is worried about providing that support because of its sovereign risk rating; every time you sign a guarantee it becomes a contingent liability."

The only other viable project is a new 700MW station that could be slotted into the 3,200MW Paiton complex, a mix of state and private coal-fired units on the East Java coast. The US-Japanese Paiton Energy consortium, which operates the 1,200MW Paiton I plant, has shown some interest in the \$900 million venture. But it too will demand a government -- not a PLN -- guarantee, plus tax exemptions on capital equipment and customs inspection outside the country.

There's yet another drawback. East Java currently has a surplus of power, but a six-year delay in the completion of a new east-west southern transmission line, caused by right-of-way and contract disputes, means PLN will be limited in how much it can channel into energy-strapped West Java and Jakarta until its completion in 2005. Like Tanjung Jati B, the long-planned expansions of Muara Karang and Muara Tawar, two big power stations on the fringes of Jakarta, also depend on Japanese loans and long-term natural gas supplies that are currently not available.

West Java's vulnerability was illustrated on the night of September 12 when much of Greater Jakarta was plunged into darkness for five hours after a break in the transmission line feeding power from the giant 3,400MW coal-fired Suralaya complex, west of Jakarta. Experts have long worried about maintenance and other problems at Suralaya, run by PLN subsidiary Indonesia Power, which is notorious for buying cheap, illegally-mined coal that often clouds the Indonesian capital in pollution.

Complicating the short-term supply situation is the current El Nino weather phenomenon, which could extend the dry season by more than a month and put a further crimp in hydro-electric output that takes care of peak loads. Meanwhile, PLN is trying to put the brakes on demand, which grew by 9% last year. The Mines and Energy Ministry wants to restrict future growth to an ambitious 3.6%, but industry researchers say that even existing consumers are soaking up more power at an annualised rate of 4.6%.

Desperate times call for desperate measures. Java has more than 10,000MW in private generation capacity, which over the past 10-15 years has either been used as back up or to run factories around the clock. But with the Government slashing subsidies on diesel fuel by 75% -- and ending a fool's paradise enjoyed by many manufacturers - - about 1,500MW of that capacity has moved over to PLN supply in the last 18 months as a cost-cutting measure.

Widiono denies widespread reports that PLN has stopped making new connections altogether. But he does confirm that major industrial users are being asked to either halt production during the peak hours of 5 p.m. to 8 p.m., or to run their generators during that period -- and even to feed some of their surplus into the PLN grid. That, he says, is aimed at reducing peak loads by 300 MW next year and up to 400MW in the crucial year of 2004 when the power balance is likely to become critical.

Meanwhile, the Government's failure to develop the potential of natural gas is costing PLN big bucks. In Central Java, negotiations have only just begun to provide gas to the 1,300MW Tambak Lorok station, which was built without a natural gas supply and has been running on increasingly expensive diesel since the mid-1990s. Widiono says Tambak Lorok, which was originally designed to handle peak loads, costs PLN 600 billion rupiah (\$66 million) more to run than the entire 3,200MW Paiton complex.

The 480MW Grati plant in East Java was also built without a gas supply. It runs on diesel as well, but only when it is needed. Further to the north, the 1,200MW Gresik plant is burning fuel oil to compensate for depleting supplies of gas from BP's collapsing North Bali field. Similarly in West Java, Muara Karang is relying on fuel oil to fill a gas shortfall, and Muara Tawar has always run on diesel when it was actually designed for gas.

So how has it come down to this? Mostly, it is a commentary on the way subsidies created a false economy for a utility that has always been treated as a step-child in comparison to the state-run Pertamina oil company. Pertamina's focus has historically been on oil trading and liquid natural gas (LNG) exports -- so much so that the Government created a separate agency, Perusahaan Gas Negara (PGN), to distribute domestic natural gas.

Even then, Indonesia has been slow to take advantage of its gas

resources, which currently make up just 20% of the energy mix. In Malaysia, where gas represents 35% of the mix, more than 75% of all power generation is gas-fired. Says gas consultant Richard Fuller: "PLN could never plan with gas because Pertamina never told them how much gas there was."

Now that both companies are being forced to privatise, Pertamina is suddenly looking at domestic gas to boost upstream revenues, now confined to the modest 50,000 barrels of oil it produces each day. And that's not good news for gas planners. Reason: Pertamina wants to take over contracts that are on a short shelf life -- like ExxonMobil's recently-discovered Cepu field in East Java which contains at least three trillion cubic feet of gas in addition to its billion barrels of oil.

Much will depend on what happens next year when Pertamina has to relinquish its long-standing control over foreign production sharing contractors to a new government agency. Nationalist officials and parliamentarians might be tempted to support Pertamina's efforts to build on its portfolio of concessions, but in the case of Cepu that would mean leaving the oil and gas in the ground until the contract runs out in another eight years.

Some experts believe a re-gasification terminal, handling liquid natural gas (LNG) shipped from Kalimantan, Papua and the Natuna Sea, may be the future way to supplement Java's current gas reserves of 7-10 trillion cubic feet; much of that is in a collection of smallish East Java fields, which have been are still in the process of being being married to individual power plants. West Java's medium-term needs can probably be served by reserves of 5 trillion cubic feet in southern Sumatra, expected to be flowing along a Japanese-funded, 400km pipeline within the next three years.

Some experts believe the answer to longer-term needs may be a re-gasification plant handling liquid natural gas (LNG) shipped from Kalimantan, Papua and the Natuna Sea. But also under study is a 1,100km pipeline from gas-rich East Kalimantan to Java, drawing on current available reserves of 7-10 trillion cubic feet. The total cost of the three-year project is about \$1.6 billion. There's that word again. "The biggest question is where's the money going to come from," says one consultant. "It's not just in power you have that problem, it's in gas as well -- no matter how good it all looks." It's a legacy from the past that once again requires decisive action from a government often loath to give it.