NTP Radioisotopes SOC Ltd

A subsidiary of Necsa SOC Ltd

Pelindaba, South Africa

All LEU Mo-99 production Experience

www.ntp.co.za

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Outline

- Who are we?
- Current Status
- Reflections

Who are we?

- Owns and operates the SAFARI-1 nuclear reactor
- Manufactures and supplies significant quantities of ^{99}Mo to the global nuclear medicine industry
- LEU targets irradiated in the LEU fueled SAFARI-1
- All LEU ^{99}Mo is currently routinely manufactured

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Who are we?

Radiochemicals

Mo-99, I-131, Lu-177n.c.a

Radioactive Sources

Ir-192, Cs-137, Co-60

Irradiation Services

Neutron Transmutation doping of Silicon, Neutron Irradiation Services

Radiopharmaceuticals

NovaTec-P Tc-99 Generator, FDG, MIBG, Cold kits, I-131 Capsules and Solution, Lu-177 DOTATATE & PSMA

Radiation Technology Products

Transport containers

Who are we?

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Current Status

Year	Event
2007/8	Theoretical feasibility studies & cold experiments
2009	NNR approval received for test stage and first hot runs commence
2010	Hot runs, process validation, regulatory approval
Sep 2010	US FDA approves LEU ^{99}Mo for a customer in the US
Dec 2010	First large scale commercial FDA approved batch of LEU ^{99}Mo produced and shipped to US for patient use
Jun 2011	Routine commercial supply of LEU ^{99}Mo commenced
Jul 2011	Commencement with LEU ^{131}I development and licensing
Sep 2011	Commencement of investment in plant modifications for increased LEU residue storage requirements

Current Status

Year	Event
Jan 2014	Hot commissioning of new LEU specific production line
Dec 2014	Commencement of project to manufacture & install 2nd LEU design dissolver cell
Jan 2017	Hot Commissioning tests of new uranium residue facility commence
Apr 2018	Last of ^{131}I customers complete their validations and regulatory approval for LEU based ^{131}I from NTP
Jun 2018	All LEU based ^{99}Mo and ^{131}I production
2020/2021	Covid-19 challenges
Jan 2022	Completion of Hot Commissioning of uranium residue facility
Current	Routine, reliable, safe all LEU ^{99}Mo and ^{131}I production

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Current Status

Previously

- 2 production lines (HEU design)

Currently

- 1 LEU designed and 1 HEU designed production line

Future

- 2 LEU designed and 1 HEU designed backup production line

  LEU based Mo-99 production

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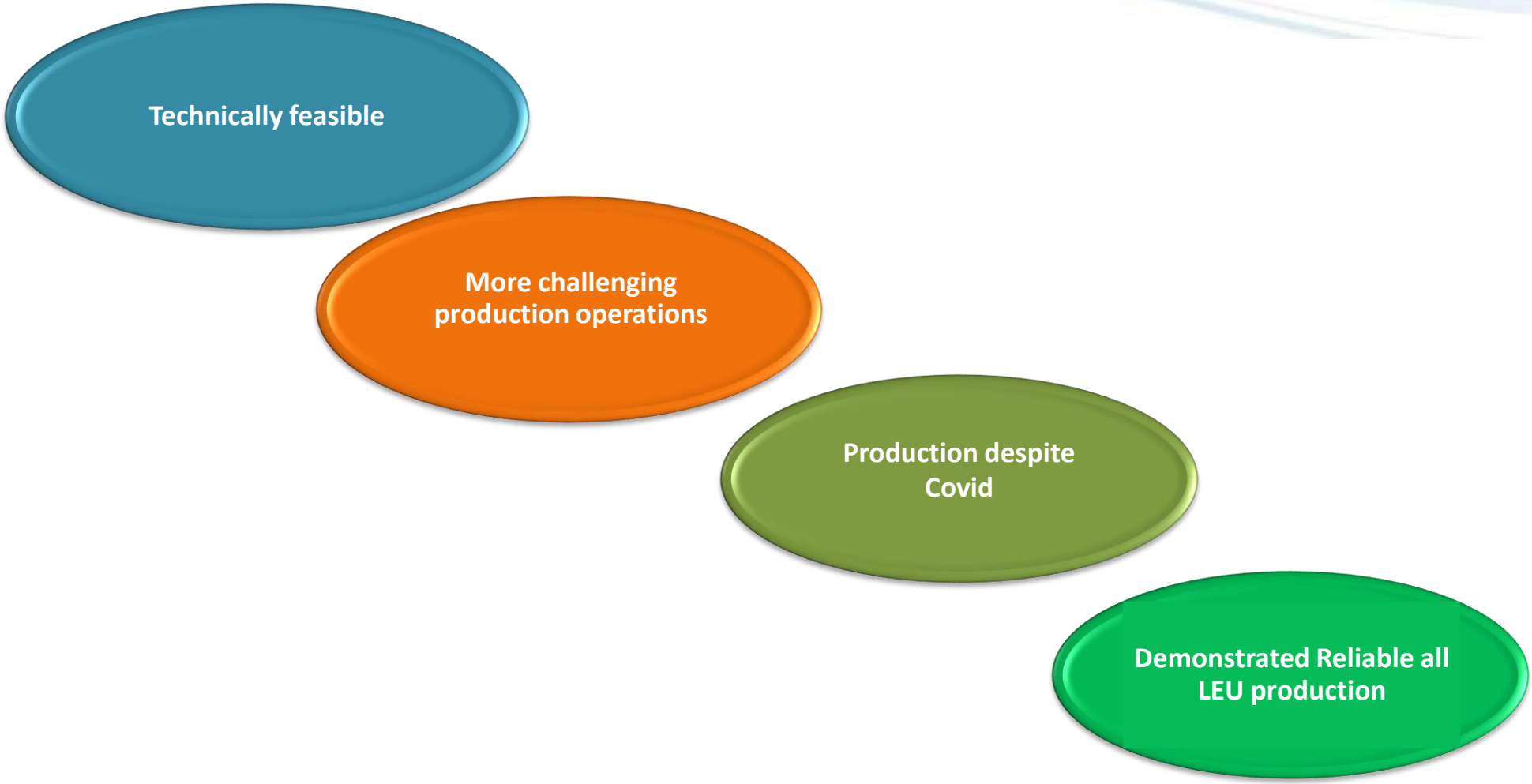
Reflections



