

November 18,2020

Request for Letter of Intent

1. Purpose

Japan Agency for Marine-Earth Science and Technology (hereinafter called “JAMSTEC”) is going to perform scientific drilling based on International Ocean Discovery Program (IODP), and drilling for ocean resources as a contractual service using Deep-sea Scientific Drilling Vessel “Chikyu” (hereinafter called “Chikyu”).

For above reason, JAMSTEC has decided to entrust the management and operation services of “Chikyu” (hereinafter called “Service”) and will conclude a negotiated contract with a specific provider who satisfies the following qualification with extensive knowledge and working experience to render Service. However, to confirm whether any other potential provider satisfies the qualification and wishes to render Service, JAMSTEC invites a letter of intent for participating in the bidding.

In case JAMSTEC acknowledges that there is no other potential provider that satisfies the qualification, JAMSTEC will conclude a negotiated contract with the specific provider. In case there is another potential provider who satisfies the qualifications, JAMSTEC will go through competitive procedure by requesting the specific provider and applicant to submit project proposals and technical review materials, and the like.

2. Contract overview

(1) Contract title: Entrustment of management and operation services of Deep-sea Scientific Drilling Vessel “Chikyu”

(2) Period of contract:

From Thursday, April 1, 2021 until Friday, March 31, 2023

The period of contract shall be automatically extended until Sunday, March 31, 2024 unless either party provides the other party with a written notice not to extend the period at least six (6) months before the end of the period.

(3) Details of Service:

See the appendix 1 "specification".

3. Qualifications

(1) Must satisfy the Entry Requirements for the Entrustment of Management and Operation Services of Deep-sea Scientific Drilling Vessel “Chikyu” in the appendix 2.

(2) Must have proven to sufficiently perform the duties indicated in Attachment 1

"specification".

- (3) Must not fall under the (Imperial Ordinance No. 165 of 1945) Article 70 and 71 of Cabinet Order on Budgets, the Settlement of Accounts, and Accounting.
- (4) Must have been rated at B or higher grade for "Provision of Services" in the fiscal year 2019, 2020, 2021 under the uniform qualification for every ministry and agency or must be recognized as being of the same grade as shown on the financial statements for the last two fiscal years.
- (5) Must not be under suspension of transactions by the national government, a local government, or an independent administrative agency.

4. Procedures (Submission of letter of intent)

- (1) Application period to submit a letter of intent

From Wednesday, November 18, 2020 to Monday, January 18, 2021

- (2) A vendor who satisfies the qualification and wishes to render the operation must submit the following documents proving to fulfill the requirements stated in the 2. and 3. of this notice: brochure of company information, business performance, financial statements, and the like. The vendor must send them by post (Limited to registered mail, etc., where a delivery record remains) or by email (in PDF format and attached to the email) by the following date.

Deadline to submit the document No later than 17:00 Tuesday, January 19, 2021

Where to submit: Refer to 6. Contact information in this notice

- (3) Letter of intent is free format, but must confirm the decision of the applicant's organization.
- (4) Upon submission of the documents mentioned above, JAMSTEC will conduct a review to verify the business performance. Suppose the applicant meets the requirements of the application. In that case, JAMSTEC will notify the applicant in writing, go through competitive procedure by requesting the specific vendor and applicant to submit project proposals and technical review materials, and the like.
- (5) Others
 - 1) The language used in the submission of letter of intent must be Japanese or English and the currency must be Japanese yen or US dollar.
 - 2) The applicant shall bear the costs of preparing and submitting these documents.
 - 3) JAMSTEC will not use the submitted documents without the applicant's permission for purposes other than the performance verification review.
 - 4) JAMSTEC cannot return the documents once they are received.
 - 5) The applicant is not permitted to replace or resubmit the documents once they are

received.

- 6) False statements in the documents may result in the invalidation of the applicant's documents and trade suspension.
- 7) This contract is based on the assumption that the national government approves the FY2021 budget. JAMSTEC will decide a vendor and conclude the contract after the budget's approval.
- 8) Attachment 1 "Specifications" is the plan as of November 18, 2020, and may be subject to change depending on circumstances.

5. How to submit the questionnaire

If you have any questions about this case, please submit a questionnaire by mail or email.

Submission period: From the date of this notice to Tuesday, January 12, 2021

Where to submit: Refer to 6. Contact information in this notice

6. Contact

Kyohei KANEKO (Mr.)

Contracts Management Section, Finance and Contracts Department

Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

2-15 Natusima-cho, Yokosuka-shi, Kanagawa-ken 237-0061

TEL:+81-46-867-9134 FAX:+81-46-867-9125

E-mail : keiyakuka@jamstec.go.jp

Specification

1. Title

Entrustment of management and operation services of Deep-sea Scientific Drilling Vessel “*Chikyu*”

2. Overview

Japan Agency for Marine-Earth Science and Technology (hereinafter called as “JAMSTEC”) is going to perform scientific drilling based on International Ocean Discovery Program (IODP), etc., drilling for ocean resources as a contractual service, and other drilling by using Deep-sea Scientific Drilling Vessel “*Chikyu*”. This entrustment service aims at managing and operating “*Chikyu*” in safe and effective manner, including preparation, post-process, etc. of drilling, under the management and operation schedule, etc. established by JAMSTEC, and this document defines such service. As a principle, "vessel operation" and "drilling operation" are collectively called "management and operation" in this specification.

