



More Pollution Export by Japan

Nuclear Waste Dumping Exposed in Malaysia

by Yamaka Junko

"If you are so sure that it is safe, why don't you dump it in Tokyo Bay? Don't make the Pacific Ocean a nuclear garbage bin!" This sentiment has been cried out by the people of the Pacific for the past five years, since the Japanese government announced its plan to dump the nuclear waste produced by its ever increasing nuclear power industry into the Pacific. To dump your own waste into your neighbor's yard contravenes most people's common code of behavior. Japan has no qualms at all, however, about so treating its neighbors with the export of its own pollution.

Japan achieved its high economic growth rate after WW II with a strongly export-oriented industrialization. In the process, the Japanese islands have suffered serious pollution problems. Faced with protest from citizens in Japan, industrial managers, with support from the government, have come to an easier and cheaper solution — the "export" of the guilty factories to other countries where restrictions on pollution are less severe. A good example is seen in the case of the Kawasaki Steel Corporation, which transferred its highly polluting sintering plant to Mindanao in the Philippines.

Now a new case of pollution export surfaced. This time radioactive pollution is being shipped to Malaysia, where a national controversy has erupted.

The culprit this time is Mitsubishi Chemical Company, who set up in 1980 a joint venture with Beh Minerals under the name of Asian Rare Earth Co. (ARE) with \$27 million worth of capital behind it. Beh Minerals is a local concern and the largest rare earth ore processing firm in Malaysia.

Mitsubishi has a 28 percent stake in ARE to process locally-mined monazite ore and extract rare earth products in Ipoh, in the north-western Malaysian state of Perak. Mitsubishi has another joint venture — Malaysian Rare Earth Co. (MAREC) — set up in 1973, with local companies including Beh Minerals. MAREC was set up to process locally-mined zirconium ore and to extract rare earth products such as yttrium oxide, to be used for electronics products, color televisions, etc. ARE is an extension of MAREC, built in the same compound in the Bukit Merah Industrial Estate, to produce rare earth chlorides from monazite. With the capacity to process 4,000 tons of monazite per year, it started operation in 1982 with 150 local employees. It is reported, however, that it only ever received a licence for trial operations because the problem of waste disposal had not been solved.

The monazite that ARE processes contains thorium which, in Malaysian monazite, amounts to seven percent. Thorium is radioactive with a half life of 14 billion years. When in rock, its radioactivity is shielded and not hazardous but, when mined or processed, thorium 232 releases strong alpha radioactivity, together with a relatively weak gamma radioactivity. It is an unstable nuclide and, similar to uranium 238, breaks down into different daughter nuclei. In the process of decay, the nuclei that become particularly dangerous are radium 228 and 224 and radon 220 (thoron). The former two, as well as thorium 232, enter the lungs in the form of dust and cause lung irradiation. Thoron, in the form of rare gas, irradiates the whole body. Fourteen percent of the waste produced at ARE is thorium hydroxide. Insoluble in water, this does

not dissolve into the environment in its normal state but once acidified becomes water soluble and contaminates the ecosystem through the water system. Even if thorium hydroxide did not dissolve into water, the dust that harbors the daughter products will be carried away by the wind, together with radon and thoron gas, and raise the level of radioactivity in the environment.

According to an agreement between the Malaysian government and ARE, the thorium content in the waste is the property of the government, who is considering using it as a fuel for nuclear power generation in the future. ARE is responsible for storing the wastes in a site designated by the government.

Residents Risk Demonstration in Opposition

The government has chosen Papan, a small agricultural town 16 kilometers from Ipoh. Another town, Parit, had been the first choice but that plan collapsed due to strong opposition from local residents.

Papan is a quiet town with a 2,000 population, of mainly mine workers, farmers, construction workers, and hawkers. Adjacent to the designated dumping site are fish ponds, vegetable farms, a dorian farm, tapioca, and rubber plantations, and a water reservoir which serves the people of Papan. A stream runs nearby. If the thoria containing waste escapes, not only will the drinking water of the local residents be contaminated, but those people living along the stream will also be affected.

