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JPRS L/8603 3 August 1979

# Japan Report

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(FOUO 23/79)



FOREIGN BROADCAST INFORMATION SERVICE

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## JPRS L/8603

3 August 1979

# JAPAN REPORT

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## (FOUO 23/79)

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POLITICAL AND SOCIOLOGICAL

## TOKYO MEDIA REPORTS ON TOKYO SUMMIT

## 'ASAHI SHIMBUN' Comments

## Tokyo ASAHI EVENING NEWS in English 2 Jul 79 p 2 OW

[ASAHI SHIMBUN 30 June Editorial: "On World Economy"]

[Excerpt] Amid the shock from the big hike in the price of crude oil by the oil-producing countries, the Tokyo summit ended on 29 June after adopting the Tokyo declaration which includes goals for a ceiling on oil imports.

The Tokyo meeting, which was held in the middle of the "second oil crisis," became in effect an energy summit, although it was hard to resolve the differences of opinion between the United States and Japan on the one hand and the European community countries on the other. It is important that the following policies were agreed upon to cope with the higher crude oil prices set by the Organization of Petroleum Exporting Countries: (1) Establishment of goals for a ceiling on oil imports up to 1985 by the United States, Japan, Canada and EC; (2) moderation of spot market deals and a register of international oil transactions; and (3) promotion of the development and use of alternate energy sources, beginning with coal and nuclear energy.

#### Global Energy Crisis

During this time of fast-rising oil prices and an uncertain oil supply, lower economic growth rates, unemployment, inflation and imbalances in international accounts will probably plague both the advanced and developing countries. Judging from the experience of the first oil crisis, the economic difficulties of the western countries will affect the socialist countries as well. The oil-producing nations will find that their foreign exchange earnings, which they had thought would increase as a result of the oil price hikes, will drop in actual value as a result of the steep rises in the prices of the industrial products they import. -

The energy crisis we are facing is a global one, and everyone must realize that he can no longer be a disinterested bystander.

It is significant that the leaders of the advanced countries who gathered in Tokyo agreed to restrict oil imports as the first step in resolving this difficult situation. Restricting imports is the only way the oil-consuming countries can respond to the oil-producing countries who have formed OPEC. If the straitened circumstances in the world oil supply-demand situation can be eased, it will probably be able to prevent to a certain degree steep rises in oil prices. Also, it will answer the criticisms of the oil-producing countries that "it is improper for the advanced countries to criticize the oil price hikes while consuming huge amounts of oil resources."

## North-South Dialogue

But the leaders of the advanced countries who agreed on the need to restrict oil imports had a difficult time adjusting differences of opinion concerning the specific steps to be taken. For instance, they had disagreed over how long the restrictions would be in effect, what would be the standard year and the goals for a ceiling on oil imports by individual countries. Although it was a meeting of world leaders, the summit proved that the leaders have to consider their national interests before global concerns.

The EC countries came to Tokyo with the policy of keeping the total oil import volume of the seven countries participating in the Tokyo summit for the six years from 1980 through 1985 to the volume in 1978 in order to cut oil consumption by five percent. They wanted to show the oil-producing countries the determination and measures of the advanced countries to save oil and to promote during this period the development of energy sources to take the place of oil.

But the Europeans had to compromise to take into account the argument by the United States and Japan that import goals should be established for individual countries, including the EC countries, and by Japan that the period for restricting imports be made as short as possible. As a result, specific import goals for Japan, the United States and Canada were decided for 1979, 1980 and 1985, and individual import levels for the four EC countries attending the Tokyo summit--Britain, France, West Germany and Italy-were also determined.

As for Japan, it was decided that its petroleum import level for 1979 be held down to the line of the international energy agency's conservation goal, that for 1980 be set under the "1979 level" and that for 1985 be less than an average of 6,300,000-6,900,000 barrels a day.

So long as there are differences in the energy environment of each country, we believe that it is reasonable for each country to establish an oil import restriction goal in keeping with its domestic situation. However, it is a grim reality that the conservation of petroleum has become an international responsibility. To prevent the declaration from becoming meaningless, international cooperation for the development of alternative energy sources has to be stepped up and a bold reform of the industrial structure and the mode of living has to be tackled with conservation of energy as the goal.

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On the other hand, to surmount the energy crisis, there is need to promote dialogue with countries of the south, including oil-producing countries and non-oil-producing developing countries. With the OPEC countries apparently willing to step up aid to non-oil-producing developing countries, the energy crisis should be resolved constructively on the wide arena of settlement of the North-South problem.

Step Up Curbing of Prices

With the adoption of the step to shrink petroleum imports as a task of utmost priority, the time has come when economic management can no longer be conducted by ordinary means, summit participants stressed that "although measures to counter inflation are important, inflation must not be replaced by deflation." However, it is not easy even for West Germany and Japan, which are regarded to be comparatively well off in terms of prices and the international balance of payments, to respond to such voices.

In Japan's case, it is inevitable that the rise in the cost of products due to the increase in the price of crude oil is passed on to the consumers, but it will be terrible if this triggers a chaotic situation with regard to prices as a whole. We believe that for the present, it is necessary to cure overall demand somewhat. As long as this is not done, it is unlikely that the goal to save energy will be achieved. We believe that the time has come to consider the deferment of public works and the raising once more of the official discount rate.

However, the previous oil crisis has taught us that merely tightening the financial reins will eventually bring about a grave recession. Even if the economy shows a sign of cooling down in the future, much cannot be expected as the state's finances are already on the verge of bankruptcy. This only makes it more important that the government's financial policy be as flexible as possible.

Significance of Tokyo Declaration

At any rate, the Tokyo summit has ended. Here, we would like to think about the significance of the Tokyo declaration. Since the decline in the position of the U.S., there is no country that can control the world. The economic future is not clear, and there is no certain way to escape the present confusion. In such an age, the importance of international agreements increases. A declaration is not sufficiently compulsory and there may be loopholes. That is why, to the world economy and international politics, the assessment of the latest summit depends on whether the advanced countries will faithfully execute the declaration as they look to the next summit in Venice.

It can be said that Japan has been burdened with double and triple obligations. They are: Its responsibility to lead the world economy toward stable growth without inflation. Its duty as a major petroleum importer to conserve energy, and its role as a bridge between countries of the south, including oil-producing nations, and the advanced nations of the north. These are all difficult undertakings. It seems that there is no time for

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Prime Minister Chira, who has stepped down from the chairmanship of the summit, to bask in an aura of satisfaction.

#### THE DAILY YOMIURT Comments

Tokyo THE DAILY YOMIURI in English 30 Jun 79 OW

[Editorial: "Summit and OPEC"]

[Text] The Tokyo summit, which adopted strategy to cope with the second oil crisis, issued a declaration containing both long-term and short-term measures for the age of "\$20-a-barrel crude," triggered by the Organization of Petroleum Exporting Countries.

Though these steps are aimed at reversing the balance between the consuming nations and oil-producing countries, now in favor of the producers, by conducting strong oil-saving steps and developing other energy sources, the declaration's wording is most obscure.

The Organization of Petroleum Exporting Countries, taking advantage of the shortage of oil supplies, has triggered off the second oil crisis by carrying out the latest increase in the price of their product, and the world's industrially advanced nations have been unable to do anything about it.

If no proper steps are taken, the world economy faces the prospect of a crisis, simultaneously dominated by inflation and a business recession.

World leaders participating in the Tokyo summit conference should have stood against the challenge posed by OPEC with a firm resolve by overlooking the minor differences in their national interests in order to keep the impact of the latest oil price hike to the minimum.

Now the most important task for the developed and developing countries is to implement in earnest the agreement reached by the Tokyo summit.

Shortage of Oil Supplies

The current world oil shortage of about two million barrels a day is equivalent to five percent of the total global demand. If the major advanced nations can reduce their oil consumption by that amount the tight supplydemand situation will be eased and the oil prices will be stabilized for the time being.

Since the Iranian revolution, the oil-producing countries have turned to the policy of conserving their valuable oil resources and it seems the world will have to suffer from "oil starvation" until alternate energy sources can be found. The energy problem is expected to remain at the top of the agenda of all economic summits for years to come.

The first important task of the major industrialized countries is how to stabilize the oil prices, and the second is how to keep to the minimum the damage resulting from the second oil crisis. They will have to adopt such economic policies that will keep inflation under check without restricting the business activity. F

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## U.S. Oil Consumption

In this regard we would like to stress that the economic trend in the U.S. still greatly influences the world economy. As for the oil problem, the U.S. will have to curb its lavish oil consumption in an effort to help the world to find a solution to the energy problem.

According to the 1978 annual report of the Bank of International Settlements, the world economy will be able to avoid a vicious stagflation if the U.S. adopts the policy of a gradual business recession, cures its galloping inflation and substantially reduce its oil imports.

#### 'AKAHATA' Comments

Tokyo JPS in English 0921 GMT 3 Jul 79 OW

[Excerpts] AKAHATA says oil producing countries' arguments of OPEC countries on the General Assembly [as received] indicate that the decision was made as a policy based on the need not only to cover the decrease in their purchasing power caused by new stage of inflation in developed countries, but also to call on the oil consuming countries to curb their oil consumption.

"This also means that the oil producing countries are stepping up the policy of reserving resources based on national sovereignty on resources," the paper added. The OPEC is also decreasing its supplies to Majors, [as received] so that the oil wasting structure of the developed capitalist countries must be reviewed," the paper also said.

"We cannot overlook the fact that the soar of oil price in spot market by Majors and some governments of oil consuming countries formed the direct background of the decision of the OPEC conference to raise sharply oil price. It is clear that the decision of oil producing countries means that these countries followed the policy pursued by Majors. Therefore, the responsibility of Majors and related oil consuming countries' is very serious," AKAHTA said.

"The leaders who took part in the Tokyo summit, however, attacked the OPEC decision with strong hostility. The summit became an occasion of the struggle to get more share in oil import among member countries. It eventually reached an agreement to curb oil imports to some extent.

"But, the Japanese government has taken no measure to reexamine the oil wasting structure of Japan's economy, the oil stock in private level at the end of March rose to 82 days' use and increased by 83 days' use as

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of June, and the oil companies are reluctant from selling oil to market, thus 'shortage' of oil has been brought about in many districts. The policy of curbing oil import based on hostility toward the OPEC, will increasingly press the people's living," said the paper.

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#### POLITICAL AND SOCIOLOGICAL

## OPPOSITION PARTIES COMMENT ON U.S. - JAPAN TALKS

Tokyo MAINICHI SHIMBUN in Japanese 27 Jun 79 p 2 OW/TK

[Article: "Opposition Parties Issue Statements on Japan-U.S. Summit Talks"]

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[Excerpt] Various opposition parties issued their respective statements, with the following contents, on the Japan-U.S. summit talks, on the 26th:

The JSP and the JCP voiced strong criticism, noting that "it is a falling in line with the U.S. strategy, which is exerting adverse effects on the world economy." As against this, the Komei Party and the DSP showed some amount of appreciation, saying that "they had their due meaning, just before the Tokyo summit.

Japan Socialist Party (International Bureau Chief)

The results of the Japan-U.S. summit talks clarified that Japan will fall in line with the U.S. strategy toward the European nations, at the Tokyo summit.

As regards the energy problems, the task is to ahve the United States, which is causing adverse effects on the world economy through its unlimited imports of crude oil, promise concrete import-curbing measures, showing clear-cut targets. However, the government fell in line with the U.S. strategy of taking away the actual substance from this,

On the Middle East problem, Japan promised cooperation with U.S. policies. If this should incur the resentment of the oil-producing nations, the responsibility for this lies with the Ohira cabinet. As for the Korean problem, it made clear the direction for unity among Japan, the United States and the ROK.

Komei Party (Foreign Affairs Committee Chairman)

The attempts of the top leaders of Japan and the United States for the communication of views with each other, just before the Tokyo summit, have due meaning. The problem of Indochinese refugees was also discussed.

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Our party understood the actual situation, through the second mission it sent to Soucheast Asia, and proposed drastic measures to cope with the problem to the prime minister. It is hoped that this problem will be tackled in a positive way at the summit, too.

The Japanese Covernment should establish its own independent Middle East policy and pursue it, instead of following the United States' Middle East policy. It is regrettable that the top leaders of Japan and the United States still continue to adhere to arguments for a military balance, in regard to the Asian situation, including Korea.

Democratic Socialist Party (International Bureau Chief)

It is important for the advanced nations to keep in pace in regard to the curbing of oil imports. However, the taking of a direction which will come to a showdown with OPEC should be absolutely avoided. In that respect, it was proper that the top leaders of Japan and the United States reached agreement on short-term curbing measures.

As for the problem of the Korean Peninsula, they should have emphasized measures which would promote talks between the North and the South and which will bring peace to the Korean Peninsula. As for policies toward the Middle East, efforts should be made for the realization of peace.

As regards the refugee problem, concrete measures must be taken, including measures for the peace and stability of the Indochina Peninsula and the neutralization of Cambodia.

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FORMER JAPANESE FOREIGN MINISTER, DIETMEN TO VISIT HANOI

Tokyo THE JAPAN TIMES in English 4 Jul 79 p 1 OW

[Text] Former Foreign Minister Toshio Kimura disclosed Tuesday that he and other Tory Diet members will visit Hanoi late this month or in early August for talks with Vietnamese leaders on the Indochinese refugee problem and the recent Southeast Asian situation.

Kimura said that he had recently received an official invitation through the Vietnamese Embassy in Tokyo.

"Vietnam should show self-restraint and curb the exodus of its people. But it seems to me that it's most important for the countries concerned to find the true cause of the refugee situation," Kimura said.

He also said that the refugee problem should not be allowed to cause confrontation between Indochinese communist countries and the Association of Southeast Asian Nations (ASEAN).

Kimura said he hopes to discuss the refugee problem with Vietnamese Premier Pham Van Dong and Foreign Minister Nguyen Duy Trinh.

He is scheduled to head a 10-man mission of the Asian and African Affairs Study Group of the Ruling Liberal-Democratic Party (LDP). He is the chief representative of the LDP "Doves."

Kimura expressed the hope that the mission's visit to Hanoi [will] help the government's policy toward Southeast Avia, especially its efforts to solve the refugee problem.

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'MAINICHI' COMMENTS ON NEW LIBERAL CLUB'S INTRAPARTY FEUD

Tokyo MAINICHI DAILY NEWS in English 2 Jul 79 2 OW

[Editorial: "New Liberal Club"]

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[Text] The New Liberal Club [NLC] (party), organized in June 1976, is enjoying its fourth year, at least on the surface, with its membership increased to some 40,000 and its Diet strength expanded threefold in the meantime. It is now a full-fledged political party in its own right, but the present situation in and out of the party does not warrant any optimism for the party.

We are in a way disgusted with the NLC's intraparty struggle that came into the limelight recently. The antipathy existing between party representative Yohei Kono and Secretary General Takeo Nishioka has given rise to speculation that the otherwise fresh and new political party is saddled with intraparty struggles as has often been witnessed within the Liberal-Democratic Party from which they bolted three years ago.

What has caused such a schism between Kono and Nishioka in these three years? It said that they disagree on policy matters, but that is the very point we cannot understand. Kono and five other liberal-democrats defected from that party three years ago criticizing the plutocratic nature of the party, as well as the "politics in camera" dominated by party elders. They called for a "departure from dirty politics" and the establishment of a "new liberalism" but this does not mean that they had a clear-cut policy as a political party.

> The New Liberal Club is definitely a conservative party. The nation as well as its supporters have recognized the party within the framework of conservatism. They made a great advance in the previous general election, primarily because their enthusiasm to rejuvenate conservatism and root out the evils of money politics appealed to the voters.

The defection of the six was in itself a political gamble. Nobody was certain to what extent the new political group would be able to make inroads into the political arena. They had little time to deliberate on policies prior to the formation of the new party, but by now, they could have established their own policies in the course of their daily activities in and out of the Diet during the past three years.

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There is no knowing whether or not the latest fiasco was motivated by the struggle for party leadership rather than by the differences of opinions concerning the party policies. In any case, the New Liberal Club has spoiled its fresh image among the people through the alleged antipathy between its two top leaders. A party president elected by the consensus of the party should demonstrate his leadership and it behooves the party's secretary general to support the president.

The row was reportedly settled within the party. This is only natural. A party split was averted in anticipation of the dissolution of the house of representatives and subsequent general election in the near future. This does not mean that they have settled the basic problems since they failed to probe into the bone of contention. Now that the intraparty feud has surfaced, the New Liberal Club should have reshuffled the personnel setup drastically and made a fresh start for the party's healthy growth. We regret that the NLC leadership shied away from dealing with the most important issue.

In retrospect, the NLC made a miscue in that the balance of power between the conservatives and progressive was not toppled in the House of Councillors elections three years ago and that the ebbing tide of the Liberal-Democratic Party was checked as a result. The emergence of the Chira cabinet also put the NLC in a rather difficult position since the new cabinet is good at "pitching curve balls" whereas its precedessor, the Fukuda Cabinet, was hawkish and good at throwing straight balls. Against such changed circumstances, it is now believed next to impossible for the NLC to expect a recurrence of the explosive boom it once enjoyed.

It is small wonder that the party's rank and file entertain anxiety as to the future of the party. They have engaged in heated debates on the party's raison d'etre and differences of opinion have come to the fore. The New Liberal Club is certainly at a crucial crossroad.

The New Liberal Club must consolidate its party structure and embark on a new course as a flag carrier of the nation's new conservatives.

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DSP STAKES ITS FUTURE ON THE LDP

DSP Ambitions

Tokyo ASAHI JANARU in Japanese 25 May 79 p 3

[Editorial by Kiyoshi Ebata, editorial consultant, ASAHI SHIMBUN]

[Text] A "new policy of the DSP" that has paved the way for a coalition government with the LDP may, in a sense, result in the DSP critically staking its future.

It is suggested that, should the LDP lose its majority in the Diet, the DSP will join a policy-centered coalition government with the LDP and will attempt to change the quality of government and transform the politics of the LDP government from within. The logic is that such a change is the very mission of a "responsible opposition party," and that the very adoption of this approach would let the nation feel confident in the post-LDP era, while drawing votes--the votes otherwise would be cast to the LDP--to the middle-of-theroad political parties, thereby inducing the loss of LDP majority. By adopting this strategy, the DSP apparently intends to put an end to the conservative-radical two party dominant system since 1955 and to follow the successful experiment of "a grand coalition" concluded between West Germany's DSP and the Christian Democrats in 1966.

The ambitions of the DSP are grandiose. However, what the DSP should foresee is that even if the LDP were to lose its majority in the early 80's, the LDP will still remain, by comparison, the leading party, and its influence will still be overwhelmingly greater than that of any of the opposition parties. And while others may have a different point of view, one can suggest that there is even a danger that the LDP-allied DSP centurists may only be playing a marginal role in supplementing the conservatives. The DSP had held a belief that the LDP has been able to keep its unity because it has had a tight grip on the reins of government, yet in an "era of coalition"--that should come after the post-1955 system has been done away with--the LDP will lose its dominance over the government and this will result in that party's disunity. Also, the bipolar system of the LDP-JSP will collapse, giving birth to a new coalition with a responsible "middle-of-road" opposition party as its pivot.