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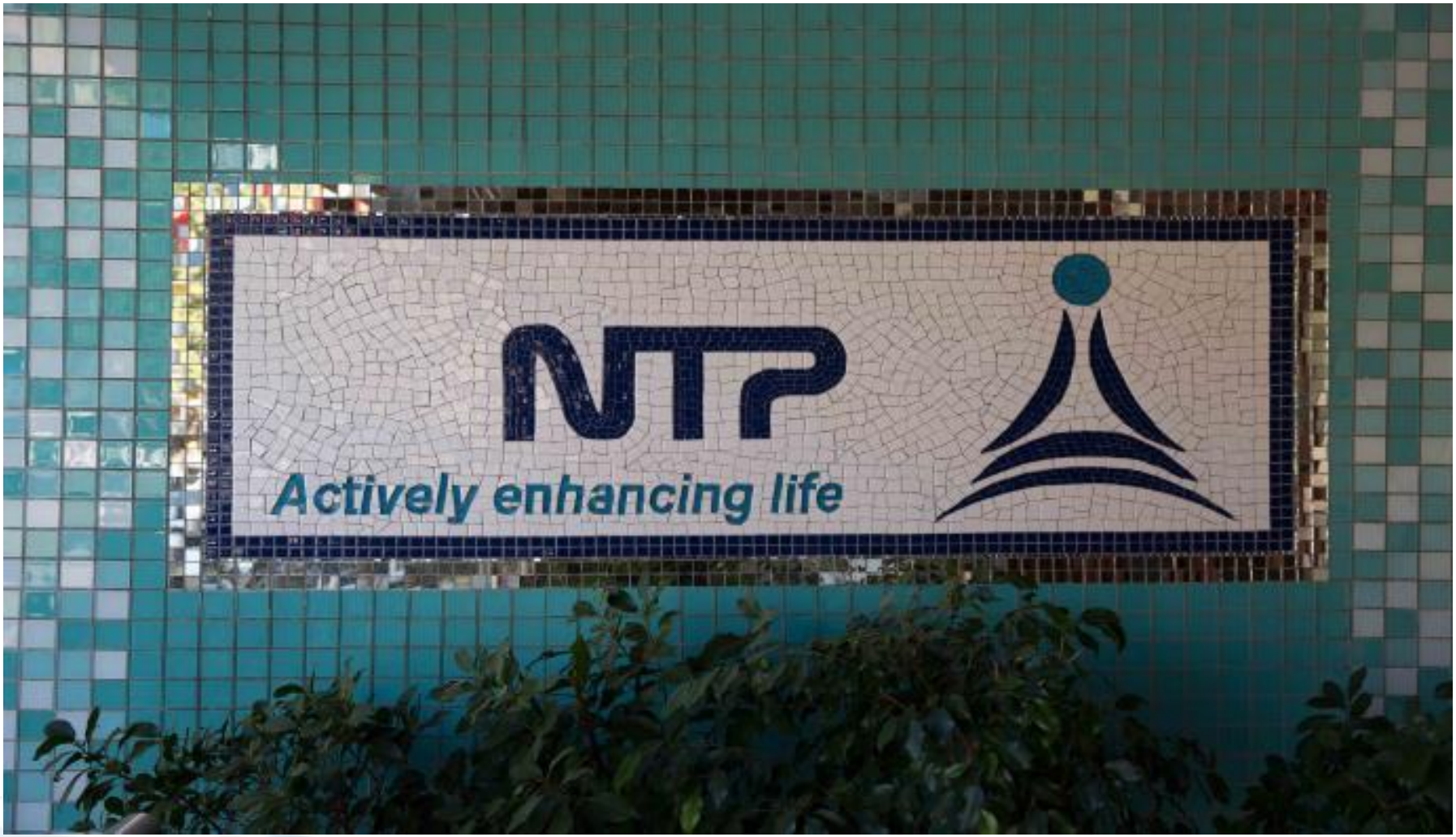
Thank you for your attention



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