

**May 1981**

**Announcement, F. W. de Klerk, South African  
Minister of Mineral and Energy Affairs, 'Safari-1 to  
be Operated by Locally Manufactured Fuel'**

**Citation:**

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**Summary:**

Statement by Minister of Mineral and Energy Affairs F.W. De Klerk announcing plans to supply the SAFARI-1 reactor with locally-sourced uranium, yet will continue to adhere to IAEA safeguards for both the reactor and the fuel.

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ANNOUNCEMENT BY THE HONOURABLE F W DE KLERK, MINISTER OF MINERAL AND  
ENERGY AFFAIRS - 28 APRIL 1981

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SAFARI-1 TO BE OPERATED ON LOCALLY MANUFACTURED FUEL

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IT GIVES ME GREAT PLEASURE TO ANNOUNCE THAT THE ATOMIC ENERGY  
BOARDS'S RESEARCH REACTOR SAFARI-1 WILL IN FUTURE BE OPERATED ON  
LOCALLY PRODUCED FUEL ELEMENTS.

FOR INTERNATIONAL POLITICAL REASONS, IT WAS NOT POSSIBLE FOR  
SOUTH AFRICA TO OBTAIN NUCLEAR FUEL FOR SAFARI-1 SINCE 1976.  
AS A RESULT OF THIS AND ALSO BECAUSE THE COUNTRY COULD NOT  
AFFORD CURTAILMENT OF THE AEB'S RESEARCH PROGRAMME AND, IN PARTI-  
CULAR, THE PRODUCTION OF RADIOISOTOPES FOR MEDICAL APPLICATION,  
WHICH IS ALMOST ENTIRELY DEPENDENT ON THE OPERATION OF SAFARI-1,  
IT WAS DECIDED THAT A SERIOUS ATTEMPT SHOULD BE MADE TO SUPPLY  
THE FUEL FROM LOCAL SOURCES.

RECENTLY THE URANIUM ENRICHMENT CORPORATION (UCOR) SUCCEEDED IN  
PRODUCING A LIMITED QUANTITY OF 45 PER CENT ENRICHED URANIUM. THIS  
WAS PROCESSED AND MANUFACTURED INTO FUEL ELEMENTS BY THE ATOMIC  
ENERGY BOARD. AS WAS ALREADY REPORTED TO THE INTERNATIONAL NUCLEAR  
FUEL EVALUATION STUDY GROUP, IN WHICH 66 COUNTRIES AND 5 INTER-  
NATIONAL ORGANISATIONS PARTICIPATED, THE ATOMIC ENERGY BOARD LAUNCHED  
A DEVELOPMENT PROGRAMME WITH A VIEW TO MASTERING THE TECHNOLOGY FOR  
THE PRODUCTION OF FUEL ELEMENTS OF THE LOWEST POSSIBLE ENRICHMENT  
SUITABLE FOR THE OPERATION OF SAFARI-1.

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A URANIUM ENRICHMENT OF 45 PER CENT WITH RESPECT TO THE 235 ISOTOPE IS THE MINIMUM THAT CAN BE UTILIZED IN SAFARI-1 WITH PROVEN TECHNOLOGY, AS WAS ALSO CONFIRMED BY INFCE.

AS ONLY A LIMITED QUANTITY OF 45 PER CENT ENRICHED URANIUM COULD BE PRODUCED BY UCOR UP TO DATE, SAFARI-1 WILL BE OPERATED PROVISIONALLY AT A QUARTER OF ITS NORMAL CAPACITY OF 20 MEGAWATT, NAMELY AT 5 MW. EVEN AT THIS LOW POWER IT WILL BE POSSIBLE TO PRODUCE LOCALLY THOSE RADIOISOTOPES MOST ESSENTIAL FOR MEDICAL PURPOSES AND TO CONTINUE A LARGE NUMBER OF THOSE RESEARCH PROJECTS DEPENDENT ON THE OPERATION OF SAFARI-1.

ACCORDING TO THE TRILATERAL SAFEGUARDS AGREEMENT BETWEEN THE RSA, THE USA AND THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA), IN TERMS OF WHICH THE USA SOLD SAFARI-1 TO SOUTH AFRICA, SAFARI-1 WILL REMAIN UNDER IAEA SAFEGUARDS. THE LOCALLY PRODUCED FUEL WILL THEREFORE ALSO BECOME SUBJECT TO IAEA SAFEGUARDS AND INTERNATIONAL INSPECTION AS SOON AS IT IS INTRODUCED INTO SAFARI-1-

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