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We cannot hasten to conclude that the result of the nation-wide local election signifies an end to the erosion of the LDP influence. It may well be said that the LDP managed to retain the status quo by drawing support from the combined forces of the moderates and the bureaucracy. In light of recent political trends, the DSP-advocated coalition government with the LDP may even have a tendency to create a rightist-oriented 1980's edition of the 1955 system. One cannot disregard the fact that several states in Germany had social-democratic governments before the experiment of the grand alliance by the Social Democrats succeeded.

The trend of labor unions also presents big problems. Following the spring offensive, labor unions have actively stepped up their activity toward a united labor front in the 1980's. A representative of the Federation of Independent Unions cast his doubt at the DSP party convention, saying, "Has the middle-of-the-road influence been stabilized?" A representative from the Japan Confederation of Labor similarly expressed some reservation asking, "Are we free from being dragged into a situation along with the LDP that may show its decline in the distant future?" "The emerging general direction among the trade unions is that, in order to form a united labor front, the national center should refrain from supporting a specific party and that, in principle, the anti-LDP line should be adhered to. Will the new policy of the DSP not prevent the labor front from being united?

One should not confuse realities with expectations.

## Coalition of Conservative, Moderate Forces

Tokyo ASAHI JANARU in Japanese 25 May 79 pp 6-7

[Text] "Let's bring the party to the dominant force in an age of coalition by drawing 100,000 party members," so concluded the declaration of the DSP's 24th regular convention held between the 9th and 11th. As part of the strategy of coping with the time of coalition, the DSP decided on its party activity guideline for 1979 including a policy plan toward a coalition government of the conservatives and the middle-of-the-road parties. Its aim is to realize the loss of LDP's majority in the Diet, either by the next general election or the House of Councilors election to be held next summer, and to change the LDP politics within the coalition government. However, the tactics of initially bringing down the LDP from the dominant rein of the government and of establishing alliance with it subsequently have caused by no means a minor mixed feeling both within the party and even from the Japan Confederation of Labor (JCL).

Goal: Coalition of the Conservative and the Moderate Forces

DSP's policy plan is discussed in the second part of the party's 1979 activity guideline. Its framework of analysis reveals that "the political reality reflects a situation in which the 1955 system (in which the LDP and the JSP played dominant roles) has collapsed and the middle-of-the-road

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forces--such a responsible opposition party as the DSP--will accelerate their influence." Its top priority is to drive the LDP from the position of majority by strengthening DSP's independence and by consolidating the influence of responsible opposition parties. In theory, a situation in which power alternates between the conservative party and the responsible opposition party is desirable. For the time being, however, even if the LDP loses its majority, responsible outs are no match as far as the representation figure is concerned. Furthermore, hoping to realize the formation of a national government of the reformists coalition centering on the Socialists, Komeito (the Clean Party), DSP, which is the basic policy of the DSP, is beyond reach under the present circumstances since there still remain traits of communistic characteristics within the JSP. Herein lies the origin of a coalition government centering on the LDP--a single dominant party on comparison.

Therefore, it is suggested that the issue of coalition with the LDP will be taken up once an inter-party agreement (political association centering on policies) on a six-point program including mid-term economic planning has been reached and that the prospect for government that the DSP aspires for has been assured.

In the campaign guideline, a government is simply referred to as "a coalition government centering on policy." In the light of the following information, it is, in brief, a coalition government of the conservatives and the middleof-the-road forces:

1) In his convention speech, Chairman Sasaki denied that the DSP would unilaterally participate in the coalition government; 2) For the time being, the JSP has been placed outside the realm of administration, while seriously considering the unity of responsible opposition forces; and 3) the "responsible outs" are labeled as the "middle-of-the-road."

In 1973 the DSP embarked on a "national reformists coalition government." Later, the label was changed to "an association transcending the framework of the conservatives and the reformists" (1975) and to "the JSP, Komeito, DSP plus those fellows who share the same ideology" (part of the conservative forces) (1977)--a trend toward what is being called a coalition of the conservatives and the reformists. Furthermore, it went, last year, so far as to "accept the room for discussing the question of government with the conservatives based on several propositions. Viewed from this historical perspective, the policy plan just announced is nothing more than a logical course of action.

During the question and answer period of the convention, Chairman Sasaki stated that "unless we can participate in the government of all opposition parties including radical forces, we have no choice but to follow the government concept including the LDP." This explains why he opted for the coalition government of the conservatives and the middle-of-the-road forces. Where the DSP stands today may be accounted for by its previous unsuccessful attempts to gain influence over the government. The JSP-Komeito-DSP line

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previously advocated by Mr Sasaki lost its core support following Saburo Eda's separation from the JSP and his death. The Social Democratic League [SDL] consists of those who have left the JSP totaling only six members with both Upper and Lower House combined. The JSP itself has not been successful in "clearing up the Marxism-Leninism" from the party, which the DSP had hoped for. On the other hand, there was expectation that (as ex-Chairman Kasuga put it) "some members are preparing to leave by the second and the third bus" when members of the New Liberal Club including Chairman Mr Kono first decided to leave. Currently there are no signs of drastic outflow within the LDP factions. When one anticipates an approaching age of coalition, the DSP can't very well not think of coalition with the LDP as a whole. So the more LDP acceptance of the DSP policies will mean "one more step toward political reform," so logic dictates. In explicating his current policy objectives, Mr Sasaki argues that "Realistic policies are what the public demands from politics. The nation will be relieved by the fact that politics is not getting worse, even in the absence of the LDP's dominance over the government. By advocating it now, the loss of the LDP's majority could be further accelerated."

In a summit discussion held in early March among the three leaders of the LDP, the Clean Government Party, and the DSP over this year's budget proposal, Mr Sasaki disclosed that he would go along with the proposal if certain provisions including their demands are met, a statement made in connection with a joint Komei-DSP demand which included pension increase. Apparently Mr Sasaki often had in mind a belief that successful revision could pave the way toward a policy agreement and an eventual coalition government. Due to the fact that Premier Ohira did not accept the suggestion, the DSP ultimately decided to vote against the budget proposal. The DSP is not unhappy, believing that "a rehearsal had been made." (key official) An analysis of the nationwide local election by the DSP also suggested that "as the victory analysis continued, the LDP began to realize that it was a joint victory with the so called middle-of-the-road forces. This realization has induced an uneasiness for the long-lasting, single-party administration.

Drive the LDP Out of Majority

The foregoing analysis does not demonstrate that the DSP convincingly predicts, in a detailed fashion, how a coalition government may be worked out. Included in the policy agreement are:

1. the mid-term economic planning and employment stabilization plans without unemployment and inflation; 2. the social security plan meeting the needs of the elderly, especially reforms in the pension program and guaranteed housing; 3. the organizational and financial reform and the review of profit sharing; 4. approval of the SDF, continued recognition of the U.S.-Japan security treaty; 5. the elimination of international economic frictions; and 6. the development of new energy sources including nuclear power. Will the DSP go along with the LDP only on part of the agenda on which there is mutual agreement? Is it going to enter into coalition with the LDP if the

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six points on the agenda can be accepted? Or will it merely provide support while remaining outside the government? Concerning the combination of political parties, will it be a grouping among the LDP, the Clean Government Party, and the DSP? Or will it go so far as to include various forces of the moderates? Considering a number of cases, the activity guideline emphasizes a common denominator--"a policy-centered political coalition."

Responses to this policy plan from the various moderate political parties have not been enthusiastic. The New Liberal Club is indifferent, saying, "We are not interested." (Secretary General Nishioka) The SDL is not receptive to the coalition with the LDP. The Clean Government Party, which has just decided to establish a review committee on political trends and the security treaty and the SDF question, lacks coordination. The summit conference among the four leaders of the moderate political parties, previously proposed by Mr Sasaki under his personal initiative, remains to be held on the issue of selection of candidates for the Tokyo gubernational election. The New Liberal Club has not favorably responded to the DSP's proposal to set up a joint forum discussing the Diet Policy matters.

Currently the DSP has only 28 seats in the House of Representatives--a mere 10 percent of the LDP's. Though 56 candidates have been listed for the next general election, and even if over 40 members are elected--a target of the DSP--such a small force could very well be absorbed and merged by the LDP, once allied with the latter.

Besides, even within the party, a sense of uneasiness and reluctance remains. In the convention strong voices have been heard, saying, "Shouldn't the party's own political power be strengthened in the first place before speaking of coalition with the LDP?" Even some executive members of the JCL--a, so to speak, close ally of the SDP--has expressed dissatisfaction, stating, "Without the anti-LDP slogan workers will not follow us. The prospect for coalition with the LDP should not have been publicized, but the matter should have been kept to yourself." The JCL went so far as to request a substantial deletion of the word, LDP from the latest draft campaign guideline, for the JCL thought the word was repeated too many times.

The real goal of the DSP for the time being is to drive the LDP out of majority. The target is the House of Councilors election to be held next summer. Coupled with the trend toward the united labor front, the strategy has been established so that the LDP seats may be drastically reduced, by drawing election support for the local electorates of the House of Councilors election not only from the various moderate political parties but also from a part of the JSP. The plan, in short, is to forcefully drag the LDP into "an age of coalition."

Viewed from this line of tactics, the age of coalition is just around the corner. While consolidating moderate political forces and generating consensus within the party may not be quite complete, however, these issues, strengthening the moderate forces' unity and expanding the power of the DSP,

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could eventually be well orchestrated into the goal of establishing a coalition government by exclusive focus on the very goal.

Mr Sasaki himself calls his policy design as "a stake." One may wonder if Mr Sasaki is truly a leader with good foresight in an age of coalition.

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POLITICAL AND SOCIOLOGICAL

JAPAN'S GENSUIKYO, USSR BODY AGREE TO NORMALIZE RELATIONS

Tokyo JPS in English 0907 GMT 2 Jul 79 OW

[Text] Tokyo, 2 July, JPS--The Japan Council Against A and H Bombs (Gensuikyo) and the Soviet Peace Committee released a joint communique on 30 June on the conference of delegations of both organizations.

The joint communique "confirmed the position of mutual independence and equality, and the position of non-interference in internal affairs, by taking into account the process of the anti-nuclear weapons movement in the past," and called for normalization of relations between the two organizations. Both delegations "agreed to develop joint actions based on the basic aim of the anti-nuclear weapons movement, and immediately urgent tasks, even though there may be differences of opinion about individual concrete issues."

The Soviet Peace Committee positively evaluated Gensuikyo's stand, which consistently worked for a national unity of the movement against A and H bombs, and said that it is ready to participate in the '79 United World Conference against A and H bombs.

The communique confirmed that the effectuation of an emergency step for a complete ban on nuclear weapons, and banning the use of them, is the common task of the International Peace Movement. The communique underscored the importance that "the negotiations among five nuclear powers should begin immediately," and that "an international agreement banning completely nuclear weapons must be signed by all countries, including non-nuclear countries."

The conference was attended by five delegates from Gensuikyo, led by vice director general Hajime Tanuma, and from the Soviet Peace Committee, President Y. K. Fedorov and others.

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## POLITICAL AND SOCIOLOGICAL

'MAINICHI DAILY NEWS': USSR CARRIER OFF JAPAN SIGNIFICANT

Tokyo MANINICHI DAILY NEWS in English 29 Jun 79 p w OW

[Editorial: "Soviet Flattop Off Japan"]

[Text] The Soviet aircraft carrier Minsk is expected to be cruising north in the Sea of Japan to join the Soviet Pacific fleet based at the Far East naval port of Vladivostok.

The appearance of the modern 43,000-ton flattop in waters near Japan may be symbolic in that it comes when the summit meeting of the world's industrial democracies is under way in Tokyo.

The addition of the warcraft to the Soviet Pacific fleet to beef up its strength has been a source of concern to military authorities of the West, and to Japan in particular, as the evergrowing Soviet military might is seen as a threat to the West's defense and security.

Admittedly, the argument that the Minsk's deployment in the Far East can increase Soviet war potential and increase military tensions in the Asia-Pacific area cannot be refuted. However, we believe an assessment of a country's military power is justified only when it is made from an overall standpoint, including its diplomacy, war strategy and tactics.

On this score, the appearance of the Soviet carrier in Far Eastern waters has provided us with an opportunity to reconsider the growing Soviet naval buildup.

It was in the 1950's when the late Premier Nikita Khrushchev held the reins of power in the Soviet Union that the Russians began an earnest effort to modernize their naval power, which until then had been used primarily for coastal defense since the revolution.

The most prominent figure in the modernization effort is Admiral Sergey G. Gorshkov, who has been the Supreme Commander of the Soviet Naval Forces since 1956. Adm. Gorshkov holds a strong conviction the Soviet Union can become a world power, in the true sense of world, only when it has appropriate naval power.

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It is easily imaginable that Khrushchev, who had shared Gorshkov's view, had his belief deepened when he suffered a major political setback in the 1962 Cuban crisis--his missile-transporting vessels had to withdraw in the face of a U.S. Navy blockade of that island country.

The Soviet Union, since then, has continued its naval buildup both in terms of size and weaponry. However, its naval strength still lags far behind those of the U.S., its assumed enemy, and America's allies, although it is almost on a par with them in the domains of strategic nuclear arms and ground forces. Efforts to overcome the difference in naval strength could lead the Russians to devise a global strategy that would endanger world peace.

Adm. Gorshkov once said the Soviet navy's role is to exert political pressure on other countries through a demonstration of might and thus to propel Soviet diplomacy.

The Soviets believe the success of the U.S. in preserving peace in the early post-World War II period owed much to its naval strength. In fact, peace in the Taiwan strait was maintained during the Chinese civil war because of the presence of the U.S. 7th fleet, and the maintenance of U.S. leadership, now somewhat diminished, in the Middle East owes, to a considerable extent, to the presence of the 6th fleet in the Mediterranean.

It seems a demonstration of naval forces is a most effective way for a country to show off its military might. U.S. diplomacy has taken full advantage of this tactic. Gorshkov has this in mind in his design for the strengthening of Soviet naval power.

Of course, it is inappropriate to compare the current Soviet naval might with that of the U.S., which has been nurtured through a long tradition. Here lies the reason why the U.S. would not show much concern or apprehension about the redeployment of the Minsk or a new Kiev-class aircraft carrier. In fact, a carrier of the Minsk-class is just no match for the Midway of the U.S. 7th fleet.

The Russians themselves term the Minsk not an aircraft carrier but an "antisubmarine cruiser."

However, the deployment in the Far East of the Minsk, the second modern carrier the Russians now possess--the other being the Kiev in the North Atlantic--can be construed to mean the Soviet Union has seen fit to place greater emphasis on East Asia in its global strategy.

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## POLITICAL AND SOCIOLOGICAL

SONODA SAYS CLOSE ASEAN TIES BASIS OF JAPAN'S FOREIGN POLICY

Tokyo ASAHI EVENING NEWS in English 4 Jul 79 p 1 OW

[Article by ASAHI SHIMBUN correspondent Jiro Arioka]

[Text] Jakarta--Foreign Minister Sunao Sonoda said here Tuesday that Japan will continue to make close relations with the ASEAN countries the basis of its foreign policy.

Talking to Japanese newsmen accompanying him on his trip, Sonoda said the ASEAN and China provide the foundation for strengthening Japan's position. He said Japan can deal with the United States, the Soviet Union and Western Europe on an equal footing only when it joins hands with the ASEAN.

Touching on Prime Minister "Asayoshi Chira's plan to create a community of Pacific nations, Sonoda said it will not be realistic to try from the beginning to establish such a community, which will include the United States, Canada and Mexico, and for the present Japan, the ASEAN, Australia and New Zealand should get together.

By maintaining stable, close relations among themselves, these countries will be able to gain a greater say in the world and will also contribute to world peace and stability, he scid. He apid U.S. Secretary of State Cyrus Vance approved this diplomatic design when they met on Bali Island.

Sonoda arrived here Tuesday evening after attending two days of talks on Bali between the ASEAN Foreign Ministers and their five non-ASEAN counterparts. He said Japan should continue to give advice and cooperation to the ASEAN countries, and should never assume the air of an elder brother or a leader toward them. He implied that there is an understanding with the United States that the ASEAN is primarily Japan's area of responsibility.

Sonoda also told reporters that the talks on Bali were successful and that the other participating foreign ministers recognized the worth of the ties Japan maintains with Hanoi through economic aid.

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FOLITICAL AND SOCIOLOGICAL

REASONS FOR, AGAINST DIET DISSOLUTION OUTLINED

Tokyo MAINICHI DAILY NEWS in English 4 Jul 79 p 4

[Article from "Nagatacho Doings" column by Takehiko Takahashi: "Ohira's Aim--Not General Election But His Reelection As LDP President"]

[Text]

The curtain has failen on the Tokyo summit. The attention of domestic politics is being directed toward a possible dissolution of the House of Representatives to be followed by a general election. Around the Diet building, there is a confused mixture of voices, some saying that "there will be a general election this autumn without fail" and others declaring that "there is no margin for creating a political vacuum by having a general election—there won't be any."

Of the two, the voices believing in a "general election this autumn" are louder. Despite that, why is that there are people declaring with confidence that "there won't be a general election"? The reasons are thought to be as follows:

1. Prime Minister Masayoshi Ohira is attempting to manage politics by placing the focus not so much on a dissolution of the House of Representatives and increasing the number of Liberal-Democratic Party seats, as on his own reelection in next year's party presidential election. 2. Although people are speaking about a "recovery tone for the conservatives," it is doubtful whether the LDP would be able to increase its Diet seats substantially in case a general election is held this autumn. The main reasons for this are:

(1) In the extraordinary Diet session, the opposition is likely to take up again, in the special committee on aircraft, the problems of summoning former Prime Minister Nobusuke Kishi as a witness and the prosecution of former Director General of the Defense Agency Raizo Matsuno on a perjury charge.

At about the same time, the trial of former Vice President Hachiro Kaifu of Nissho-Iwai Co. will start and the prosecution's arraignment will take place. There is a strong possibility that new facts, unknown up to now, may be revealed.

In such a case, the Liberal-Democratic Party will be placed in a painful position again in succession to the Lockheed scandal. If a general election were to be held under such a situation, the number of

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Diet seats obtainable by the LDP would be greatly affected.

(b) The economic situation will worsen because of the raise of crude oil prices. The recent upward curve of business was brought about by reduction of personnel, cheaper raw material prices as a result of high yen, and low interest rate.

But now, the reduction of personnel has reached the limit. Raw materials will change in aspect because of higher oil prices. The bank rate is tending upward. The economy will face a severe environment this autumn.

It is common sense at such a time for state expenditures to be increased but there is already about 40 percent dependence on deficit national bonds. It will not be possible to stimulate business through state expenditures.

