

A Pioneer in Inspection Business

By Yasuhiro Yamana

In the sprawling Japanese archipelago, Tokyo and Osaka are the twin pillars of the Japanese economy. But when it comes to venture business, Osaka outstrips Tokyo. One of the representative new businesses born in Osaka is Non-Destructive Inspection Co., Ltd., which has under its wing a total of 25 subsidiaries, including an inspection equipment maker-distributor and maintenance firms. It is a unique business group with sales to the tune of ¥35 billion (about \$226 million at the rate of ¥155/\$) annually.

Just as a doctor examines patients with X-ray equipment or electrocardiography, Non-Destructive Inspection uses a host of sophisticated inspection devices to check for flaws in welds in nuclear power, petrochemical and other large plants. The company employs some 70 kinds of testing methods, from radiographic examinations to ultrasonic scans.

If a defect is found, the firm loses no time in examining the part in question to find out what maintenance is required. For its crucial role in preventing industrial accidents, Non-Destructive Inspection has come to be known as Japan's "plant doctor."

When Non-Destructive Inspection was established 30 years ago, its founders chose Osaka as its site because the city's enterprising spirit seemed to provide ideal "soil" for absorbing a new business like an inspection service and because the postwar reconstruction of shipbuilding and other heavy and chemical industries began in Western Japan.

Safety first

Non-Destructive Inspection succeeded as a specialized inspection firm years before its counterparts in other countries. Safety consciousness was uppermost in



Takashi Yamaguchi, president of Non-Destructive Inspection Co., Ltd.

the minds of industrialists in Japan, where large plants had to be built on a narrow strip of coastal land. Inspection companies in Japan have grown with a great sense of responsibility, checking plant safety with an unprejudiced eye on behalf of the public at large.

The objects of inspection have changed as industry has evolved. The inspection business started primarily with ships, then expanded into oil refineries, thermal power plants, petrochemical plants, LNG plants and nuclear power plants.

After the 1973-74 oil crunch, the Japanese economy shifted from an era of high growth to more gradual economic expansion. Yet the company has managed to maintain a high growth rate throughout. The reason is simple: While the number of new plants being built has certainly declined, demand for maintenance inspections of plants already in operation has soared. Non-Destructive Inspection concentrates on consulting services de-

signed to pinpoint what kind of inspections are needed to prolong the service life of a plant and boost its productivity. The result: a marked increase in the volume of orders placed with the company. President Takashi Yamaguchi terms this consultative service "productive maintenance inspection," and has made it a key part of the company's sales strategy.

Around the time of the oil crisis, nuclear power plant construction really began to take off. Once-a-year periodic inspection and inspection during construction itself quickly developed into one of the company's main lines of business. It quickly devised a total inspection service for pressurized water reactors (PWR) and boiling water reactors (BWR), until today it is said that not a single nuclear power plant in operation in Japan is outside the company's care.

Opportunities overseas

Non-Destructive Inspection has also been eager to render inspection services abroad. For the past decade it has constantly kept 50 to 100 inspection engineers working overseas. Major jobs in which the company has taken part include the IJPC (Iran-Japan Petrochemical Co.) in Iran, and projects in Saudi Arabia, Algeria and Ecuador. Most of this work, however, involved quality assurance of plants exported by Japanese makers, and the company's overseas plant jobs decreased as Japan's plant exports dwindled.

Today the situation has changed again. New plant construction has plummeted around the world with the result that there is an urgent need for maintenance services to extend the service life of plants already in operation and increase their production. Demand for Non-Destructive

Inspection's vaunted maintenance inspection service is strong, especially in China and other countries suffering from foreign currency shortages. It now keeps engineers based in China, Iran, Saudi Arabia, Malaysia and Singapore.

Above all, however, the company is stressing Japan's neighbor, China. For want of foreign currency, China can ill afford to construct new plants, and instead must rehabilitate existing plants. Non-Destructive Inspection is going all out to establish a joint venture with the Chinese government. The new firm, with its capital equally shared by the company and the Chinese government, is expected to begin diagnosing existing plants in China early next year. For maintenance, it will tie up with Japanese engineering firms specializing in particular types of plants.

