

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 Drilling Programme (IODP³) 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 entrustee (hereinafter called as “Manager”), onshore support base, etc.

4. Period of Performance

From Wednesday, April 1, 2026 until Thursday, March 31, 2033

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 and IODP³ 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. Handling of Personal Information

14.1 Existence of work related to the handling of personal information: Yes

14.2 Contents of Personal Information

- Operation manual for each cruise
- Boarding List
- Visitor List
- Personal Medical List
- Emergency contact information

14.3 Documents to be submitted

- Report on the Personal Information Protection and Control System (Supplementary Form 1 (In relation to Article 4 of the Special Provisions for Handling Personal Information))
Manager shall submit the document promptly after concluding the agreement.
- Report on Deletion or Disposal of Personal Information (Supplementary Form 3 (In relation to Article 10 of the Special Provisions for Handling Personal Information))
Manager shall submit the document by the end of period of performance.

15. Information Security Requirements

During implementation of this contract, Manager shall strictly comply with the matters stipulated in Attachment 1, and endeavor to prevent security incidents such as information leakage

16. 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.

17. 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	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
															Shipyard Maintenance @ Sasebo																
May	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
															Shipyard Maintenance @ Sasebo																
June	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
				Shipyard Maintenance @ Sasebo																		At-sea Technical Performance Test 2 (FMEA&DPS) @ Sasebo bay									
July	1 Tue	2 Wed	3 Thu	4 Fri	5 Sat	6 Sun	7 Mon	8 Tue	9 Wed	10 Thu	11 Fri	12 Sat	13 Sun	14 Mon	15 Tue	16 Wed	17 Thu	18 Fri	19 Sat	20 Sun	21 Mon	22 Tue	23 Wed	24 Thu	25 Fri	26 Sat	27 Sun	28 Mon	29 Tue	30 Wed	31 Thu
																															move to Shimizu
August	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	Sun
															Full Training: DPS @Suruga bay												Pier Maintenance @ Shimizu				
September	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
											Pier Maintenance @ Shimizu																				At-sea Technical Performance Test ① (ROV) ' @ Offshore Izu-Ogasawara @ Shimizu
October	1 Wed	2 Thu	3 Fri	4 Sat	5 Sun	6 Mon	7 Tue	8 Wed	9 Thu	10 Fri	11 Sat	12 Sun	13 Mon	14 Tue	15 Wed	16 Thu	17 Fri	18 Sat	19 Sun	20 Mon	21 Tue	22 Wed	23 Thu	24 Fri	25 Sat	26 Sun	27 Mon	28 Tue	29 Wed	30 Thu	31 Fri
																															@ Sendai
November	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	Mon
December	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
January	1 Thu	2 Fri	3 Sat	4 Sun	5 Mon	6 Tue	7 Wed	8 Thu	9 Fri	10 Sat	11 Sun	12 Mon	13 Tue	14 Wed	15 Thu	16 Fri	17 Sat	18 Sun	19 Mon	20 Tue	21 Wed	22 Thu	23 Fri	24 Sat	25 Sun	26 Mon	27 Tue	28 Wed	29 Thu	30 Fri	31 Sat
February	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
March	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

* 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.

* The model annual operation plan is for FY2025, examples for implementation contents of each cruise are described below.

(1) Scientific drilling expeditions

IODP³ Expedition ①: Reenter the existing observatory, C0019D and C0019E in Japan Trench Off Tohoku, and recover existing thermistor arrays from both wells. Then the recovered sensor shall be refurbished, followed by re-installation into the C0019D and C0019Q, respectively. The water depth is 6926-6928mBRT

IODP³ Expedition ②: Drill 8-½" hole to 230mbsf and reenter the same hole with wireline BHA to achieve wireline logging, 180NM off Tohoku, followed by HPCS and SD-RCB coring. The water depth is 5513.5mBRT

IODP³ Expedition ③: Conduct HPCS coring off Tohoku in Japan Trench. The water depth is 7658.5mBRT

(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.