The facilities already built in Papan, take the form of trenches. Of a projected 70, three trenches have already been constructed, and are in dangerously poor condition. Large holes and cracks are already appearing.

Construction of the trenches began in November 1983 with absolutely no prior consultation with the local people. When the people in the area found out what was going on, they immediately began to take action against the plan.

The Papan Action Committee was formed on March 12, 1984 and, on April 23, the people of Papan and their supporters met some government officials from the Ministry of Health, the Ministry of Science, Technology and Environment, and Puspatri (the Nuclear Energy Unit under the Prime Minister's Department), demanding an explanation of the project. The officials merely repeated that the nuclear waste was not dangerous and that the concrete trenches were safe. Dissatisfied, the people began a series of protest actions. They collected 7,000 signatures by May 24th and submitted them to the government on June 5. At the end of May residents staged a demonstration at the dumping site, blocking the

road leading to the site with rocks and branches to prevent the construction workers getting on the site. On June 18th they moved to the main road junction leading into Papan town and held a 24 hour peaceful demonstration and night vigil. This continued for 18 days, until July 5. On July 1 as many as 3,000 people participated in one demonstration, the largest for years in Malaysia, where such mass action is prohibited. It should be noted that this movement is unique in Malaysia in that it has developed into a multi-racial struggle, involving not only people of Chinese origin, who make up the majority in Papan and who initiated the opposition, but also Malays and Indians.

On July 7th the Papan Support Group was formed, comprising many environmental and consumer groups. The issue has now caused a huge national controversy. The government has had to suspend the project and promise to invite in foreign experts to investigate.

Subsequently, two groups of foreign experts visited the dump site between August and September: one from the British National Radiological Protection Board (NRPB) and the other the International Atomic Energy Agency (IAEA). Although the reports submitted by these experts did not fully guarantee the safety of the trenches, the Malaysian government decided at the end of November to go ahead with the Papan project on the basis that ARE would take steps to upgrade the safety of the storage facility. Angered by this decision, people staged a hunger strike on December 9.

Tests Show Unmonitored Dangers

Since the problem was first exposed as a nuclear waste dumping issue, the original focus of the opposition had been on the dumping. But later the people began to look at the factory, the source of the nuclear waste. Their suspicion that the factory itself is giving off radiation was confirmed by a survey conducted by Dr. Ichikawa Sadao, a genetics professor of Saitama University, Japan, at the end of December 1984. He had been invited by the local residents and environmental groups in Malaysia who badly needed the scientific and objective opinion of an expert to counter the government's assurances that the plant was safe. Dr. Ichikawa conducted radiation dosimetry around the ARE factory over a three-day period, from December 28th to 31st, with a dose-rate meter and thermo-luminescence dosimeters (TLDs). He used 25 TLDs and another 25 for controls. The TLDs can measure a range from 2 mR to 200 R of beta, gamma, and X rays with an error rate of less than five percent.

What he found was that in spite of the fact that the company had only been granted a temporary

PENINSULAR MALAYSIA
MAP SHOWING STATE OF PERAK,
IPOH, PAPAN AND NEIGHBOURING
TOWNS

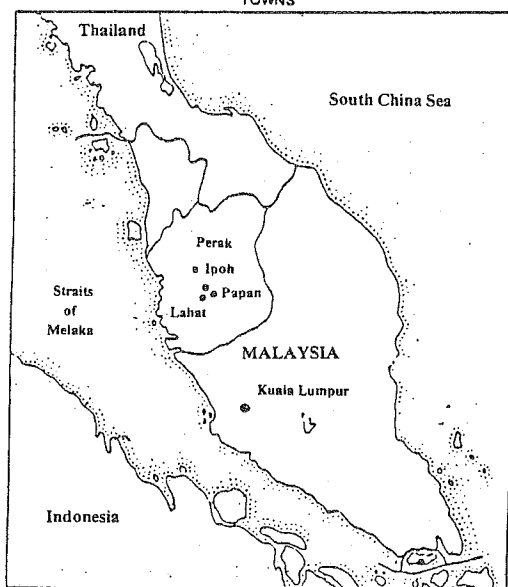
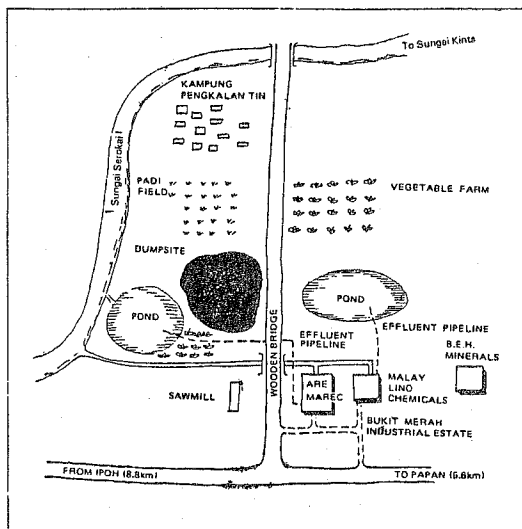