If a general election were to lake place under such circumstances, the LDP would face a shortage of election funds. The situation will be disadvantageous for the party.

3. If Prime Minister Ohira were to dissolve the House of Representatives this autumn and hold a general election, he would feel some anxiety about the "prime minister's designation" that will follow in the Diet.

At the time of the "prime minister's designation" that followed the election of the party president last year, complex moves occurred within the LDP and centrist influences. As the result, the "prime minister's designation" was delayed one day instead of being carried out as scheduled.

If the LDP were able to increase the number of its Diet seats substantially in a general election, there would be no problem. But if the showing is much poorer than expected or little changed from the present, anti-Ohira influences will step up their criticisms of the Ohira administration. The possibility will arise of their combining with the centrist influences in the "designation of the prime minister" and moving toward overthrowing the Ohira administration.

Accordingly, Prime Minister Ohira, who is cautious, "Is likely to avoid such a dangerous general election."

It is mainly because of these three reasons that there are voices denying a dissolution of the House of Representatives and a general election this autumn. At the same time, there is a diametrically opposite view which states:

"Prime Minister Ohira is fully aware of these three reasons. He will therefore outwit his rivals. In other words, he will carry out the dissolution not in autumn as expected, but earlier. Prime Minister Ohira will be returning to his native province from July 7. This is election strategy to prepare for a dissolution.

"He is likely to convoke an extraordinary Diet session at an early date for the avowed purpose of passing the bills held over from the previous Diet session and of making a report on the Tokyo summit. It is there that he will carry out the dissolution."

This is the view confidently held by those who believe that they know Prime Minister Ohira's character well.

In any case, it is certain that movements will become brisk from now on, centering on a general election which is the "eye" of the political world.

(The writer is an adviser to The Mainichi Newspapers and former chief editorial writer).

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## POLITICAL AND SOCIOLOGICAL

'SECOND GENERATION' DIET MEMBERS INCREASING IN NUMBER

Tokyo MAINICHI DAILY NEWS in English 11 Jul 79 p 4

["Nagatacho Doings" column by Takehiko Takahashi: "Increasing Number of Candidacies by Second Generation of Diet Members"]

tread this precarious road

[Text]

Elichi Nishimura, vice president of the Liberal-Democratic Party, is 80 years old but he seems to be intending to run again in the next generaelection. He is said to have tol<sup>17</sup>, a certain person, "I'll continue doing so until I die."

There is a Japanese saying. "Let a man be once a beggar and he will be a beggar all his life." Being a Diet member seems to have become an occupation in a similar vein. "Once a Diet member...."

The Constitution stipulates that "the Diet shall be the highest organ of state power." Becoming a member of such an organ is undoubtedly a very high honor. When the conferment of decorations takes place twice a year, politicians are in the overwhelming majority of those who receive the First Class Order. From this too it can be understood that a Diet member stands in the highest position of "glory."

For that very reason, a precarious road must be trod in becoming a Diet member. And yet, there are some who can without a great deal of trouble and reach the desired goal. These are the sons, the so-called "second generation" of Diet members. They have formed a friendship association called "Yatsu Hikari Kai." The members include 50 from the House of Representatives and 13 from the House of Councillors. The number increases every time there is an election. Several second generation candidates are already planning to run in the next general election. Among them are Etsusaburo Shiina's second son Hisao who is expected to become his successor, the late Naka Funada's grandson Hajime, the late Shigeru Hori's eldest son Kosuke, Kazuomi Fukunaga's eldest son Kosuke, Kaneshichi Masuda's adopted son Nobuhiko, and others.

In addition, Shinji Sato, incumbent member of the House of Councillors, intends to become a candidate in the House of Representatives constituency from which his father, the late Eisaku Sato, former prime minister, was elected. In addition, the second son of the late Hideji Kuwasaki is making preparations to file his candidacy.

#### Three Essentials

It is said that the three things essential in an election are "jiban" (sphere of influence), "kanban" (effective signboard), and "kaban" (bagpresumably containing a lot of money). Among them, the factor having a direct relation with "voles" is "jiban," the sphere of influence or ample foothold in a constituency. Both the "kanban" and "kaban" are regarded as means of building up the "jiban."

Accordingly, as far as the "jiban" is concerned, "second generation" candidates are in the most advantageous position. In a "jiban" built up laborlously by their fathers, who were Diet members, strong personal ties exist which are often even more important than policies. Thus the son of "Diet member A" is easily able to

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take advantage of that "jiban," irrespective of the candidate's own ability and wisdom.

Nor is this situation limited to the Liberal-Democratic Party. When the New Liberal Club made its start, it was called "a second generation party." Yohei Kono, Takeo Nishioka, Toshio Yamaguchi and Masami Kobayashi are all "second generation" politicians. Seiichi Tagawa might be called a "semi-second generation."

Among those seeking to become Diet members, there are, besides the "second generation," bureaucrats, officers of labor unions, local government employees, and politicians' scretaries.

The possibility of the lastnamed politicians' secretaries becoming Diet members has fallen off. At first, upon becoming a secretary, there is strong hope that it will even-

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tually be possible to take over a Diet member's "jiban." But before long, the Diet member's son or a local politician supporting that Diet member makes his appearance. In such a case, the secretary drops to the bottom of the ladder.

When the road from secretary to Diet member narrows in this way, the quality of secretaries also seems to decline. Secretaries of Diet members have begun to appear with increasing frequency in reports of scandals in the city news pages of newspapers. This may be because the secretaries, finding the road to becoming a Diet member blocked, have begun to tread the path of utilizing their position for improper purposes.

#### Commitment

The caliber of "second generation Diet members"

varies. There are voices within the Liberal-Democratic Party saying that "the LDP will be ruined if second generation Diet members increase." What is meant by this is that such second generation Diet members do not experience the full hardships of an election and thus do not become deadly serious about politics.

At times a Diet member's "jiban" is transferred to a relative instead of the son. There are cases in which, because the son is still young, the widow becomes a candidate, handing the baton over later to the son.

Anxiety is being felt that this kind of an election, centering on the relationship between one person and another, might be a sign that politics is being handled in an all too easygoing manner.

(The writer is an adviser to The Mainichi Newspapers and former chief editorial writer).

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POLITICAL AND SOCIOLOGICAL

'YOMIURI' POLL SHOWS CHIRA'S POPULARITY UP

Tokyo THE DAILY YOMIURI in English 2 Jul 79 p 1 OW

[Text] Popular support for the Chira cabinet is increasing with 39 percent of people favoring the cabinet, a public opinion survey recently conducted by the YOMIURI SHINBUN revealed Sunday.

This figure was up 1.4 percent from the previous survey.

The latest poll was conducted 23 and 24 June covering 2,221 eligible voters elected at random at 250 points nationwide.

U.S.President Carter's visit to Japan as a state guest from 24 June and the subsequent Tokyo summit 28 and 29 June are believed to have helped increase the popular support for the Chira cabinet, inaugurated last 7 December.

The poll was taken 10 days after an extended session of the last 87th regular Diet was adjourned in utter confusion over the suspected scandal involving former Prime Minister Nobusuke Kishi and former defense agency Director-General Raizo Matsuno.

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However, the number of people who do not support the Chira cabinet also increased to 36.7 percent, up 2.7 percent from the previous survey.

A total of 34.8 percent of the people who replied that they supported the Chira cabinet said that they supported it because it was formed by members of the Liberal-Democratic Party (LDP).

This was followed by 15.2 percent who replied that they supported the Chira cabinet because they could rely on Chira.

The third largest portion (12.2 percent) of the pollers who supported the Chira cabinet said that they favored it because it was stable.

A total of 22.7 percent of people who replied that they did not support the Chira cabinet said that they did not support it because it did not realize positive achievements.

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An additional 20.4 percent (the second largest portion) replied that the Chira cabinet was not eager in trying to end scandals involving high government officials.

The third largest portion (20.3 percent) said that they were not satisfied with the economic policy of the Chira cabinet.

The poll also showed that the number who supported the LDP increased from 40.3 percent to 41.6 percent while those who supported the socialist party decreased to 11.7 percent from the previous 12.2 percent.

The number of supporters of the Democratic-Socialist Party increased to 3.4 percent from the previous 2.5 percent, while supporters for other political parties remained almost the same compared with the previous survey.

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## POLITICAL AND SOCIOLOGICAL

## WW-II 'DEATH RAILROAD' LOCOMOTIVES ARRIVE

#### 'Symbol of Aggression'

Tokyo THE DAILY YOMIURI in English 25 Jun 79 p 2

[Text]

Yokohama—A steam loco-motive that plied the "Death Railroad" between Thailand and Burma dur-ing World War II is to arrive in Yokohama Monday for dedication next month to the Yasukuni Shrine, a project of some Japanese military veterans that is opposed by others. The railroad, constructed

through malarial jungle by forced labor over one year and three months, was com-

and three months, was com-pleted in October 1943 at the cost of the lives of about 30,000 local workers, about 12,000 allied prisoners of war, and more than 1,-000 Japanese soldiers. The harrowing feat was dramatized in the movie "Bridge Over The River Kwai," based on a novel by Plerre Boule, about the spanning of the River Khwae for the strategic rail link. link.

At memorial services last August for those who died in the wartime project, Kazuya Tsukamoto, 46, of To-kyo reported that locomotive C5631, which ran on the line from the day it was opened, was standing in uglect at a railway station in southern Thailand awaiting dismantlement,

Former soldiers of the Ja-panese Imperial Army and others who helped build the railroad soon formed an association to save the old C56-type steam locomotive for dedication to Yasukuni Shrine, which honors Ja-panese who died in battle for their country.

Thai railway authorities agreed this March to let the association have the derelict locomotive.

However, some war veterans oppose turning the "Death Railroad" locomotive into a memorial.

One of them is Takashi One of them is runsom Nagase, 61, a former POW guard who now runs an English-language school in Kurashiki, Okayama-ken, who calls it a symbol of aggression and of the mise-ry of allied prisoners and Thai laborers who built the railroad under appalling conditions.

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## 'Disgrace to Japan'

Tokyo ASHAHI EVENING NEWS in English 26 Jun 79 p 3

[Text]

YOKOHAMA (Reuter) —Two Japanese-built steam locomotives, used by Japan on World War II's infamous River Kwai "death" railway in Thailand, returned here Monday aboard a Thai freighter with one of them planned for dedication to a war shrine and the other for commercial operation. The two engines were brought home by a "save C56-type" association formed by some of former Japanese Imperial Army soldiers and others who helped build the railway.

The association said it would present one of them next month to Tokyo's

Yasukuni Shrine, dedicated to Japanese war dead, including the late wartime

Premier Gen. Hideki Tojo. But the association's decision faced bitter criticism from former army interpreter Takashi Nagase who told Reuter, "It is a disgrace to Japan."

disgrace to Japan." Nagase, living in Kurashiki, said the association must not go ahead with the plan because the Burma-Thailand railway's construction across the Kwai cost more than 50,-000 lives, including 30,000 Asians and 20,000 Allied prisoners of war.

Nagase, who arranged the first postwar reunion between ex-guards and Allied POWs at the Kwai River in October 1976, added he did not oppose the purely commercial rerun of the old engine.

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POLITICAL AND SOCIOLOGICAL

MAGAZINE DISCUSSES ENSHRINEMENT OF WAR CRIMINALS AT YASUKUNI

Tokyo SHUKAN SHINCHO in Japanese 3 May 79 pp 46-50

[Text] To be sure, even if one tries to think in the way one does in a game of idea association, this topic of "Yasukuni Shrine" is difficult.

What associations might accurately transmit its image? "Spirits of war heroes"? "Wartime comrades"? "School classmates"? "Kudan [area in Tokyo where Yaskuni Shrine is located] Mother"? Or, again, "This is Tokyo, Mother"? "Hato [sightseeing] bus"? or "The Emperor"? "National Protection"? "Militarism"?

Exaggerating, we might say that names which are understood so differently according to generation and ideology are very rare.

But now, one more troublesome thing has been added to this complex image. "Class-A war criminal"!

With this, this game of association has become even more troublesome. But just exactly who thought up such a ticklish question?

Inquiring at the Shrine, we are told that the plan pending for over 20 years had been decided upon last year. Deputy Chief Priest Katsushige Fujita (age 67) explained its "history" in this way. "We have enshrined persons connected with the Greater East Asia War since the Peace Treaty came into effect in April 1952 and we are still continuing to do so. In recent years we had about 2,000 tablets each year but, as we approached the end, the numbers decreased. Thinking that it was about time for Class-A war criminals, the plan for which had been long pending, a decision was made after consultation with representatives of the lay worshippers and on the evening of 17 October last year some were enshrined among the 1,604 tablets.

"There are doubts about how people might feel about the 14 Class-A tablets and we understand that, since there are people who were killed by Tojo, we should consider carefully. But since 1952 we have enshrined ordinary persons and there was some controversy concerning B and C class war criminals also. However, our conclusion was that, since in the Far Eastern Tribunal the

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vanquished had been judged by the victors, we should not be bound by the war criminal label. Thus we went ahead and enshrined the B and C class criminals."

The Yasukuni Shrine has its origins in the Tokyo Shokon Shrine and was originally constructed by the Emperor Meiji in 1869. It was the place which gave rest to the spirits of those who gave their lives for their country in the Boshin uprising and other disturbances of the early Meiji period. In this case, since "on behalf of the nation" was of course on behalf of the new Meiji government, the major portion were imperial loyalists.

Subsequently, over 2,460,000 tablets, principally of the war dead from the Saga uprising, the Satsuma Rebellion, the Sino-Japanese War, the Russo-Japanese War, World War I, and the Greater East Asia War were enshrined.

As to whom to enshrine, in the prewar period the authority to decide lay with the emperor; however, in the postwar period the Yasukuni Shrine made decisions independently. Of course, according to tradition, since the Meiji period, permission of the bereaved has not been sought. From the beginning there was no such idea.

Result of 20-Year Reversal Effort

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However, when it came to enshrining Class-A criminals, the independent judgement of Yasukuni Shrine relied upon in the case of B and C class criminals apparently would not do.

In accordance with Shrine rules, requiring that "important items be presented to the Worshippers' Representative Assembly," the Representative Assembly was consulted over 20 years ago.

Since that time the question has been discussed in the assembly repeatedly, with opinion generally leaning toward enshrinement, leaving the timing to the decision of the chief priest.

For instance, at the meeting on 30 June 1975, when 991 tablets of B and C class war criminals had already been enshrined and it now had become a question of what to do about the A class, these opinions dame from the a hot representatives.

"Isn't it necessary that a definite answer finally be given when there are inquiries from outside concerning the enshrinement of Class-A criminals?"

"What connection does this have with the National Protection Bill"?

"Not to enshrine the Class-A criminals will be tantamount to approving the Far East Tribunal."

Then, once again, it was affirmed that the chief priest should determine the timing factor after careful consideration.

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Incidentally, the members of the assembly were former House of Councillors member Kazuo Aoki, former Tokyo Governor Ryutaro Azuma, former Imperial Household Vice Minister Shingen Kato, House of Representatives member Osamu Murakami, President of the Japan Chamber of Commerce Shigeo Nagano, and Sawako Higashien, wife of the former Board of Chamberlains councillor.

The chief priest at the time was Fujima Chikuba.

However, Chief Priest Chikuba died in March of last year after having for some reason put off the enshrinement of Class-A criminals.

Thus, following in his footsteps, the new chief Priest Yoshibusa Matsudaira made the decision last October as part of the processing of pending matters carried over from his predecessor. Of course, at the time of the assembly there was no one who raised any objections; but this did not mean that Shrine personnel supposed that all the nation's people would support such a decision. Deputy Chief Priest Fujita, quoted above, continues speaking.

"This was done on the responsibility of the Shrine and, if we are criticized, it is well that the Shrine should be criticized for doing it. We have long put it off due to the feelings of the people concerning Tojo, but the decision was absolutely not made in response to requests from anyone else. Nor were we told to do so by the Bereaved Relatives Association. For more than 20 years the Shrine has ruminated over whether to do this or whether to do that.

"We are not rightists. We are Shintoists. From the pure Shintoist standpoint, Japan at that time was surrounded by the ABCD line and it was a life-or-death situation. If things had gone on like that, Japan would have been destroyed. We recognize that this was a war fought because there was no other choice."

Thus, 14 Class-A war criminals came to be enshrined as "Martyrs of Showa" [the reign of the present emperor].

Distasteful Topic Abroad

However, the question of who attached the label, "evil" naturally arises.

If the wartime leaders of World War II are "martyrs," they will bear no special responsibility for the war. In that case, where will the responsibility go? Might it be brought to the door of the emperor?

Or if the label "evil" is supposed to have been attached by the enemy nations of the time, would it not be reviving a grudge by Japan which has now blossomed forth as an economic great power some 20 years after the war? ٠Ē

Of course, I don't suppose the Shrine personnel considered such a thing, but the foreign correspondents in Tokyo apparently felt that this event had considerable news value. In fact, on the day Japanese newspapers reported

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the Incident, AP immediately wired it to the rest of the world, dateline Tokyo, and AFP startled Shrine personnel by proceeding directly to the Shrine to get the story.

Of course, there was also the timing of the coincidental Shrine visit by Prime Minister Ohira as a "private person" but the foreign correspondents apparently felt that they had been presented with another obscure hint with respect to unraveling the riddle of Japan.

Former United Nations Ambassador Shuichi Kase has this to say concerning this point. "The enshrinement of Class-A war criminals at Yasukuni Shrine will present a distasteful topic abroad. From the standpoint of the feelings of the Japanese people, it has been over 30 years since the war, and here it seems reasonable to say that it is all right if they are enshrined at Yasukuni and I suppose there is no real harm in this issue inside Japan. But this is after all Japanese reasoning and it will have provided an unnecessary topic of discussion abroad. In particular, we are now facing the United States-Japan leaders conference and the Tokyo Summit, the Southeast Asia UNCTAD [United Nations Trade and Development Conference], and the like, and there is also the unresolved economic friction between Japan and the United States. Naturally, this is not likely to cause good feelings."

However, with respect to the fact that, even though unplanned, this issue of the enshrinement of Class-A war criminals and given us the opportunity to consider the significance of the Tokyo Trials, Mr Kase admitted to feeling that it had some significance.

"I have been calling for a long time for 'judgement of the Tokyo Trials.' Rather than enshrinement and such, this is the issue which should be decided first. Those were political trials whose result was known from the first, and Japan was made responsible for the evil of the Allied nations as well. We might say that rather than the war crinimals as individuals having been tried at the Trials, Japan as a whole was put in the dock. And then this has had all kinds of effects on postwar Japan. For instance, we can say that the view of the history of postwar education, including that of the Japan Teachers Union, started with the Tokyo Trials. For this reason I think that, if we do not reconsider the Tokyo Trials themselves, the slanted education of the Japan Teachers Union and others cannot be revised. Rather than enshrinement and such things, this is the great problem which must be settled."

