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| MEMORANDUM FROM THE PARLIAMENTARY OFFICE |

**NATIONAL ASSEMBLY**

**FOR WRITTEN REPLY**

**QUESTION 1544**

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**INTERNAL QUESTION PAPER NO 15 OF 2023**

**Ms C V King (DA) to ask the Minister of Higher Education, Science and Innovation:**

With reference to the ageing infrastructure of the Council for Scientific and Industrial Research (CSIR) which has been identified as one of their biggest challenges, what (a) is the lifespan of the infrastructure, (b) is the cost to replace the ageing infrastructure and (c) has he found is the impact that ageing infrastructure has on the operations of the CSIR?

**NW1787E**

**REPLY:**

1. The typical anticipated lifespan of a commercial and light industrial building generally falls within the range of 50 to 60 years. However, it is worth noting that a majority of the CSIR buildings surpass this age threshold, as they are over 60 years old. Currently, significant efforts and investments are dedicated to building maintenance with the objective of extending the lifespan of these assets. The remaining useful life of these buildings is estimated to be between 10 to 15 years. In addition to the building infrastructure, the electrical utilities infrastructure also warrants attention. As a general guideline, electrical systems are expected to have a lifespan of 20 to 40 years. However, within the CSIR portfolio, a significant portion of the electrical infrastructure exceeds the 40-year mark. Furthermore, a considerable portion of the research infrastructure is outdated and does not meet present-day standards.
2. The cost to replace building infrastructure and associated support infrastructure is an estimated cost of R4bn. The CSIR is currently undergoing a building condition assessment to provide a more detailed insight in the maintenance and renewal requirements to ensure that we prioritise investment appropriately. The outcome of this building condition assessment is expected by July 2023.
3. The impact of aging infrastructure for the CSIR can be significant and wide-ranging. Some of the key impacts include:

**Decreased Efficiency**: Aging infrastructure can lead to reduced operational efficiency and effectiveness. Outdated equipment, systems, and facilities will require more frequent repairs and maintenance, leading to increased downtime and decreased productivity. This will hinder research activities, delay projects, and limit the institute's overall output.

**Safety Risks:** Aging infrastructure can pose safety risks to researchers, staff, and visitors. Electrical systems, plumbing, and structural components can deteriorate over time, potentially leading to hazards such as electrical failures, water leaks, or structural collapses. These risks can compromise the well-being of individuals and the integrity of research operations.

**Obsolescence**: As technology advances, outdated infrastructure will become incompatible with modern research equipment and methodologies. This can limit the institute's ability to conduct state-of-the-art research, attract top researchers, or collaborate with external partners. It may also result in a competitive disadvantage compared to institutions with up-to-date infrastructure.

**Increased Maintenance and Operating Costs**: Aging infrastructure typically requires more frequent and costly maintenance, repairs, and upgrades. Outdated systems are less energy-efficient, leading to higher utility bills. The need for constant repairs and replacements can strain the CSIR financial resources, diverting funds from research programs and other essential areas.

**Inability to Meet Regulatory Standards:** Regulatory standards for research facilities often evolve to ensure the safety of personnel, protection of the environment, and compliance with ethical guidelines. Aging infrastructure will struggle to meet these updated standards, leading to potential non-compliance issues and difficulties in obtaining necessary certifications or permits.

**Impact on Recruitment and Retention:** Researchers and staff are more likely to be attracted to institutions that offer modern, well-maintained facilities. Aging infrastructure may deter talented researchers from joining or remaining at the CSIR, as it can impact their ability to conduct cutting-edge research, collaborate effectively, and provide a conducive working environment.