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**FIRST SUBMISSION TO THE "JOINT STANDING COMMITTEE
ON TREATIES" (JSCT) WHICH IS ANALYZING THE
"AGREEMENT BETWEEN AUSTRALIA AND THE ARGENTINE
REPUBLIC CONCERNING COOPERATION IN THE PEACEFUL
USES OF NUCLEAR ENERGY".**

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<i>Argentine Nuclear</i>
Submission No. 5

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FUNAM is an NGO founded in 1982 which has "legal status" at ECOSOC (United Nations Economic and Social Council). FUNAM received the Global 500 Award from United Nations in 1987.

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INTRODUCTION.

This report is the result of a previous research on INVAP-ANSTO contract and INVAP operations in Argentina (2). The Agreement signed by the Foreign Ministers of Australia and Argentina in Canberra reinforces the Contract INVAP/ANSTO. Even if the Agreement includes issues not considered in such Contract, like uranium export to Argentina and other issues, most of its content is closely related with the contract and the exchange of radioactive waste.

CHAPTER 1. THE AGREEMENT AND THE CONTRACT.

The "Agreement Between Australia and the Argentine Republic Concerning Cooperation in the Peaceful Uses of Nuclear Energy" (6) was signed by Ministers Alexander Downer from Australia and Adalberto Rodriguez Giavarini. This document was signed the 8th August 2001 in Canberra (Australia). According the Constitution of Argentina this Agreement is illegal (see below). The Chancellor Adalberto Rodriguez Giavarini can be prosecuted for having signed it. Such case fall under Article 248 of the Penal Code of Argentina (see below).

Our citizens unknown the content of the Contract. The Contract remains secret both in Australia and Argentina. Official documents and the Inquiry Committee book (2) (7) confirm the dispatch of exhausted nuclear fuel from Australia to Argentina. CNEA will process the Australian exhausted nuclear into LLIL (see below), and the LLIL radioactive waste will return to Australia for permanent disposal.

The Agreement, which is not secret, foresee "reciprocal deliveries of nuclear material, including but not limited to irradiated fuel elements, zircaloy, uranium in any form (...)" (Article 3, Paragraph "e"). The definition of "useable" or "practicably irrecoverable for processing" nuclear material recall on IAEA ("The Agency", Article 2). The Agreement also permit, with prior written consent, the delivery of enriched uranium to a 20% of Uranium 235 or more (Article 11, Paragraph "a") and "reprocessing" (Article 11, Paragraph "b").

Article 12 of the Agreement goes farther. According Article 12 "When fuel is irradiated in a research reactor supplied by Argentina to Australia (...). "If so requested, Argentina shall ensure that such fuel is processed or conditioned

under appropriate arrangements in order to make it suitable for disposal in Australia" (Article 12, Paragraph "a"). "Australia may give prior written consent for reprocessing in order to recover nuclear material for further use in accordance with the provisions of this Agreement" (Article 12, Paragraph "b").

The Foreign Ministers of Argentina and Australia in the Agreement, and INVAP and ANSTO in the Contract, agreed on an illegal decision: the sending of exhausted nuclear fuel (equal to radioactive waste, see below) from Australia to Argentina. His entrance is prohibited by Article 41 of the Constitution of Argentina (2).

CHAPTER 2. THE AGREEMENT AND THE CONTRACT ARE ILLEGAL ACCORDING ARGENTINA'S REGULATIONS.

2.1. The Agreement and the Contract infringes the Constitution of Argentina.

The Agreement signed by Australia and Argentina, and the Contract signed by INVAP and ANSTO are illegal in Argentina. **According Article 41 of Argentina's Constitution, approved in 1994, "(...) Se prohíbe el ingreso al territorio nacional de residuos actual o potencialmente peligrosos y de los radiactivos"**. Translation into English: **"The entering to the national territory [Argentina] of waste currently or potentially hazardous, and of those radioactive, is prohibited"**.

The expert on Constitutional Law Prof. Dr. Daniel Sabsay considers in a recent report that the Contract infringes Article 28 and Article 41 (Second and Fourth Paragraphs) of Argentina's Constitution (4). His technical paper contains indisputable arguments, among them those exposed during the Constitutional Parliament in 1994 (4) (8). Dr. Daniel Sabsay obtained his PhD at the Paris University II and is Professor of Constitutional Law at the University of Buenos Aires in Argentina.

Which is the opinion of INVAP?. They consider that the "spent fuel" to be produced by Lucas Heights 2 "is not radioactive waste". This argument cannot be accepted according experts like Dr. Franck Barnaby (see below) and Jean Mc Sorley (7) (8). For the Law 25018 of Argentina the exhausted nuclear fuel of Lucas Heights 2 can be considered "radioactive waste" (see below for more details). Ignoring such technical and legal obstacles INVAP and ANSTO considers that the entrance of Australian spent fuel don't infringes Article 41 of the Constitution. The Nuclear Regulatory Authority of Argentina (ARN) has the same advise in a short letter they addressed to INVAP. Signed by Sonia Fernández Moreno, a second level official of ARN, this letter has two pages only and don't analyze the Constitution of Argentina (5). INVAP also requested the opinion of the Lawyer Dr. Jorge R. Vanossi in December 1999. Dr. Vanossi has the same advise than Sonia Fernández Moreno. Currently Moreno and Vanossi opinions are discredited.

