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Cracks in the walls

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Thulas Nxesi: Facing legal action. Picture: SOWETAN

Public infrastructure in SA is at risk of decaying, and public works minister Thulas Nxesi and the state-mandated Engineering Council of SA (Ecsa) are facing legal action, says the SA Institution of Civil Engineering (Saice).

Several structural collapses in recent years have spooked the engineering profession, leading to concerns about standards slipping in a crucial industry.

Within this context, Ecsa plays a vital role — including accrediting engineering programmes, registering people as "professional" engineers, and regulating the industry.

But Saice CEO Manglin Pillay says the new Ecsa council has been appointed illegally — which threatens to weaken quality and safety in the engineering industry.

Saice isn't alone. In all, 14 engineering associations (with a total of about 50,000 members) [claim that changes were made without consultation](#) with the minister, while there were also problems with the list of people appointed.

Pillay says civil engineering infrastructure — including hospitals, bridges, dams and roads — is built to last for decades, provided there is regular maintenance and it is used appropriately.

"Should this be neglected, deterioration will occur and eventually lead to replacement of infrastructure at huge cost to the taxpayer. It is apparent that, viewed overall, there are problems in areas of the construction industry that need urgent resolution."

Pillay says all three tiers of government "seem to have a lack of appropriately qualified, experienced and professionally registered civil engineering professionals". This means they cannot handle tenders effectively, or properly manage consultants and contractors.

As a result, engineering and construction companies are appointed without the right qualifications and expertise to plan and build infrastructure according to the legal health and safety standards.

"By undermining the quality of oversight of engineering practitioners in SA, the entire pipeline of engineering infrastructure services, manufacturing and production will be at risk." This could result in the health and safety of the public being placed in jeopardy.

Other engineering groups agree. Consulting Engineers SA (Cesa) says the allegations of compromised governance, the lack of consultation with affected industries, and the questionable integrity of appointments to Ecsa's council "under the guise of transformation" will negatively affect the image of the domestic construction industry.

"Our citizens deserve to experience less flooding and fewer bridge or roof collapses — not more," says Cesa CEO Chris Campbell.

The body has over 500 member companies, employing more than 20,000 people in SA.

Cesa is tackling the transformation of its members, promising to promote transformation as an ethical business practice and saying it will monitor progress made by its members beyond the requirements of the construction-sector scorecard.

But Campbell says it is a battle to retain engineers in many municipalities and provincial departments. While he says the custodians of public infrastructure have always been state employees, today some municipalities have "little or no engineering capacity" outside of the major metro areas.

Cesa president Lynne Pretorius says black ownership is still low at all levels of the industry. An assessment of employment by race indicates that the percentage of black employment in the sector has varied between 40% and 50% since 2007. Small, medium and micro enterprises constitute about 95% of Cesa's existing membership. Of this grouping, only 24% have black ownership of more than 51%.

"Broad-based black economic empowerment [BBBEE] policies also gave rise to 'fronting', and questions are being raised about the effectiveness of the BBBEE scorecard in realising transformation," she says.

Transformation of the consulting engineering profession is also being hindered by the limited number of school pupils who are competent in mathematics. Cesa's interventions will include developing a pipeline of engineering professionals over the long term, by identifying and supporting students with a technical aptitude at secondary school level.

Saice, meanwhile, says it is a misconception that transformation in the civil engineering and construction sector is not happening. It says the "numbers tell a different story".

Data from Ecsa shows that the percentage of black engineers increased from 35% to 46% from 2011 to 2016, compared to a drop from 65% to 54% for white practitioners in the same period.

In that time, 9,194 black professionals registered with Ecsa, against 2,225 white professionals, Saice says. That means, for the first time in the history of Ecsa, the number of registered engineering practitioners in SA reached more than 50,000.

The SA Council for the Project & Construction Management Professions registered 1,264 black construction project management professionals since 2008. In that year, 26% were black and 74% white. In 2016, though, 48% were black and 52% white.

Says Pillay: "A more accurate measure of transformation is that almost 70% of Saice's membership under the age of 36 is black."

But he adds that many local and district municipalities have only junior staff, few of them adequately trained.

"This is the real challenge. It is not about black and white any longer, it is all about experience and inexperience," he says.

"It takes about 10 to 12 years — excluding basic education of another 12 years — for any individual to accumulate the necessary education and training before they are ready to register as professionals."