

October 29, 1979

**'Cable from Brazilian Embassy in Bonn to Brasilia,
Nuclear energy. South Africa: Uranium Enrichment'**

Citation:

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Summary:

In October 1979 the scientific attaché of the South African Embassy in Bonn met his Brazilian counterpart in order to propose an exchange of experiences in the nuclear field. The South African diplomat recalled the similarities between the Brazilian and South African enrichment processes and specified that the initiative of a possible cooperation had been taken by the South African Atomic Energy Board and not by the Pretoria Government, because of the cold relations between the two countries. In this cable the Brazilian Ambassador in Western Germany, Jorge Silva, asked for instructions from Minister Saraiva Guerreiro in order to reply to the South Africans.

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TELEGRAMA RECEBIDO

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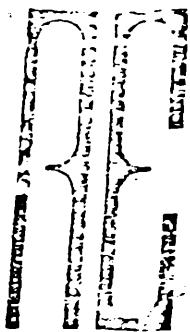
DE BRASENB BONN PARA EXTERIORES EM 29/10/79

SECRETO EXCLUSIVO

G/
ENERGIA NUCLEAR. AFRICA DO SUL.
ENRIQUECIMENTO DE URANIO.

1389 21730 ADITEL 586. O ADIDO CIENTIFICO DA EMBAIXADA DA AFRICA DO SUL EM BONN, AO ENVIAR O MATERIAL INFORMATIVO ENCAMINHADO POR OFICIO NR 548, MANIFESTOU O DESEJO DE CONVERSAR COM O CHEFE DO SETOR CIENTIFICO DESTA MISSAO, PARA O QUE ESTEVE NESTA EMBAIXADA.

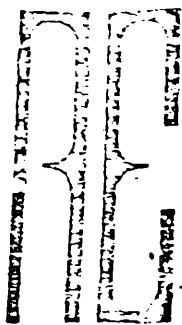
2. O DIPLOMATA SUL-AFRICANO INICIOU A CONVERSA COM A OBSERVACAO DE QUE O BRASIL E A AFRICA DO SUL "SE ENCONTRAM NUM MESMO BARCO", ISTO EH, ESTAO DESENVOLVENDO PROGRAMAS NUCLEARES EM QUE ALGUNS PROJETOS APRESENTAM PONTOS DE SEMELHANCA. O PROCESSO DE ENRIQUECIMENTO DE URANIO ADOTADO PELO BRASIL EH O QUE FOI DESENVOLVIDO PELA FIRMA ALEMAN STEAG E SE APROXIMA, EM SUA CONCEPCAO, DAQUELE QUE ESTAH SENDO UTILIZADO NA AFRICA DO SUL (UCOR - URANIUM ENRICHMENT CORPORATION). O DESENVOLVIMENTO DE UM PROCESSO DE ENRIQUECIMENTO APRESENTA DIFICULDADES INICIAIS, MUITAS DAS QUAIS JAH TERIAM SIDO SUPERADAS COM EXITO PELA AFRICA DO SUL. EXISTIRIAM, ASSIM, POSSIBILIDADES DE UM PROVEITOSO INTERCAMBIO DE INFORMACOES E DE EXPERIENCIAS ENTRE OS DOIS PAISES. NAO QUIS ESPECIFICAR SETORES OU MODALIDADES DO INTERCAMBIO PROPOSTO, ASSINALANDO QUE SEU PAIS ESTARIA ABERTO PARA UMA TROCA DE EXPERIENCIAS NOS CAMPOS DE INTERESSE DO BRASIL.



TELEGRAMA RECEBIDO

3. ESCLARECEU QUE "AS RELOES ENTRE O BRASIL E A AFRICA DO SUL PASSARAM POR UM ESFRIAMENTO NOS ULTIMOS ANOS", RAZAO POR QUE NAO FOI CONSIDERADA OPORTUNA A APRESENTACAO DESSA SUGESTAO ATRAVES DAS RESPECTIVAS EMBAIXADAS EM BRASILIA OU PRETORIA. INDAGADO SE FAZIA A SUGESTAO DE INTERCAMBIO EM NOME DE SEU GOVERNO, RESPONDEU DE MODO EVASIVO, DIZENDO QUE A INICIATIVA TINHA PARTIDO DO "ATOMIC ENERGY BOARD" DA AFRICA DO SUL, ENTIDADE QUE DISPOE DE AUTONOMIA PARA INTERCAMBIO A NIVEL TECNICO. ESTA SERIA A MODALIDADE ADEQUADA PARA O CASO E PREFERIVEL A UMA COOPERACAO GOVERNAMENTAL, QUE SUSCITA, EM GERAL, ENTRAVES BUROCRATICOS E OBICES POLITICOS.

