REPÚBLICA ARGENTINA
COMISIÓN NACIONAL DE ENERGÍA ATÓMICA

PROJECT
"DESIGN,CONSTRUCTION AND STARTING-UP OF A NEW FISSION RADIOSOTOPE PRODUCTION PLANT" (FRPP)

LIC. PABLO CRISTINI
RADIOISOTOPE PRODUCTION MANAGER

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SINCE ITS FOUNDATION IN 1950, CNEA ESTABLISHED A “RADIOISOTOPE PROGRAM” FOR STUDYING PRODUCTION AND APPLICATIONS OF RADIONUCLIDES.

BETWEEN 1953 AND 1960, TWENTY NEW RADIOSOTOPES WERE DISCOVERED AT CNEA, EMPLOYING A COCKROFT-WALTON ACCELERATOR (1953) AND A SYNCRO-CYCLOTRON (1954)

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1959 – FIRST IRRADIATIONS IN RA-1 REACTOR

1967 – FIRST CRITICALITY OF RA-3 REACTOR

1985 – FIRST COMMERCIAL PRODUCTION OF FISSION Mo-99

1988 - CONVERSION OF RA-3 CORE TO LEU

2002 – CONVERSION OF FISSION RI PRODUCTION TO LEU

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REACTOR PRODUCTS

AT PRESENT, MEDICAL RI ARE PRODUCED AT RA-3 REACTOR IN EZEIZA ATOMIC CENTER

MAIN PRODUCTS : Fission Mo-99 & I-131, Sm-153, P-32, Cr-51, Hf-181, Lu-177, Ir-192, Xe-133
DEVELOPMENT : Sr-90/Y-90.

EMBALSE NUCLEAR POWER PLANT : Co-60

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PRESENT FISSION RADIOISOTOPE PRODUCTION IN ARGENTINA

Commercial production of fission Mo-99 and I-131 covers national demand and 1/3 of the Brazilian market (weekly exportation)

15 – 20% of total production volume is being exported to other Latin American countries through two national private companies, in the form of Tc-99m generators and I-131 doses.

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TECHNOLOGY TRANSFERENCES

CNEA has transferred, jointly with INVAP, the technology for fission R.I. production with LEU to:

AEA – EGYPT
ANSTO – AUSTRALIA
CRND – ALGERIA (in progress)
BRIT – INDIA (in progress)

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RA-10 MULTIPURPOSE REACTOR PROJECT

In June 2010 CNEA authorities decided to carry out a project for the design, construction, licensing, starting-up and operation of a new multipurpose nuclear reactor, in order to consolidate and enhance radioisotope production, supply facilities for irradiation of fuel elements and materials and offer new applications and services in the fields of science and technology.

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RA-10 PROJECT

STAGES

- Specification of reactor design objectives and siting
- Design
- Building
- Licensing
- Training of staff
- Starting-up
- Program of development of applications

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RA-10 PROJECT

MAIN FEATURES

- Total surface : 17723 m^2
- Power 30 Mw
- Open pool
- LEU fuel (plates)
- Moderator/cooler H_2O
- Reflector D_2O
- Cycle : 26 days

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RA-10 REACTOR PROJECT

SCHEDULE

Building started: May 2017
Starting-up during 2020

BUDGET

ca. U$S 200.000.000

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RA-10 MULTIPURPOSE REACTOR PROJECT

Present status:

- **Feasibility studies completed**
- **Environmental impact report approved**
- **Construction license issued**
- **Economic analysis**
- **Conceptual and basic engineering completed**
- **Testing of fuel performance in progress**

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MAIN FEATURES OF THE PLANT

Dimensions: 4500 m2 in three storeys

Hot cells: 9 (nine) main and 6 (six) auxiliary

Capacity: 2500 Ci Mo-99 / wk (6 day)
400 Ci I-131 / wk

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FISSION RI PRODUCTION PLANT PROJECT

SCHEDULE

Starting of new building : End of 2018

Starting-up of the plant : End of 2020/beginning 2021

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FISSION RI PRODUCTION PLANT PROJECT

Present status:

- **Building design and engineering 60 %**
- **Hot cells engineering 20 %**
- **Process engineering 50 %**

A contract for completion of basic and detailed engineering is being set up with INVAP


LOMAX


RA10
PPRF

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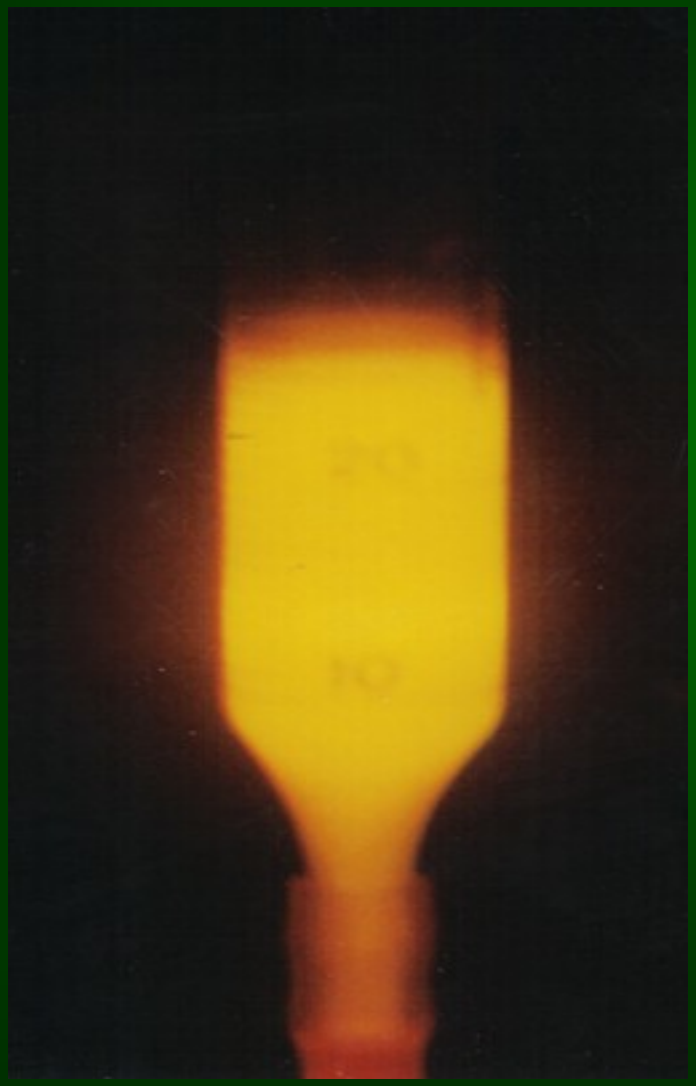

THANKS FOR YOUR ATTENTION