### Reverence for Tojo

However, if we speak of "settling" then the problem of "war responsibility" with respect to the World War is not in the least settled among us Japanese, it is safe to say.

In the present case of the problem of enshrinement of Class-A war criminals, might not the feelings of uneasiness stem from this fact? Kyoto Univeristy Professor Emeritus Yuji Aida admitted having such feelings when he read the newspaper article on the enshrinement.

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"When I saw the article I thought, 'Good Heavens,' Speaking of my own personal feelings, look now, included in that group is Mr Heitaro Kimura. He was the former supreme commander in Burma and he abandoned his subordinates. As one of those subordainates he abandoned, I personally feel resentment. I feel resentment which apologies cannot remedy. However, even admitting this, since these persons were not made war criminals by our own trials, it is natural that they are being enshrined. The problem is that there has never been even a single investigation of a war criminal by Japan. I have the feeling that his shadow, shall we say, or distortion has at last borne its fruit. This has come about while we still have not investigated persons as war criminals whom we truly should have investigated, and now these persons will become gods. It is this which makes me feel uneasy."

Concerning these feelings of "uneasiness," it is probably right to say that they are strongest with respect to the veritable symbol of Class-A war criminals, former Prime Minister Hideki Tojo.

At the very least, the impression this man left with postwar Japanese is extremely unpleasant. Enshrining a man who argued in favor of beginning the war, who was noted for his wartime inspections of garbage cans, and who failed in his suicide attempt somehow does not bring about feelings of reverence, I suspect.

I wonder if Japan's ally Germany would enshrine Hitler? Isn't the Nazi's number two man, Hess, even now being held in prison in some country?

However, author Jo Kojima says, "The position of Tojo is different from that of Hitler.

"As for why Tojo is held in such ill favor, it is because he was a military man, not a politician. The reason why he inspected garbage cans dates back to his days as a regimental commander when he would wipe toilet lids with his white gloves and proclaim 'Good,' which was fine for a military man. But for a politician, this was considered an affectation. However, he knew virtually nothing of life outside the army and he was miscast as prime minister. Hitler was all right because he was a corporal; but if he had become Fuehrer after becoming a general, he would have been the same as Tojo. They speak of the 'Tojo Dictatorship,' but nothing like a dictatorship could come out of Japan's constitutional monarchy and it hardly compares to Hitler. I think that even the notorious 'police government' was the way of managing he had learned in his military days and was the result of not knowing any other way."

Of course, this does not mean that Mr Kojima feels absolutely no uneasiness at the enshrinement.

"As for the words Martyrs of Showa, it is certain that both Tojo and (Hirohiko) Hirota felt a responsibility to the nation. But it is odd to use a word like 'martyr' as though there had been a typhoon or some such misfortune. Rather, doesn't the word 'martyr' distort the feelings of those 14 men"?

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Yasukuni Shrine Without a Torii?

So it seems that this enshrinement will probably result in the removal of the "responsibility" which those 14 men probably felt.

And this point seems to have given a new excuse for their attack on the persons who have been opposing the so-called national protection of Yasukuni Shrine, which has been an issue for some time.

Chairman of the Yasukuni Shrine Question Liason Conference, Gakushuin University Professor Yoshiaki Iisaka (political science) had this to say.

"I see this present problem as working to the disadvantage of the forces trying to promote nationalization. Enshrinement will accidentally be like saying, 'It is too bad that these men alone must bear responsibility for the war.' This has the meaning that the Class-A war criminals are not the worst ones. I suppose that by making the responsibilility of these men unclear, they are trying to make enshrinement more reasonable. But if this happens, responsibility will naturally move up to their superior, the emperor."

Moreover, as for the national protection of Yasukuni Shrine, the Shrine itself has not wanted it either in the past or at present. A certain Shrine official had this to say.

"It is natural that this enshrinement has no relationship to the national protection issue. We generally feel that, under the existing constitution, national protection is a contradiction. Under the constitution as it now operates, to come under national protection would be the end of the Shrine. Under the bill drafted by the Cabinet Legislative Bureau, the Torii is not permitted, the title 'Mikoto' cannot be used, and Shinto prayers cannot be recited. The name Yasukuni Shrine would remain, but without its substance. It would become merely a memorial hall. There is an inn which in time past was a fish shop which still retains the name fish shop. This would be the same thing. For this reason, as far as we are concerned, we do not wish for national protection with the disappearance of the essentials under the existing constitution. The national protection being called for by various groups is just such a thing and for this reason it is bothersome for us."

It seems that the present puzzle is a difficult one even for Yasukuni Shrine.

Finally, let us listen to the voices of the surviving relatives of the enshrined Class-A war criminals. The person speaking is Masako Umetsu (50), widow of Miichi Umetsu, son of former Army General Michiro Umetsu.

"I think it was around the first part of December last year when I received notification of the enshrinement from the Shrine office. 'Goodness! At this point?' I thought. But I didn't think too much about it. Actually, we never go to Yasukuni Shrine. We occasionally went for a stroll there because the flowers were pretty, but generally my husband disliked that sort of thing. We never attended the Bereaved Relatives Association meetings.

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Yes, his grave is in the Aoyama Cemetary and I go to visit it once each month. But, although I suppose I may be scolded for saying this, I don't feel like going to visit Yasukuni in the future and I don't intend to make an offering to the spirit of the departed with the shield sent as a remembrance at the time of the enshrinement."

Of course, the Umetsu family has a style of life unusual among families of the bereaved, and most bereaved families take the enshrinement as something to be thankful for.

However, feelings such as those of the Umetsu family may, unexpectedly, suggest a way of easily unraveling this difficult puzzle of Yasukuni Shrine.

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ECONOMIC

EXPERTS VIEW OIL PRICE HIKE, ECONOMIC GROWTH RATE

Tokyo MAINICHI SHIMBUN in Japanese 30 Jun 79 Morning Edition p 7 OW

[Remarks at a 29 June MAINICHI SHIMBUN roundtable talk entitled: "On the Conclusion of the Tokyo Summit," attended by former foreign minister Kiichi Miyazawa, director of the Japan Socialist Party International Affairs Department Tamio Kawakami, and Tokyo University Professor Tadao Uchida]

[Excerpt] [Question] Will the rising oil prices cause changes in the industrial structure?

[Uchida] Before we move on to the question of the industrial structure, I, as a citizen of this country, am concerned about the impact of the latest OPEC price hike that will, as widely speculated, be felt more strongly next year than this year. Dominant speculation has it that our nation's growth rate next year will be down to 2-3 percent.

Employers may change their minds and we may see changes in the economic trends in the latter half of this year as factors contributing to the refloating of the economy, including outlays for plants and equipment which industries have barely resumed, may disappear.

The impact of these changes will begin to be felt next year, not this year. A 2-3 percent growth rate will cause the unemployment rate to rise and prices to soar. The current account balance is expected to suffer a \$7 billion loss in the oil area alone, and if the anticipated loss in the primary products area is included, the figure will be more than \$10 billion, according to preliminary computations by the Economic Planning Agency.

Therefore, I do not believe that there is a basis for optimism so far as the nation's short-term economic prospects are concerned. We may indeed be allowed to be optimistic to a limited degree sometime next year, but the question is whether or not the nation can manage its economy in such a way as to keep it on the regular track in the year after next.

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A 7-year plan, which will shortly be announced, is expected to envisage a growth rate at 5-6 percent. The authorities should make clear now if they truly believe that the Japanese economy can achieve such a growth rate on a steady basis.

[Miyazawa] Needless to say, efforts made by Japan alone are not enough to warrant optimism. However, if all consuming nations take concerted steps we may not hear about another oil price hike for the time being. What I fear most seriously is that uncertain factors brought on by the oil price hike might leave industries unwilling for an indefinite period to make investments in plants and equipment, thus turning the economy into one characterized by excessive demand.

Suppose there is no oil price hike again for the time being, then I should say that we can secure a growth rate to a certain extent. I, of course, say this on the assumption that things all go well for us in the future.

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ECONOMIC

VARIOUS SOURCES REPORT ON OPEC PRICE HIKE

## 'ASAHI' on Price Hike

Tokyo ASAHI EVENING NEWS in English 30 Jun 79 p 2 OW

[ASAHI SHIMBUN 29 June editorial: "OPEC's Oil Price Hike"]

[Excerpts] The general meeting of the Organization of Petroleum Exporting Countries in Geneva arrived at a decision one step ahead of the Tokyo summit and this year's third increase in crude prices will be put into effect in July. The percentage of the increase is quite large.

The existence of a number of different prices for crude in international markets was unaffected by the decision, which was aimed at raising the general level of prices. In this connection, the effect of the decision on the global economy is likely to be greater than that of the decisions made at the Tokyo summit. The principal interest is now in the kind of effective joint strategy the major advanced nations, which are having trouble resolving differences of opinion on restricting oil imports, will adopt.

The principal feature of the latest oil crisis is that it results from the structural imbalance in the supply and demand situation. The first oil crisis six years ago resulted from a politically-motivated ban on oil exports by the Arab oil producing countries, which wanted to make the world aware of the "Arab cause." It was a temporary crisis for normal after the ban on oil exports had been lifted. The present crisis has arisen because the Iranian revolution has brought on the shortage which, it was predicted, should occur around 1985. The situation is gradually deteriorating and we cannot be optimistic about future supplies of oil.

In the first day of debate in the Tokyo summit, the leaders agreed that a bold policy of cooperation must be drafted to cope with the energy problem. The leaders also agreed that more effort should be made to develop and use coal and other alternative sources of energy, that the development of nuclear energy should not be delayed and that a dialogue with the OPEC should be encouraged. But opinions differed widely on the

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methods to be used in restricting oil imports to achieve a five percent reduction in oil consumption and on voluntary controls on purchasing oil at high prices on the spot market.

In order to cut the vicious cycle of rising crude prices in the international oil market, the oil consuming countries can only cooperate and draft radical plans for reducing oil consumption. This is also of major importance in preparing the ground for a dialogue with the oil producing countries. We sincerely hope that the Tokyo summit will arrive at a dispassionate and realistic agreement on the matter.

Second, there is no force which might lead to stability and prevent another crisis, and in the political field the causes for anxiety have increased. After the first oil crisis, the world economy went into a recession, but the oil supply and demand situation improved temporarily as a result of the decreased demand--the "self-righting" tendencies of the market had come into play. It seemed that American foreign policy toward Saudi Arabia and Iran had succeeded. But now that Iran has walked out from under the American umbrella, Saudi Arabia is being more critical of the United States over the problem of peace in the Middle East. The stabilizing force which kept increases in crude oil prices within reasonable limits has greatly diminished.

Third, the major oil companies, which had spread their sales network throughout the world, have lost the power they had. In the latest meeting, the oil producing countries reduced the amount of oil they will hand over to the major oil companies, and correspondingly increased the amount they will sell in direct deals and on the spot market. The confusion in the distribution routes resulting from these steps is making the situation worse. Undoubtedly, there is the factor of an artificial demand on a global scale stimulated by the anticipation of higher crude prices. But it is a fact that Japan's oil refining and wholesaling industries have received successive notices from major oil companies that they are reducing their supply of crude to Japan, and this is increasing anxieties about the future.

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#### Businessmen on Price Hike

Tokyo ASAHI EVENING NEWS in English 29 Jun 79 p 1 OW

[Excerpts] Businessmen here reacted to the new oil price increase Thursday by calling on the government to adopt a bold long-term energy policy to secure supplies and develop new energy sources.

Economic circles had expected the big rise in the oil price, but they expressed serious anxiety over its effects on economic growth and consumer prices. They also declared they would increase efforts to conserve oil.

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President Yoshimasa Matsunaga of Nippon Light Metal Co., an aluminum product manufacturer which consumes a large amount of energy, said, "the increase in oll prices will affect our business seriously and we will have to offset the damage by raising the prices of our products."

Hiroshi Yoshiyama, president of Hitachi, Ltd., called for a "bold government energy policy" and promised the industry's cooperation. Hosai Hyuga, president of the Kansaj Federation of Economic Organizations (Kankeiren), asked the government to take adequate measures to prevent a rise in consumer prices, but he also warned the government against enforcing direct demandcontrol policies, such as a raise in the Bank of Japan's official discount rate and cuts in fiscal spending, which would dampen the economic recovery.

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#### Energy Policy Review

Tokyo MAINICHI DAILY NEWS in English 30 Jun 79 p 5 OW

[Excerpts] The government will review its energy policy thoroughly in the wake of the latest crude oil price boost by the Organization of Petroleum Exporting Countries (OPEC) and do its best to prevent it from adding fuel to growing inflation in the nation, government sources said Thursday.

The sources said that the projected wholesale review of the energy policy would begin as soon as possible.

The sources said the government regards the recent oil situation as the recurrence of the 1973 oil crisis.

The government thus plans to mobilize every conceivable countermeasure to tide over the "second oil crisis," the sources said.

With the Ministry of International Trade and Industry and the National Resources and Energy Agency taking the initiative, the government will instruct domestic oil refiners to minimize the anticipated increase in prices of oil products and closely watch moves among industries to raise prices under the pretext of the crude oil price increases.

At the same time, it will review its oil supply plan and a provisional long-term energy supply-demand estimate, enforce stronger oil-saving measures and promote development of alternative energy sources, according to the sources.

Regarding the OPEC decision's effect on the nation's price situation, the government sources expressed concern that it will inevitably add fuel to inflationary pressure which has been already building up for the past several months as a result of soaring crude oil prices on the spot markets and tightening oil supplies in the wake of the Iranian revolution last February.

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The sources quoted government and Bank of Japan officials as saying that they would closely watch the nation's price situation for the time being.

The officials, however, fear that the latest OPEC oil price raise will certainly spur the inflationary tendency with industries raising prices of their products under the excuse of the oil price hike.

The government and the Bank of Japan thus plan to take every conceivable fiscal and monetary scheme, including a further raise in the official discount rate, to prevent further escalation of the inflationary tendency, the sources said. The Bank of Japan increased the official discount rate by 0.75 percent to 4.25 percent last April.

According to government calculations, a 10 percent raise in the import price of crude oil pushes up the nation's wholesale price index by 0.7 percent.

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#### 'YOMIURI' Criticizes Optimism

Tokyo THE DAILY YOMIURI in English 1 Jul 79 p 2 OW

[Excerpts] The Japanese economy is certain to face tough going as a result of the hefty oil price increase by the Organization of Petroleum Exporting Countries (OPEC).

In the face of this gloomy prospect, Prime Minister Ohira, who acted as chairman of the summit meeting, told a press conference that Japan will be able to maintain a 6.3 percent economic growth rate and stabilize and adjust commodity prices.

We are at a loss to understand how the prime minister can take such an optimistic view when the Tokyo declaration warned of worsening inflation and a lowering of economic growth.

The premier should be more candid in explaining the effect of the large oil price hike to the people in order to enlist their cooperation.

The higher oil price is certain to accelerate inflation around the world. In Japan, it will slow down business activities, resulting in simultaneous price inflation and economic deflation.

Serious Shock on Economy

In these circumstances, the government must place top priority on curbing inflation through well-considered policies.

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According to an interim government estimate, the oil price hike this time will push commodity prices up by 0.9 percent and consumer prices by 0.3 percent, while lowering the real economic growth by 0.3 percent. The shock on the Japanese economy will be more serious than expected.

With crude oil to cost \$20 per barrel, future economic planning will be much more difficult than in the first oil crisis. It will be like walking a tightrope over the abysses of inflation and business recession. One false move will plunge us over the edge.

If speculative activities create false demand, then another round of frenzied price rises will ensue.

The government must not hesitate to curb total demand by employing both fiscal and financial measures to keep commodity prices down to a reasonable level.

Deflation and Inflation

Only by holding down inflation can a stable business recovery be achieved.

The matter is not all that simple because it is also necessary to check deflation at the same time.

Unless total demand can be curbed properly, deflation will gain the upper hand and the economy will hit the rocks.

If business goes into a tailspin, there are almost no corrective measures that can be taken. Fiscal pump-priming is out because the budget is in deficit. There is also a limit to export expansion from the standpoint of international cooperation.

There can be only one answer. The government must face facts, avoid unfounded optimism and work on the problem of putting our economy back into shape with the utmost deliberation.

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SALIENT POINTS IN OFFSHORE OIL DEVELOPMENT PRESENTED

Tokyo NIKKEI BUSINESS in Japanese 7 May 79 pp 90-93

[Article by Hiroyuki Nakahara, Researcher, Ocean Industry Research Society (Kaiyo Sangyo Kenkyukai)]

[Excerpts] Japan's offshore petroleum resource volume is about 1.3 billion kiloliters. Most of this is said to be located in the heretofore untapped area around Okinawa and in the East China Sea.

In order to bring domestic oil production to 14 million kiloliters by 1990, investment of approximately 2.4 trillion yen over the next 12-year period is needed.

Cooperation with the fishery industry is the essential key to the promotion of petroleum prospecting and development.

First of all, there is the advantage of being able to conduct development under a politically stable environment. Generally speaking, petroleum development involves following stages: acquisition of mining site--physical survey--test digging (discovery)--development--production. It takes 2-4 years before the development phase is reached; and once production is launched, the operation will engage 15 to 20 years. Thus, threats to the operation resulting from political change and so on are to be avoided as much as possible. Secondly, it would mean that there will be a stockpile to fall back on in an emergency and it would also mean ranking (deposits?). That is to say, it has the significance of a petroleum reserve policy. Thirdly, the fact that the Japanese [petroleum] industry is going to do the actual developing will result in fostering technological accumulation. This will serve as a stimulant to autonomous development of crude oil overseas; and it can also serve as Japan's negotiating streigth in joint development efforts. Fourthly, it would contribute to development of various technologies related to the use of the sea. And fifthly the money invested in the development will create significant ripple effect in various industries. These then are the positive results that are anticipated from the offshore oil development project.

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#### ECONOMIC

GAS PIPELINE IN SIBERIA: UNITED STATES, JAPAN, USSR AGREE ON OL'GA ROUTE

Tokyo ASAHI SHIMBUN in Japanese 26 Apr 79 p 4

<u>/Text</u>/ On the 25th the Japan-USSR Economic Committee (Japan's delegate is Kasao Nagano, head of the Japan Chamber of Commerce) disclosed that Japan, the United States, and the Soviet Union have reached agreement to adopt the "Ol'Ga route" as the route for transporting natural gas from the Yakut gas fields in Eastern Siberia. Aimed at beginning operations in 1985, this agreement is a major breakthrough in what had become a major obstacle to development of these fields. By accepting this, the Soviet Union agreed to complete surveys of the size of the gas fields by next spring to make sure they contain the 1 trillion cubic meters necessary for development, to hold a trilateral conference next June or July in Leningrad (the United States and Japan will be represented by private groups), and to cooperate in the actual development process after the prospecting stages such as with the actual drilling and pipeline construction.