At-sea Technical Performance Test including DPS trial after Dry Dock:

Conduct DPS trial and performance test off Sasebo. JAMSTEC representatives will be available in the period of the tests.

At-sea DPS training: Conduct DPS training at sea for crew members of Suruga Bay. JAMSTEC representatives will not be available in the test period.

(3) Others

Drilling for Ocean Resources 1: Drilling for ocean resources 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 “Chikyu” based on annual management and operation schedule and operation manual	X	
	4	Report on the state of “Chikyu” 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 “Chikyu”	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 “Chikyu”	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	Preparation of drilling program		X
Management of Drilling Operation	40	Assignment of OSI as JAMSTEC's onboard representative (if necessary) and issuance of instructions to captain and OIM		X
	41	Assignment of qualified RI safety and administration officer (if necessary)	X	Instruction
	42	Assignment of qualified explosive handling and administration officer (if necessary)	X	Instruction
Drilling Operation	43	Preparation of work instruction based on drilling program		X
	44	Work including drilling, finishing, coring, testing, repairing, temporary abandoning and abandoning of wells based on work instruction	X	
	45	Operation of the coring system owned by JAMSTEC based on work instruction	X	
	46	Operation of underwater TV based on work instruction	X	
Manning	47	Arrangement and manning of drilling crew based on drilling program	X	

Waste Processing	48	Processing of waste mud (operation of waste mud processing system on “Chikyu” and processing on land)	X	
	49	Processing of disused mud, cement and additives	X	
	50	Processing of cuttings	X	
Processing of Sample Cuttings	51	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	52	Preparation of maintenance and improvement plan for hull, drilling equipment and facility	X	Instruction
	53	Preparation of work plan based on maintenance and improvement plan	X	
	54	Preparation of rig inspection plan	X	Instruction
	55	Preparation of shipyard Work plan	X	Instruction
Shipyard Work and Large-scale Work for Maintenance and Improvement	56	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
	57	Implementation of maintenance and improvement Work at shipyard except for shipyard Work	X	
	58	Control of deadweight and center of gravity	X	
	59	Update of as-built drawing by shipyard Work and large-scale Work	X	
Statutory Inspection and Test	60	Implementation of statutory inspection and test by classification society (NK, ABS) etc.	X	
	61	Maintenance and management of MODU code	X	
Daily Maintenance	62	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	63	Maintenance of onboard PC and server and network systems (excluding equipment and system located in laboratories)	X	
	64	Pipe inspection and repair (drill pipe, casing, tubing, etc.)	X	Instruction
	65	Maintenance of wireline coring equipment owned by JAMSTEC	X	
	66	Maintenance of underwater TV	X	
	67	Maintenance of ocean current monitoring system		X
	68	Implementation of rig inspection by a third party	X	Instruction
	69	Installation and maintenance of observation equipment temporarily brought onboard by JAMSTEC	X	Instruction
Call on Engineer	70	Call on engineer of manufacturer necessary for maintenance and improvement	X	Instruction
Improvement Work	71	Preparation of change request	X	
	72	Improvement Work based on change request	X	Instruction
	73	Improvement Work for necessary work environment for scientific drilling	X	Instruction

	74	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	75	Provision and management of Subcontractor services instructed by JAMSTEC	X	Instruction
	76	Assignment of onboard Subcontractor service administrator	X	
Subcontractor Services to be Provided	77	Site survey services in proposed drill site (e.g. metocean survey, geotechnical test)	X	Instruction
	78	Environmental impact assessment services	X	Instruction
	79	Drilling operation consulting services (including drilling data analysis and wellbore stability analysis)	X	Instruction
	80	Riser analysis	X	Instruction
	81	Pipe fatigue test	X	Instruction
	82	Supply boat services	X	Instruction
	83	Standby boat services	X	Instruction
	84	Helicopter services	X	Instruction
	85	Weather forecasting services	X	Instruction
	86	Ocean current monitoring services (e.g. installation of the system to standby boat and its maintenance and management)	X	Instruction
	87	ROV services	X	Instruction
	88	Mud engineering services	X	Instruction
	89	Cementing services	X	Instruction
	90	Waste mud treatment and cuttings disposal services on “Chikyu” and onshore	X	Instruction
	91	Conductor jetting services	X	Instruction
	92	Well head services	X	Instruction
	93	LWD, MWD, Downhole Motor (PDM) services	X	Instruction
	94	Under-reamer services	X	Instruction
	95	Renting of other well equipment (e.g. drilling jar, scraper)	X	Instruction
	96	Coring services	X	Instruction
	97	Coring services (wireline coring equipment owned by JAMSTEC)	X	Instruction
	98	Wireline logging services (including management and mobilization of AHC and logging unit)	X	Instruction
	99	Mud logging services	X	Instruction
	100	Tubular running services	X	Instruction
	101	Liner hanger services	X	Instruction
	102	Expandable casing services	X	Instruction
	103	Packer setting services	X	Instruction
	104	Coiled tubing services	X	Instruction
	105	Fishing services	X	Instruction
	106	Well abandonment services	X	Instruction

