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THIRD SESSION:

PUBLIC ATTITUDES AND NUCLEAR POWER PLANTS

Nuclear Power Plant Construction  
and Financial Assistance

-- As Regards Subsidies for Promotion of  
Power Plant Siting --

By

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NUCLEAR POWER PLANT CONSTRUCTION  
AND FINANCIAL ASSISTANCE

-- AS REGARDS SUBSIDIES FOR  
PROMOTION OF POWER PLANT SITING --

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Introduction

The high point in the development of electric power sources in Japan shifted from hydroelectric power to oilfired thermal power in and around 1960. But difficulties came up in the second half of the 1960's as public opinion moved against the environmental impact of thermal power generation in the big cities and industrial centers. In addition, the first oil crisis of 1974 made Japanese reaffirm that the switchover from petroleum to nuclear energy was an important national task.

However, the construction of nuclear power plants could not go without violent conflicts in the places where it was proposed. The first of numerous reasons for that is apprehensions as to the sophisticated and big technology of nuclear power generation. The Japanese who have experienced the horrors of atomic energy as a nuclear weapon are particularly apt to have such apprehensions. Second, Japan is a small mass of land and nuclear power plants have to be built in land areas far from the places where most electricity is consumed -- farm and fishing villages in poor economic condition. But the construction and operation of nuclear power plants seem to have little multiplied effect on the local economies.. This combines with the public sentiment mentioned in the first place to

put an obstacle in the way of plant siting

Government countermeasures against these problems include grants that have been extended since 1974 with a view to smoothing the way for the public acceptance of nuclear plant sites. Below is an outline of the contents and actualities of this grants system.

#### 1. Introduction and Institutional Framework of Grants under Three Power Sources Law

A negative aspect of Japan's high-rate economic growth in the early 1970's caused environmental pollution to become a serious issue for central-local politics. While the demand for electricity at that time was increasing at a rate of more than 10% a year, the problems of environmental protection and nuclear safety made it hard to meet it.

A bill for adjustment of areas surrounding generating plants was submitted to Parliament after it was decided on by the Tanaka Cabinet in May, 1973. In an explanation of the bill, the government said that part of huge benefits from the development of power sources to the national economy would be returned as grants to the local communities. But the government was charged with failing to give a convincing assurance of financial resources. In February, 1974, in addition to this bill, two bills -- one for power sources development taxation and the other for a power sources development special account -- were laid before the Diet. These three bills were passed through the Diet in June, 1974, and enforced as from October 1, shortly before the first oil crisis. A grants system called "Grants under Three Power Sources Laws" was established under these three acts.

The grants system, under which subsidies have been granted increasingly year after year, can be outlined as follows:

Promotion taxes paid by electric utility companies, liable to the taxation, between fiscal 1974 and fiscal 1979 (at the rate of ¥85 per 100 kw of sold energy) were incorporated in the Special Account for Power Sources Development. Expenditures from this special account were divided into grants under Article 7 of the Law for Adjustment of Areas Surrounding Generating Plants (Article 7 grants) and "expenses for power plant siting" under paragraph 1, Article 1 of the Special Account Law. But this special account was divided in fiscal 1980 into the Power Plant Siting Account and the Power Sources Diversification Account. Article 7 grants and expenses for power plant siting were to be paid out of the Power Plant Siting Account, with the Power Sources Diversification Account prepared to pay grants for the development of energy sources alter-