This project is a joint venture by the three countries of Japan, the Soviet Union, and the United States. The Japanese participant is the Natural Gas Commission from the Japan-Soviet Economic Committee (headed by Koh Yasuda, president of Tokyo Gas Co., Ltd.), the U.S. participant is the Siberia Natural Gas Company (headed by Howard Boyd, chairman of the El Paso Company), and the Soviet Union participants are from its Foreign Trade Ministry. This project is the largest of all joint Japanese-Soviet economic cooperation ventures in progress at the present time. It will supply the United States and Japan each 10 billion cubic meters of gas yearly (7.5 million tons) over 25 years starting in 1985.

Even though natural gas accounts for almost one half of the energy resources of Tokyo Gas, they only import 3 billion cubic meters per year now, and so the plan is for the extra to be supplied to other municipal gas companies, power companies, and the steel companies. If only from the viewpoint of the problems associated with oil and atomic energy, Japan has great expectations for Yakut natural gas. Because the just under 1 billion dollars estimated for development will be provided half each by U.S. and Japanese bank loans (inter-bank), and Japan and the United States will provide the pipe and excavation equipment, the pipeline will mean a great increase in the amount of Japanese-Soviet trade.

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Already reserves of 825 billion cubic meters were verified last May, and it was anticipated that reserves of 1 trillion cubic meters would be confirmed this year. However, at the trilateral conference held in the United States last month, there were no reports of gas beyond those of last May. However, according to the Japanese-Soviet Economic Committee, this was because 1) prospecting was greatly delayed by unusually adverse weather, and 2) since U.S.-made computer equipment essential for the operations fell under the classification of strategic goods, considerable time was required to obtain export approval. The computer was finally delivered in February, and even though they will be set back half a year from the original schedule of confirming the 1 trillion cubic meters, leaders are confident that this poses no problems.

Rather, the thing that became the biggest headache was selection of the route for transporting the gas. Last year, the Soviets proposed a study be made of changing the original route (the Ol'ga route, 3,523 kilometers long) to either the shorter "Magadan route" (2,155 kilometers) or the "Sakhalin route," which would also make possible transporting gas from the Sakhalin continental shelf (3,947 kilometers).

Because Japan has favored the Ol'ga route from the beginning, "The past year of studying the Soviet proposals has been a very trying period (Chairman Yasuda)." In the end, however, the Soviets and the United States agreed with Japan's claims that 1) the Magadan route was too far north, posing severe problems with ocean transport in winter, and 2) there is no suitable place to construct a liquefaction plant and shipping terminal around Wakkanai City in Hokkaido, and it would be impossible to build a pipeline through Hokkaido. Accordingly, it was agreed to construct a liquefaction and shipping base at Ol'ga north of Nakkodka.



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# ECONOMIC PLANNING AGENCY READIES SEVEN-YEAR PROGRAM

Tokyo THE JAPAN TIMES in English 1 Jul 79 p 5 OW

[Text] The Economic Planning Agency (EPA) will complete drafting a new seven-year economic and social development program (fiscal 1970-[as printed] 1985) by mid-July, agency sources said Saturday.

The agency the sources said, will explain its drafting schedule to the planning subcommittee of the economic council, an advisory body to the prime minister, Wednesday.

The EPA has been working out the new program, which is to replace the "economic plan for the second half of the 1970s" as the basis of the nation's medium-term economic policy, since last autumn.

It has so far been unable to come up with a final drafting schedule, pending the outcome of the seven-nation economic summit in Tokyo. The agency has been waiting for the results of the summit, which ended Friday, in connection with an oil supply-demand estimate to be incorporated into the fiscal 1979-85 program.

The EPA had feared that this country might be forced to reduce its oil imports drastically to below 390 million kl--the level of oil imports in 1985 originally envisaged by the agency for incorporation into the new development program.

But according to an agreement reached among the seven nations at the summit on their oil imports through 1985, Japan can import 6.3 to 6.9 million barrels of oil a day in 1985. This means that Japan can import up to 400,400,000 kl of oil in 1985 on an annual basis, or slightly more than originally envisaged by the agency.

The EPA is thus no longer required to amend the oil import estimate for 1985, which is to be incorporated into the fiscal 1979-85 development program.

The EPA has therefore decided to complete its drafting by mid-July, the agency sources said.

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ECONOMIC

# EXPERTS SAY JAPAN WILL SURVIVE ENERGY CRISIS

Tokyo SHUKAN ASAHI in Japanese 15 Jun 79 pp 157-162

[Panel discussion moderated by Keitaro Hasegawa, a critic; Panelist A, a nuclear powerplant specialist; B, a person in charge of petroleum division of a major trade corporation; C, a high ranking bureaucrat in the MITI]

[Text] Can a small island country, Japan, with a population of 120 million survive? The critic noted for keen analyses, Keitaro Hasegawa was asked to delve into this critical subject. The first of this series, the energy crisis, follows. The panelists who are men on the front line will remain anonymous, reveal the facts.

Moderator: The energy situation is becoming more critical by the day. The fall of royal rule in Iran triggered a shortage in petroleum supplies which has forced a series of price increases reaching as high as \$40 a barrel on some spot markets. Some do not see the gasoline panic in California as a "mere dire circumstance on the opposite shore." And the accident at Three Mile Island doesn't seem to leave room for optimistically viewing nuclear energy as an alternate energy source.

A: There will be violent repercussions from the Three Mile incident in Japan. Although it is not clear as to what policy maneuvers will be undertaken in the United States, if it should come up with a poorly conceived one, it will snap back on Japan. We in the electric power industry are keeping a watch on which way it goes with bated breath.

Moderator: You imply that there is a possibility that the United States might clamp down on nuclear powered generators on an overall scale.

A: There is ample possibility of that happening. Since Japan has a strong tendency to go along with what the United States does, if we were to shut down all of our nuclear generators--which account for 13 percent of all of the electric power generated--there would be a real panic. Whether or not the cease operation order of the Oi nuclear powerplant is lifted or not will be the decisive factor. As a matter of fact, there is something fishy about the shut-down itself.

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Moderator: Let's get back to the circumstances surrounding that incident at a later time. Mr B, will the California gasoline panic have a ripple effect on Japan?

B: Not initially. California's refining capacity including the majors, the big independents and the medium to small enterprises, totals about 2.37 million barrels a day. Japan's is about 6 billion barrels so theirs equates to about 40 percent. There has been a shortfall of crude fed to those refineries which has been covered by heavy bodies Alaskan crude and that has resulted in a drop in crude to gasoline ratio to 19 percent from 24 percent for the United States as a whole.

If crude is refined at the rate of gasoline consumption, residual heavy oil will increase at such a rate that storage tanks will overflow. Moreover, because of violent opposition from environmentalists, additional plants to break down heavy oil cannot be built and even if these objections could be overcome, they would not be built because refining costs would make it impossible to pay a fair return on capital investment. For these reasons no steps are being taken to built heavy oil processing plants.

Moderator: If heavy oil processing plants were built, what would the gasoline production rate be?

B: Thirty-six percent. Even Alaska crude would yield 36 percent but the rate of gasoline consumption in the United States is 40 percent of all crude products so there will still be a shortfall.

Moderator: In other words, in the light grade crude shortage environment, the United States is structured for a shortage of gasoline.

B: Since Japan's gasoline consumption rate is about 12 percent, there is a difference in the gasoline consumption structure between us and the United States. California's gasoline panic must be considered as unique to the United States.

In the Final Analysis, Supply Assurance Rests on Price

Moderator: Mr C, what is the government's view?

C: In complete agreement with Mr B's opinions. The United States is being too lax in conserving energy. Even the recent IEA warning was nothing more than covering fire for Schlesinger (secretary of Energy Department). It was just a measure to help implement the Carter administration's energy policy which is being resisted by Congress.

B: In other words, IEA is acting out what Schlesinger can't say. (laughter)

Moderator: What's the basis for congressional opposition?

C: Fear that energy conservation would lower the standard of living of the American people. They have been using cheap energy as if it were water in maintaining their irresponsible lifestyle--that is, until now. They raise the roof about repeated raises in gasoline prices. So it costs a dollar a gallon--just about half of what it costs in Japan. That's why Americans have been able to drive around in cars the size of tanks without a care. Natural gas and electricity costs are a third or a quarter of Japan's. Even with salaries smaller than ours, they can afford to consume twice as much energy as we can.

B: That is exactly right. There is no industry which is more severely regulated by the government than the petroleum industry in the United States. Even now, the price for crude is \$5.10 a barrel for "old oil". Medium to small refineries are subsidized under the small refineries bias entitlement act. There is nothing like the preferential treatment given to the price mechanism as in Japan. Of course, like fuel oil in Japan, there are instances where items are overregulated. (C smiles sourly) And with the recent policy change, price mechanism operations have been facilitated so there is no comparison between us and the United States.

C: Utilization of the price mechanism offers the best means of implementing energy conservation smoothly. But it won't work by lowering prices. Even holding down prices to the extent advocated by consumer groups would tend to intensify the energy crisis. Gasoline panic in the United States can be blamed on low prices.

Moderator: We hear of crude supply shortages. Is there a possibility that Japan will have a petroleum shortage?

C: Speaking honestly, we are uneasy. There are those who have faith in the efforts of the giant traders to pull us through but until we actually have the crude in hand, we can't feel really comfortable.

B: We can understand the government's concern because it isn't as if the government is bringing the crude in itself and reports and intelligence made available to if from the private sector aren't always precisely accurate. If the government views matters too optimistically and a shortage does occur there would be the devil to pay; on the other hand, if it promoted a negative attitude, we would have a replay of the earlier oil shock.

Moderator: I don't suppose there is a really fair neutral ground. The energy supply problem boils down to a matter of selling and buying, a business deal. One has to stand with the sellers or buyers. So with which does the government stand? (all laugh sourly)

C: You put me on the spot but since the matter has been developed to this point, I can't weasel out of answering. I'd like to say "with the buyers" but factually, it is with the sellers: Bluntly, if supplies are to be

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assured, we have to take the sellers' stand and if the oil producing countries raise prices, let them be reflected in the domestic retailers' prices. We have to assume that stance. If we were to take sides with the buyer we would find ourselves in America's shoes.

Moderator: That seems like a major turn about; when did the change take place?

C: If I had to pinpoint it, I would say that it was within the past year.

Moderator: Was it due to the revision of Petroleum Corporation regulation? What was the specific incident which caused the directional change in policy?

C: Please let me off the hook on that one or I'll be up for violating the National Public Service Personnel Act. (all burst out laughing)

B: Classifying the assurance of crude supply as a business matter is absolutely right. It is necessary for the oil producing countries to view the situation with a businessman's eyes. We who are in the trading business clearly understand this point. To put it honestly, crude importations by Japan are causing a deterioration of the powers of the majors. The vacuum thus formed is being filled by Japan's traders. Our traders' share was only 10 percent at the time of the earlier oil shock; last year it was 33 percent and 50 percent is estimated for this year.

Japan's Traders Replace the Majors

Moderator: That means that the trading companies are devouring the majors' share. Mr C, how does the government view what Mr B just described?

C: Exactly as he perceives. The government respects the contribution being made by the trading companies (explosion of laughter) The only this is that the government finds difficulty in completely understanding some of the things the trading companies do (another burst of laughter).

B: The trading companies do not keep the government informed of each and every importation of AA category items (free import items). The petroleum producing countries find it more profitable to deal with Japanese traders than with the majors.

Moderator: Crude is the only item the majors deal in. Japanese traders can make deals for foodstuff, clothing and such daily living needs as well cooperating with the oil producing countries to build industrial plants in their industrialization programs. Give and take type of arrangements can be made. A financier close to oil producing countries let drop that when cooperation in industrialization was requested, Japanese trading companies offered every possible service much to the gratification of the

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producing country. Even when the oil producing countries were engaged solely in exporting crude, they realized that it would be to their advantage to redtrain the power of the majors but they didn't know who they should tie themselves to. It is only within the past 4 or 5 years that they began to grasp the real strength of Japanese trading companies.

B: That's because the complete trading company is uniquely Japanese. It could be said that it is the brainchild of the Japanese. Oil producing countries can't exist on sales of oil alone. As a fund for consumer goods, it has to be used to purchase grain, food meats, vegetable, fruits, canned goods as well as clothing, general merchandise, automobiles, televisions, for durable goods, for construction material such as cement and steel. After all, those desert countries which have nothing except oil, have to bring in every item necessary to life. By turning over the responsibility for procuring these many and varied items to a Japanese trading company, they are supplied with everything but only to the extent needed and at the world's lowest prices. Particularly, in the delivery of military materiel, there is none to compare with the Japanese trader.

Moderator: Let's knock off the PR promotions at about this point and get into a subject which needs to be viewed on a longer range basis: How did the Three Mile Island accident come about?

A: Probably because the maker of the nuclear reactor was Babcock--a boiler maker. Westinghouse or GE, which are the pick in the field of nuclear reactors, have a certain fear of nuclear energy. So they design in extra safety devices even when they seem to be superfluous. Babcock, on the other and, separated the reactor from the boiler in designing the unit and cut out everything that seemed superfluous. Since it was a boiler cored nuclear reactor, an accident or a malfunction in the turbine would not immediately douse the boiler heat. In GE and Westinghouse models, even the slightest trouble with the turbine would automatically shut down the nuclear reactor. That overly precautious approach leads to poor efficiency, says Babcock. "A little trouble will not interrupt our nuclear reactor's operation," was Babcock's theme song.

Cost Factor Disregarded in Nuclear Reactor Construction Race

Moderator: Seems strange that it wasn't caught as being in violation of Atomic Energy Commission regulations.

A: In the United States, it's a matter of the maker and the Safety Commission playing a game of outsmarting each other. The makers stay within the regulation but only barely and if there is a loophole, they utilize it; new regulation may plug that loophole but the makers accept it as a challenge to slip through another one. And so it goes. This sort of thing leads to nowhere good.

C: In Japan, there is administrative guidance. Regulations are regulations but where a vulnerability is thought to exist, the maker is called in and requested to take adequate steps. That one word is sufficient to make the maker make appropriate corrections. Things wouldn't proceed smoothly if we tried to blind them with clearly written texts. (laughter)

Moderator: That's typically Japanese. Leaving that aside, are nuclear powered generators a necessity in Japan?

A: That hasn't been clearly established.

Moderator: What do you mean by that? It is all right for a man in the nuclear energy business to say such a thing? (all burst our laughing)

A: To tell the truth, the cost of nuclear powered generators isn't really known. We know the budgeted cost of plant construction, but the real construction cost doesn't seem to go along with the estimates--not with any of the nuclear powerplants. Even in the matter of cost of operation, the unit procurement price of the heating rods have never been published. Under such circumstances, it is impossible to pin down the real cost. The economics of nuclear powerplants is enshrouded in darkness. Being unable to estimate how much less it is in comparison with oil and coal, we can't say how necessary it is for Japan to generate electricity with nuclear energy.

Moderator: Then why is as much as 13 percent of our electricity generated through nuclear energy?

A: Probably because it's a status symbol for the electric power companies. (explosive laughter) The nine companies try to outdo each other, you know. In any event, if one has it, the others try to make it too. The government doesn't have any clear policy, so it says nothing. The result: A sales war among nuclear generator makers.

Moderator: Is that good for Japan?

A: If it's economical, more the merrier. But what Japan is using as nuclear generator costs right now are U.S. data. We don't have any real cost figures for Japan so wen't tell whether it's good or bad.

C: Radiation becomes a problem with nuclear reactors; Japan is very allergic to nuclear radiation so we wonder whether more nuclear reactors should be built or not. That point should be given careful consideration.

A: If we are talking about being subjected to direct attacks by nuclear weapons, that's one thing. But it seems problematical whether people would die from the amount of radioactive radiation from nuclear reactors. How much exposure to radioactivity leads to death? In areas such as the state of Kerala in India which has a high degree of natural radioactivity, people's

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lives are not noticeably shortened. Data from the Nevada nuclear explosion experiments are still under study but it seems apparent that unless people are exposed to huge amounts of radioactive fallout, they do not die.

Effective Utilization Rate of Energy Far Outstrips United States

Moderator: You're referring to that nuclear experiment that used soldiers?

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A: Yes. Some pretty rough stuff was undertaken such as charging into the contaminated area immediately after the nuclear explosion in tanks. If radiation is the source of fear, coal fires are far more fearsome. They emit far greater amounts of radioactive materials than do nuclear reactors in normal operation. The general public is much too ignorant on these points.

B: The trouble is that in dealing with the energy problem, long range strategies and immediate future tactics are apt to get thrown into the same pot resulting in chaotic confusions. As for the immediate problem, the trading companies will stick to their guns to keep procuring oil so there will be no crisis, at least for Japan. For the more distant future, oil will be supplied only to those segments such as the transportation industry which require energy in liquid form, while others will be served by hydropower, coal burners and nuclear energy. That is most logical. Now, isn't it the responsibility of government to put this rationale into practice?

Moderator: At the recent IEA, a goal of .8 for the rate of return on energy expended was established as an energy conservation measure. Japan has achieved this goal but the United States remains at 1.2. In the 5 years since the oil shock, Japan's energy conservation effort has reduced the ratio from 1.3 to .36 but the Unistes has maintained the status quo. The urgings of the IEA were, in effect, covering fire for Schlesinger. The difference in the underlying strengths between Japan and the United States shows up graphically.

C: That's for sure. There's practically no quantitative difference in the amount of oil held in reserve between the United States and Japan. If we aren't careful, there's a possibility that Japan will be called on to replenish America's reserve stock if the IEA implements an emergency reserve cooperative.

Moderator: In the energy situation Japan and the United States certainly produce a picture of contrasts; it's the fabled ant and the grasshopper brought to reality!

B: One really has to wonder what the United States is thinking about. The California gasoline panic was, of course, predictable so the big dealers was prepared for it. Responsibility for the panic has to be placed at the doorstep of the completely ignorant general consumer.

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A: We Japanese can't really laugh at the Americans. Earlier, reference was made to the shutdown of the Oi nuclear powerplant. Prematurely swallowing information from the United States, the safety commission declared that "pressurized light water reactors are safe" before the incident below out of proportion. Then when things got to a chaotic stage leading President Carter to personally appear at the scene, the shutdown order was suddenly invoked. The shutdown was a whitewash attempt of a poorly conceived statement. An action taken after an orderly evacuation could be condemned but reacting to general circumstances makes it rough on the people on the scene. Don't you think so Mr C?

C: Well, that's outside of my jurisdiction. (all laugh) But I do think that there was that aspect. It looked as though the Safety Commission barked once to let people know of its existence.

[A] No Decrease in Japan's Crude Import Volume

In spite of a stoppage of imports from Iran, crude oil arrivals in Japan since the beginning of the year have shown no falloff.