3. Places of Performance

Deep-sea Scientific Drilling Vessel “*Chikyu*”, facility of trustee (hereinafter called as "Manager"), onshore support base, etc.

4. Period of Performance

From Thursday, April 1, 2021 until Friday, March 31, 2023

The period of performance shall be automatically extended until Sunday, March 31, 2024 unless either party provides the other party with a written notice not to extend the period at least six (6) months before the end of the period.

5. Contents of Service

Manager shall manage and operate “*Chikyu*” based on annual management and operation schedule and drilling program established by JAMSTEC and in compliance with regulations concerning the management and operation of “*Chikyu*” decided by JAMSTEC. Manager shall hold safety to the maximum priority, and manage and operate “*Chikyu*” effectively. In addition, Manager shall obtain all approvals and authorizations necessary to manage and operate “*Chikyu*” under the “Maru ship” system, and comply with the laws and ordinances of countries of ship registration, navigation and calling. Annual management and operation schedule is subject to change owing to factors such as the weather condition and budget of JAMSTEC.

* Attachment-1 is a model annual management and operation schedule, which is included only to provide an example. Note that Attachment-1 is different from the actual schedule. Actual schedule for a given fiscal year will be established by JAMSTEC by the end of the previous fiscal year.

6. Number of Crew

With regard to the number of crew necessary for this entrustment service, Manager shall consult with JAMSTEC to determine the standard number of crew, which consists of vessel operation staff

and drilling staff, within the limits of 96 person underway and 94 person at anchor. However, if the contents of service demand management and operation different from the established standard considering safety and efficiency, Manager shall submit manning plan to JAMSTEC in advance and obtain approval from JAMSTEC on all such occasions.

Manager may take a trainee on board to succeed and improve skills with prior approval from JAMSTEC. Manager shall bear the cost for the boarding of the trainee in principle.

7.1 Vessel Operation

Manager shall perform the following vessel operation work as the vessel operations manager of “Chikyu” based on the annual management and operation schedule established by JAMSTEC (Details of work assignment are as provided for in Attachment-2):

- (a) Vessel Operation
- (b) Operation Management
- (c) Arrangement related to Port
- (d) Charter in and Charter out of Vessel
- (e) Provision of Communication Service
- (f) Support for Outreach Activities
- (g) Other Incidental Services

7.2 Drilling Operation

Manager shall perform the following drilling related work (Details of work assignment are as provided for in Attachment-2):

- (a) Acquisition of Permission
- (b) Management of Drilling Operation
- (c) Drilling Operation
- (d) Manning
- (e) Waste Processing
- (f) Processing of Sample Cuttings

7.3 Maintenance and Improvement of Hull, Drilling Equipment and Facility

Manager shall perform the following maintenance/improvement related work. If contract and procurement for maintenance and improvement exceed cost threshold as determined by JAMSTEC, Manager shall obtain approval from JAMSTEC as they arise. "Maintenance" means keeping the ship hull, drilling equipment and facility in normal condition by Preventive Maintenance System (PMS) and repair, and "improvement" means improving (including newly installing) ship hull, drilling equipment or facility in this specification. Also, “inspection” and “Work” are means for “maintenance” and “improvement”. (Details of work assignment are as provided for in Attachment-2):

- (a) Preparation of Maintenance and Improvement Plan
- (b) Shipyard Work and Large-scale Work for Maintenance and Improvement
- (c) Statutory Inspection and Test
- (d) Daily Maintenance
- (e) Other Maintenance
- (f) Call on Engineer
- (g) Improvement Work

7.4 Provision and Management of Subcontractor Services

Manager shall provide and manage service contractor (hereinafter referred to as "Subcontractor") services (including necessary equipment and supplies) in accordance with the instructions from JAMSTEC. Manager shall contract and procure in proper price, and transparency must be ensured throughout the process. (Details of work assignment and Subcontractor services to be provided are as provided for in Attachment-2):

- (a) Provision and Management of Services
- (b) Subcontractor Services to be Provided

Work of Subcontractor service administrator located on board by Manager includes mobilization management of engineers and equipment and supplies of Subcontractor, management of Subcontractor's work, mobilization of equipment and supplies owned by JAMSTEC, schedule management of helicopter services and boat services, cost management of drilling operation and other work directed by JAMSTEC.