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

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

Transportation of Equipment and Supplies	162	Transportation of equipment and supplies (between “Chikyu”, onshore support base, helicopter base and other locations instructed by JAMSTEC)	X	
Transportation of Personnel	163	Transportation of personnel accompanied by embarkation and disembarkation (including emergency transportation)	X	
Customs Clearance Service	164	Service concerning custom clearance of vessel and drilling equipment and supplies	X	
Boarding Persons Support	165	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	166	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	167	Floor, wall, ceiling, furniture	X	
	168	Door, hatch (hydraulic hatch, bolted hatch)	X	
	169	Lighting of laboratories including exterior areas	X	
	170	Electric power supply (distributor, generator for precision voltage source)	X	
	171	Refrigerating machine (include refrigerating machine in Plant Room)	X	
	172	Air conditioning facility	X	
	173	Indoor pressure regulator	X	
	174	Plumbing and water supply (tap water, potable water supply equipment, distribution pipe, sink, etc.)	X	
	175	Installation of core container and maintenance of refrigerating machine	X	
	176	Installation of electricity supply, gas, alarm, telephone, water supply and sewerage for experimental wastewater to laboratory container	X	
	177	Elevator	X	
	178	Communication (e.g. maintenance of telephone, speaker and CATV system)	X	
	179	Cleaning (cleaning of laboratories)		X
	180	Cleaning (cleaning except for laboratories, such as resting room, corridor, stairway, elevator, shower room and lavatory), garbage separation and collection		X
	181	Keys (including management of master key)	X	X
	182	Fire protection facility (fire extinguisher, smoke sensor, etc.)	X	
	183	Other facilities (cascade system, hazardous gas detector, etc.)	X	
	184	Maintenance and management of laboratory equipment and supplies		X
	185	Installation of laboratory equipment outside laboratory area	X	Instruction
	186	Operation, maintenance and management of laboratory equipment installed outside laboratory area		X
	187	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		
	188	Supply of paint, fluorescent lamp, light bulb, emergency lamp, soap, detergent, etc. to be used in the laboratory	X	
Customs Clearance Service	189	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	190	Transportation of laboratories equipment and supplies (between “Chikyu”, onshore support base, helicopter base and other locations instructed by JAMSTEC)	X	
Support for Scientist	191	Transportation of luggage for scientist (between “Chikyu”, onshore support base, helicopter base and other locations instructed by JAMSTEC)	X	
	192	Arrangement of transportation of scientist (arrangement of transportation for onshore support base, helicopter base and on-site accommodations)	X	
Disposal of Waste Fluid	193	Disposal of waste fluid from laboratories	X	
7.8 HSQE (Manager) (JAMSTEC)				
Establishment, and Maintenance of HSQE-Related Documents.	194	Environmental plan for each cruise		X
	195	HSQE-MS of JAMSTEC		X
	196	HSQE-MS of Manager	X	
	197	Emergency response plan of JAMSTEC		X
	198	Emergency response plan of Manager	X	
	199	Vessel safety case	X	Instruction
	200	HSQE-MS bridging document	X	X
Procurement and Management of Safety-related Equipment	201	Furnishment, inspection and maintenance of legally required lifesaving and safety equipment	X	
	202	Procurement and management of personal protective equipment.	X	
	203	Implementation of cruise-specific safety measures including procurement and maintenance of additional safety equipment and implementation of education and training.	X	
HSQE Management Based on HSQE-MS	204	Regular on-board HSQE meeting	X	
	205	Risk assessment of cruise during the planning phase		X
	206	Risk assessment at the worksite	X	
	207	Implementation of external safety assessment (holding a committee, etc.)		X
	208	Implementation of emergency drills required by the ISM code.	X	
	209	Safety induction for boarding personnel	X	
	210	Pre-contract safety assessment of Subcontractors	X	Instruction
	211	Management of Subcontractor based on HSQE-MS	X	
	212	Implementation of HSQE audit		X