Volume Clearing Customs (in 1,000 kiloliters)		Ratio to Same Month Last Year (%)
Jan	25,361	103.9
Feb	22,948	100.3
Mar	26,226	109.2
Apr	22,173	98.8
Total	96,708	103.2

#### (Source: Trade Official Report)

Seventeen percent of our imports had been from Iran but when that dropped to zero during this period, total imports showed an actual gain of 3 percent which meant that an additional 20 percent was procured from other oil producing nations. Where Japan alone is concerned, there has been no Iran shock effect.

Reserves in tanks dropped from 84.2 days' supply at the end of October last year to 73.8 days' worth at the end of March this year, or a drop of 10 days' worth. Taking into consideration that the period spanned the winter months during which consumption peaks, the decrease of 10 days' supply in half a year is not significant.

At the end of March, reserves in tanks amounted to 50.69 million kiloliters, 5.24 million kiloliters in oil tankers afloat and another 4.7 million kiloliters in tankers in ports which had not completed custom processing. These when added up, amount to 88 days' supply.

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[B] Japanese Traders Bite Into Oil Producing Countries

The important point in military procurement contracts is that a definite quantity of specified items be delivered on time. The military of all countries have clearly established standards for uniforms, footwear, underclothing and specifics as to type and quality of material, measurements, and even for such items as buttons and fasteners; if the order is for uniforms, for example, quantities such as 50,000 or 100,000 units to be delivered by the beginning of the fiscal year will be clearly specified.

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Only the big Japanese traders which carry textile, tailoring, and sundry other necessary industries under their wings can undertake to fill the orders in complete accord with the terms established. The oil producing countries which are in the process of development do not have even a textile industry let alone a clothes manufacturing facility.

Needs of the military besides arms and ammunition include such items as uniforms and other clothing, rolling stock such as trucks and jeeps, communication equipment and innumerable other categories of items. Pride and vanity requires the oil producing countries to up their military budgets on a broad scale and, for other reasons, they are becoming very large consumer markets. If left to the Japanese trader who is known to be capable to supplying everything from 10 mein [dehydrated noodles] to jet planes, all the varied items necessary to the military could be handled by a single order. When Japanese traders are not utilized, separate contracts will have to be drawn up for textiles, foodstuff, communication equipment, rolling stock, individually bringing about untold confusions because they will be put in the hands of incompetent officials incapable of handling the contracting procedures. The Japanese trader has achieved the foot-in-the-door into the oil producing countries because of its ability to singlehandedly satisfy the military's procurement programs.

[C] Upward Limits of Gasoline and Fuel Oil Prices

Because the OPEC member nations have haphazardly continued to increase prices on small investments, there has been about a 30 percent increase from last December's level by the end of May.

Naturally, the increase in cost of gasoline, light oils, fuel oils and other petroleum products is related to this increase in crude prices. Until early this year cut-rate gasoline could be bought for as little as 93 to 94 yen has become the standard market price. In May there was another small price rise and on 1 June, tax on gasoline is to be raised by 10.7 yen which will have to be absorbed by the consumer so the retail price should come to about 125 yen very shortly.

Household fuel oil will be raised by 4 yen plus per liter on 1 June by the distributor making it 31.6 yen per liter or up to 568.8 yen per 18 liter can. This is about a 15 percent increase.

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In the March domestic petroleum products price increases, the MITI issued an executive order exempting fuel oil from the increase. But because of the overly accelerated tempo of OPEC's price increases, it was seen that if the holddown was continued, the petroleum companies would be forced to operate in the red. Moreover, the price of fuel oil would become inordinately less than the price of other sources of energy (electricity, gas) which would lead to a rapid increase in fuel oil consumption inconsistent with the oil conservation policy. For these reasons, MITI decided to reverse its policy of holding down fuel oil prices and allow it to reflect crude oil costs.

The domestic petroleum products prices, including gasoline, are still at a lower rate than the price increases of the producing countries' export price increases. Since it is expected that the OPEC will increase the official prices at its general meeting in June, there are many who feel that fuel oil retailing at 1,000 per 18 liter can is a sure thing and that 130 yen a liter for gasoline as predicted by the petroleum companies will shortly become a reality.

[D] Rate of Radioactive Fallout From Coal Burners Ten-Fold of Nuclear Reactors

Coal contains miniscule quantities of radioactive substances such as uranium and thorium and besides carbon, contains  $C_{14}$ , an element of the same family which is a harmful substance.

Large quantities of coal is used in powerplant furnaces and the high temperatures at which it burns produces uranium, thorium, and other radioactive materials which is all contained in the waste gas that is released.

Although there is great variations in the actual harmful radioactive material contained in the waste gases from burned coal depending on the quality of the coal and in how the waste gases are processed, experts in the field place the radioactive material released by coal burning furnaces a minimum of 10 times of that radiated by nuclear power generating plants.

#### FOOTNOTES

1. Oil price deliveries to refineries are regulated in the United States according to oil produced by wells which were in operation prior to 1973---"old oil"---and those which started operating after then as "new oil.")

2. This refers to the rate of increase in energy required to increase the GNP by 1 percent; rate of return on energy consumed is based on a 1 percent energy consumption increase to 1 percent increase in GNP.)

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# BRIEFS

FUJITSU EXPORTS TO U.S.--In preparation for sale of F-model office computers under the Fujitsu brand name in the United States, Fujitsu has completed a market survey and is moving ahead rapidly on selecting U.S. firms to handle computer maintenance, software and support. Fujitsu wants to establish a United States-wide network and kick off a major sales offensive in December 1979. [Tokyo DEMPA SHIMBUN in Japanese 16 Jul 79 p 1]

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SCIENCE AND TECHNOLOGY

LIQUEFIED COAL, KING OF NEW ENERGY THRU 1985

Tokyo NIHON KOGYO SHIMBUN in Japanese 20 Jun 79 p 1

[Part 7 of serial article by (Bunsho) Kitamura, reporter: "Offense and Defense on Energy"]

[Text] Toward Tripled Increase of New Energy Percentage

"We are aiming to increase the percentage of new energy in the total energy supply in the JFY 1990 more than three-fold the former estimate to approximately 5 percent by greatly expanding the Sunshine Plan currently in progress." (Seiichi Ishizaka, director of the Agency of Industrial Science and Technology)

The Sunshine Plan started in 1975, the year after the "Oil Shock." The initial schedule was to evaluate the plan as a whole in 1980, which is the last year of the first stage, and to prepare for the second stage that spans from 1981 to 1991. The policy of the Agency of Industrial Science and Technology of the Ministry of International Trade and Industry is to accelerate the evaluation time by 1 year, and to place emphasis on projects having prospects for early practicalization. "We are revising the former leisurely plan to provide for post-2000 technology, and are planning to finish the projects that can be practicalized by 1990 as soon as possible, to incorporate into the energy policy." (Toshio Takada, general research and development officer of the Sunshine Plan Promotion Headquarters of the Agency of Industrial Science and Technology)

Currently, they are in the midst of this evaluation work, and there is a strong indication that the immediate developmental focus will be shifted to coal liquefaction and geothermal energy. As for hydrogen, the most important thermochemical methods have not come out of the stage of basic research, and it is out of the question to mobilize it by 1990. Regarding the use of solar energy also, it is likely to be after 1990 that large-scale generation of solar energy will become possible. Thus, of the 5 percent new energy in the year 1990 (approximately 40 million kiloliters in petroleum conversion), the percentage shared by coal liquefaction is expected to be 50-65 percent, geothermal energy, 20 percent, and 15-30 percent in other forms.

The recoverable coal deposits in the world are approximately 640 billion tons. Since the current output of coal is approximately 3.2 billion tons per year, assuming the mining rate to remain the same, it would last 200 years 60

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more in calculation. The reason coal was dethroned by petroleum was not only the price, but also the troublesome problem of transportation and storage because of the solid form, and the production of large amounts of ashes along with sulfuric acid gas, soot and dust when burned. If it is liquefied, these troubles are eliminated and it is possible to handle it the same as petroleum.

Results of International Joint Projects To Be Incorporated

Coal liquefaction is carried out in two ways: the solvent extraction process in which hydrogen is used to treat the pulverized coal while dissolving the coal in a solvent at a high temperature and a high pressure (approximately 450°C and 300 barometric pressure); and the direct hydrogenation process in which hydrogen is blown in at a high temperature and a high pressure in the presence of a catalyst to decompose the coal which combines with the hydrogen to liquefy. In the Sunshine Plan, both processes are about to "graduate" from the stage of basic research and are advancing toward the stage of plant construction. The Ministry of International Trade and Industry apparently intends to establish a system that enables liquefaction of any kind of coal in the world by further incorporating into the plan the results of the two international joint liquefaction projects, the "SRC II" agreed upon by the recent Japan-U.S. Scientific Research Cooperation Agreement and the "EDS" being advanced chiefly by commercial firms of Japan, the United States, and Germany.

The solvent extraction process being studied in the Sunshine Plan includes the Sunshine process (commissioned to Sumitomo Coal Mining Co., Ltd. and Sumitomo Metal Industries, Ltd.) and the solvolysis process (commissioned to Mitsubishi Heavy Industry, Ltd.). As for the solvolysis process, which is the only process of liquefaction without pressure, a bench-scale plant having a coal processing rate of 1 ton/day is already operating at the Nagasaki Shipyard of the Mitsubishi Heavy Industries, Ltd. The plan is to begin next the construction of a pilot plan having the processing rate of 40 ton/day in 1981, complete a demonstration plant with the rate of 3,000/5,000 ton/day by 1985 and move on to practicalization. The plan for the Sunshine process is: "A bench plant of 1-ton/day processing rate is under construction, after which construction of a pilot plant with 100-200 ton/day processing rate begins in 1983, and in about 1985-86, construction of a demonstration plant with 3,000-5,000 ton/day processing rate will begin." (Ichiro Okada, research and development officer).

Regarding the direct hydrogenation process (commissioned to Mitsui Shipbuilding and Engineering Co., Ltd.), the construction of bench plant with a daily processing rate of 2.4 tons begins in the next fiscal year. But, it has been decided to shift to a joint project according to the Japan-U.S. Scientific Research Cooperation Agreement, and "the plan is to begin operation of a demonstration plant with 5,000-7,000 ton/day processing rate in 1990" (Okada) by way of a pilot plant of 100-150 ton/day.

On the other hand, the plan for SRC II (solvent extraction process) is to construct a demonstration plant with a processing rate of 6,000 ton/day in

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Morgantown, West Virginia by 1985 with total investment of \$700 million and based on the technology of the Gulf Oil Corporation and to proceed with practicalization studies. Allotments of funds are 50 percent by the United States and 25 percent each by Japan and West Germany. The time for practicalization is estimated to be "after 1990 if all goes well." (Jun Oriyama, Resources and Energy Agency) "At a plant with a daily processing rate of 30,000 tons from which 60,000-65,000 barrels of fuel oil per day is obtainable, the production cost is estimated to be \$21.00 per barrel. (Oriyama) Since the calorific value is virtually the same as petroleum, those involved in the work regard it as fully competitive with petroleum at the time of practicalization if the cost can be held at the above estimate.

On the other hand, EDS (solvent extraction process) is a project being jointly advanced by the Exxon Corporation, Japan coal liquefaction technological development (participated in by 12 firms including Idemitsu Kosan, Tokyo Denryoku, etc.) in Japan, and Ruhrkohle AG of West Germany, and the pilot plant (250 ton/day) under construction in Bay Town, Texas is scheduled to be completed at the end of this year and begin operation next year. This process is "used mainly for the production of light and middle oils and differs in its target from the SRC II whose aim is to produce fuel oil for power generation." (Oriyama) Therefore, the Japanese government has also decided to support the project by subsidy, and practicalization will be around 1987 according to Exxon Corporation.

Budgetary Increase of 60 Percent Is Required Each Year

The geothermal energy generation, one of the two pillars of the new energy, is still very low, totaling 160,000 kilowatts from six sites. However, resources for 100 million kilowatts are estimated, including hot-rock belt energy, and the 1990 target power generation scale is set at about 4 million kilowatts (8 million/year by petroleum conversion). Thus, a 10,000-20,000 kilowatt class binary cycle generator (hot water power generation) is to be demonstrated within 2-3 years, and at the same time, development of a 10,000 kilowatt class binary generator using geothermal energy from the depth of 2,000-4,000 meters will begin. Concurrently, the plan also includes development of a hot-rock geothermal power generation system in which energy is removed from the rocks by pouring water onto the deep hot-rocks. Of these, regarding hot-rock power generation, triple collabration plans as in the case of coal liquefaction for construction and operation of a demonstration plant (thermal output of 50,000 kilowatts) are in progress and "although the final decision has not been made, the trend is for Japan to participate in the plan, since U.S. research has already made considerable progress." (Takada)

Based on the above script, the Agency of Industrial Science and Technology estimated the required funds for the Sunshine Plan through 1985 to be 580 billion yen. In order to secure the funds, approximately a 60 percent budgetary increase must be obtained annually. Thus, the successful development of the new energy is dependent on procuring these financial resources.

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# SCIENCE AND TECHNOLOGY

MITI AIMS AT BREAKTHROUGH STRATEGY FOR BASIC INDUSTRIES

Tokyo NIHON KEIZAI SHIMBUN in Japanese 18 May 79 p 3

[Text] Stagnation in technology innovation has been indicated, and MITI (Ministry of International Trade and Industry) plans to develop a "breakthrough strategy" to develop new materials and new manufacturing technology, aimed at the basic industries such as iron and steel, aluminum refining and petrochemicals. The content of the plan is to selectively incorporate plans for new technological development appropriate for an era of energy and resources conservation into the Large-scale Projects System and Moonlight Program (a system for research and development of energy conservation technology). The government seems to have in mind a revival of the basic industries during the 1980's by promotion of technology development.

Iron and Steel, and Aluminum Refining

Concretely, research and development and the practical application of new materials such as new plastic materials or ultra-high-temperature-resistant alloys in parallel with upping the pitch of development of direct iron-making and olefin manufacture technology in the system of large-scale projects being advanced for iron and steel and petrochemicals. By means of greatly increasing the budget to be poured into this large scale project system starting in JFY 1930, an attempt will be made to hasten the era of practical use of new manufacturing methods which are scheduled for after JFY 1985. Also, concerning the development of new materials, by the end of June, recipients of subsidies for research being advanced by all industries various firms will be decided and this will give side support for private development of new materials.

Moreover, besides activating the large scale projects system to develop new manufacturing methods for aluminum refining, the addition of aluminum refining to the Moonlight Project aimed at development of energy technology, is being studied on a case-by-case basis. Now, MITI is thinking of leading a push for technology development aimed at energy conservation in existing manufacturing processes for all kinds of produsts of major industries on the basis of the Energy Conservation Bill now before the Diet. At MITI, the

idea of promoting new materials and new technological developments in the basic industries will be included in the "Vision of International Trade and Industry Policy for the 1980's" (tentative name) for which preparations have started for a compilation target date of year-end 1979.

The reason MITI will promote technology development emphasizing in particular the basic industries sector is that almost nothing which could be called epoch-making technology innovation has come from those industries, when compared to electronics equipment or telecommunications equipment. There is a fear that if technological developments in the basic industries continue to flounder, 1. each firm's operating strategy will become defensive, since a desire for full-scale investment in equipment will not be forthcoming; and 2. they will fall behind in the heightened industrial structure competition with the advanced nations of Europe and the Americas. It can be anticipated tha that the competitive power of our country's basic industries, which are in a superior position internationally, will be weakened. On account of this, the government is trying to promote technological development from the aspect of industrial policy.

(Note) The large-scale project system is a system begun by MITI's Agency of Industrial Science and Technology in 1966, and is formally called "largescale industrial technology research and development system." The system promotes research and development using government funds on selectively chosen technologies that are considered leading and important but that would not be profitable for private enterprise [to pursue]. There are many instances where actual research was furthered by cooperative efforts of national experimental research institutions, universities and manufacturers.

The Science and Technology Agency will refer, on 18 May the question of how research and development should be in the future to the National Council on Aeronautical and Electronics Technology (Chairman Tsuyoshi Amijima) for the purpose of comprehensively advancing the development of special materials which can be used under such conditions as ultra-low temperatures, ultra-high pressure and ultra-high vacuums, which are called "extreme conditions"

At present, research and development of technology for ultra-high speed trains using magratic levitation nuclear fusion equipment, and artificial, synthetic diamonds is progressing, and the development of new materials which can withstand extreme conditions is considered a pressing need. At the same time that fundamental technology innovation is demanded in the development of these materials, there is a need for large-scale experimental facilities. In many instances, the development risks are great.

The Science and Technology Agency, based on these conditions has decided to redo the way research and development should be done with the aim of destroying the stagnated condition in technology innovation. The Council, at its first meeting, will set up a subcommittee on extreme conditions materials, and it is planning to prepare a draft report after one year.

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Main subjects of "breakthrough strategy":

--new manufacturing methods:

--iron and steel industry: direct iron manufacturing technology (in place of the present iron manufacturing methods, various kinds of iron and steel products will be produced using a multipurpose, high-temperature gas reactor. Presently under research and development under the largescale projects system).

--aluminum refining: new refining technology

--petrochemicals: new manufacturing technology for olefins, which have a high added value (with heavy oil as the raw material of such products as synthetic resin and synthetic textiles. Now under research and development under the large-scale projects systems).

--new products:

- --chemical industry: development of plastic materials that have new functions.
- --iron and steel industry: development of ultra-hightemperature-resistant materials and the like.
- --non-ferrous metals industry: development of new materials, such as ultra-high-temperature, heat-resistant alloys.

--improvement in manufacturing processes:

--all industries: development of technology for energy conservation.

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SCIENCE AND TECHNOLOGY

COMPLEX APPLIED LASER PRODUCTION SYSTEM JFY 1979 PROGRAM DECIDED

Tokyo NIHON KOGYO SHIMBUN in Japanese 1 Jun 79 p 1

[Text] The Complex Applied Laser System Research Association (Director: Akiyoshi Hisano, Toshiba Machine Co., Ltd. president) which is developing a "super-high efficiency complex applied laser production system: as one aspect of the Ministry of International Trade and Industry's large-scale project (Major Industrial Technology Research Development System), called an ordinary general meeting recently and determined its operational plan for 1979.

According to the plan, this project, which is now 3 years old, is ready to implement heretofore developed basic designs and to begin test production of various machines. The main goals of the plan are: (1) completion of test production of 5 kilowatt triaxial carbonic acid gas (CO<sub>2</sub>) laser oscillator by January-February of next year (Mitsubishi Electric Corporation is in charge) and (2) completion of test production of several kilowatt capacity alternating current servomotor to be housed in a composite slicer (Yasukawa Electric Manufacturing, Co., Ltd. is in charge). Starting this year, Sumitomo Electric Industries, Ltd. Horiba Manufacturing Plant will join the Association. The number of participating firms has reached 20.