7.5 Procurement, Storage and Inventory Management of Equipment and Supplies

Manager shall procure, store and manage inventory of the following equipment and supplies. If Manager directly procures equipment or supplies necessary for Subcontractor services, Manager may do so in compliance with the instructions from JAMSTEC. Manager shall contract and procure in proper price, and transparency must be ensured throughout the process (Details of work assignment are as provided for in Attachment-2):

- (a) Equipment and Supplies Necessary for Vessel Operation
- (b) Water, Fuel and Lubricant
- (c) Equipment and Supplies for Load and Offload
- (d) Equipment Necessary for Onboard Office
- (e) Food and Potable Water
- (f) Equipment and Supplies and Spare Parts for Drilling
- (g) Mud and Cement
- (h) Equipment and Supplies Necessary for Onshore Support Base

7.6 Management of Onshore Support Base

Manager shall perform the following management service of onshore supply base (Details of work assignment are as provided for in Attachment-2):

- (a) Acquisition of Permission
- (b) Manning
- (c) Operational Management of Onshore Support Base
- (d) Operational Management of Helicopter Base
- (e) Operational Management of Equipment and Supplies Yard
- (f) Loading and Offloading
- (g) Transportation of Equipment and Supplies
- (h) Transportation of Personnel
- (i) Customs Clearance Service
- (j) Boarding Persons Support
- (k) Onshore Medical Support

7.7 Laboratories and Scientist Support

Manager shall perform the following laboratories and scientists support service (Details of work assignment are as provided for in Attachment-2):

- (a) Operation and Maintenance of Laboratories
- (b) Customs Clearance Service
- (c) Transportation of Laboratories Equipment and Supplies
- (d) Support for Scientist
- (e) Disposal of Waste Fluid

7.8 HSQE

Manager shall perform the following health, safety, quality and environment (hereinafter referred to as "HSQE") related services (Details of work assignment are as provided for in Attachment-2):

- (a) Establishment and Maintenance of HSQE-related Documents
- (b) Procurement and Maintenance of Safety-related Equipment
- (c) HSQE Management based on HSQE management system (hereinafter referred to as "HSQE-MS")

8. Report

Manager shall submit the following reports (Details of the reports are as provided for in Attachment-2):

- (a) Vessel Operation Report
- (b) Drilling Operation Report
- (c) Engineering Report
- (d) HSQE Report
- (e) Financial Report
- (f) Final Report
- (g) Other Report

9. Others

Manager shall perform the following work (Details of work assignment are as provided for in Attachment-2):

- (a) Sharing of information, knowledge and technique for the operation of “*Chikyu*” and drilling between Manager and JAMSTEC
- (b) Cooperation for equipment development, etc. by JAMSTEC and a third party
- (c) Proposal for improvement based on drilling experience by “*Chikyu*”
- (d) Contract research based on instruction by JAMSTEC (in relation to drilling engineering, etc.)
- (e) Participation for IODP international conference
- (f) Preparation and revision of operation manual and submission to JAMSTEC
- (g) Succession of services on the change of manager by the expiration of contract term
- (h) Any other work agreed between JAMSTEC and Manager

10. Precautions for the Performance of Work

10.1 JAMSTEC will designate contents of work, performance time, budget, etc. to Manager each time for works indicated as "Instruction" in the Furnishment of work (Attachment-2).

10.2 Manager shall make an effort to reduce costs by using competitive method such as bidding and estimate comparison for contract and procurement. Manager shall make an effort to minimize the amount of commission for intermediary dealers.

10.3 Manager shall carry out competitive bidding to select a shipyard for maintenance and improvement in principle, examine technological strength, cost, etc. and determine, and report to JAMSTEC. If special circumstances exist for the selection of the shipyard, Manager may determine by contacting and consulting with JAMSTEC in advance.

10.4 Manager shall manage inventory of JAMSTEC's property in performing the service.

10.5 Manager shall obtain approval from JAMSTEC in advance, in the event education, courses, and training, etc. are required to perform the service.

11. Inspection

JAMSTEC or its agent may inspect concerning the entrusted service at any time during business hours. Manager shall keep related documents and prepare for disclosure at JAMSTEC's request.

12. Handling of Intellectual Property

12.1 Manager shall request approval of JAMSTEC in advance if Manager determines that patent, utility model or design right is acquirable for technique or knowledge obtained through the service and intends to make application for the right. JAMSTEC may use the acquired right without compensation. Such right shall be owned jointly between Manager and JAMSTEC in principle.

12.2 If JAMSTEC develops equipment, etc. with a third party, Manager shall not make contents of development and knowledge public regardless of the patent application.

12.3 Manager shall transfer all copyrights (including the rights stipulated in Articles 27 and 28 of the Copyright Law) related to copyrighted works obtained through the service to JAMSTEC without compensation, and Manager may not exercise moral rights (right to make the work public, right to indicate name and right to maintain integrity) against JAMSTEC and its licensees.

13. Existence of work related to the handling of confidential information: Yes

14. Existence of work related to the handling of personal information: Yes

15. Succession of Service

Manager shall hand over entire service to the trustee for the next term in accordance with instructions by JAMSTEC before the expiration of the contract term of the entrusted service. Manager shall hand over any information, including technical information, obtained through the service to JAMSTEC in writing on termination of the service. JAMSTEC will separately consult with Manager for the succession from the trustee of the present term.