2.2. Article 3rd of Law 25018 confirm that Lucas Heights 2 spent fuel to be eventually send to Argentina is radioactive waste.

Both the Contract and the Agreement **ignored** the Law 25018, Article 3 (Law of Radioactive Waste Management), approved in October 19th and published in the Official Bulletin the 23rd October 1998. Article 3rd of this Law define 'radioactive waste', and according this law, Lucas Heights spent fuel "is" radioactive waste.

Article 3rd said: **"For the purpose of this law (we) consider 'radioactive waste' any radioactive material, combined or not with non radioactive material, which have been used in productive processes or applications, for which no immediate further uses are expected at the same facility (...)"**.

Australia will eventually send uranium silicide spent fuel to Argentina for being merely melt and dilute, and vitrify. Currently, uranium silicide spent rods cannot be easily reprocessed in existing commercial facilities.

After receiving Australian spent fuel, INVAP and CNEA will diminish their concentration of high level radioactive isotopes transforming each "highly concentrated pack" of radioisotopes into vitrified "less concentrated packs", that is, into LLIL packs (=Long Lived Intermediate Level waste). Summarizing, waste will be transformed into waste.

The entering spent fuel from Australia is considered "radioactive waste" according the above mentioned Law for Radioactive Waste Management (25018, Article 3rd). If spent fuel is radioactive waste, this radioactive waste cannot enter in Argentina according Article 41 of his Constitution.

2.3. Besides legal prohibitions, currently uranium silicide spent fuel can be considered radioactive waste.

The new fuel rod contains fissile uranium. After having suffered fission inside the reactor, his internal chemical structure changes. Most of his fissile uranium is converted into man-made low, intermediate and high level radioactive isotopes, like Strontium 90 (half-life 28 years, Beta emitter), Cesium 137 (Half Life 33 years, Beta and Gamma emitter), Plutonium 239 (Half Life 24,000 years, Alpha and Gamma emitter) and a long list of radioactive isotopes. Under this new conditions spent fuel is considered a mix of low, intermediate and high level radioactive waste. But in terms of risk and management, it's a **high level radioactive waste** (HLW).

According the "House of Commons Environment Committee, Radioactive waste" (HSMO, 1986) HLW is defined as waste "in which the temperature may rise significantly as a result of its radioactivity, so that this factor has to be taken into account in designing storage or disposal facilities".

FUNAM obtained signed statements of highly qualified experts agreeing that spent uranium silicide fuel must be considered radioactive waste.

One of these statements is signed by Frank Barnaby, B.Sc., M.Sc., Ph.D., D.Sc, nuclear physicist who worked at the Atomic Weapons Research Establishment, Aldermaston (1951-1957) and University College London (1967-1970). Former Director of the Stockholm International Peace Research Institute (1971-1981), he is currently a consultant to the Oxford Research Group and a defense analyst and writer on military technology, nuclear weapons and nuclear energy.

Even if Dounreay (UK) reprocessed LEU silicide fuel elements in small scale, **nowadays spent uranium silicide fuel cannot be reprocessed in existing commercial reprocessing plants.**

According Phil Cartwright reprocessing of LEU silicide fuel "is seen as a waste treatment process, resulting in the production of a liquid feed suitable for conditioning in a stable form of disposal. The uranium product from the reprocessing can be used as a blending feed with the HEU to produce LEU for use in the MTR cycle" (1) (2).

Nowadays and according Franck Barnaby "it must, therefore, be disposed of directly, eventually in a deep geological repository".

2.4. There is not available technology in Argentina for the reprocessing of uranium silicide nor uranium molybdenum LEU fuels.

FUNAM research consider that ANSTO will send Lucas Heights 2 uranium silicide spent fuel to Argentina for adapting it to Australian regulations. CNEA or CNEA and its allied companies in Argentina will transform the concentrated Australian High Level Waste -spent uranium silicide fuel- into vitrified and less concentrated radioactive waste, that is, into LLIL (Long Lived Intermediate Level waste).

This processing involve melt and dilute techniques and vitrifying. Under LLIL condition this waste can re-enter into Australia (see above). **Through a violation of Argentina's Constitution the Australian HLW can be returned to Australia disguised of LLIL.** Even to day our citizens don't know how many time will stay in Argentina this radioactive waste before and after processing: 10 years? 15 years? 20 years?.

Argentina doesn't have at present reprocessing plants for uranium silicide or uranium molybdenum LEU spent fuels. That means that Australian spent fuel **will be transformed into a "different" type of waste, not in new fuels.** Taking in account this pattern and Article 3rd of Law 25018, Lucas Height 2 spent fuel can be considered, even being uranium silicide or uranium molybdenum spent fuels, "radioactive waste".

As I stated in the previous Submission, the "waste swap" is another possibility. Australian spent fuel can enter into Argentina for long term "interim storage", and INVAP (CNEA) could "return" to Australia, but from not Australian sources, Long Lived Intermediate Level wastes (LLIL).