



April 22, 2008

Japan Agency for Marine-Earth Science and Technology

### **Completion of Drydocking Survey and Current Schedule Of The Deep-sea Drilling Vessel CHIKYU -Some damages found on Azimuth thruster-**

The Deep-sea Drilling Vessel CHIKYU operated by the Japan Agency for Marine-Earth Science and Technology (JAMSTEC; Yasuhiro Kato, President) has just finished its Drydocking Survey, repair/ maintenance work today, which has been conducted in the dock of the Sasebo Shipyard, Sasebo Heavy Industries Co., Ltd in Sasebo City, Nagasaki Prefecture since February 23rd, 2008.

Some cracks and chip offs were identified on gears (3 out of 6 gears) of Azimuth thrusters (propellers rotating 360 degrees to control the positioning) during the overhaul inspection. One of the gears was replaced, and the other two were temporary repaired. A task force is set up for investigating the problems and finding the best possible solutions, considering the possible strong ocean current in the sea for the long term although the CHIKYU can be operated by turning down its power.

Future CHIKYU operation will be adjusted based on the investigation and planned scientific drilling project for the Integrated Ocean Drilling Program (IODP) later in this year will be prepared.

#### **Reference: Damages of Azimuth thruster**

The CHIKYU installs a computer system called Dynamic Positioning System (DPS) to control the power and direction of thruster so that the CHIKYU can maintain a constant position for the deep-sea drilling with 6 Azimuth thrusters (3 on the bow and 3 on the stern: propeller diameter is 3.8m) which is used worldwide.

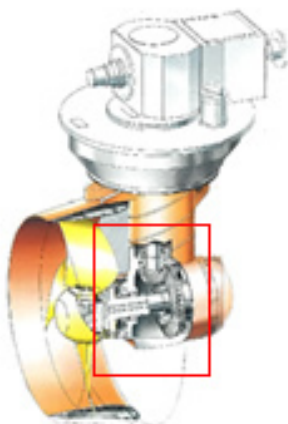


Figure1; Identified damage is shown in the red squared part in the bevel gear (gear used when it turn right angle).

Figure 1: Azimuth thruster



Picture 1: Wheel gear



Picture 2: Enlarged picture  
of the gear

Damages have identified on 3 out of 6 wheel gears and one of those was replaced (Picture 1 and 2). It was the first overhaul inspection of Azimuth thruster since the CHIKYU's delivery in July 2005.

Material of gears on the CHIKYU is surface carburizing nickel-chrome molybdenum forged steel.

Contacts:

(For Chikyu)

Takeo Tanaka, e-mail: [cdex@jamstec.go.jp](mailto:cdex@jamstec.go.jp)

Manager, Planning and Coordination Department

The Center for Deep Earth Exploration (CDEX)

Japan Agency for Marine-Earth Science and Technology

(For Publication)

Noriyuki Murata, e-mail: [press@jamstec.go.jp](mailto:press@jamstec.go.jp)

Manager, Planning Department Press Office

Japan Agency for Marine-Earth Science and Technology