16. Other

Any question concerning this specification shall be settled upon consultation.

Attachment-1: Annual management and operation schedule (model)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
April	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	
	← Loading Shimizu →																														
May	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri
June	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
July	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
August	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
September	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
October	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu
November	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	
December	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
January	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri
February	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
March	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	

* Attachment-1 is a model annual management and operation schedule, which is included only as an example. Note that Attachment-1 is different from the actual schedule. The actual schedule for a given fiscal year will be established by JAMSTEC by the end of the previous fiscal year.

* Examples for implementation contents of each cruise are described below.

(1) Scientific drilling expeditions

IODP Expedition 1: Collect core samples by riser drilling at the Nankai Trough. Water depth is about 2000 m, drilling depth below sea-floor is about 2000 m.

IODP Expedition 2: Drill a borehole by riserless drilling and set in the borehole a Long-Term Borehole Monitoring System (LTBMS) at the Nankai Trough. Water depth is about 3800 m, drilling depth below sea-floor is about 500 m.

SCORE Drilling 1: Drilling under the Chikyu Shallow Core Program. Collect core samples using hydraulic piston coring system by riserless drilling at the Nankai Trough. Water depth is about 2000 m, drilling depth below sea-floor is about 100 m.

(2) Tests

At-sea Technical Performance Test 1: Riserless drilling technical performance test outside of Suruga Bay of drilling equipment modified by JAMSTEC. JAMSTEC's onboard representative provides instructions for the test.

At-sea Technical Performance Test 2: Failure Mode and Effect Analysis (FMEA) of the Dynamic Positioning System (DPS) in Suruga Bay. JAMSTEC's representative is not onboard and the test is carried out solely by Manager.

(3) Others

Drilling for Ocean Resources 1: Drilling for ocean resources offshore India. Entrusted with this drilling, JAMSTEC directs Manager to implement the work. JAMSTEC and Manager, together with required companies, determine work assignment, chain of command, and day rates, etc. for the drilling.

Attachment-2: Furnishment of work

(Category)	(Details of Work)		(Provided by)	
7.1 Vessel Operation			(Manager) (JAMSTEC)	
Vessel Operation	1	Formulation of annual management and operation schedule		X
	2	Preparation of operation manual for each cruise		X
	3	Vessel operation of “ <i>Chikyu</i> ” based on annual management and operation schedule and operation manual	X	
	4	Report on the state of “ <i>Chikyu</i> ” to JAMSTEC, relevant government offices, fishing industry, etc.	X	
Operation Management	5	Management of vessel operation in compliance with laws and ordinances (management of the list of qualifications for crew, oil spills, persons on board, ship safety, etc.)	X	
	6	Arrangement of hull insurance, protection and indemnity insurance and comprehensive liability insurance		X
	7	Support for hull insurance, protection and indemnity insurance, comprehensive liability insurance, etc.	X	
	8	Arrangement of lost in hole insurance, etc.	X	Instruction
	9	Assignment of a qualified captain and operation in compliance with maritime law	X	
	10	Assignment of Offshore Installation Manager (OIM) as Manager’s onboard representative for the work on “ <i>Chikyu</i> ”	X	
	11	Vessel operation and drilling operation by captain and OIM	X	
	12	Arrangement and manning of crew	X	
	13	Acquisition and management of statement of compliance for MLC (exception stipulated in Article 72, Seaman Law shall be obtained)	X	
	14	Acquisition and management of statement of compliance necessary for vessel operation under international treaty or domestic law (e.g. ISM, ISPS)	X	
	15	Notification of work, application for hydrographic survey, etc. to the government (Japan Coast Guard and Ministry of Defense)		X
	16	Inquiry and notification concerning installation of aircraft warning lights to the government (Ministry of Land, Infrastructure, Transport and Tourism)		X
	17	Other application for approval and authorization, notification, etc. necessary for vessel operation to government authorities	X	
Coordination for Sea Area	18	Coordination with fishers, submarine cable companies, etc. for the sea area to work on		X
Arrangement related to Port	19	Gathering and providing information about port, security, etc.	X	
	20	Procedures needed to sail out of and sail into port	X	
	21	Arrangement of port related service	X	
Charter in and	22	Charter in and charter out of “ <i>Chikyu</i> ”	X	

