No. M.VI-1/7/2023-Mines VI
Government of India
Ministry of Mines
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Shastri Bhawan, Dr. Rajendra Prasad Road
New Delhi-110 001
Dated:- 26th December, 2023

NOTICE

Subject: Framing of rules under the OAMDR Act, 2002 - The Offshore Areas Mineral (Auction) Rules and the Offshore Areas Minerals (Existence of Mineral Resources) Rules.

Ministry of Mines administers the Offshore Areas Mineral (Development & Regulation) Act, 2002 [OAMDR Act]. The Act provide for development and regulation of mineral resources in the territorial waters, continental shelf, exclusive economic zone and other maritime zones of India and to provide for matters connected therewith or incidental thereto.

2. The OAMDR Act has recently been amended through the OAMDR (Amendment) Act, 2023 w.e.f. 17.08.2023 which brought major reform by introducing auction as the method of allocation of operating rights in the offshore areas. Ministry of Mines is in the process of framing the rules for implementing the provisions of the amended OAMDR Act.

3. Accordingly, draft of the following rules are enclosed herewith:

(i) The Offshore Areas Mineral (Auction) Rules;

(ii) The Offshore Areas Minerals (Existence of Mineral Resources) Rules.

4. As part of the Pre-Legislative Consultation Policy, comments/ suggestions are invited from the general public, Governments of States and Union Territories, mining industry stake-holders, industry associations, and other persons and entities concerned, on the above draft notifications for amendment of the rules.

5. The last date for receipt of the comments/suggestions is 25.01.2024.

6. The comments/suggestions may be sent by e-mail in MS-Office Word file to the following ID:

offshore-mines@gov.in

The subject of the e-mail should be "Comments/ suggestions on the draft Offshore Areas Mineral (Auction) Rules and Existence of Mineral Resources Rules".

7. Alternatively, comments/suggestions may also be sent by post to the following address:

Shri Mustaq Ahmad, Director
Ministry of Mines
Room No 313,
D-Wing Shastri Bhawan,
Dr Rajendra Prasad Road
New Delhi -110 001

The envelope may kindly be super-scribed on the top with:

"Comments/ suggestions on the draft Offshore Areas Mineral (Auction) Rules and Existence of Mineral Resources Rules".

Encl.: As above.

Vinod Kumar

(Vinod Kumar)
Under Secretary to the Govt. of India
011–23383946

MINISTRY OF MINES NOTIFICATION

New Delhi, [*]th [*], 202[*]

G.S.R. [*](E).—In exercise of the powers conferred by section 35 of the Offshore Areas Mineral (Development and Regulation) Act, 2002 (17 of 2003), the Central Government hereby makes the following rules, namely:—

CHAPTER I PRELIMINARY

1. **Short title and commencement**.- (1) These rules may be called the Offshore Areas Mineral (Auction) Rules, 202[*].

(2) They shall come into force on the date of their publication in the Official Gazette.

2. **Definitions**.- (1) In these rules, unless the context otherwise requires, -

(a) "**Act**" means the Offshore Areas Mineral (Development and Regulation) Act, 2002 (17 of 2003);

(b) "**Area**" shall have the meaning as ascribed to 'offshore areas' under sub-section (n) of section 4;

(c) "**Mineral Block**" means an area identified by the specific latitude and specific longitude comprising of contiguous standard blocks as specified in the tender document issued by the Administering Authority in accordance with the provisions of the Act;

(d) "**Offshore Mineral Development and Production Agreement**" means the agreement referred to in sub-rule (5) of rule 10 or sub-rule (8) of rule 18;

(e) "**preferred bidder**" means the bidder referred to in sub-rule (9) of rule 9;

(f) "**qualified bidders**" means the bidder referred to in sub-rule (8) of rule 9;

(g) "**reserve price**" means the minimum percentage of value of mineral dispatched as referred to in sub-rule (1) of rule 8;

(h) "**Schedule**" means a Schedule appended to these rules;

(i) "**security instrument**" means the bank guarantee substantially in the form provided in Schedule II and Schedule III to these rules, security deposit or such other instrument as may be specified by the Central Government in the Ministry of Mines that is furnished as bid security or performance security in accordance with these Rules.