Non-Destructive Inspection also welcomes trainees from China and other countries to study inspection technology. Just as they have different languages and customs, these countries also have different ideas about plant inspection, not to mention different inspection standards. Some do not even have a qualification system for inspection engineers. This is why the company makes it a rule to guide and train engineers from every country, beginning with the rudiments. So far it has trained engineers from nearly a dozen countries, and requests are still pouring in.

This posture is entirely consistent with Non-Destructive Inspection's managerial policy of prizing heart-to-heart contacts in its overseas jobs. Its business is not to sell goods, but to sell safety and security. The first thing the company does when it goes abroad is to establish a



A testing training program at Non-Destructive Inspection Co., Ltd.

friendly relationship with the country, and then on the basis of that friendship to offer reliable and comprehensive inspection techniques.

Today there is a growing trend for plant inspection to be ordered separately from plant construction. Non-Destructive Inspection welcomes this shift, saying it provides better chances for the company to prove its real worth. Aggressive in tendering bids, it recently won a ¥580 million Bangladeshi contract for inspection and process control services on a fertilizer plant. On this project as well, the company has won acclaim for adeptly organizing inspection and production processes for a facility that was originally ordered piecemeal from several suppliers. Non-Destructive Inspection also exports inspection equipment. A pioneer in the inspection business, the company has

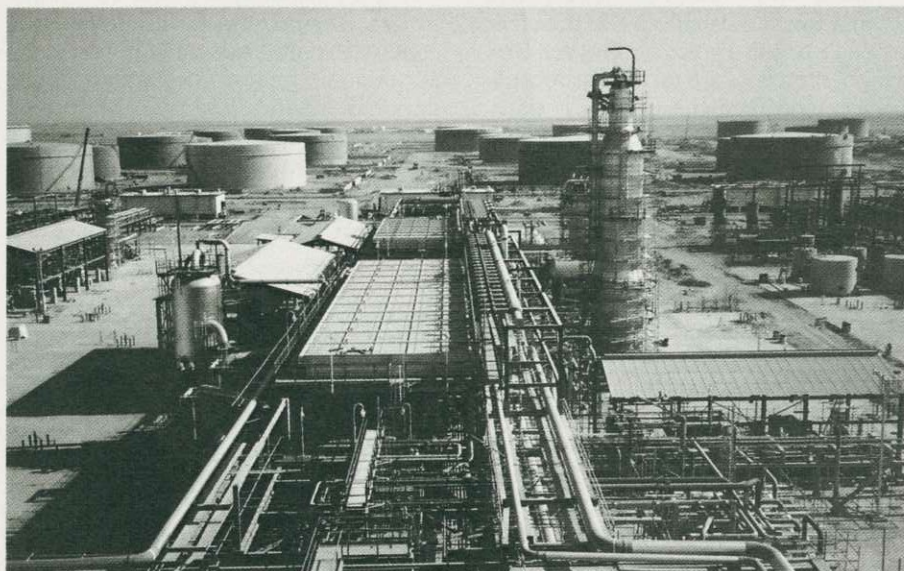
developed inspection devices and has recently embarked on developing automatic inspection systems. The Ir¹⁹² radiographic examination equipment the company developed two decades ago is now an indispensable tool the world over for effective inspection of local important parts and pipes. In addition to an ultrasonic inspection robot and other automatic inspection equipment, the company is working on a data transmission system using telephone circuits and a computer-aided diagnostic system.

Having perfected plant diagnostic techniques over the 30 years since its founding, Non-Destructive Inspection keeps voluminous data on deterioration in various plants. It also keeps enough qualified inspection engineers on the payroll to ensure integrated inspection and maintenance services.

Ever since the Soviet nuclear power plant accident at Chernobyl, Japan's sophisticated inspection technology has been back in the limelight. The company is now poised to clinch orders for in-service inspection at overseas nuclear power plants.

Non-Destructive Inspection has also been handling aircraft inspections since the Japan Air Lines plane crash of August 1985. Its diversification efforts have even led to the inspection of concrete structures, investigation of articles and structures under the ground and inspection of high-molecular, ceramic, compound materials and other new materials, in addition to the metals with which it has dealt traditionally.

The day is not far off when the company's inspection technology will be accepted as readily by users around the world as it has come to be in Japan. ●



Mobil Oil's Yanbu, Saudi Arabia plant, where Non-Destructive Inspection dispatches engineers