Charter out of Vessel				
Provision of Communication Service	23	Provision of communication service and maintenance and management of equipment (satellite communication, firewall, LAN, etc.)	X	
Support for Outreach Activities	24	Support for public/special opening of the vessel	X	Instruction
	25	Support for visitation, visit, internship, interview, etc.	X	Instruction
	26	Maintenance of safety of boarding persons and visitors for onboard outreach activities	X	
Other Incidental Services	27	Provision of meal to boarding persons and visitors	X	
	28	Laundry service (including housekeeping)	X	
	29	Maintenance and management of onboard accommodation space (including shared space)	X	
	30	Sales of goods on board (e.g. stationery, everyday items)	X	
	31	Operation and maintenance of systems necessary for drilling and vessel operation (e.g. IAS, PMS, DPS, DCIS, MMS, BOP control system, RMS, IMS *1)	X	
	32	Proposal and implementation of information sharing and effective management by utilizing IT system	X	
	33	Operation of ocean current monitoring system		X
	34	Transportation and management of luggage	X	
	35	Operation of standing crane of "Chikyu"	X	
	36	Welding work	X	
	37	Provision of onboard first aid and medical service	X	
7.2 Drilling Operation (Manager) (JAMSTEC)				
Acquisition of Permission	38	Support for coordination with the government and holder of mining right, and acquisition of permission for drilling operation (if necessary)	X	Instruction
Planning of Drilling Program	39			
	40	Preparation of drilling program		X
Management of Drilling Operation	41	Assignment of OSI as JAMSTEC's onboard representative (if necessary) and issuance of instructions to captain and OIM		X
	42	Assignment of qualified RI safety and administration officer (if necessary)	X	Instruction
	43	Assignment of qualified explosive handling and administration officer (if necessary)	X	Instruction
Drilling Operation	44	Preparation of work instruction based on drilling program		X
	45	Work including drilling, finishing, coring, testing, repairing, temporary abandoning and abandoning of wells based on work instruction	X	
	46	Operation of the coring system owned by JAMSTEC based on work instruction	X	
	47	Operation of underwater TV based on work instruction	X	
Manning	48	Arrangement and manning of drilling crew based on drilling program	X	

Waste Processing	49	Processing of waste mud (operation of waste mud processing system on "Chikyu" and processing on land)	X	
	50	Processing of disused mud, cement and additives	X	
	51	Processing of cuttings	X	
Processing of Sample Cuttings	52	Transportation of sample cuttings to core cutting area	X	Instruction
7.3 Maintenance and Improvement of Hull, Drilling Equipment and Facility (Manager) (JAMSTEC)				
Preparation of Maintenance and Improvement Plan	53	Preparation of maintenance and improvement plan for hull, drilling equipment and facility	X	Instruction
	54	Preparation of work plan based on maintenance and improvement plan	X	
	55	Preparation of rig inspection plan	X	Instruction
	56	Preparation of shipyard Work plan	X	Instruction
Shipyards Work and Large-scale Work for Maintenance and Improvement	57	Implementation of shipyard Work (including dry docking) and large-scale work (including 5 year re-certification of drilling equipment, repair Work of heavy breakdown)	X	Instruction
	58	Implementation of maintenance and improvement Work at shipyard except for shipyard Work	X	
	59	Control of deadweight and center of gravity	X	
	60	Update of as-built drawing by shipyard Work and large-scale Work	X	
Statutory Inspection and Test	61	Implementation of statutory inspection and test by classification society (NK, ABS) etc.	X	
	62	Maintenance and management of MODU code	X	
Daily Maintenance	63	Daily maintenance of hull, drilling equipment, facility, equipment and supplies(including drill pipe, drill collar, casing, tubing and sub) (including idle equipment) (onboard and onshore)	X	
Other Maintenance	64	Maintenance of onboard PC and server (excluding equipment and system (SDMS) located in laboratories)	X	
	65	Pipe inspection and repair (drill pipe, casing, tubing, etc.)	X	Instruction
	66	Maintenance of wireline coring equipment owned by JAMSTEC	X	
	67	Maintenance of underwater TV	X	
	68	Maintenance of ocean current monitoring system		X
	69	Implementation of rig inspection by a third party	X	Instruction
	70	Installation and maintenance of observation equipment temporarily brought onboard by JAMSTEC	X	Instruction
Call on Engineer	71	Call on engineer of manufacturer necessary for maintenance and improvement	X	Instruction
Improvement Work	72	Preparation of change request	X	
	73	Improvement Work based on change request	X	Instruction
	74	Improvement Work for necessary work environment for scientific drilling	X	Instruction

	75	Update of as-built drawing by improvement Work based on change request	X	
7.4 Provision and Management of Subcontractor Services			(Manager) (JAMSTEC)	
Provision and Management of Services	76	Provision and management of Subcontractor services instructed by JAMSTEC	X	Instruction
	77	Assignment of onboard Subcontractor service administrator	X	
Subcontractor Services to be Provided	78	Site survey services in proposed drill site (e.g. metocean survey, geotechnical test)	X	Instruction
	79	Environmental impact assessment services	X	Instruction
	80	Drilling operation consulting services (including drilling data analysis and wellbore stability analysis)	X	Instruction
	81	Riser analysis	X	Instruction
	82	Pipe fatigue test	X	Instruction
	83	Supply boat services	X	Instruction
	84	Standby boat services	X	Instruction
	85	Helicopter services	X	Instruction
	86	Weather forecasting services	X	Instruction
	87	Ocean current monitoring services (e.g. installation of the system to standby boat and its maintenance and management)	X	Instruction
	88	ROV services	X	Instruction
	89	Mud engineering services	X	Instruction
	90	Cementing services	X	Instruction
	91	Waste mud treatment and cuttings disposal services on "Chikyu" and onshore	X	Instruction
	92	Conductor jetting services	X	Instruction
	93	Well head services	X	Instruction
	94	LWD, MWD, Downhole Motor (PDM) services	X	Instruction
	95	Under-reamer services	X	Instruction
	96	Renting of other well equipment (e.g. drilling jar, scraper)	X	Instruction
	97	Coring services	X	Instruction
98	Coring services (wireline coring equipment owned by JAMSTEC)	X	Instruction	
99	Wireline logging services (including management and mobilization of AHC and logging unit)	X	Instruction	
100	Mud logging services	X	Instruction	
101	Tubular running services	X	Instruction	
102	Liner hanger services	X	Instruction	
103	Expandable casing services	X	Instruction	
104	Packer setting services	X	Instruction	
105	Coiled tubing services	X	Instruction	
106	Fishing services	X	Instruction	
107	Well abandonment services	X	Instruction	