	213	Monitoring of environmental aspects (input / output)	X	Instruction
8. Report		(Manager) (JAMSTEC)		
Vessel Operation Report	214	Statutory report, etc.	X	
	215	Operation report after the completion of each cruise	X	
Drilling Operation Report	216	Daily drilling report (IADC format)	X	
	217	Provision of data set necessary to prepare JAMSTEC drilling completion report	X	
	218	Preparation of JAMSTEC drilling completion report		X
	219	Incident report of drilling operation	X	
Engineering Report	220	Annual maintenance and PMS (Preventive Maintenance System) report	X	
	221	Improvement report (include drawings)	X	
	222	Equipment failure report	X	
HSQE Report	223	Daily report of safety observations and near miss ("hiyarihatto")	X	
	224	Monthly HQSE performance report	X	
	225	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	226	Monthly budget and actual report (by the end of next month)	X	
	227	Monthly procurement report (by the end of next month)	X	
	228	Monthly financial statement (by the end of next month)	X	
	229	Annual financial statement (within 60 days from the end of fiscal year)	X	
	230	Asset report	X	
	231	Monthly cyclic stocktaking report for inventory	X	
	232	Stocktaking report for stock	X	Instruction
Final Report	233	Annual statement of account	X	
	234	Final report (completion report of the entrusted service by integrating documents above)	X	
Other Report	235	CV and list of responsibility, experience, qualification for major crew	X	
	236	Annual training program for each duty of crew	X	
	237	Manning plan	X	
9. Others		(Manager) (JAMSTEC)		
Others	238	Sharing of information, knowledge and technologies for the operation of "Chikyu" and drilling between Manager and JAMSTEC	X	X
	239	Cooperation for equipment development, etc. by JAMSTEC and a third party	X	Instruction
	240	Proposal for improvement based on drilling experience by "Chikyu"	X	
	241	Contract research based on instruction by JAMSTEC (in relation to drilling engineering, etc.)	X	Instruction
	242	Participation for IODP ³ international conference	X	Instruction
	243	Preparation and revision of operation manual and submission to JAMSTEC	X	
	244	Succession of services on the change of manager by the expiration of contract	X	Instruction

		term		
	245	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

Information Security Requirements

1. Information Security Management System

- (1) The contractor shall submit the details of the implementation of information security measures and the management system. In addition, in order to show that management is carried out under a consistent quality assurance system to ensure that changes not intended by JAMSTEC, and theft of confidential information are not made, documents certifying the quality assurance system (for example, a management system chart, showing the scope of access by the person in charge of the quality assurance system and each person in charge, has to be submitted). If there is a subcontractor, this applies to the subcontractor, too. If additional conditions are added to the original contract, the contractor shall cooperate to fulfill those as much as possible.
- (2) Regarding the management system, information on the contractor's capital, officers, the place where the work to be entrusted is carried out, and the affiliation, expertise (qualifications and training related to information security, etc.), achievements, and nationality of the personnel involved in fulfilling the contract, has to be submitted promptly to the JAMSTEC person in charge after concluding the contract.
- (3) Agree with the JAMSTEC person in charge on how to deal (response procedures, demarcation of responsibility, response system, etc.) with information security incidents related to the procurement.
- (4) In the event that part of the contract is to be subcontracted, it is the responsibility of the contractor to ensure that the subcontractor also complies with the requirements regarding information security. In addition, ensure information security against threats arising from subcontracting. Subcontractors include multi-stage consignment such as re-consignment.
However, subcontracting here refers to outsourcing work that handles the following information, and does not apply if the following items do not apply:
 - 1) Information system development and construction work
 - 2) Development work for application programs and web content, etc. (hereinafter referred to as "application content")
 - 3) Information system operation work
 - 4) Business operation support work (statistics, compilation, data entry, media conversion, etc.)
 - 5) Project management support work, etc.
 - 6) Survey and research work (surveys, research, inspections, etc.)
 - 7) Other outsourced work related to information systems

