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Steel-Canvas Series by Hiroji Noda
“Dialog — Budding of Water”
(Born in 1952, his art combines abstract painting with other materials. He was awarded the 2001 Newcomer Prize by the Minister of Education, Culture, Sports, Science and Technology.)

In this issue
Feature Story
Civil Engineering & Marine Construction Division
Part 1 | Offshore Oil and Gas Development
Behind the broad range of business operations conducted by the Civil Engineering & Marine Construction Division of Nippon Steel lies a vast reservoir of expertise in civil engineering and steel application technologies, expertise that the company has acquired over many years of building its own steelworks and those of others.

Supported by a rapid growth in construction investment dating from the late 1960s onward, Nippon Steel expanded the scope of its civil engineering and marine construction operations. These activities ranged from the installation of city gas and waterworks pipelines to the erection of long-span suspension bridge cables and offshore construction work. In 1974, the Civil Engineering & Marine Construction Division was organized as a base for further expanding into these promising growth areas in engineering and construction. Today, this Division promotes the development of projects around the globe that take into account an accurate understanding of the social needs inherent in the fields of energy, resources and national land development, both at home and abroad.

This two-part series (Nos. 303 and 304) highlights the activities of the Civil Engineering & Marine Construction Division and focuses on the following.
No. 303: Offshore oil and gas development
No. 304: Bridge building overseas
Feature Story

Operations Map of Nippon Steel's Offshore Oil and Gas Development

- Fabrication and overseas operating bases
- Major oil and gas development projects

IMCC (International Marine Construction Co., S.A.K.) in Kuwait
NISCONI (P.T. Nippon Steel Construction Indonesia)
TNS (Thai Nippon Steel Engineering & Construction Co., Ltd.)
NSC Singapore Operation Office
NS-BATAM (P.T. Nippon Steel Batam Offshore Service) in Indonesia

Saudi Arabia
ADC/Field Maintenance Work
ONGC/Bombay High Platforms
ONGC/South Bassen, Heera Platforms

India
ONGC/Bombay High Platforms
ONGC/South Bassen, Heera Platforms

Thailand
Unocal/Phase1-22 Developments
POGO/Tantawan, Benchamas Field Developments
Total/Bongkot WP9.10
PTT-EP/Bongkot WP13,14
Chevron/MPP
Star Petroleum/SPM, PLEM & Pipeline

IMCC

IMCC

NISCONI (P.T. Nippon Steel Construction Indonesia)

NISCOMA (Nippon Steel Construction Malaysia Sdn. Bhd.)

NISCONI (P.T. Nippon Steel Construction Indonesia)

Wakamatsu Fabrication Center

U.S.A.
Shell-Todd Platform
Texaco/Edith Platform
Exxon/SYU Piles

Trinidad and Tobago
Feltrim C&C

Argentina
PPA/Module

Mexico
Protessa/C&C

New Zealand
Shell-Todd/Maui-B Platform

Indonesia
Pertamina/East Java Gas Pipeline
CONOCO/Belita Field Development
ARCO/Gas PHi2 Pipelines
Total/Peciko Field Development
Premier/ANOA Field Development
BP/Pipeline Replacement

Malaysia
EPMI/97-98 Program
PCSBI/2002-2003 Work

NISCONI (P.T. Nippon Steel Construction Indonesia)

NSC Singapore Operation Office
NS-BATAM (P.T. Nippon Steel Batam Offshore Service) in Indonesia

U.S.A.
Alieska Pipeline Service/TAPS Offshore Berth
Marathon Oil/Platform Installation

U.S.A.
Texaco/Habitat Platform
Chevron/Edith Platform
Unions/Irene Platform
Exxon/SYU Piles

Argentina
PPA/Module
**Feature Story**

**Offshore Oil and Gas Development**

**Worldwide Reputation as a Comprehensive Contractor**

The Civil Engineering & Marine Construction Division is in the spotlight now because its overseas section has recently received orders in rapid succession for large projects in Sakhalin, Thailand, Indonesia and other areas.