native to oil. This reform was accompanied by a revision of the power sources promotion tax rate. Utility companies were to pay ¥300 per 1,000 kw of sold energy -- ¥85 to be put in the Siting Account and ¥215 in the Diversification Account. In fiscal 1982, the allocation rates were changed to put ¥205/1,000 kw in the Diversification Account and ¥95/1,000 kw in the Siting Account. In fiscal 1983, the promotion tax rate was changed to ¥445/1,000kw. The budget for fiscal 1983 provides ¥124,475 million for the Diversification Account and ¥70,527mill. for the Siting Account. A general idea of the Grants under Three Power Sources Laws, including the Power Sources Diversification Account, is given in Figure 1. Grants to the plant site local governments are paid out of the Siting Account. Grants assigned for spending as "financial measures conducive to smoothing the way for the construction of generating facilities" are paid to the prefecture governments (To, Do, Fu and Ken) embracing the cities, towns and villages in which power plants are located. Paid directly to the plant site cities, towns and villages are "Article 7 grants," or "subsidies for the promotion of power plant siting," which cover a little more than half the Power Plant Siting Account budget. Grants toward the promotion of power plant siting are at the center of a fractionalized list of financial subsidies aimed at smooth the way for the public acceptance of power plant sites. Below is an explanation of the subsidies centering on Article 7 grants.

## 2. Grants System for Promotion of Power Plant Siting

The nuclear power plant siting cities, towns and villages are not all that are granted subsidies for the promotion of power plant siting. Such subsidies are also granted to thermal power plants with a capacity of 350,000 kw or more, hydroelectric power plants with a capacity of 1,000 kw or more and geothermal power plants with a capacity of 10,000kw or more. Also subsidized are reprocessing facilities associated with nuclear power generation and experimental reactors.

Complicated office work and reckoning have to be gone through before these grants are paid. Essentially, they are cleared through the Electric Power Resources Development Coordination Council before being incorporated in the general plan for the development of power sources under which locations are designated and adjustment plans are worked out by prefecture governors before the approval of the competent Cabinet minister is obtained for them to receive subsidies and start business. Details of this process are set out below:

Individual power plant sites are put down in the general plan for the development of power sources and the International Trade and Industry Minister

designates locations for subsidization before the prefecture governors consult with the siting city, town and village authorities to work out adjustment plans for them to receive grants. Grants are given, as stated above, to any local government if it provides the location for generating (and related) facilities. In the case of a nuclear or thermal power plant being constructed in a city, town or village, grants are given to it and its neighboring cities, towns and villages, and in the case of a hydroelectric power plant, it is only the siting city, town or village that receives them. The amount of grants is estimated under legal formulas set out in Table 1.

Any siting city, town or village working out adjustment plans to receive grants can figure out in advance how much and how long it can receive. For there is a grant ceiling on each type of facility. A local community having a 1,000,000 kw nuclear power plant, for example, can receive up to ¥3,150 million. An equal amount of grants is given to its neighboring cities, towns and villages. Grants are given to the community for the period of construction beginning from the starting day of the fiscal year that includes the later of the starting day of construction and the day adjustment plans are approved. In addition, grants are given for five years from the start of operation. Cities, towns and villages having or surrounding nuclear power plant sites can receive grants for up to 12 years, including seven years considered usually necessary for construction. Since most of the power plant siting municipalities today are in poor financial condition, it would be very much appealing to them, at least financially, if they can get a constant income for ten years and more.

An outline of the process under which adjustment plans are formulated is set out in Figure 2, and facilities liable to planning for adjustment are listed in Table 2. Table 2 shows that the facilities subjected to adjustment to make grants acceptable can be identified, by and large, with what can be regarded as the public facilities of the siting cities, towns and villages. Facilities 1 to 5 in this table are specified by the Adjustment Law and facilities 6 to 15 by the Enforcement Ordinance. But no grants are permitted, as a rule, under the provisions of Article 7 of the Enforcement Ordinance, to cover national undertakings and what the municipalities have to pay for in subsidized undertakings to which other grants are attached. But use of these grants is largely within the discretion of the local governments that receive them, and so they are of a nature close to a sort of independent financial resource available for a limited period of time.

Table I Formulas for Computing Grants  
as Classified by Power Sources

Type of facility	Capacity (A)	Unit price (B)	Coefficient (C)	Grant ceiling (D)
Nuclear power	Kilowatts	¥450	7	A x B x C
Thermal power (Class 1)	Kilowatts	¥450	3(4)	A x B x C
(Class 2)	Kilowatts	¥200	3(4)	A x B x C
Hydroelectric	Kilowatts	¥200	5	A x B x C

Note) 1. In class 1 are areas industrially less developed than the national average and selected or proposed for siting, such as the cities of Matsuura, Haramachi, Noshiro and Buzen. In class 2 are areas other than listed in class 1 and selected or proposed for siting, such as the cities of Aioi, Kitakyushu, Takehara and Iwakuni.