(j) "**successful bidder**" means the bidder as referred to in sub-rule (4) of rule 10 or sub-rule (3) of rule 18;

(k) "**technically qualified bidders**" means the bidder as referred to in sub-rule (6) of rule 9;

(l) "**tender document**" means the tender document issued by the Administering Authority for conduct of an auction referred to in sub-rule (2) of rule 9;

(m) "**upfront payment**" means the payment referred to in sub-rule (1) of rule 11;

(n) "**value of estimated resources**" means an amount equal to the product of, -

(i) the estimated quantity of mineral resources for which the mineral block is being auctioned, expressed in metric tonne; and

(ii) the average price per metric tonne of such mineral or mineral grade as published by Indian Bureau of Mines for a period of twelve months immediately preceding the month of computation of the value of estimated resources:

Provided that if for any mineral or mineral grade, the average sale price for any

month is not published by the Indian Bureau of Mines, the average sale price for the latest month published for such mineral or mineral grade shall be deemed to be the average sale price for the said month for which average sale price is not published:

Provided further that if for any mineral or mineral grade, the average sale price is not published for the entire period of the preceding twelve months, then average sale price for such mineral or mineral grade shall be as specified by Indian Bureau of Mines; and

(o) "**value of mineral dispatched**" shall have the meaning specified in sub-rule (2) of rule 8.

(2) The words and expressions used in these rules but not defined herein shall have the same meaning as assigned to them in the Act or rules made thereunder.

3. Application.-These rules shall apply to all minerals, except–

(i) mineral oils and hydrocarbons described in sub-section (1) of section 3; and

(ii) minerals specified in Part B of the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) having grade equal to or more than the threshold value as notified by the Central Government from time to time.

4. Grant of operating right.- (1) Where existence of mineral resources in an area has been established as specified in the Offshore Areas (Existence of Mineral Resources) Rules 202[*], production lease shall be granted in the manner specified under Chapter II of these Rules.

(2) A composite licence with respect to an area where requirements specified in rule 5 of the Offshore Areas (Existence of Mineral Resources) Rules 202[*] have been satisfied, shall be granted in the manner specified under Chapter III of these Rules.

CHAPTER II

GRANT OF PRODUCTION LEASE

5. Prerequisites for auction of Production Lease. - (1) The Administering Authority may initiate an auction process for grant of a production lease in accordance with section 13 with respect to an area if the existence of mineral resources in such area has been established in terms of the provisions of the Offshore Areas (Existence of Mineral Resources) Rules 202[*]:

(2) The Administering Authority shall, prior to issuance of the notice inviting tender with respect to mineral auction and with the prior approval of the Central Government, identify the mineral block for which a production lease is proposed to be granted through auction by specifying the latitude and longitude of the boundary corners of such mineral block.

6. Eligibility for Production Lease.-

(1) For the purpose of participating in the auction of production lease, an applicant shall meet the requirements as specified in section 6 and the terms and conditions of eligibility as specified in Schedule I.

(2) The successful bidder shall be decided solely on the basis of the financial bids submitted by the bidders meeting the eligibility conditions specified in Schedule I read with the terms and conditions of the tender documents.

(3) A bidder shall submit only one bid in an auction of a mineral block and no affiliate of a bidder shall submit a bid in the same auction where such bidder has submitted bid.

(4) In case a bidder submits more than one bid in an auction of a mineral block or an affiliate of a bidder submits bid in same auction where such bidder has submitted bid, the bids submitted by the bidder and its affiliate shall be rejected.

Explanation.— For the purpose of this rule,—

(i) "Affiliate" with respect to a bidder shall mean a person who, -

(a) controls such bidder,

(b) is controlled by such bidder,

(c) is under common control with such bidder,

(d) is an associate company of the bidder, or

(e) is a subsidiary company of such bidder.

