

**JAPAN INTERNATIONAL COOPERATION AGENCY**

**ARGENTINE REPUBLIC**

**ENTE NACIONAL REGULADOR DE LA ELECTRICIDAD  
COMISION NACIONAL DE ENERGIA ATOMICA**

**THE STUDY  
ON  
ENVIRONMENTAL CRITERIA  
FOR  
INSTALLATION AND EXTENSION OF THERMAL POWER PLANTS  
IN  
ARGENTINA**

**FINAL REPORT**

**MAIN SECTION**

**FEBRUARY 2002**

**SUURI - KEIKAKU CO., LTD.  
TOKYO ELECTRIC POWER ENVIRONMENTAL ENGINEERING CO., INC.**

## PREFACE

In response to the request from the Government of the Argentine Republic, the Government of Japan decided to conduct the Study on Environmental Criteria for Installation and Extension of Thermal Power Plants in Argentina and entrusted the Study to the Japan International Cooperation Agency (JICA).

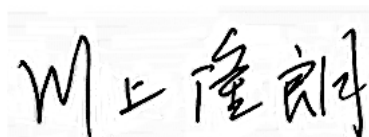
JICA sent a study team, led by Mr. Masaaki Noguchi of Suuri Keikaku Co., Ltd. (SUR) and organized by SUR and Tokyo Power Environmental Engineering Co., Inc. to the Argentine Republic, four times from December 2000 to December 2001.

The team held discussions with the officials concerned of the Government of the Argentine Republic, and conducted related field surveys. After returning to Japan, the team conducted further studies and compiled the final results in this report.

I hope this report will contribute to the formulation of environmental criteria for installation and extension of thermal power plants and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Argentine Republic for their close cooperation through the study.

February 2002

A handwritten signature in black ink, reading '川上隆嗣' (Kawakami Takao).

Takao Kawakami

President

Japan International Cooperation Agency

February 2002

Mr. Takao Kawakami  
President, Japan International Cooperation Agency  
Tokyo, Japan

**Letter of Transmittal**

Dear Mr. Kawakami:

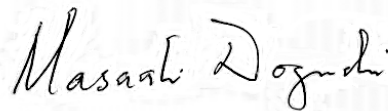
We are pleased to submit to you the Final Report on “The Study on Environmental Criteria for Installation and Extension of Thermal Power Plants in Argentina”. Under the contract with your esteemed organization, the subject study was carried out from November 2000 by the consortium of Suuri Keikaku Co. and Tokyo Electric Power Environmental Engineering Co.

The objectives of the study were to propose the establishing method of emission standards for new and extended installation of thermal power plants and to formulate necessary recommendations by reviewing environmental criteria in three model areas of Buenos Aires, San Nicolas and Lujan de Cuyo. In addition, we transferred related technologies through the study to the Argentine counterparts for their establishment of the emission standards of thermal power plants in other areas than the model areas.

This report contains the proposed emission standard establishing method and recommendation for air quality preservation, after reviewing socio-economic, legal and institutional aspects of air quality preservation, situation of electric power, etc. We compiled the details of the report upon discussion and agreement with the counterparts and concerned officers in Argentina.

We would like to express our sincere gratitude to all those who extended their kind cooperation and guidance to the study, in particular to the officials concerned of your agency, the Ministry of Foreign Affairs, and Ministry of Economy, Trade and Industry. We also wish to express our deep gratitude to concerned people of National Electric Regulator, National Atomic Energy Commission, Secretary of Energy and Mines, the Embassy of Japan and the JICA office in Argentina, and of the power plants and the local governments in the model areas, for their close cooperation and assistance extended to us for the study.

Very truly yours,



Masaaki Noguchi  
Supervisor, the JICA Study Team

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## List of Abbreviation

BA or B.A.	Buenos Aires
CIF	Cost, Insurance, and Freight
CNEA	Comision Nacional de Energia Atomica
CNG	Compressed Natural Gas
DAm <sup>3</sup>	1000m <sup>3</sup>
Df/R	Draft Final Report
E.I.A.(EIA)	Environmental Impact Assessment
ENRE	Ente Nacional Regulador de la Electricidad
FO	Fuel Oil
FOB	Free on Board
F/R	Final Report
GDP	Gross Domestic Product
GHG	Green House Gas
HC	Hydrocarbons
Ic/R	Inception Report
IPCC	Intergovernmental Panel on Climate Change
ISCST3	Name of the US-EPA's model to simulate emission dispersion from industrial source complex in a short period
It/R	Interim Report
JEA	Japan Environment Agency
JICA	Japan International Cooperation Agency
LdC	Lujan de Cuyo
MEM	Wholesale Electric Market in Argentina
N.C.A.	Degree of Environmental Complexity
NG	Natural Gas
NGV	Natural Gas Vehicle
NO <sub>x</sub>	Nitrogen Oxides
Ox	Oxidants
PM	Particulate Matter ( especially in exhaust gases )
PM <sub>10</sub>	Particulate Matter under 10 micron meter
Pr/R	Progress Report
S	Leading Mark of Document Number Compiled in the Support Volume
SMN	Servicio Meteorologico Nacional
SN	San Nicolas
SPM	Suspended Particulate Matter
SUR	Suuri-Keikaku Company
TEE	Tokyo Electric Power Environmental Engineering Company
TG	Gas Turbine
TSP	Total Suspended Particulate
TV	Steam Turbine
US-EPA	Environmental Protection Agency of the United States
US\$	Currency Unit of the United States US\$ 1 = Peso 1 (Until December 2001)
Yen or ¥	Japanese Currency Unit US\$1=¥130 in this report
YPF	Yacimientos Petroliferos Fiscales, an Oil Company
#	Leading Mark of Cited Reference



**Target Country : Argentina**