2. As the case may be, the coefficients in brackets may apply to thermal power generating facilities using mainly coal for fuel.

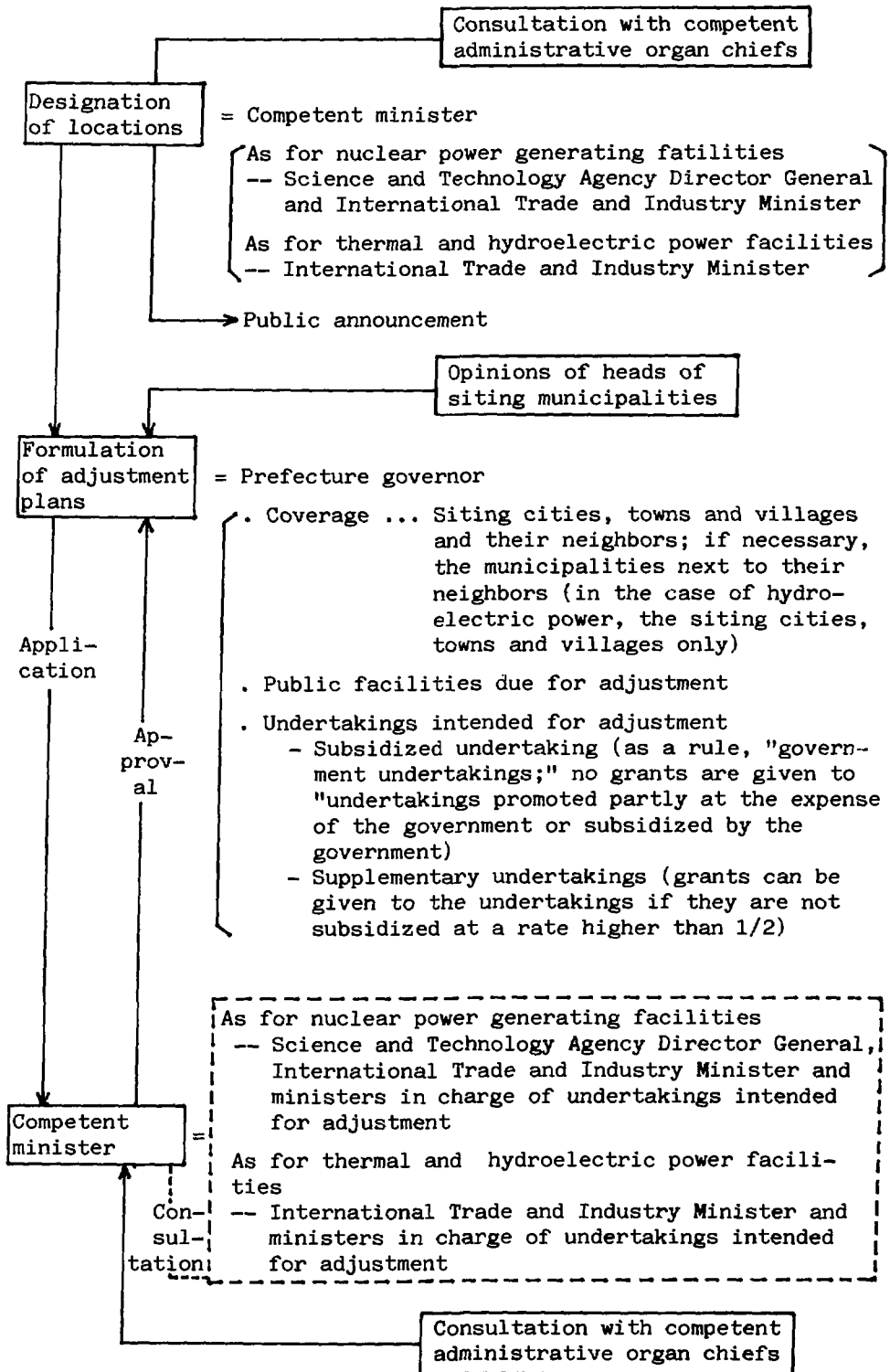
Table II List of Facilities Due for Adjustment