DIAGRAM SHOWING BUKIT MERAH INDUSTRIAL
ESTATE, ARE, MAREC, BEH MINERALS, TEMPORARY
DUMPSITE AND DRAINAGE FROM FACTORY



licence for trial operations, ARE had already produced 300-tons of waste and dumped them on a "temporary site" adjacent to the factory. A formal licence was to have been given when ARE had built a permanent waste storage/dumping facility. He also found that most of the thorium-laden waste in the temporary dumping site is dumped in the open in plastic bags. A small amount had been contained in drums which were already corroded. Although a weak fence has now been put up around the site, there was no fence at all until last fall, when the local people had started questioning the temporary dumping. Dr. Ichikawa reported that some of the plastic bags were split and lumps of brown-colored thorium waste were scattered about, not only inside the fence but outside, where cattle were grazing and ducks were searching around for food. There is a large pond next to the dumping site into which the effluent from the factory is carried via a pipeline. The effluent then flows on into the Serokai river, whose banks support paddy fields and vegetable farms. There is a sawmill across the street from the ARE/MAREC factory compound and residential areas nearby.

The radiation dosimetry conducted by Dr. Ichikawa covered the area around the temporary dumpsite and in Papan itself. He also measured the exposure of workers in the ARE factory.

Dr. Ichikawa's report states that TLD readings detected high radiation levels of 83 to 550uR/hr around the edge of the temporary dumping site. The annual doses would thus be as high as 730 to 4,820 mR/yr. These values are seven to 48 times higher than the average natural radiation level of the world, of 100 mrem/yr, and exceed the ICRP (International Committee for Radiation Protection) dose limit of 500 mrem/yr for the general

public. The highest level may exceed even the five rem/yr ICRP dose permissible for workers. All the other places where TLDs were placed, except Papan, showed a high count in background radiation level, and some places exceeded the ICRP's permissible level.

Dr. Ichikawa succeeded in carrying out TLD tests on two ARE workers who registered 41.2 and 42.2 mR. The workers carried the TLDs while working over a period of 18 hr 45 min, thus the hourly dose rate would be 2,200 and 2,250 uR. Ichikawa further assumed that the exposure of the two workers would reach as high as 5,270 and 5,410 mR/yr after working 8 hr/day for 300 days/yr. Exposure of the workers in the ARE factory is, therefore, likely to exceed the ICRP permissible dose for workers of 5 rem/yr. All the reports provided from Malaysia to the writer indicate that no regular health check of the workers has been done and a film badge to measure the external radiation dosage is provided only for supervisors, not for workers.

It is inconceivable that such waste would be dumped in Japan in plastic bags in the open. Every worker in Japan has to be protected from radiation exposure, equipped with a film badge and protective clothing. The excuse of Mitsubishi Chemical has been, "It is a Malaysian company and is strictly following the Malaysian government's instructions."