CONTINUA NA SEGUNDA PARTE



TELEGRAMA RECEBIDO

4. O ADIDO CIENTIFICO SUL-AFRICANO DISCORREU A SEGUIR SOBRE O DESENVOLVIMENTO DO PROCESSO DE ENRIQUECIMENTO SUL-AFRICANO. ADMITIU QUE, NA FASE INICIAL, O PROJETO FOI EXECUTADO COM OS ALEMAES. O PROFESSOR BECKER, DE KARLSRUHE, ESTEVE VARIAS VEZES NA AFRICA DO SUL E EQUIPAMENTOS FORAM COMPRADOS A FIRMAS ALEMAS. A SEGUIR, A FIRMA STEAG, PROCEDEU UMA AVALIACAO DOS DOIS PROCESSOS: O QUE ESTAVA DESENVOLVENDO E O CHAMADO UCOR SUL-AFRICANO (SEGUNDO PUBLICACOES ESPECIALIZADAS UM "FEASIBILITY STUDY" FOI FEITO EM 1974). OS RESULTADOS DESTA AVALIACAO TERIAM CONFIRMADO A SUPERIORIDADE DOS DESENVOLVIMENTOS TECNOLOGICOS DO PROCESSO SUL-AFRICANO, EM CONFRONTO COM OS DA STEAG, E LEVADO O GOVERNO SUL-AFRICANO A PROSSEGUIR E AMPLIAR O SEU PROJETO. NOS ULTIMOS ANOS, O GOVERNO ALEMAO, POR MOTIVOS POLITICOS, SUSPENDEU A COOPERACAO NUCLEAR COM A AFRICA DO SUL. O PAIS DISPORIA HOJE DE CONHECIMENTOS E EXPERIENCIAS PARA LEVAR ADIANTE SEU PROJETO, MAS NAO DOMINA COMPLETAMENTE A PRODUCAO DE EQUIPAMENTOS, ALGUNS DOS QUAIS, FORAM ADQUIRIDOS AA RFA. A AFRICA DO SUL ENTRETANTO NAO DESENVOLVE SEU PROGRAMA INTEIRAMENTE SOH, O QUE SERIA IMPOSSIVEL, DADA A COMPLEXIDADE DA TECNOLOGIA NUCLEAR, MAS NAO MENCIONOU O NOME DE SEUS PARCEIROS.

5. A RESPEITO DO ESTAGIO DE ADIANTAMENTO DO PROGRAMA NUCLEAR SUL-AFRICANO, DISSE QUE UMA INSTALACAO PROTOTIPO DE ENRIQUECIMENTO DE URANIO FUNCIONA HAH ALGUNS ANOS. ESTAH PROGRAMADA A CONSTRUCAO DE UMA INSTALACAO COMERCIAL, DE INICIO DESTINADA AA EXPORTACAO DE URANIO ENRIQUECIDO. EM RAZAO DOS ALTOS INVESTIMENTOS REQUERIDOS POR UMA INSTALACAO DESSE PORTE, O GOVERNO SUL-AFRICANO TERIA DECIDIDO REDUZIR A CAPACIDADE DA USINA, QUE DEVERAH ATENDER APENAS AA DEMANDA DO PROGRAMA NUCL SAR SUL-AFRICANO.

CONTINUA NA TERCEIRA E ULTIMA PARTE

SUL-AFRICANO.

A VANTAGEM DO PROCESSO UCOR ESTARIA EM SUA ECONOMICIDADE EM INSTALACOES DE PEQUENA DIMENSAO E EM SUA FLEXIBILIDADE, POR PERMITIR A AMPLIACAO DA CAPACIDADE PELO ACRESCIMO DE MODULOS ADICIONAIS. A AFRICA DO SUL MANTEM O PROJETO DE COMPLETAR O CICLO DO COMBUSTIVEL DO REATOR A AGUA LEVE, MAS NAO DEVERAH POR ENQUANTO CONSTRUIR UMA INSTALACAO DE REPROCESSAMENTO, QUE NAO SERIA ECONOMICA EM FACE DAS DIMENSÕES AINDA REDUZIDAS DE SEU PROGRAMA. A AFRICA DO SUL ESTAH CONSTRUINDO DUAS CENTRAIS NUCLEARES DE 950 MW CADA UMA, EM COOPERACAO COM A FRANCA, E TEM A OPCAO PARA UMA TERCEIRA CENTRAL.

6. A CONVERSA ORIENTOU-SE EM SEGUIDA PARA OS DESENVOLVIMENTOS POLITICOS RECENTES NA AFRICA DO SUL, TENDO O DIPLOMATA SUL-AFRICANO MANIFESTADO SEU ENTUSIASMO PELAS INICIATIVAS DO MINISTRO BOTHA PARA A ELIMINACAO DE UMA LEGISLACAO, QUE SE TOTIOU DESNECESSARIA PARA PRESERVAR UMA SITUACAO QUE PODERAH SER MANTIDA SEM O AUXILIO DOS ATUAIS MECANISMOS LEGAIS.

