NEWS

Tertiary education

Load-shedding threatens critical lab specimens as universities grapple with cost of SA's energy crisis

From research hubs at risk, to rising fees amid protests, the energy crisis is a 'potential catastrophe', threatening teaching and learning

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LIGHTING THE WAY Prof Salim Abdool Karim is one of many academics facing the 'potential catastrophe' of load-shedding in tertiary education. File photo.
Image: *JACKIE CLAUSEN*

Prof Salim Abdool Karim, who became a household name when he headed up the ministerial advisory committee on Covid-19, is one of many tertiary institution experts whose work is suffering under the strain of load-shedding.

This, as many institutions suffer the backlash of power cuts amid a threat of varsity fees rising due to contingency plans.

Abdool Karim is head of Caprisa at the University of KwaZulu-Natal where research for developing and testing new drug treatments and vaccines is carried out.

This means investigational drugs and biological samples are stored in refrigerators and freezers at “strictly controlled temperatures”.

Load-shedding has resulted in “annual budgets being exceeded” as the cost of diesel to run generators is “exorbitant”.

All four Caprisa clinics have been affected.

Stable electricity is needed for their equipment used for assessments, and nowadays, these assessments can only be scheduled in-between load-shedding times.

Alarms that signal a temperature rise in the freezers now “have to be checked a few times a day”, and the “costs of the generator maintenance for each of our clinics has risen”.

He said they are investigating the feasibility of switching from generators to solar inverters but the “upfront costs are high”.

In research and teaching, the two core functions of universities, load-shedding is taking its toll, and according to Universities South Africa (USAf), it could push the already-high cost of university fees up.

This comes when the start of the academic year has been marred by student protests about fees and finance for housing.

USAf CEO Dr Phethiwe Matutu told TimesLIVE Premium “power cuts threaten the quality of cold storage of some of the most critical specimens in universities’ research laboratories and that “unabating load-shedding is potentially catastrophic”.

The UCT leadership is doing its best to respond to a situation that is more of a national challenge. Measures have been put in place, and more measures are in progress as the UCT leadership continues responding to the load-shedding challenge.

Elijah Mohololа, UCT

She said the cost of contingency plans during load-shedding could eventually result in fee increases as the cost of educating each student rises, if “load-shedding persists and if cheaper and sustainable energy solutions are not found”.

She added that “energy insecurity is a significant threat to the stability and quality of teaching, learning and research at our institutions”, and could also serve to widen the gap between poorly- and well-resourced institutions.

“Our member institutions differ in their ability to continue teaching during load-shedding schedules,” she said, and “even the better resourced institutions have had to reprioritise their spending to accommodate the costs of keeping the lights on”.

She added, “Remember this also affects internet connectivity, meaning our institutions are forced to make difficult choices in their day-to-day operations to prioritise teaching above all else.

Higher education, science and innovation minister Blade Nzimande recently told the National Assembly that a joint working group had been established to “develop inclusive plans and a common approach in response to challenges brought by load-shedding”.

He said his team was conducting a survey of the impact of load-shedding on universities, and that among the 18 institutions which responded, 10 had developed plans, while another eight were still developing plans.

According to the findings presented by his department to the portfolio committee, “learning proceedings are being disturbed, and institutions have had to respond by installing systems that work interchangeably with electricity. Some campuses had been able to install backup energy systems, but others were not sure how to respond to this crisis”, according to the presentation.

Examples include Wits University having to spend “millions a month on running diesel generators”, according to deputy vice-chancellor Ian Jandrell, while Elijah Mohololа, speaking on behalf of the University of Cape Town, said the institution is having to spend about R2m to install each new permanent generator, “while temporary generators cost R60,000 to R80,000 per month to hire and fuel costs are in the region of R6m per year”.

Mohololа said UCT “has a number of buildings that have redundant power supplies (in other words, they have powered network points during load-shedding)” and that two UCT residences have UPS and generators set-up.

He added that “the UCT leadership is doing its best to respond to a situation that is more of a national challenge. Measures have been put in place, and more measures are in progress as the UCT leadership continues responding to the load-shedding challenge”.

Despite the best efforts of universities to meet the challenges, frustrated students and academics are watching the clock of the academic year tick by with learning in some faculties crippled by the energy crisis.

Staff in the humanities faculty at UCT said “the claim that load-shedding is being managed through the use of generators does not chime with our experience”.

They said lecturers had been “plunged into darkness mid-lecture” and that load-shedding has also caused equipment to malfunction.

Also, “the lack of provisions for load-shedding on campus puts poorer students at a severe disadvantage and makes it difficult to teach in a way that supports transformation. Diverting teaching activities and materials online benefits students with access to power back-ups”.

They said health and safety were also concerns during load-shedding.

“There is no proper ventilation at some venues during load-shedding. Some of our postgraduate classes end at 7pm in the evening. Having no light in the buildings increases the risk of crime, GBV, and accidents. In the event of a fire on campus, unlit venues and dark corridors pose a major safety risk for staff and students. Given UCT’s recent history with fire, this is a consideration that needs to be planned for,” they said.

Jandrell, the deputy vice-chancellor of systems and operations at Wits, said the university “spends millions a month on running diesel generators. Unfortunately this expenditure takes away resources that could be used elsewhere in the university”.

He said contingency plans had “come at an enormous operational cost in the form of consumables (diesel and gas), maintenance and repairs, and support staff”.

But, he added, the university’s “leadership understands and acknowledges how stressful load-shedding can be for students and staff”.

Martin Viljoen, speaking on behalf of Stellenbosch University, said the institute “is mindful and empathetic to the individual challenges our staff and students face due to the ongoing electricity crisis”.

He said that over the last few years, “the university has installed emergency power (more than 50 generators across all our campuses) in most of the academic and other essential buildings to ensure that learning, teaching, and research can continue uninterrupted.”

He said the university would “continue to create awareness among students on being informed about their assessment timetables, how the load-shedding schedules might impact their preparation, and where applicable, to download study material”.