	108	Well control services	X	Instruction
	109	Services regarding long-term borehole monitoring	X	Instruction
	110	Renting equipment and training services of H2S and CO2	X	Instruction
	111	Pipe inspection services	X	Instruction
	112	Managed pressure drilling services (including continuous circulation system and mud recovery system)	X	Instruction
	113	High current drill pipe support system services	X	Instruction
	114	Underwater TV services	X	Instruction
	115	Riser monitoring services	X	Instruction
	116	Specialized welding services	X	Instruction
7.5 Procurement, Storage and Inventory Management of Equipment and Supplies (Manager) (JAMSTEC)				
Equipment and Supplies Necessary for Vessel Operation	117	Articles for ship, and equipment and supplies necessary for vessel operation and their spare parts	X	
Water, Fuel and Lubricant	118	Fresh water	X	
	119	Fuel and lubricant for "Chikyu"	X	Instruction
	120	Fuel for Helicopter on deck	X	
	121	Oil, lubricant and grease for hydraulic equipment	X	
	122	Cleaning solvents	X	
	123	Pipe dope and casing compounds	X	
	124	BOP control unit operating fluid	X	
Equipment and Supplies for Load and Offload	125	Equipment and supplies necessary for load and offload (e.g. ropes, hoses, slings, containers, bag for waste mud treatment, cuttings containers)	X	
Equipment Necessary for Onboard Office	126	Photocopier, personal computer, audio visual system, refrigerator, hot - water heater, etc.	X	
Food and Potable Water	127	Food and potable water	X	
Equipment and Supplies and Spare Parts for Drilling	128	Well head and running tools	X	Instruction
	129	Drilling bit and nozzle, bit breaker	X	Instruction
	130	Coring bit and nozzle, bit breaker	X	Instruction
	131	Core barrel	X	Instruction
	132	Float sub and float valve	X	Instruction
	133	Crossover sub	X	Instruction
	134	Stabilizer, hole opener, under-reamer, scraper	X	Instruction

	135	Shock absorber, bumper sub	X	Instruction
	136	Jars	X	Instruction
	137	Drift indicator equipment	X	
	138	Pipe wiper	X	
	139	Casing and casing accessories	X	Instruction
	140	Drift gauge and related equipment for various pipes	X	Instruction
	141	Expandable casing	X	Instruction
	142	Tubing and tubing accessories	X	Instruction
	143	Long-term borehole monitoring equipment	X	Instruction
	144	Packer, bridge plug	X	Instruction
	145	Fishing tools	X	Instruction
	146	Other procurement items from Subcontractor	X	
	147	Underwater TV	X	Instruction
Mud and Cement	148	Cement bulk and additives	X	Instruction
	149	Mud bulk and additives	X	Instruction
	150	Waste mud treatment chemicals	X	Instruction
Equipment and Supplies Necessary for Onshore Support Base	151	Equipment and supplies necessary for onshore support base and helicopter base	X	
7.6 Management of Onshore Support Base (Manager) (JAMSTEC)				
Acquisition of Permission	152	Acquisition of the necessary permission to operate onshore support base (supply boat base)	X	
	153	Acquisition of the necessary permission to operate the helicopter base	X	
Manning	154	Manning for onshore support base	X	
	155	Manning for helicopter base	X	
Operational Management of Onshore Support Base	156	Operational management of onshore support base	X	
	157	Transportation management for supply boat	X	
Operational Management of Helicopter Base	158	Operational management of helicopter base	X	
	159	Maintenance and management of helicopter base	X	
	160	Transportation management for helicopter (e.g. coordination of passengers)	X	
Operational Management of Equipment and Supplies Yard	161	Arrangement and operational management of equipment and supplies yard	X	
Loading and Offloading	162	Loading and offloading (at "Chikyu", onshore support base, helicopter base and other locations instructed by JAMSTEC)	X	