The offshore engineering business in the area of oil and gas development started at the end of the 1960s when Nippon Steel assumed total responsibility for the construction of an offshore berth for ESSO Standard (Okinawa) Ltd. Since then, the company has amassed a wealth of know-how and experience in the laying of offshore pipelines together with the design, manufacture, transport and installation of offshore structures, including upper decks and jackets (substructures) for oil/gas drilling rigs. Following the receipt of an order in 1968 from Pertamina (Indonesia's state-owned oil corporation) to install the offshore pipeline for an oil loading base at Pangkalan Susu, Nippon Steel has aggressively pursued additional business opportunities abroad and has been rewarded with many overseas offshore oil and gas development projects.

It was quite a challenge at first for Nippon Steel to advance into the field of offshore oil development projects on an international scale. "We had the desire to expand the scope of our business by winning contracts for large projects in competition with world-class contractors. We must attribute our current success to our senior members who boldly took on the challenge of unfamiliar overseas projects and who, despite occasional failures, devoted themselves intensely to the pursuit of those projects," says Michihiko Takasaki, Group Leader of Overseas Offshore Business Div., Civil Engineering & Marine Construction Division.

East Java pipeline for Pertamina
Feature Story

Powerful Tools in Offshore Engineering: A Fleet of Derrick/Lay Barges

In the early 1970s when large-scale oil development projects began taking shape in Southeast Asia, Alaska and other regions, Nippon Steel launched two new derrick/lay barges with the aim of developing offshore business primarily in Southeast Asia. These barges, the *Kuroshio* and the *Kuroshio II*, both originally built in the 1970s, remain in operation and are equipped with large derrick cranes capable of both installing large structures and laying offshore pipelines.

At virtually the same time that the two derrick/lay barges were being built, the Civil Engineering & Marine Construction Division established local ventures from which to expand its overseas operations: P.T. Nippon Steel Construction Indonesia (NISCONI) in 1972, Nippon Steel Construction Malaysia Sdn. Bhd. (NISCOMA) in 1975 and others.

Both of these companies currently play a key role as footholds for new business opportunities in Southeast Asia.

Overseas Shift of Business Promotes Globalization

Fluctuations in exchange rates and crude oil prices have a large effect on offshore oil development. In particular, the high appreciation of the yen following the Plaza Accord of 1985, when the yen suddenly rose to over ¥140 to the US dollar, greatly damaged Nippon Steel's offshore oil development business.

Because of this experience, the Civil Engineering & Marine Construction Division sought ways to secure the survival of its offshore businesses and eventually decided to shift both its fabrication and Kuroshio-related businesses abroad. In 1987, the Civil Engineering & Marine Construction Division established Thai Nippon Steel Engineering & Construction Corp., Ltd. (TNS), south of Bangkok, Thailand, as a joint venture with the Italthai Group for the fabrication of offshore structures. This new venture was aimed at increasing the competitive strength of the Division in this area. This was because the Division, together with Union Thai as a partner, had an extensive track record in projects for Petroleum Authority of Thailand and also be-
cause this area holds great potential for large projects in the future.

Meanwhile, with the goal of reducing the costs associated with Kuroshio-related business activities and promoting US-dollar settlements, the Civil Engineering & Marine Construction Division established the Singapore Operation Group (SOG) in Singapore. This shift towards overseas business has helped to accelerate the globalization of the Division, which now employs more than 1,000 foreign workers in its overseas section.

An EPC Contractor Responsible for Comprehensive Tasks
Currently, offshore oil and gas development business at Nippon Steel demonstrates steady expansion in its overseas operations—an extremely rare case for Japanese enterprises in this area. In the 1970s, numerous Japanese companies initiated overseas offshore businesses, but most of them failed and withdrew from the field. Competition among the world’s major contractors is truly fierce. Why, then, has Nippon Steel survived such severe competition and succeeded in maintaining its offshore business abroad?

Indeed, while the Kuroshio is equipped with a 2,500-ton capacity crane and the Kuroshio II excels in its pipeline laying capability, it is not uncommon for the world’s major contractors to possess many large 5,000 ton-class barges or self-navigable barges. Group Leader Takasaki says this about Nippon Steel’s successful operations in offshore engineering: "Needless to say, we have accumulated extensive experience in the fabrication of platforms and in work execution using Kuroshio and Kuroshio II. More importantly, we have striven to gain user recognition as a contractor responsible for comprehensive management tasks—an EPC contractor who can handle overall scope of work from engineering (E) and procurement (P) to construction (C) and commissioning."
Feature Story

Focused on Strengthening Overseas Bases and Capability

Indonesia: Base for Operations in Southeast Asia

P.T. Nippon Steel Construction Indonesia (NISCO-NI) is expanding its operations in Indonesia, a nation blessed with rich natural resources such as oil and gas. Since its establishment in 1972, ceaseless efforts have been directed toward strengthening its function as an operating base in Southeast Asia.

