

Chapter 6 Environmental Preservation Plan

6.1 Preface

The basic objectives and issues to preserve environments from pollution by thermal power plants, in stages from their planning through construction to operation, are indicated in the Environmental Management Manual attached to the Resolution registered by the Secretary of Energy and Mines (#1) (SE Manual).

The Secretary of Energy and ENRE have materialized this Manual by preparation of various environmental preservation resolutions. In this Chapter, the JICA Team will investigate the remaining tasks in the environmental supervision and management of power plants during planning, construction, and operation stages.

6.2 Objectives of Recommendations

The main objective of the recommendations is to preserve the good environment (mainly air quality) of the whole country including the areas surrounding thermal power plants. They cover environmental management and supervision of thermal power plants, fortification of ENRE's Environmental Department and general environmental policies of national and local governments.

6.3 Summary of Recommendations

Table 6.1 summarizes total of 35 recommendations. The recommendations cover not only matters of the Secretary of Energy, ENRE and thermal power plants, but also of other national governments and local governments. Implementation of the recommendations depends on the future trends of the air pollution, the society, the policy and the economy in Argentina. Therefore, the concrete implementation schedules are difficult to propose. The JICA Team has prioritized the recommendations according to their urgency and importance in Table 6.1.

The top priorities from the standpoint of their urgency and importance are as follows.

(1) Planning Stage of New or Extended Power Plant Installation (EIA)

- Let entrepreneurs confirm the adequacy of their EIAs after the plant is in operation.

(2) Operation Stage

- Establish rules for inspection and maintenance of continuous automated analyzers.
- Establish rules for screening continuously monitored data.
- Let local governments monitor air qualities.
- Let power plants open their environmental data to the public. Let power plants communicate with the public on environmental issues, for a better understanding of the power generation business.

(3) Fortification of ENRE Environmental Department

- Add one or more engineers to the department to check reports from power plants.
- Add one engineer to handle future tasks of checking at each stage of power plant installations.
- Plan to develop the individual and departmental capabilities for the future.

(4) General in Environmental Management

- Let an official agency coordinate and adjust the differences between the national and local governments.
- Propose to a competent official agency for changing NO_x in the standards to NO₂.
- Propose to a competent official agency for setting comprehensive emission standards of stationary sources.
- Propose to a competent official agency for drafting the comprehensive EIA law.

Table 6.1 List of Recommendations for Air Quality Preservation

Note: U: urgency 1>2>3, I: importance 1>2>3

Planning Stage of New or Extended Power Plant Installation (EIA)

Item	Title	Recommended Items	U			I			U	I
			3	2	1	1	2	3		
1	Processes in EIA	Background concentrations, Contents of reports, Meteorology data, Consideration on frequent calm conditions, and Mixing height							3	2
2	Air quality monitoring	Sites, methods, periods, and pollutants; by continuous automated analyzers							3	2
3	Future background in EIA	Let local governments instruct entrepreneurs on future background concentrations.							3	1
4	Confirmation after in operation	Let entrepreneurs confirm the adequacy of their EIAs after in operation.							1	1
5	Public hearings	Public hearings should also be held for the extension projects.							2	2
6	Information to Public	Let local governments open EIA information to the public.							2	1
7	Cooperation with local governments	Establish cooperation with local governments for EIAs of entrepreneurs.							2	1
8	Reports	Let entrepreneurs present the same report to each official agency concerned.							2	1
9	Obligation of entrepreneurs	Let entrepreneurs oblige to consult with ENRE and local governments for EIA before its commencement.							2	1

Construction Stage including Test Operation

Item	Title	Recommended Items	U			I			U	I
			3	2	1	1	2	3		
10	Environmental preservation	Direct construction work to preserve environments.							3	3
11	Check of control units	Check that the environmental control units are being installed as planned.							3	2
12	Check of analyzers	Check performances of monitoring analyzers, by a temporal inspection team.							3	1

Operational Stage

Item	Title	Recommended Items	U			I			U	I
			3	2	1	1	2	3		
13	Flue gas measurement	Establish rules for inspection and maintenance of continuous automated analyzers.							1	1
14	Flue gas monitored data	Establish rules for screening continuously monitored data.							1	1
15	Air monitoring by local governments	Let local governments monitor air qualities. (see also Item 30 below)							1	1
16	Air monitoring by power plants	Let power plants monitor air qualities, if local governments are not monitoring.							3	3
17	Meteorology observation	Let power plants observe meteorology in their properties.							2	1
18	Monitoring instruments for air quality and meteorology	Establish rules and a system to control accuracy of analytical and meteorological instruments.							2	1
19	Open of data to the public	Let power plants open their environmental data to the public.							1	1
20	Communication with the public	Let power plants communicate with the public on environmental issues, for better understanding of the power generation business.							1	1

Note: U: urgency 1>2>3, I: importance 1>2>3

Fortification of ENRE Environmental Department and others

Item	Title	Recommended Items	U			I			U	I
			3	2	1	1	2	3		
21	More engineers for the current tasks	Add one or more engineers to the department to check reports from power plants.							1	1
22	One for the future	Add one engineer to handle future tasks of checking at each stage of power plant installations. See also Item 12 above.							1	1
23	Capacity development	Plan to develop the individual and departmental capabilities for the future.							1	1
24	Cooperation with CNEA	Continue cooperation with CNEA who has enough experiences to check and calibrate analyzers of stack gas and air.							3	1
25	Cooperation with SE and CNEA	Continue cooperation with SE naturally and with CNEA in order to improve the environmental management in the power industry.							3	1

General in Environmental Management

Item	Title	Recommended Items	U			I			U	I
			3	2	1	1	2	3		
26	Air quality standards	Let an official agency coordinate and adjust the differences in the national and local standards							1	1
27	NO ₂ in the air quality standards	Propose to a competent official agency for changing NO _x in the standards to NO ₂ .							1	1
28	Emission standards of other stationary sources	Propose to a competent official agency for setting comprehensive emission standards of stationary sources and for making entrepreneurs report stack emission analyses.							1	1
29	Comprehensive EIA system for the nation	Propose to a competent official agency for drafting the comprehensive EIA law to establish the uniform EIA system in the nation.							1	1
30	Air monitoring by local governments	A local government should monitor its air qualities. Let a competent official agency draft the law for the purpose and the manual for the uniform monitoring methods.							3	1
31	Source inventories	Propose to a competent official agency for letting local governments prepare source inventories. The agency should prepare the uniform manual for it.							2	1
32	Pollution control management system	Propose to a competent official agency for initiation of the pollution control management system in large factories including thermal power plants.							2	1
33	Socio-economic statistics	Propose to a competent official agency for compilation and publication of local statistics in the uniform style.							3	3
34	Effective environmental management	Let a competent official agency unify efforts done by various agencies to manage effectively the environmental issues by having common knowledge, information etc.							2	1
35	Technology transfer	SE, ENRE and CNEA should utilize their knowledge, technologies, etc. obtained from supervision of power plants for preserving the national environment.							2	2