The "Super-High Efficiency Complex Applied Laser Production System" Development Project is an attempt to develop a complex system which will enable flexible, rapid and well-integrated production of a variety of machine parts in small quantities. The project was launched in December 1977. In April 1978, the Research Association was formed and this year, the budget of 2.272 billion yen--5.8 times the amount allotted the previous year--has been assigned to it. (Of this amount, 1.85 billion yen is entrusted to the Association.) The development has advanced from the basic design phase to the full-scale test production stage. The design for the testing plant is scheduled to be completed in 1981, and completion and functional testing of the plant is planned during 1982-1983.

At present, the development task is divided among three groups of firms: (1) Applied Laser Technology = Mitsubishi Electric Corporation, Tokyo Shibaura Electric Co., Ltd. (high output laser oscillator); NEC (medium output laser oscillator); Sumitomo Electric Industries, Ltd. Horiba Plant (alkali halide 2-radical, 6-radical compound optical material); Matsushita Giken [Matsushita Technological Laboratory] (processing of the above noted

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material) (2) Raw Materials Processing = Aida Engineering; Shikawajima-Harima Heavy Industries Co., Ltd.; Mitsubishi Heavy Industries, Ltd.; Kobe Steel, Ltd. (3) Slicing (including automated assembly and automatic diagnosis) = Toshiba Machine Co., Ltd.; Toyota Machine Works. Ltd.; Yamasaki Iron Works; Makino Furaisu [transliteration] Manufacturing Plant; Hitachi Seiki Co., Ltd.; Yasukawa Electric Manufacturing Co., Ltd.; Fujitsu Fanac; Shin-Nihon Koki; Okuma Iron Works; Oki Electric Industry Company, Limited.

Each group is ready to conduct test production of major structural elements. Of the items listed for test production, two should be noted:

(1) Test Production of 5-kilowatt Level Triaxial Direct Current Model CO<sub>2</sub> Gas Laser Oscillator. As a preliminary stage for the final development goal of a 20-kilowatt class machine, a 5-kilowatt triaxial model is being developed by Mitsubishi Electric and a dual axis model, by Toshiba. Test production of the triaxial model is scheduled for January-February of 1980 and the dual axis model's test production is to be concluded by the middle of next year. This 5-kilowatt level laser oscillator will be the first of its class in Japan. (At present, Japan's highest capacity model's output is 2 kilowatts developed by Hitachi, Ltd.) The ripple effect from these innovations is anticiapted.

(2) Alternating Current Servomotor for Compound Slicer. The new complex production system employs module construction and thus, the servomotor has to be built into the machine. Yasukawa Electric's micro-computerized alternating current servomotor provided the answer and it replaces the direct current machines. Its chief characteristic is (muhoshu). Test production of a several kilowatt capacity model will be completed this year (final objective--30 kilowatts) and built-in testing is slated for 1980.

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SCIENCE AND TECHNOLOGY

OVERSEAS CENETIC ENGINEERING SURVEY GROUP FILES REPORT

Tokyo KAGAKU in Japanese Vol 49, No 6, Jun 79 pp 404-405

[Text] The Overseas Survey Group (Tadasu Yamamoto, Tokyo Metropolitan Clinical Medicine Research Laboratory head, group leader) sent by the government to investigate the state of the world's genetic engineering research released its report on 8 May. Group Leader Yamamoto stated that, "the world is moving in the direction of relaxing restrictions on research, and I feel that there is a necessity for Japan, also, to aggressively move forward with research."

The Survey Group visited four countries, the United States, Great Britain, Switzerland, and West Germany. Contents of the report were as follows (in summary).

(America) Investigation centered upon the National Institutes of Health (NIH). Since January a policy one degree more lenient with respect to experimental standards has been in force, and with the prospect that yeast and B. Subtilus will be added to the list of safe hosts in the near future, regulations are steadily becoming more relaxed. This is thought to be due to the fact that, has a result of repeated experiments conducted under the strict guidelines, established in 1976, a majority of opinion has come to hold that it is inconceivable that there could be special danger arising from recombined DNA other than the danger typically arising from pathogenic viruses. Concerning this country as well, the advice was frequently heard that a policy should be created utilizing the American experience.

In order to make even those (principally businesses) not receiving financial assistance from NIH and other government agencies adhere to the NIH guidelines, the Food and Drug Administration (FDA) is inviting wide comment from those under its supervision and is expected to reveal its attitude sometime after the end of June.

With the relaxation of guidelines even more research is being promoted, and the impression was that most of what is being contemplated in this country is already under way. NIH has already approved over 600 experiments and is

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spending over \$580,000 yearly. This field appears to be one in which America will have the lead for the present.

There are five P 4 high level safety facilities in the United States, but recombinant DNA research is being carried out at a total of three places, two within NIH, and one at the Frederick Cancer Research Laboratory. The division of labor between government and private scholars has progressed fairly far, and quite a few firms (venture businesses) whose main concern is genetic transformation are being established. Numerous places have university professors as consultants, and with local ordinances well in place, the regulation movement of residents in the vicinity of MIT and Harvard has now completely subsided.

(United Kingdom) Investigation centered upon the Science and Education Ministry's Gene Manipulation Advisory Group (GMAG). While utilizing the same standards as the United States'NIH, GMAG makes an individual investigation by GMAG itself a precondition. According to regulations effective after August 1978, it is compulsory for all those carrying out research to make a prior report to GMAG and HSE (Health and Safety Executive). Both government and private researchers seem to believe that this system is appropriate, but this is based on the belief that we are not at the stage of being able to deny the danger of recombinant DNA.

This nation was early in beginning research, but perhaps due to the strictness of recent regulations the principal researchers are moving abroad. GMAG has up to the present time approved 302 experiments. They have at Portondown's Applied Microbiology Research Center a P 4 level facility which is being used as Europe's only P 4 facility. There are plans to construct one more P 4 facility. As a result of the smallpox problem government regulations were stiffened, and the people seem to be content with the present situation.

(Switzerland) Investigation centered upon the Swiss Medical Academy Experimental Genetics Committee. The United States'NIH standard has been adopted in toto, relying almost entirely on self regulation. With the strength of global firms such as Ciba-Geigy and Roche, and under the leadership of Committee Chairman Professor Arbor and others, research of a fairly high level is being carried out. With nearly 30 experiments per year, the research of Dr Toshinegawa of Roche Immunology Laboratory is at the world's top level. The government is taking the stand of not interfering in research generally.

(West Germany) Investigation centered upon the Central Committee (ZKBS) which sets guidelines and carries out investigations, and its administrative bureau, the Ministry of Science and Technology (BMFT). There was the impression that West Germany was late in entering this field, and was energetically aiming at catching up. With thorough attention to balance between maintaining safety and advancing research, they are progressing with drafting a law making compulsory the adoption and strict observation of guidelines incorporating the same standards as the United States'NIH. It is planned to hold hearings for scientists this summer, and to determine the government's attitude this fall. They are promoting the establishment of a big project (about 3.3 billion yen)

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in BMFT for biological engineering for the purpose of research on enzymes and fermentation along with recombinant DNA. Seventy experiments per year are approved by ZKBS, and in order to overcome their lag, both government and private researchers are putting effort into such things as inviting the European Molecular Biology Experimental Laboratory (EMBL).

(France) Investigation centered upon the Central Committee which sets guidelines and carries out investigations, and its administrative arm, the General Delegation for Scientific and Technical Research. Up until December 1977 the United States'NIH guidelines were followed, but with the prospect that safety could be adequately maintained even with more lenient standards, steps were taken to adopt France's own independent guidelines. In France, with the tradition of the Pasteur Laboratory, regardless of quantity, qualitatively they stand shoulder to shoulder with the United States. They seem especially to be putting effort into research using the cells of higher organisms. Up to the present time about 200 experiments have been carried out, and with the majority of opinion acknowledging their safety, P 4 facilities do not seem to be held necessary. The signs of the violent opposition movement which occurred at the University of Paris and elsewhere also seem to have faded.

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SCIENCE AND TECHNOLOGY

# PATENT SYSTEM MUST MATCH DEMANDS OF THE ERA

Tokyo NIKKAN KOGYO SHIMBUN in Japanese 18 Jun 79 p 3

[Interview with Naoichi Inoue, chairman, Industrial Property Council, by reporter Hiroshi Sasaki: "Patent System Supporting Technological Innovation, Matching Demands of the Era; International System Reform, Efforts for North-South Cooperation"]

> [Text] Twenty years have elapsed since the enactment of the "4 Articles on Industrial Property," commonly called the 1959 Act (implemented in April 1960), and they are still in effect. Equating them to a man's life, it must be said that they have reached maturity. Coincidentally, the man who was then chief of the Patent Office and had a big hand in drawing up the 1959 Act and who is currently chairman of the board of SKY Aluminum Co, Naoichi Inoue, has assumed the chairmanship of the Industrial Property Council. We took this opportunity to interview the father of that act on the current status of industrial property regulations and patents on the international scene.

[Interviewer] It is said that laws are made but come into fruition. From the viewpoinw of a lawmaker would you say the law as it was enacted was essentially as you had envisioned it when you first thought of it?

# Contributed to Research Effectiveness Rate

[Inoue] Answering the question from results obtained, I would say that it was exceedingly effective in that it filled the needs of the time perfectly. Unlike normal laws pertaining to administrative matters, the industrial properties act had to be handled very carefully because of its relevance to the rights of the people. Because of the care exercised in drafting it, it is only natural that it operated very smoothly.

As a followup to the 1959 Act, the regulatory moves of 1970 which requires the early publication of applications and action on requests for search have had very beneficial effects on technological research and development.

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In the past, it took an average of 3 to 5 years from the date of application for approval until official publication. During that period of time it was impossible to tell which enterprise was engaged in what type of research, and others could be traveling the same research path resulting in waste of time, effort and cost of duplicative research.

The early publication regulation responded to the need of those who are participating in the continuous and heated technological competition worldwide by keeping them abreast of "what inventions and discoveries are being made in which industries."

The search request regulation is aimed at giving an applicant rights over only that part for which he requested a search. Historically, most of our country's applications had pertinence to defense items. The applicant on defense items has no intention of exercising rights for personal reasons but is seeking protection against competitors making applications which would infringe on his domain. The search request regulation gives him this protection. It is anticipated that it will fulfill industry's strong wish for enhancing the search process.

[Interviewer] It is sometimes said that the patent law has technology for its father and law for its mother. Needless to say, then, that it is related to technological evolution. There are some, however, in the legal profession who feel that the tempo of revision is too fast for thorough assimilation by the people before moving on to the next revision.

## Material Patents Not Overaccelerated

[Inoue] I do not believe that is so. Let me try to explain by using a material patent obtained under the 1975 act as an example. The material patent came into being under the premise that "all inventions should be given protection" as proclaimed in the 1958 Lisbon revision conference of the Paris pact. All participants at the conference agreed on the measure which would offer protection at the earliest. I attended that conference as a plenipotentiarydelegate. In the light of this, I would tend to be of the opinion that the activation of the material patent came later rather than on the early side.

Up until then, our regulations were aimed only at protecting the manufacturing methods; even when a new item was invented, it could not be protectec if the method of manufacturing it was in a different category. In the immediate postwar era when our technological industries had fallen way behind, the measure was invaluable to us in supporting our industrial establishment.

The law which offers loopholes in the rights of others, offered incentives only to developing manufacturing methods, none for research into developing new items.

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This point became the theme of discussions as early as during the hearings on the 1959 act, but was considered only as an incidental matter and did not reach the point of being offered as an amendment.

The enactment of a materials patent law was basic to the need for research into finding new items for our technological industries.

Industrial property rights, more particularly patent regulations, should be enacted on a gradual basis to keep in step with enhancement of the capacity for technological development. At this point I would like to reiterate that since this has relevance to rights of the people, each step in that direction should be given careful study.

[Interviewer] You worked tirelessly as the chairman of the Patent Cooperation Treaty subcommittee of the 1978 revision act.

TRT on Agenda

[Inoue] Currently there are about 160 countries in the world, but new technologies should know no national boundaries but should be made available to all. Here we run into walls called national rights which give certain private rights to individual nations. Ideally, a technology's degree of importance should be indirect proportion to the number of countries which offer protection to it; as a practical matter, however, because of language barriers and differing methods of making application, the economic and time burden placed on the applicant for protection becomes an enormous item.

In the Paris agreement there is a preferential treatment clause. If an applicant submits an application to one of the member nations and then submits the same application to country number 2, the approval of preferential treatment of 1 year will apply to country number 2 on the assumption that it had made application simultaneously with the first country. But even in this situation, the two countries involved have to submit application separately.

In contrast to this, under the Patent Cooperation Treaty (PCT), an application by one member nation is handled automatically as an application by all member nations. Application forms have been standardized, which is also a major advancement and should make great contributions to technological development.

In the terms of internationalization, the matter of Trademark Registration Treaty (TRT) is also coming onto the agenda. If a trademark is registered with the international administrative office, it automatically and simultaneously becomes effective in all participating nations. Since trademarks are attached to merchandise which finds its way to the ends of the world, respect for trademarks will pave the way for a major step forward in world economics.

For our country to qualify for membership, the time involved in investigation and search will have to be shortened. Since this will require enhancement in administrative procedures, much effort will have to be expended.

[Interviewer] A conference aimed at amending the Paris Treaty is scheduled for next February. There appears to be considerable differences between the industrially advanced countries and the developing countries.

Problem Is Right To Force Implementation

[Inoue] The right to force implementation on others is the specific problem. It is a regulation which enables the seizing of the rights held by a country which is solely an importing nation and uses those rights for itself. Last year when India was undertaking revision of its patent structure, I was invited there and given the opportunity to express my opinions to its legislative body as a representative of Japan's industrialists. In the discussions, the right of forcible implementation posed a problem. I was given a chance to express my hope that consideration be given to the prevention of technological shifts. I was highly impressed by India's willingness to let foreigners express their opinions in its legislative body.

In developing countries' industrialization process, the industrial property rights regulations play a very important role. Like it or not, the advanced countries must give these nations maximum support. I believe that Japan in particular, because it is deeply related to the developing countries, should, independently if necessary, do everything it its power to promote North-South harmony.

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SCIENCE AND TECHNOLOGY

AEROSPACE INDUSTRY ASSOCIATION RESEARCH TOPICS SET

Tokyo NIKKAN KOGYO SHIMBUN in Japanese 14 May 79 p 11

[Text] The Japan Aerospace Industry Association (chairman Kiyoshi Shimoto) has decided on the research survey topics related to aviation technology enhancement to be pursued as one element of its JFY 1979 subsidy works. Topics selected are those not being pursued by government organs but that are considered urgently needed to be effected for Japan's aviation industry as a qhole. The survey researches will be contracted out to Association member firms for execution. There will be nine topics this fiscal year, including research on the strength of composite material blade structures for small helicopters.

Because extremely large amounts of money and long lead times are involved for research and development of aircraft as associated equipment, aviation industry circles are worried by the large investment risk. Consequently, while each firm feels acutely that it wants to carry out surveys, research and development and such, research topics that cannot be started on are piling up.

Organs, including the National Aerospace Technology Laboratory of the Science and Technology Agency, which carry our research and development from a national standpoint have plans to promote many research and development projects during this fiscal year, but they alone will not be sufficient. In particular, this is all the more true because developments in technology in the aerospace industry are rapidly advancing.

So, starting last year, the Japan Aerospace Industry Association started a system for selecting topics which seem urgently needed to be put into effect by all means for Japan's aviation industry as a whole and contracting out these research surveys to member companies. The research survey topics are as follows:

Research related to improvement of aviation technology standards: 1. basic research on solid propagation of sound in aircraft structures; 2. basic research concerned with high-temperature, high-load combustors (1300 degree

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Celsius class); 3. basic research on dynamic pressure gas bearings for use in aircraft; 4. research on structural strength of composite material blades for small helicopters; 5. research in strength properties and methods of ultrasonic testing of structures of new composite materials; 6. research related to corrosion fatigue of aircraft couplings; 7. research on heat resistant carbon-fiber composite materials for use in aircraft; 8. research in manufacturing technology wide, long high strength aluminum alloy sheets for use in aircraft.

Research on improvement of present aircraft: 1. research on designs for remodeling YS-11 passenger planes into cargo planes.

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SCIENCE AND TECHNOLOGY

TIE-UP WITH ROLLS ROYCE ON ENGINE DEVELOPMENT EXPLAINED

Tokyo YOMIURI SHIMBUN in Japanese 23 May 79 p 1

[Excerpts] Welcoming an era of genuine international economic cooperation, the govenment has set forth its intent to make a policy change from here-tofore emphasizing fostering national enterprises to advancing international division of labor through tie-ups and such. According to a report from a government source on 22 May, Mitsubishi Heavy Industries, Ishikawajima-Harima Heavy Industries, and Kawasaki Heavy Industries, made firm their intention to research and develop a jet aircraft engine jointly with Rolls Royce, the world-renowned British aircraft engine manufacturer, and will seal the tie-up this summer. MITI (Ministry of International Trade and Industry) intends to give positive support to it. An international division of labor is indispensable for Japan's aircraft industry which does not have its own sales network. And thus, together with indicating an orientation for Japan's aircraft industry for the future, results in this international jet engine cooperation being viewed as something that will have impact on the field of involved technology industries such as the computer industry.

The Agency of Industrial Science and Technology [AIST] plan has been to develop a high-performance engine in the 7-ton thrust class, suitable for carrying about 100 passengers, with the project starting in JFY 1971 and running to JFY 1980. Consequently, it was feared that the Rolls Royce proposal would duplicate this plan.

But later, because there was the prospect that the AIST would develop a 5-ton thrust class jet engine, and because it is necessary to consider future sales, it was decided to pool AIST and Rolls Royce technology and concepts and jointly develop a 9-ton class jet engine.

#### Commentary

The question of whether to opt for domestic or foreign technology for the "post YX" (next phase civilian transport plane) YXX engine was settled in favor of joint Japan-UK development. The engine for the civilian YS-11 aircraft which our country developed on its own was made by Rolls Royce.

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Also, the engine for the YX aircraft presently under development is made by Pratt and Whitney.

In the midst of this, the government had aimed at domestic production of the "post YX" engine, and MITI and the AIST had pushed research and development since 1971. For the first time, the practical use of our country's technology will achieve success in world aviation circles, even though it may be a joint development with Rolls Royce. In that sense, it can be said to be an epoch-making event in the history of our nation's aviation industry.

In some circles of our own government and industrial world, there is the opinion that we ought to stick with purely domestic production to the end. But, our domestic technology has not yet grown to where it can stand alone. The risk that goes with development is too great. Also, the tie-up with Rolls Royce, which has fallen into the red, will contribute greatly to resolving the discord in Japan-UK trade.