7.
POR OCASIAO DA CONVERSA, O FUNCIONARIO DESTA EMBAIXADA QUVIU AS CONSIDERACOES DO REPRESENTANTE SUL-AFRICANO, SOLICITOU UM OUTRO ESCLARECIMENTO E RECORDOU QUE O BRASIL DESENVOLVE O PROJETO DE ENRIQUECIMENTO DE URANIO EM PARCERIA COM A RFA. AO FINAL DO ENCONTRO, OBSERVOU QUE ESTA EMBAIXADA CUIDA HABITUALMENTE DAS RELACOES ENTRE O BRASIL E A RFA, RAZAO PORQUE ME CONSULTARIA SOBRE A A PROPRIEDADE DO ENCAMINHAMENTO DE SUA SUGESTAO AAS AUTORIDADES BRASILEIRAS COMPETENTES ATRAVES DESTA EMBAIXADA.

8. AGRADECERIA HABILITAR-ME A DAR UMA RESPOSTA AA SONDAEM FEITA PELO REPRESENTANTE SUL-AFRICANO.

JORGESILVA

NOTA DA DTI: TEL SUJEITO A COMPLEMENTACAO DE TEXTO, JAH SOLICITADA PELA DTI. 29/10/79.

Cable

From Brasemb Bonn to the State Secretariat

SECRET EXCLUSIVE

g/

Nuclear energy. South Africa.

Uranium enrichment.

No. 1389 Monday 17:30 hs. Follow-up to cable 586. When sending the information material conveyed by Ofício no. 548, the Scientific Attaché of the Embassy of South Africa in Bonn expressed the wish to hold a conversation with the head of the Scientific Section of this Embassy, and for that reason he came to the Embassy.

2. The South African diplomat started the conversation by observing that Brazil and South Africa find themselves "in the same boat," that is, they are developing nuclear programs in which some projects have similar points. The uranium enrichment method adopted by Brazil is the one that was developed by the German company Steag and is close, in its conception, to the one that is being used in South ASfrica (UCOR - Uranium Enrichment Corporation). The development of an enrichment process presents initial difficulties, many of which had been successfully overcome by South Africa. There would exist, therefore, possibilities for a fruitful exchange of information and experiences between the two countries. He did not want to detail sectors or modalities of the proposed exchange, stressing that his country would be open to an exchange of experiences in fields of interest to Brazil.

3. He clarified that "relations between Brazil and South Africa have gone through a cold period in the past few years," and for this reason the presentation of this suggestion through the respective Embassies in Brasília or Pretoria was not deemed opportune. Asked if the suggestion of exchange was being made in the name of his Government, he gave an evasive answer, saying that the initiative should have come from the Atomic Energy Board," an agency that enjoys autonomy in exchanges at the technical level. That would be the proper modality for this case and would be preferable to governmental cooperation, which entails, in general, bureaucratic hindrances and political obstacles.

4. Next, the South African Scientif Attaché made an exposé of the development of the South African enrichment method. He admitted that in the initial stage the project was carried out with the Germans. Professor Becker, from Karlsruhe, was in South Africa several times and equipment was purchased from German companies. The STEAG company made an evaluation of the two methods: the one that it was developing and the so-called South African Ucor (according to specialized publications a feasibility study was carried out in 1974). The results of that evaluation would have confirmed the superiority of the technological development of the South African method in comparison with the STEAG process, leading the South African Government to proceed and enlarge its project. In the last few years, the German Government, for political reasons, suspended nuclear cooperation with South Africa. That country is believed to possess today knowledge and experience enabling it to bring forward its project, but it has not mastered completely the production of equipment, some of which was purchased in the FRG. South Africa, however, is not developing its program completely by itself, which would be impossible in view of the complexity of nuclear technology, but he did not mention the name of its partners.

5. About the stage of advancement of the South African Nuclear program, he said that a prototype uranium enrichment facility has been in operation for the past few years. The construction of a commercial facility is programmed, at first devoted to the export of enriched uranium. In view of the high investment required by a facility of that size, the South African Government had decided, he said, to reduce the capacity of the plant, which should only supply the needs of the South African nuclear program. The advantage of the Ucor method would reside in its economy in small size facilities and in its flexibility, permitting expansion of the capacity through additional modules. South Africa maintains a project to complete the nuclear fuel cycle of the light water reactor, but for the time being does not envisage building a reprocessing facility, which would not be economical in view of the still small dimensions of its program. South Africa is building two nuclear plants of 950 MW each, in cooperation with France, and has the option for a third plant.

6. The conversation dealt next with the recent political developments in South Africa. The South African diplomat expressed his enthusiasm for the initiatives taken by Minister Botha for the elimination of legislation that become unnecessary to preserve a situation that can be kept without the help of the existing legal mechanisms.

7.At the conversation, the official from this Embassy heard the exposé of the South African representative, asked for a couple of clarifications and recalled that Brazil is developing a uranium enrichment project in partnership with the FRG. At the close, he observed that this Embassy deals normally with the relations between Brazil and the FRG and for this reason he would consult me about the propriety of conveying his suggestion to the competent Brazilian authorities through this Embassy.

8. I would be grateful to receive instructions on how to respond to the sounding made by the South African representative.
Jorgesilva

Note by the Communications Division (DTI): Subject to text complement, already requested by DTI.