No.	Public facilities	Descriptions of public facilities
1	Roads	Prefectural and municipal roads
2	Harbors	Water-area, outer and mooring facilities for small shipping and related means of harbor transportation
3	Fishing ports	Small-scale port facilities for coastal fishery
4	city parks	Isolating green zones and children's parks
5	Water supply	Waterworks and small water-supply systems
6	Communications facilities	Wire radio broadcasting facilities, wire television broadcasting facilities, wireless facilities, wire broadcasting telephone facilities and other similar facilities
7	Sports and recreation facilities	Gymnasiums, swimming pools, playgrounds, parks, green zones and other facilities

No.	Public facilities	Descriptions of public facilities
8	Environmental sanitary facilities	General Waste disposal facilities, drainageways, environmental monitoring facilities and other similar facilities
9	Education and	Schools, public halls, libraries, local historical and ethnological museums, youth homes and other social education facilities; labor halls and other similar facilities
10	Medical facilities	Hospitals, clinics, health centers, child and maternal health centers and other similar facilities
11	Social welfare	Children's halls, day nurseries, children's recreation grounds, old people's welfare facilities, child and maternal welfare facilities and other similar facilities
12	Fire-defense facilities	Fire-fighting facilities
13	Land conservation	Landslip prevention facilities, steep slope slide prevention facilities, forest conservation facilities, seashore conservation facilities, and river conservation and sand control equipment
14	Heat supply facilities	District air-conditioning facilities and other similar facilities
15	Facilities for industrial encouragement	Farm roads, forest roads, agricultural drainage facilities, common storage facilities for farm, forest and marine products, markets, fish farms, fruit selecting grounds, cocooneries, publicity and display facilities for the improvement of farmers', foresters' and fishermen's lives, and other similar facilities

Source: Agency of Natural Resources and Energy,  
 " An Outline of the Three Power Sources Law",  
 September 1982, p. 10.

Fig. I Process for Formulating Adjustment Plans





### 3. Actual Grants for Promotion of Power Plant Siting

Whether or not grants of such nature as mentioned above can encourage local communities to promote adjustment of their public facilities depends on the structure of the process under which they work out their adjustment plans and on their planning ability. Figure 2 shows that it is up to the prefecture governor to make adjustment plans. It is also within his discretion to determine the ratio in which neighboring cities, towns and villages share the total of grants allotted to them. Any adjustment plan, after being drawn up after consultation with the siting cities, towns and villages, is put through the local international trade and industry bureau before being referred to consultation among the ministries and agencies concerned with the planned public facilities, including the Ministry of International Trade and Industry. In giving approval to adjustment plans, authority is not restricted to the MITI alone, but is also given to other competent ministries and agencies. The ministries and agencies, acting independently of the prefectures, hold consultations and make inquiries.

Municipalities obtaining government approval for their adjustment plans make applications, through the medium of the local trade bureau, to the MITI for grants. The MITI, after consultation with other competent government offices and the Finance Ministry, makes decisions on grants and lets the siting cities, towns and villages go ahead with their undertakings.

From 1974, when provision was made for the Grants under Three Power Sources Laws, until 1983, a total of 203 locations were designated to provide the basis on which to grant subsidies for the promotion of power plant siting. Of these locations, 24 were designated for nuclear power generating and related facilities, 53 for thermal power facilities and 126 for hydroelectric power facilities. By the end of July, 1982, approval had been given on 17 occasions to a total of 157 adjustment plans (operating expenses totaling ¥235,900 million, of whichd grants accounted for ¥187,500 million). (See Table 3) Actual grants for fiscal 1975-80 can be classified by facilities as shown in Table 4.