Japanese Citizens Demand Japan Recognize Responsibility

Several citizens' organizations in Japan including the Consumers' Union of Japan, Jishu-Koza, and the Catholic Commission for Justice and Peace, formed the Coalition of Citizens Concerned about the Radioactive Waste Dumping Plan of Mitsubishi

Chemical's Malaysian Joint Venture (hereinafter called the "coalition") and issued a statement of concern in July 1984, attacking Mitsubishi's behavior as the worst case of pollution export. In October, at the time of the visit to Japan of Mr. Gurmit Singh, President of the Environmental Protection Society of Malaysia, the coalition sent an open letter to Mitsubishi Chemical, demanding answers to some 20 questions concerning ARE operations, factory environment, protection measures, etc. Mitsubishi replied that "the operation of ARE is under the supervision of the Malaysian government and therefore we are not in a position to answer questions."

The thorium content in the waste may be the property of the Malaysian government. But according to agreement, ARE is responsible for the construction of the storage facility and monitoring of the facility. Mitsubishi is a major shareholder with a 28-percent stake (in effect this percentage must be more since MAREC, the other joint venture in which Mitsubishi has a 35-percent stake, is also investing in ARE). Furthermore, the technology applied in ARE operations was developed by Mitsubishi. The open letter to Mitsubishi made reference not only to the problems of the waste but also the environment of the factory and problems in the surrounding area. These are problems under the direct control of Mitsubishi that are well within its responsibility and power to answer.

One astonishing thing that members of the coalition found in the course of investigation is that there exist no government agencies to control overseas ventures of Japanese companies. The only data available concerning overseas ventures is that of the Finance Ministry, as a company is obliged to get a permit from the ministry, for foreign exchange regulation, when it wants to set up a venture overseas.

Not only are there no legal grounds for any government agencies to conduct administrative guidance of safety management in Japanese overseas ventures, but most governments seem to be very secretive with their information to protect the companies involved. However, for the first time, Mitsubishi's case has been taken up at a Diet committee session. On March 25th, Kusakawa, a Diet member from the Komei Party, raised this question at the Committee on Environment of the House of Representatives. The Director-General of the Environment Agency responded that, "an environmental problem in developing countries is basically their problem, but it is regrettable if a Japanese company is taking inadequate environmental safety measures," indicating that she would check the facts and would seek appropriate advice. When Kusakawa confronted other government officials on this issue, an official from the Ministry

of International Trade and Industry (MITI) also indicated that MITI would take "appropriate measures" on this case. The Foreign Ministry, in its fear of possible anti-Japanese sentiment, said it would investigate the case.

It was reported in Japan that the Malaysian government has decided to move the dumping site to a mountainside 4.8 kilometers away from Papan, an unsatisfactory solution for the Malaysian people. For there is no safe place for nuclear waste as long as the factory continues operation.

Local people demonstrated how serious is their concern when 1,200 people turned up to hear Dr. Ichikawa deliver his preliminary report. The movement has spread to Bukit Merah, Menglembu, Lahat and even Ipoh City, the latter with a population of about 30,000. The people collected another 7,000 signatures opposing ARE operation two days after they heard Dr. Ichikawa's report. Eight residents in Bukit Merah filed a suit against ARE with the high court demanding that the court: (1) declare that ARE has no right to dump its radioactive waste either inside or near the factory site, (2) order ARE to halt operations and the dumping of waste, and (3) order ARE to remove the waste already dumped since 1982 when operation began. It is also reported that a campaign to boycott Mitsubishi products (since Mitsubishi Chemical is a part of the big Mitsubishi conglomerate) has begun, in protest against ARE's lethal activities.

Mitsubishi Chemical's response to the Japanese citizens' open letter reveals the nature of Japanese enterprises. In Japan, the people keep close watch on their activities and, though inadequate, there is some legal control. So with money and technology companies advance into other countries and, tying-up with local capitalists, obtain cheap labor under the "protection" of local governments desperate to earn foreign exchange money. Then, ignoring the dangers to workers, the public, and environment, they allow such sloppy management of highly dangerous materials. The products which are made at the sacrifice of local people are imported into Japan to reap huge profits from the manufacture of value-added expensive products. These companies often brag that they are "providing employment and greatly contributing to the development of developing countries."

The coalition says that it intends to take stronger action against Mitsubishi to set an example, so that similar cases can be exposed and "pollution export" cleaned up.

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