Transportation of Equipment and Supplies	163	Transportation of equipment and supplies (between “Chikyu”, onshore support base, helicopter base and other locations instructed by JAMSTEC)	X	
Transportation of Personnel	164	Transportation of personnel accompanied by embarkation and disembarkation (including emergency transportation)	X	
Customs Clearance Service	165	Service concerning custom clearance of vessel and drilling equipment and supplies	X	
Boarding Persons Support	166	Luggage transportation and management for boarding persons(between and at “Chikyu”, onshore support base, helicopter base and other locations instructed by JAMSTEC)	X	
Onshore Medical Support	167	Coordination of transportation to onshore medical facility (support service for medical examination)	X	
7.7 Laboratories and scientist support			(Manager) (JAMSTEC)	
Operation and Maintenance of Laboratories	168	Floor, wall, ceiling, furniture	X	
	169	Door, hatch (hydraulic hatch, bolted hatch)	X	
	170	Lighting of laboratories including exterior areas	X	
	171	Electric power supply (distributor, generator for precision voltage source)	X	
	172	Refrigerating machine (include refrigerating machine in Plant Room)	X	
	173	Air conditioning facility	X	
	174	Indoor pressure regulator	X	
	175	Plumbing and water supply (tap water, potable water supply equipment, distribution pipe, sink, etc.)	X	
	176	Installation of core container and maintenance of refrigerating machine	X	
	177	Installation of electricity supply, gas, alarm, telephone, water supply and sewerage of laboratory container	X	
	178	Elevator	X	
	179	Communication (e.g. maintenance of telephone, speaker and CATV system)	X	
	180	Cleaning (cleaning of laboratories)		X
	181	Cleaning (cleaning except for laboratories, such as resting room, corridor, stairway, elevator, shower room and lavatory), garbage separation and collection		X
	182	Keys (including management of master key)	X	X
	183	Fire protection facility (fire extinguisher, smoke sensor, etc.)	X	
	184	Other facilities (cascade system, hazardous gas detector, etc.)	X	
	185	Maintenance and management of laboratory equipment and supplies		X
186	Installation of laboratory equipment outside laboratory area	X	Instruction	
187	Operation, maintenance and management of laboratory equipment installed outside laboratory area		X	
188	Cooperation and support for work necessary for science supporter (person who	X	Instruction	

		is entrusted with science services regarding the management and operation of “Chikyu” by JAMSTEC) to perform tasks		
	189	Supply of paint, fluorescent lamp, light bulb, emergency lamp, soap, detergent, etc. to be used in the laboratory	X	
Customs Clearance Service	190	Service concerning custom clearance of laboratory equipment and supplies (international cargo such as downhole measurement tools and cores)	X	
Transportation of Laboratories Equipment and Supplies	191	Transportation of laboratories equipment and supplies (between “Chikyu”, onshore support base, helicopter base and other locations instructed by JAMSTEC)	X	
Support for Scientist	192	Transportation of luggage for scientist (between “Chikyu”, onshore support base, helicopter base and other locations instructed by JAMSTEC)	X	
	193	Arrangement of transportation of scientist (arrangement of transportation for onshore support base, helicopter base and on-site accommodations)	X	
Disposal of Waste Fluid	194	Disposal of waste fluid from laboratories	X	
7.8 HSQE			(Manager) (JAMSTEC)	
Establishment, and Maintenance of HSQE-Related Documents.	195	Environmental plan for each cruise		X
	196	HSQE-MS of JAMSTEC		X
	197	HSQE-MS of Manager	X	
	198	Emergency response plan of JAMSTEC		X
	199	Emergency response plan of Manager	X	
	200	Vessel safety case	X	Instruction
	201			
	202			
	203	HSQE-MS bridging document	X	X
Procurement and Management of Safety-related Equipment	204	Furnishment, inspection and maintenance of legally required lifesaving and safety equipment	X	
	205	Procurement and management of personal protective equipment.	X	
	206	Implementation of cruise-specific safety measures including procurement and maintenance of additional safety equipment and implementation of education and training.	X	
	207			
HSQE Management Based on HSQE-MS	208		X	
	209	Regular on-board HSQE meeting	X	
	210	Risk assessment of cruise during the planning phase		X
	211	Risk assessment at the worksite	X	
	212	Implementation of external safety assessment (holding a committee, etc.)		X
	213	Implementation of emergency drills required by the ISM code.	X	

