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MANILA FOR DAS JOHN NEGROPONTE

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TAGS: PARM, TNUC, ENRG, SCSA, JA

SUBJECT: PNC PROPOSAL FOR ABANDONMENT OF CO-PROCESSING
MODE FOR TOKAI MURA REPROCESSING PLANT

1. SEPTEL REPORTS ON GOJ VIEWS CONCERNING MODIFICATION
OF U.S.-JAPAN BILATERAL NUCLEAR RELATIONSHIP. THIS
MESSAGE PROVIDES TECHNICAL INFORMATION ON ONE ASPECT
OF RELATIONSHIP: WHETHER THE TOKAI MURA PILOT PLANT
SHOULD BE PERMITTED TO CONTINUE OPERATION IN ITS
CURRENT MODE, WHEREBY PLUTONIUM IS SEPARATED AS A
SOLUTION FREE OF A URANIUM DILUENT. REPORT BELOW
IS EMBASSY SUMMARY TRANSLATION OF MAJOR ARTICLE WHICH
APPEARED IN "NIHON KEIZAI SHIMBUN" ON MARCH 12.

2. BEGIN SUMMARY. THE U.S. HAS BEEN ASKING JAPAN
TO ADOPT THE MIXED EXTRACTION METHOD (I.E., CO-
PROCESSING) FOR REPROCESSING SPENT NUCLEAR FUEL IN
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**REVIEW AUTHORITY: Charles Lahiguera, Senior
Reviewer**

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PLACE OF THE SEPARATE EXTRACTION METHOD WHICH IS
LIKELY TO LEAD TO PROLIFERATION OF NUCLEAR WEAPONS.
RECENTLY, PNC HAS REACHED THE CONCLUSION THAT EM-
PLOYING THE MIXED EXTRACTION METHOD FOR A COMMERCIAL
SCALE PLANT IS NOT REALISTIC. THE CONCLUSION HAS
COME OUT OF RESEARCH ON PRACTICAL APPLICATION OF THE
MIXED EXTRACTION METHOD PERFORMED AT PNC'S REPROCESSING
PLANT AT TOKAI MURA. JAPAN INTENDS TO WORK UPON THE
U.S. FOR ADOPTION OF THE SEPARATE EXTRACTION METHOD
FOR A SECOND REPROCESSING PLANT ON THE BASIS OF THIS

CONCLUSION.

--AT PNC'S TOKAI MURA REPROCESSING PLANT, THE SEPARATE EXTRACTION METHOD HAS BEEN EMPLOYED, UNDER WHICH PLUTONIUM AND URANIUM CONTAINED IN SPENT NUCLEAR FUEL ARE SEPARATELY EXTRACTED IN THE FORM OF NITRIC ACID SOLUTIONS. HOWEVER, PRESIDENT CARTER, WHO WAS COMMITTED TO NUCLEAR NON-PROLIFERATION DURING HIS TENURE OF OFFICE AS PRESIDENT, PROPOSED THE MIXED EXTRACTION METHOD AND JAPAN'S ADOPTION OF THE METHOD FOR SPENT FUEL REPROCESSING. HIS REASONING WAS THAT UNDER THE SEPARATE EXTRACTION PROCESS THE PRODUCTION OF PURE PLUTONIUM WILL POSE THE DANGER OF ITS BEING USED IN THE MAKING OF NUCLEAR WEAPONS AND OF EVENTUAL PROLIFERATION OF NUCLEAR ARMS; THEREFORE, THE MIXED EXTRACTION PROCESS SHOULD BE USED SO THAT URANIUM AND PLUTONIUM ARE MIXED IN A SOLUTION, THUS MAKING IT DIFFICULT TO USE THE MATERIAL IN MANUFACTURING NUCLEAR WEAPONS.

--WHILE THE U.S. (WHICH HAS BEEN SUPPLYING JAPAN WITH ENRICHED URANIUM AS MATERIAL FOR NUCLEAR FUEL) RECOMMENDED THE MIXED PROCESS, JAPAN INSISTED ON THE SEPARATE LIMITED OFFICIAL USE

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PROCESS. THIS LED TO HEATED DISCUSSION BETWEEN THE TWO COUNTRIES. IN SEPTEMBER 1977, THE TWO COUNTRIES ISSUED A JOINT STATEMENT WHICH SAID IN EFFECT THAT (1) OPERATION OF THE TOKAI MURA REPROCESSING PLANT WOULD BE AUTHORIZED ON THE CONDITION OF ITS USING THE SEPARATE PROCESS ONLY FOR A CERTAIN PERIOD OF TIME, AND (2) ADOPTION OF THE MIXED PROCESS WILL BE A MATTER FOR FUTURE CONSULTATIONS BETWEEN THE TWO COUNTRIES AND THE FEASIBILITY OF THE MIXED PROCESS WILL BE EXPLORED USING PNC'S OPERATING EXPERIMENTAL FACILITY, ETC.

--PNC HAS SINCE BEEN STUDYING THE FEASIBILITY OF THE MIXED PROCESS BY PRODUCING MIXED PLUTONIUM-URANIUM SOLUTION USING VARIOUS KINDS OF SPENT NUCLEAR FUEL DISCHARGED FROM JAPANESE NUCLEAR POWER PLANTS. AS A RESULT, IT HAS BEEN FOUND THAT UNDER THE MIXED PROCESS THE PROPORTION OF PLUTONIUM TO URANIUM IS SUBJECT TO MAJOR VARIATIONS OWING TO DIFFERENCES IN THE BURN-UP OF FUEL IN THE REACTORS, ETC. IN THE FAST BREEDER REACTOR USING MIXED PLUTONIUM-URANIUM FUEL, THE COMPOSITION OF THE FUEL HAS BEEN STRICTLY DETERMINED. FROM THIS FINDING, PNC HAS REACHED THE CONCLUSION THAT THE USE OF THE MIXED PROCESS IS NOT REALISTIC.

--SINCE THE FATE OF THE MIXED EXTRACTION METHOD IS SUBJECT TO CONSULTATIONS BETWEEN THE U.S. AND JAPAN, WHETHER JAPAN CAN FOCUS ON THE SEPARATE PROCESS OR

NOT IS SUBJECT TO BILATERAL NEGOTIATIONS WITH THE REAGAN ADMINISTRATION. END SUMMARY.

3. COMMENT: PNC POSITION REPORTED ABOVE WILL NOT BE NEWS TO USG NUCLEAR EXPERTS. REPORT IS SIGNIFICANT PRIMARILY BECAUSE IT APPEARS AT A TIME WHEN JAPANESE ARE FULLY AWARE THAT FURTHER NEGOTIATIONS WILL SOON BE REQUIRED ON EXTENSION OR MODIFICATION OF EXISTING BILATERAL AGREEMENT ON OPERATION OF TOKAI MURA PLANT.
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MANSFIELD

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