Table III Approval of Adjustment Plans  
(As Seen by Number of Times)

Number of times	Number of prefectures	Number of plans	Operating expenses (million yen)	Grants (million yen)	Date of approval
1	3	5	54,024	46,265	'75/1/25
2	19	29	24,168	19,827	'75/5/24
3	17	22	7,603	6,265	'75/9/17
4	1	1	110	106	'75/10/29
5	10	11	5,624	4,972	'76/3/31
6	3	3	4,020	2,694	'76/8/30
7	4	4	3,521	2,965	'77/3/31
8	1	1	405	356	'77/8/30
9	6	8	7,812	5,801	'78/3/31
10	8	8	34,940	28,263	'78/8/31
11	6	7	3,468	2,360	'79/3/31
12	4	5	6,256	3,209	'79/8/31
13	16	17	44,616	36,008	'80/3/31
14	7	8	14,706	11,330	'80/8/30
15	6	6	2,044	1,625	'81/3/31
16	1	1	30	20	'81/8/31
17	17	21	22,579	15,467	'82/3/31
	Total	157	235,926	187,534	

(Note) 1. Operating expenses and grants are put down in total figures for the plans submitted by March 31, 1982 (17th round)

2. The totals are subject to variation due to the rounding of fractions to the nearest whole numbers.

(Source) "An Outline of Power Sources Development -- Plans and Basic Materials -- 1982," p. 319.

Table IV Actual-Siting Grants for FY 1975-80

Item	Actual Grants FY 1975			Actual Grants FY 1976			Actual Grants FY 1977			Actual Grants FY 1978			Actual Grants FY 1979			Actual Grants FY 1980			TOTAL		
	Num- ber	Value (million Yen)	%	Num- ber	Value (million Yen)	%	Num- ber	Value (million Yen)	%	Num- ber	Value (million Yen)	%	Num- ber	Value (million Yen)	%	Num- ber	Value (million Yen)	%	Num- ber	Value (million Yen)	%
Roads	455	3,615.9	36.4	419	4,621.3	32.2	260	3,719.3	27.3	234	4,354.1	32.9	219	5,707.7	31.6	162	5,437.8	21.9	1,749	27,456.1	29.5
Harbors				4	23.5	0.2	1	18.0	0.1	5	60.1	0.5							10	101.6	0.1
Fishing ports	4	18.9	0.2	6	197.7	1.4	4	72.9	0.6	5	50.4	0.4	5	97.0	0.5	7	279.9	1.1	31	716.8	0.8
Waterworks	19	577.0	5.8	21	1,203.1	8.4	12	417.4	3.3	26	602.1	4.6	14	871.2	4.8	25	2,065.4	8.3	117	5,736.2	6.2
City parks				2	17.2	0.1	2	19.8	0.2	6	55.5	0.4	3	55.5	0.3	2	37.7	0.2	15	185.7	0.2
Communications facilities	8	76.3	0.8	5	38.2	0.3	6	191.3	1.5	3	17.0	0.1	7	299.5	1.7	6	297.7	1.2	35	920.0	1.0
Sports and recreation facilities	36	980.3	9.9	27	1,947.8	13.6	37	1,849.3	14.6	45	1,467.0	11.1	55	2,558.7	14.2	71	4,018.0	16.2	271	12,821.1	13.8
Environmental sanitary facilities	43	549.1	5.5	45	773.9	5.4	30	1,383.7	10.9	31	1,316.7	10.0	34	834.4	4.6	38	1,621.2	6.5	221	6,479.0	7.0
Education and culture facilities	91	2,723.5	27.4	86	4,249.6	29.6	73	3,292.1	25.9	80	2,824.7	21.4	103	5,126.2	28.4	124	5,893.8	23.7	557	24,109.9	25.9
Medical facilities	2	75.1	0.8	2	233.2	1.6	7	324.8	2.6	6	370.3	2.8	2	43.9	0.2	4	376.8	1.5	23	1,424.1	1.5
Social welfare facilities	24	362.1	3.6	21	484.8	3.4	21	609.1	4.8	18	565.3	4.3	19	898.4	5.0	24	1,889.5	7.6	127	4,809.2	5.2
Land conservation facilities	10	116.3	1.2	8	99.8	0.7	5	65.2	0.5	6	115.3	0.9	9	330.5	1.8	4	156.7	0.6	42	883.8	0.9
Fire-defense facilities	32	229.9	2.3	27	182.8	1.3	19	174.7	1.4	27	263.0	2.0	29	337.1	1.9	27	358.1	1.4	163	1,545.6	1.7
Common use facilities for agricultural, forestry and fishing industries	58	612.4	6.2	33	264.2	1.8	43	565.5	4.5	63	930.8	7.0	58	838.2	4.6	70	1,908.1	7.7	325	5,119.2	5.5
Common use facilities for commercial, industrial and other enterprises										3	223.5	1.7	2	51.0	0.3	3	495.3	2.0	8	769.8	0.8
<b>TOTAL</b>	<b>782</b>	<b>9,936.9</b>	<b>100</b>	<b>706</b>	<b>14,337.0</b>	<b>100</b>	<b>520</b>	<b>12,703.1</b>	<b>100</b>	<b>560</b>	<b>13,216.0</b>	<b>100</b>	<b>559</b>	<b>18,047.2</b>	<b>100</b>	<b>567</b>	<b>24,836.1</b>	<b>100</b>	<b>3,694</b>	<b>93,078.1</b>	<b>100</b>