In Indonesia where the economy is steadily regaining momentum, the demand for oil and gas by electric utilities and related users is flourishing and investments by the major international oil and gas companies in oil/gas fields is showing a brisk uptrend. "We are now exerting maximum effort to enhance corporate confidence by further strengthening our management base so that we can take advantage of good business opportunities," says General Manager Nobuyoshi Tanaka of NISCONI.

Advancing into World Market with the Singapore Operation Group

The Singapore Operation Group (SOG) was established in 1987 as a base for developing business opportunities that can fully utilize the two derrick/lay barges Kuroshio and Kuroshio II in the installation of large-scale offshore structures and in the laying of offshore pipeline.

Manager Kenji Horikoshi of the Marine Engineering & Construction Div. states, "The strength of our Civil Engineering & Marine Construction Division lies in its ability to comprehensively manage and integrate offshore structural work from its design and procurement to fabrication and construction. In order to maintain the efficiency of the derrick/lay barges that are central to the construction of offshore structures, we constantly strive to reduce operating costs by fully utilizing local resources and improving our management capabilities in projects where these barges are employed."

As a result of these efforts, SOG is meeting with wide-ranging success in offshore projects.
Feature Story

Manager Ichiro Kanazawa of the Marine Engineering & Construction Div. regards the division's distinctive technology as the key to future business development, "Because we are a division of the steel producing company Nippon Steel, we can approach offshore construction from a steel materials perspective, the starting point for offshore structures. In the future, we must continue to use our predominance over other competitors in the development of ultra-lightweight jackets built with highly weldable high-strength steel materials and in similar areas."

Regarding the future development of offshore oil and gas development business, Manager Koji Tani of the Overseas Offshore Business Div. comments, "We have thus far directed our business development efforts at the three major markets of Southeast Asia—Thailand, Malaysia and Indonesia. Recently, however, orders for offshore projects are increasingly being received from customers in India, Myanmar and Australia. As our area of business operations steadily expands, we are gradually reconstituting ourselves as a worldwide offshore contractor and are refining our original technical capabilities and know-how towards that end."

PTT-EP Bongkot Project in Thailand

In June 2001, NISCONI participated in the Bongkot WP14 Project of PTT-EP, a Thai national oil development company. In this project, PTT-EP adopted the advanced specifications commonly used worldwide by TotalFinaElf (a French oil major), one of the project's owners. These specifications covered all the steel materials to be used, from structural members to pipelines. General Manager Shiro Watanabe of NISCONI says, "The WP14 Project was the first order received by Nippon Steel from PTT-EP. We have since added substantial improvements to complete the project and in so doing fully utilized expertise previously obtained from the WP9/10 Projects."

In the Bongkot WP14 Project, Thai Nippon Steel Engineering & Construction (TNS) successfully met the strict specifications required by PTT-EP. This led to the WP14 platform receiving the highest quality assessment among similar completed projects. This in turn has resulted in contin-
Feature Story

Aspiring To Be a World-class Offshore Engineering Contractor

Nippon Steel will continue to aggressively promote its offshore engineering and construction business. The Civil Engineering & Marine Construction Division, along with the Energy Facilities Engineering Division that handles onshore construction, has received an order for a long-distance pipeline laying project in Sakhalin, Russia. Sakhalin is plentiful in oil and gas reserves and is regarded as an area where oil/gas development will continue for several decades.

Meanwhile, offshore oil and gas development projects are shifting year by year to deeper seas. Consequently the types of platforms to be used are undergoing new development, from the jacket to the floating and other emerging types. "With a constant eye on next-generation trends, we will aggressively challenge ourselves to expand our areas of business and promote technological development. To this end, we intend to place ourselves on a par with the world's other prominent contractors," says Group Leader Takasaki of the Overseas Offshore Business Div. in describing his aspirations for the future of Nippon Steel's offshore engineering and construction business.

For inquiries about this special feature, please send them to NSC Singapore Operation Office (Tel: +65-6278-8312; Fax: +65-6278-8792).