2. Handling of Information

- (1) The information provided by the JAMSTEC person in charge shall not be used for any purpose other than the purpose of the procurement.
- (2) Regarding the method of transfer of information and the handling of information, follow the prescribed procedures agreed with the JAMSTEC person in charge (e.g., encryption when sending by e-mail, encryption when storing files, etc.).
- (3) If the information provided by the JAMSTEC is no longer needed, it must be returned or deleted in accordance with the instructions of the JAMSTEC person in charge. Deletion refers to the deleting of files by data erasure software or physical destruction of file storage media.
- (4) When outsourcing the disposal of information systems, submit a report certifying the deletion.

3. External Services (if applicable)

- (1) In the event of termination of the external services used in the Procurement, promptly notify the JAMSTEC person in charge in writing. In addition, for continuation of the JAMSTEC business, consideration should be made for smooth transition to another external service of the same provider or to another external service provider.
- (2) Upon termination of use of external services, all information handled shall be deleted from the external service infrastructure with the approval of the JAMSTEC person in charge. Similarly, delete information duplicated by backups, etc. In addition, submit a report proving that the information has been destroyed.

4. Work terminal (if applicable)

- (1) Identify in advance the work terminal to be used in the Procurement. Regularly check that the software including the OS of the work terminal is in an appropriate state, and if it is in an inappropriate state, make improvements.
- (2) Work terminals used in the procurement should be equipped with anti-malware software and configured to be up-to-date at all times. If definition files for anti-malware software are used, make sure that the files are up-to-date.
- (3) Work terminals should implement encryption measures for hard disks, etc.
- (4) Work terminal shall be set to have a screen lock etc. to prevent unauthorized operation by a third party and snooping on the display device.
- (5) Only software (including cloud services) that has been approved for use by JAMSTEC person should be used on the work terminals. In addition, periodic checks shall be made to ensure that they are not being used.

5. Software Vulnerability Protection

- (1) Inform the JAMSTEC person in charge regarding the support period or the plan to discontinue support the software as soon as the situation becomes known.
- (2) If a vulnerability is discovered in the software used in the procurement, examine the necessity of countermeasures and take measures against the vulnerability related to the software after considering

the impact on the system due to the application of security patches and/or software upgrades.

6. Audit

- (1) JAMSTEC has the right to audit the status of implementation of information security measures by the contractor. In addition, JAMSTEC may ask the contractor questions for the audit and request the provision of materials proving that the security requirements are met, and the contractor is obliged to answer the questions and provide requested materials. All cost related to the audit, including hours spend by contractor will be borne by JAMSTEC.
- (2) If, as a result of the audit, it is recognized that the implementation of information security measures is insufficient, discuss improvements with the JAMSTEC person in charge and implement the agreed improvement measures. If a modification is required beyond the terms of the contract, the contractor may claim those cost.

7. Others

- (1) When instructed by the JAMSTEC person in charge regarding matters necessary for maintaining the information security of JAMSTEC, the contractor shall promptly respond and cooperate in maintaining the information security of JAMSTEC.
- (2) In the event that an information security incident occurs or the information is found to be used for purposes other than those intended for information received from the JAMSTEC person in charge, the contractor shall immediately suspend the procured system's operations, report to the JAMSTEC person in charge, and follow the instructions. Specifically, taking measures such as strengthening passwords may be requested.