	214	Safety induction for boarding personnel	X	
	215	Pre-contract safety assessment of Subcontractors	X	Instruction
	216	Management of Subcontractor based on HSQE-MS	X	
	217	Implementation of HSQE audit		X
	218	Monitoring of environmental aspects (input / output)	X	Instruction
8. Report (Manager) (JAMSTEC)				
Vessel Operation Report	219	Statutory report, etc.	X	
	220	Operation report after the completion of each cruise	X	
Drilling Operation Report	221	Daily drilling report (IADC format)	X	
	222	Provision of data set necessary to prepare JAMSTEC drilling completion report	X	
	223	Preparation of JAMSTEC drilling completion report		X
	224	Incident report of drilling operation	X	
Engineering Report	225	Annual maintenance and PMS (Preventive Maintenance System) report	X	
	226	Improvement report (include drawings)	X	
	227	Equipment failure report	X	
HSQE Report	228	Daily report of safety observations and near miss (“hiyarihato”)	X	
	229	Monthly HQSE performance report	X	
	230	Incident report (for incidents occurring during work or in work sites including laboratories, wharves, and onshore bases, under the control of the Manager)	X	
Financial Report	231	Monthly budget and actual report (by the end of next month)	X	
	232	Monthly procurement report (by the end of next month)	X	
	233	Monthly financial statement (by the end of next month)	X	
	234	Annual financial statement (within 60 days from the end of fiscal year)	X	
	235	Asset report	X	
	236	Monthly cyclic stocktaking report for inventory	X	
	237	Stocktaking report for stock	X	Instruction
Final Report	238	Annual statement of account	X	
	239	Final report (completion report of the entrusted service by integrating documents above)	X	
Other Report	240	CV and list of responsibility, experience, qualification for major crew	X	
	241	Annual training program for each duty of crew	X	
	242	Manning plan	X	
9. Others (Manager) (JAMSTEC)				
Others	243	Sharing of information, knowledge and technologies for the operation of “Chikyu” and drilling between Manager and JAMSTEC	X	X
	244	Cooperation for equipment development, etc. by JAMSTEC and a third party	X	Instruction
	245	Proposal for improvement based on drilling experience by “Chikyu”	X	
	246	Contract research based on instruction by JAMSTEC (in relation to drilling)	X	Instruction

		engineering, etc.)		
	247	Participation for IODP international conference	X	Instruction
	248	Preparation and revision of operation manual and submission to JAMSTEC	X	
	249	Succession of services on the change of manager by the expiration of contract term	X	Instruction
	250	Any other work agreed between JAMSTEC and Manager	X	Instruction

*1 Some of the acronyms in "Other Incidental Services" in "7.1 Vessel Operation" are only used for systems in "Chikyu", therefore, supplementary explanation is provided below.

BOP: Blow Out Preventer

Emergency cutoff device to be connected to well head to prevent uncontrolled blowout out of well

DCIS: Drilling Control and Instrumentation System

System to operate drilling equipment on the rig floor, control drilling, etc.

DPS: Dynamic Positioning System

System to automatically maintain the position and heading, etc. of vessel using thrusters

IAS: Integrated Automation System

System to operate and monitor engine, generators, ballast, and various accessories

IMS: Information Management System

General-purpose onboard network systems

MMS: Mud Management System

System to prepare, store, and otherwise manage mud on board

PMS: Power Management System

System to control electric power for the vessel

RMS: Riser Management System

System to monitor conditions concerning the riser such as riser tension, angle, etc. during operation

Entry Requirements for the Entrustment of Management and Operation Services of
Deep-sea Scientific Drilling Vessel “*Chikyu*”

1. Entrustee is able to operate vessels in compliance with domestic laws of Japan.
 2. Entrustee is able to establish and implement a Safety Management System and an HSE Management System consistent with ISM code.
 3. Entrustee has experience of operating a research vessel or investigation vessel, and has the experience or the ability to operate a large ship equal to or larger than Deep-sea Scientific Drilling Vessel “*Chikyu*”.
 4. Entrustee is able to provide crew capable of operating a vessel safely and maintaining hull, engine, etc.
 - (1) Entrustee is able to provide personnel with appropriate seaman's competency certificate issued by Japan.
 - (2) Entrustee is able to provide personnel with other statutory certificates and qualifications necessary for vessel operation and maintenance.
 - (3) Entrustee is able to provide personnel with the experience of steering a large ship equal to or larger than Deep-sea Scientific Drilling Vessel “*Chikyu*” using dynamic positioning system.
 - (4) Entrustee is able to secure necessary supplemental personnel to perform the service.
 5. Entrustee has the experience or the ability of riser drilling by a drilling ship in a sea area with strong current (more than two knots) and deepwater (more than 1,000 meters).
 6. Entrustee is able to provide drilling (operation) service all day based on the drilling program instructed by JAMSTEC.
 7. Entrustee is able to provide drilling staff in accordance with the drilling program instructed by JAMSTEC.
 - (1) Entrustee is able to provide personnel with the necessary qualifications for the drilling operation.
 - (2) Entrustee is able to provide senior drilling staff (Offshore Installation Manager, tool pusher and driller) with experience of ocean drilling.
 - (3) Entrustee is able to secure necessary supplemental personnel to perform the service.
 8. Entrustee is able to arrange and procure equipment, materials, and spare parts (including consumables) in accordance with the drilling program instructed by JAMSTEC.
 9. Entrustee has the experience or the capability to provide an integrated service of the third party.
 10. Entrustee is able to operate ocean drilling both within and outside Japan.
- * If it is difficult to comply with the whole requirements above by a company, such company may bid on the premise of establishing a joint venture or re-entrusting services other than vessel operation; provided that such company is going to build uniform management and responsibility-taking system.