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SCIENCE AND TECHNOLOGY

PILOT PLANT TO CONVERT HEAVY OIL TO OLEFINS NEARS COMPLETION

Tokyo NIKKAN KOGYO SHIMBUN in Japanese 16 Feb 79 p 5

[Part 2 of 20-item serial: "Large-Scale Research, New Generation in the Making"]

[Text] Experimental Plant Construction

When crude oil is distilled, naphthas, volatile oils, lamp oil, light oil, and the so-called atmospheric-pressure residual oils are formed as petroleum products. The fraction of particular importance from this array is naphtha. The petrochemical industry uses this naphtha as starting material for the production of olefins (overall name for the family of compounds such as ethylene and propylene, used as starting material for the production of synthetic resins, synthetic rubber, and synthetic fiber) and aromatic hydrocarbons. At the same time, naphtha is clean, which is why large volumes are used to fire thermal power plants and provide fuel for steelmaking. On the other hand, naphtha is present only to the extent of about 10 percent of the crude oil.

The price of naphtha has been escalating ever since the oil crisis and it is expected that the supply of naphtha will become tighter in the future. This is why research is being promoted to make effective use of the heavy oil fraction that makes up 20-30 percent of the crude oil and produce olefins.

When atmospheric-pressure residual oil is subjected to further distillation, reduced-pressure light oil and reduced-pressure residual oil are obtained. This reduced-pressure residual oil is the heavy oil which is now used in a blend with desulfurized reduced-pressure light oil to form a heavy oil or it is used as asphalt to pave roadways. If now the Taching crude oil from China and the Kafuji crude oil from the Middle East are to be imported in large volume in the future, these crude oils would contain 50 percent and 30 percent heavy oils, respectively. At the same time, these crude oils are high in sulfur, making it difficult to add them to heavy oil because of the pollution problem.

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Consequently, the production of olefins from heavy oils assures a stable source of supply and energy and thereby has some important implications.

The original technology discovered by professors Koto and Kunii of the University of Tokyo was the foundation of the basic research started in JFY 1964; the five companies of Mitsubishi Petrochemical Company Limited, Chiyoda Chemical Engineering and Construction Co, Ltd, Toyo Soda Manufacturing Co, Ltd, Maruzen Petroleum Co, and Mitsui Petrochemical Industries, Ltd promoted vast project research between JFY 1967 and 1972. First of all, a test plant with a capacity of 5 tons per day of crude oil as starting material was constructed to establish the potential of the project. Based on this initial effort, Mitsubishi Petrochemical and Chiyoda Chemical conducted studies over the next 3 years at this same plant, using heavy oil and oil sand as starting materials. During JFY 1975 a new major project aimed at using heavy oil was initiated.

The six companies--Mitsubishi Petrochemical Company, Limited, Sumitomo Chemical Co, Ltd, Showa Denko K.K., Toyo Soda Manufacturing Co, Ltd, Chiyoda Chemical Engineering and Construction Co, Ltd, and Shukko Kyosan-formed a technological research cooperative and this group is planning the construction of a pilot plant capable of handling 120 tons per day of heavy oil (on the grounds of the Mitsubishi Petrochemical plant in the Kashima Rinkai industrial belt); it is anticipated that this plant will be completed by the end of this October.

Research Also Under Way in Other Countries

This new method of manufacturing olefins is called the coke thermal medium method. When heavy oil is introduced into the reaction tower, it makes contact with high-temperature coke particles to be heated to about 800°C and decomposed. The coke particles that have undergone a temperature drop are sent to the heating tower where they are heated by the combustion of the decomposition residue obtained as byproduct from the coke formed at the particle surface by the decomposition. The decomposition products are quick-cooled after which they undergo fractional distillation to be fractionated into olefin containing decomposition gas, gasoline, and methane are expected to be recovered, while benzene, toluene, and xylene-type products are expected to be recovered from decomposed gasoline. Pitch and similar products will be used as fuel to be consumed within the plant. Since this process effectively utilizes heavy oil that is the starting material, it is an extremely economical and energy conserving method.

According to results of the operation of the 5-ton, per day test plant, roughly 15 percent, each, ethylene, hydrogen, and methane; about 10 percent, each, propylene and decomposition gasoline; and about 5 percent butene and butylene are obtained. The pilot plant experiments will begin in earnest once it is completed along about the end of October. The next fiscal year will be taken up with equipping the facilities for this pilot

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plant, together with plans, design, and research for scaling up that will be conducted at the same time. A budget of about 2.4 billion yen has been approved. It is planned to conduct these tests by JFY 1981.

Research along similar lines is being promoted in various foreign countries. BASF [Baden Aniline and Soda Factory] in West Germany and UCC in the United States are developing processes using crude oil as starting material. In the case of UCC, it plans to use Japanese technology (resulting from joint development by Chiyoda Chemical Engineering and Kureha Chemical Industry) and construct a plant over the next 2 years where it plans to conduct research.

Tests By the End of JFY 1981

Shoki Terajima, research and development official, said: "Research through large projects has the advantage that either crude oil or heavy oil can be used as starting material. Furthermore, this approach effectively recovers useful components even though crude oil high in heavy oil is used as starting material, and this provides one with an effective weapon for resources and energy strategy." These high expectations show how much the results of the pilot plant experiments are being awaited, because they will serve as footholds for practical utilization.

Both Canada and China are showing interest in this project. Canada has unutilized resources in the form of oil sand. It is said that these oil sand reserves are comparable to their oil reserves and it is thought that the Japanese technology will be applicable to the treatment and separation of oil sands to obtain oil from which olefins are derived. There are presently two practical plants in operation in Canada and joint research with Mitsubishi Petrochemical is also being promoted. In the meantime, China has sent a petrochemical survey group to Japan where the group is inspecting the Mitsubishi Petrochemical plants.

In another direction, the Resources and Energy Agency announced its plans to promote new projects starting next JFY. This will include research directed at extracting much more naphtha and volatile oils from the crude oil than is possible with the distillation method presently used. It is called heavy oil countermeasure technology. Unlike the goals of the large project, this research is aimed at the heavy oil fraction in the crude oil. For example, the Taching crude oil contains 70 percent atmospheric-pressure residual oil and only 30 percent naphtha and similar oils, and the recovery of even more of the lighter components is the goal of this research.

Heavy oils have an image exemplified by the term "final dregs" that has been applied to it, and its use as starting material in petrochemical processes signifies a new use. The strength of technology is gradually transforming dreams into reality.

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Research is under way to make further use of heavy oil (pilot plant under construction).

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SCIENCE AND TECHNOLOGY

#### BRIEFS

DIAMOND CVD PROCESS--The National Institute for Research in Inorganic Materials of the Science and Technology Agency has succeeded in growing a 100 angstrom diamond thin film on a diamond substrate using the vapor phase growth (also called chemical vapor deposition) method. The process involved placing diamond powder of 1 micron maximum particle size on a quartz specimen dish, placing in a vacuum of  $10^{-9}$  torr, introducing Cl3 methane at 0.1 to 1 torr, and heat treating at 800 to 900 degrees C for several hours to grow a 100 angstrom thin film. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 20 Jul 79 p 5]

CBN MANUFACTURE--The National Institute for Research in Inorganic Materials of the Science and Technology Agency has developed a process employing  $Ca_3B_2N_4$  catalyst, pressure of 50,000 atmospheres, and temperature of 1,450 to 2,000 degrees C to produce high quality cubic boron nitride grains of 0.15 mm average diameter from hexagonal boron nitride. The CBN is fully satisfactory for use as a grinding and polishing material. Commercialization research is scheduled to be carried out via the Research Development Corporation of Japan with the actual work being conducted by private industry. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 13 Jul 79 p 5]

STAINLESS IRON PROCESS--Daichi Kogyo has developed a process for converting the surface of iron to stainless by immersing the iron in an ion water vat for 30 minutes to 6 hours. Surface hard less is 1,300 Vickers (SK material) compared to 570 Vickers for iron (SS material) and 600 Vickers for stainless (303 material). Penetration is to a depth of 6 mm, but worn material can be retreated. Processing is easier than for stainless and the material is cheap, yielding major cost advantage. The firm has applied for patents on the material, known as (Ionsten Hard), and current production capacity of 10 tons a month will be used to supply Cannon and Hitachi Ltd with material for use in optical equipment, radio casettes, and VTR components. Use in rollers for printing, copying, and pharmaceutical manufacture is expected. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 16 Jul 79 p 7]

INDUSTRIAL ROBOT PROMOTION--The Japan Industrial Robot Association, to greatly expand use of industrial robots, is proposing 1. set-up of a corporation to lease robots jointly funded by representative industrial robot manufacturers and casualty insurance companies, 2. said corporation to be capitalized initially at 200 million yen and be established in April 1980, 3. lease funding of 1 billion yen to be provided for the first year by the Japan Development Bank (70 percent) and city banks (the remaining 30 percent). In addition, with Ministry of International Trade and Industry backing, the association is proposing that industrial robots be designated for subsidies under the Temporary Law for Promotion of Specific Machinery and Information Industries. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 11 Jul 79 p 14]

GAS INJECTION COMPRESSOR--Mitsui Shipbuilding has built a 500-atmosphere centrifugal compressor, thereby attaining the 1st year's goal in a 2-year, 200 million yen program subsidized under the Important Technology R&D Subsidy program of the Agency of Industrial Science and Technology. The compressor is intended for use in secondary recovery from depleted oil fields, but general process use as in chemical synthesis, petrochemical manufacturing and other applications requiring high pressures is feasible and hopes are for wide useage. The goal for the 2d year of the program is test manufacture of a 650-atmosphere compressor, to be completed by March 1980. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 13 Jul 79 p 12]

ELECTRICITY STORAGE--The Agency of Industrial Science and Technology has decided on the contents of the Moonlight Program "Large Capacity Electricity Storage System" project. For the short term, the focus will be on lead batteries, but for the long term sodium-sulfur, redox and other new types of battery will be the objective. The project, to require 10 billion yen in development funds, is aimed at development of a 100 to 200 megawatt storage system with a life of 10 years that, counting in waste heat utilization, has a charging efficiency of 70 to 75 percent. The Electrotechnical Lab, the Central Laboratory of the Electric Power Industry, battery and heavy electric equipment manufacturers, and power companies will be asked to participate in development. [Tokyo NIHON KOGYO SHIMBUN in Japanese 17 Jul 79 p 15]

FUEL CELL TECHNOLOGY--The Agency of Industrial Science and Technology has developed a new proton conductor solid electrolite expected to increase the performance of room-temperature fuel cells. [Tokyo DEMPA SHIMBUN in Japanese 17 Jul 79 p 6]

HYDROGEN TANK--Nihon Kucho Engineering has test-manufactured a hydrogen tank employing chiefly titanium and manganese for metal hydride storage with a capacity 2.5-fold a corresponding 150-atmosphere 47-liter hydrogen gas tank. Tank specifications: 2.7 cubic meters of hydrogen, pressure 10 kg, charging pressure 30 kg, charging temperature 30 degrees C, release temperature 40 degrees C, outflow 40 liters/minute. While there are no technical problems involved in scaling up the tank for commercial use, Japan does not have the metal mass production technology required for

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commercial production so a technology tie-up with a metal manufacturer will be effected and industry and research organs using high-quality hydrogen will be the target market. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 11 Jul 79 p 5]

MAGLEV RAILROAD---The Japan National Railways has compiled its JFY 1979 railroad technology development plan. Test runs on the 7 km Miyazaki test line will be conducted to gather data on 400 kph operation and test runs at up to 500 kph will be conducted. Research on the power supply system and superconducting magnet will continue, as will basic research on guideway structure and on a reactive power compensation cycloconverter. Work will start on converting the Miyazaki test line guideway to a U-shape guideway, and manufacture of a car for the U-shape guideway will be started. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 13 Jul 79 p 11]

SATELLITE INDUSTRY PROMOTION--The Ministry of International Trade and Industry on 16 July announced a series of moves intended to strengthen Japan's international competitive power in space development. Key points include setting up a "Space Development Industry Office" in the Minister's Secretariat to provide unified guidance during JFY 1980; designating artificial satellites, observation, communication and control equipment, launch rocket guidance equipment and related items for application of the Law on Temporary Measures for Specified Machinery and Information Industries promotion, and an active assistance policy. [Tokyo NIHON KOGYO SHIMBUN in Japanese 17 Jul 79 p 1]

FUEL CELL R&D--The Agency of Industrial Science and Technology, which has been working on third generation solid electrolyte fuel cells as part of the Sunshine program, will start development of first generation phosphate and second generation fused carbonate electrolyte fuel cells. The goal for the first generation fuel cell is generating capacity of 40 kw with efficiency of 45 to 70 percent using reformed hydrocarbon fuel, and is expected to be attained within 5 years. Utilization of waste heat to increase the efficiency and development of a substitute for the platinum pole are other development subjects. The goal for the second generation fuel cell is 1 to 3 megawatt capacity with 70 to 80 percent efficiency, and is expected to be attained within 10 years. This fuel cell will also use reformed hydrocarbon fuel, operate at 600 to 700 degrees C, and use a nickle pole. Hitachi Ltd and Fuji Electric are expected to ask to join the Moonlight Program projects. Elsewhere, Tokyo Gas and Osaka Gas are participating in the U.S. TARGET program PC-11 development and have received four prototypes of the first generation cell. Fuji Electric and the Central Laboratory of the Electric Power Industry, working jointly, are at the point of test-manufacturing a 10 kw first generation fuel cell. [Tokyo NIHON KOGYO SHIMBUN in Japanese 10 Jul 79 p 5]

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HEAVY OIL CRACKING--Osaka Gas is moving toward commercialization of its recently developed "Cherry P" process, described as an epochal development. The process, developed with subsidies from the Important Technology R&D Subsidy program of the Agency of Industrial Science and Technology (MITI), was tested by adding a few percent of coal powder to Mideast asphalt, heating to over 450 decrees C, and transferring the mix to a reactor where conditions of 420 degrees C and 15 kg pressure yielded kerosene and light oil (45 percent), binder (usable as a substitute for coking coal, 50 percent) and gas (5 percent). Applied to Chinese crude, the process yielded 60 percent kerosene and light oil, 25 percent binder, and 25 percent gas. The above commercialization tests were run at a 1.5 ton/hour plant with cooperation from Mitsubishi Heavy Industries and Mitsubishi Corp. Commercialization will be in cooperation with oil refiners and others. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 12 Jul 79 p 6]

Nb3Sn SUPERCONDUCTING MAGNET--The National Research Institute for Metals has modified the process for creating an Nb3Sn layer between metal boundaries, adding traces of Ga to CuSn and Hf to Nb. Using the new method, addition of hafnium alone enables creating an Nb3Sn layer 30 microns thick, triple the thickness attained previously, and the greater density of Nb3Sn per unit area of semiconductor wire enables raising the field from 120 to 150 kilogauss to 170 to 180 kilogauss. [Tokyo NIHON KOGYO SHIMBUN in Japanese 3 Jul 79 p 5]

SYNTHETHIC DIAMOND--A research group of the Industrial Chemistry Dept, Faculty of Engineering, Seikei University, has developed a catalyst enabling synthesis of industrial artificial diamonds in a conventional, piston-cylinder press at 39,500 atmospheres pressure and 930 degrees Celsium. The seven element catalyst is described "for example" as 20 percent chromium, 40 percent nickle, 20 percent cobalt, 20 percent iron, plus traces of sulfur, titanium, and aluminum. The experiment used a "conical belt" high pressure generator developed by a member of the group, rod-form artificial graphite as the raw material, and 10-minute compression to produce 15 milligrams of 0.1 to 0.3 mm good quality diamonds from a 20 milligram charge. Further work on the catalyst is expected to result in successful diamond production at 850 degrees Celsius and 36,000 atmospheres. [Tokyo NIHON KOGYO SHIMBUN in Japanese 3 Jul 79 p 1]

TECHNOLOGY ASSESSMENT SURVEY--The Institute for Future Technology has conducted a survey on use of technology assessment in government and industry. In government, while those involved in major R&D projects all acknowledged the value of technology assessment, only for the Sunshine Program were TA procedures formally executed. In all other areas (space, nuclear power, ocean development, etc), use of TA was an ad hoc, irregular affairs. In private industry (nonprofit institutes and companies spending over 1 billion yen a year on R&D were surveyed, 41 percent of the 105 questionnaires sent out were returned), 95.8 percent were aware of TA, 6.3 percent used it widely, 31.2 percent used it for important topics, and 45.8 percent made no use of TA at all. [Tokyo NIKKEI SANGYO SHIMBUN in Japanese 7 Jul 79 p 10]

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OCEAN POWER--The Agency of Industrial Science and Technology has awarded the Engineering Promotion Society a 25 million yen contract for research and development on ocean temperature differential electric power generation technology. The project is one of the "New Energy Technology Series" projects of the Sunshine Program. [Tokyo NIKKAN KOGYO SHIMBUN in Japanese 20 Jun 79 p 10]

HYDROGEN COMBUSTION--The Osaka Government Industrial Research Laboratory of the Agency of Industrial Science and Technology is working on lowtemperature hydrogen combustion using cobalt-manganese and cobalt-nickle catalysts. Using an additional auxiliary catalyst, complete combustion at under 100° is possible. Use of platiuum allows complete combustion at temperatures ranging from room temperature to 400°, but platinum is too expensive for use in home heating, cooking, and drying--candidates for use of hydrogen energy. [Tokyo NIKKEI SANGYO SHIMBUN in Japanese 9 Jun 79 p 10]

MAGLEV RAILROAD--The Japan National Railway is contemplating a switch from the inverted-T guiderail to a U-shape guideway for its maglev railroad now under development. Upon completion of tests on the 7-km inverted-T test track at Miyazaki vithin the year, the track and test vehicle will be converted to the U-guideway mode. The decision on adoption of the U-guideway for commercial railroad use will await the results of tests that may start early next fiscal year. Advantages of the U-guideway include easier car construction, stability, and an outside wall shielding the superconductor system. [Tokyo NIHON KOGYO SHIMBUN in Japanese 26 Jun 79 p 17]

BARIUM TITANATE FIBER--A joint effort by faculty members of Chiba Institute of Technology and Tokyo University and Kyushu Taika Renga (Kyushu Firebrick) has resulted in production of barium titanate fibers around 100 micron in length and under 1 micron in thickness. Sintering tests have not yet been made, but success in them is expected. Use of the material as a solid-state switch to prevent overheating is one promising application. [Tokyo NIHON KOGYO SHIMBUN in Japanese 23 Jun 79 p 9]

CONTINUOUS COKING PLANT--The Japan Iron and Steel Federation is starting research and development for commercialization of a continuous coking process that will allow use of up to 80 percent common coal. The project, scheduled to run to JFY 1985 and cost 8 billion yen (half provided by the government via the "Coal Technology Promotion Subsidy Undertaking"), if successful will be of epochal significance to Japanese iron and steel companies and the technology may be exportable. Basic research has been completed and prospects are good for commercialization. 'The schedule calls for building a 200 ton/day capacity test plant in Nippon Steel's Yawata plant during JFY 1981-1982 and conducting operating tests during 1983-1985. For a full-scale plant, a capacity of around 3,600 tons/day is considered necessary. [Tokyo NIHON KOGYO SHIMBUN in Japanese 20 Jun 79 pl1]

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