(Note) The totals are subject to variation, due to the rounding of fractions to the nearest whole numbers.

(Source) An Outline of Power Sources Development: Fiscal 1980 (compiled by the public works department of the Agency of Natural Resources and Energy)

#### 4. Conclusion

Large sums of fiscal revenue that local governments could bring to their depopulated and financially weak country areas under the grants system for the promotion of power plant siting, as stated above, will certainly serve as an incentive to the siting of power plants. National expenditure on the Power Plant Siting Account covers, barring promotion grants toward siting, the grants and subsidies that are given separately to the prefectures. The promotion grants toward siting are intended for wide regions as they are given not only to the siting cities, towns and villages, but to their neighboring municipalities as well. But these grants are not made toward any undertaking planned on a wide-area basis, but toward the plans of operation that each municipality draws up. As this system attaches importance to the plans of operation that each municipality draws up, it is producing an evil effect, too. Huge facilities are being built in some municipalities in a manner inconsistent with the plans of their neighbors. They are doing so only to take it upon themselves to bear the burden of defrayment in later years for the maintenance and management of the facilities. These evils could be removed if the prefecture governor exercises his leadership as the legal formulator of adjustment plans and if an assistance system is established to help cities, towns and villages build up their planning ability. But, more essentially, it might be advisable to suggest that alterations be made to give promotion grants toward siting to the prefecture to help it make regional adjustments in specified areas. It might also be advisable to suggest that fractionalized grants and subsidies under the Special Account Law be integrated, if only to establish the accountability for them.

Cities, towns and villages in poor financial condition would not be assured of healthy financial management if they are given vast grants for a limited period of time only to expand the scale of expenditure temporarily. Better financial efficiency could be achieved if alterations are made to let the prefectural authorities make comprehensive plans for power plant siting in areas where the local cities, towns and villages could be assured institutionally of their participation in the process under which plans are formulated and operations carried out. This system would also make it possible for the siting city, town and village residents to think calmly and find out what siting would make possible and what it would make impossible. From the time when the grants system was set up under three power sources laws, it has been a general practice in many parts of this country to maneuver for an agreement on fiscal expenditure in connection with the construction of an "annoying facility", thus giving rise to criticisms of a "plunder

and blackmail democracy." This practice can in no way bring about a rational financial management. From this point of view, it might be necessary to consider making a modification of the Grants under Three Power Sources Laws.