(ii) the expressions "associate company", "control" and "subsidiary company" shall have the meaning as assigned to them in the Companies Act, 2013 (18 of 2013).

7. Electronic Auction.-

(1) An auction shall be conducted only through an online electronic auction platform.

(2) The Administering Authority may utilise any online electronic auction platform which meets the minimum technical and security requirements as specified in the Guidelines for compliance to Quality requirements of e- Procurement Systems issued by the Standardisation Testing and Quality Certification Directorate, Department of Information Technology, Ministry of Communications and Information Technology, Government of India.

8. Bidding parameters.-

(1) The Administering Authority shall specify in the tender document the minimum percentage of the value of mineral dispatched, which shall be known as the "reserve price".

(2) The value of mineral dispatched shall be an amount equal to the product of,-

(a) mineral dispatched in a month; and

(b) sale price of the mineral (grade-wise) as published by Indian Bureau of Mines for such month of dispatch.

(3) The bidders shall quote, as per the bidding parameter, for the purpose of payment to the Central Government, a percentage of value of mineral dispatched equal to or above the reserve price and the successful bidder shall pay to the Central Government, an amount equal to the product of,-

(a) percentage so quoted; and

(b) value of mineral dispatched.

(4) Where an area is being auctioned for more than one mineral, the percentage of value of mineral dispatched as quoted by the successful bidder under sub-rule (3) shall be applicable for the purpose of payment to the Central Government in respect of each such mineral.

(5) If subsequent to grant of a production lease, one or more new minerals are discovered, Central Government may specify a fraction of the percentage of value as quoted by the successful bidder under sub-rule (3), which shall be applicable for the purpose of payment to the Central Government in respect of each newly discovered mineral and such fraction shall be determined in accordance with a methodology notified by the Central Government.

9. Bidding Process.-

(1) Subject to the provisions of rule 5, the Administering Authority shall issue a notice inviting tender, including on their website, to commence the auction process and such notice shall contain brief particulars regarding the mineral block under auction, including,-

(a) particulars of the mineral block for which a production lease is proposed to be granted through auction by specifying the latitude and longitude of the boundary corners of such mineral block;

(b) estimated mineral resources and brief particulars regarding existence of mineral resources with respect to all minerals discovered in the mineral block during exploration in accordance with the provisions of the Offshore Areas (Existence of Mineral Resources) Rules 202[*].

(2) The tender document issued by the Administering Authority shall contain,-

(a) geological report pursuant to the Offshore Areas (Existence of Mineral Resources) Rules 202[*] specifying particulars and estimated quantities of all minerals discovered in the mineral block;

(b) particulars of the mineral block identified by specifying the latitude and longitude of the boundary corners of such mineral block.

(3) The bidders shall be provided a fixed period, as specified in the tender document, to study the tender document and such reports and the bidding process shall commence only on expiry of such period.

(4) The auction shall be an ascending forward online electronic auction and shall comprise of attempts of auction with each attempt of auction consisting of a first round of auction and a second round of auction.

(5) In the first round of auction, the bidders shall submit, –

(A) a technical bid comprising amongst others, documentary evidence to confirm eligibility as per the provisions of the Act and the rules made thereunder to participate in the auction, bid security and such other documents and payments as may be specified in the tender document; and

(B) an initial price offer which shall be a percentage of value of mineral dispatched.

Provided that bid security shall be for an amount equivalent to 0.25 per cent of the value of estimated resources or ten crore rupees, whichever is lower, and shall be submitted by way of a security instrument:

Provided further that in auction for grant of composite licence for the mineral block having such type of deposit whose estimated quantity of mineral resources is not possible to be assessed for calculating the value of estimated resources under clause (n) of sub-rule (1) of rule 2, but the mineral potentiality of the mineral block has been identified based on the existing geoscience data, the bid security shall be five lakh rupees per standard block.

Provided also that in case the area proposed by a person under sub-rule (2) of rule 5 of the Offshore Areas (Existence of Mineral Resources) Rules 202[*] is put up for auction to grant a composite licence, such person shall be required to submit the bid security of only fifty per cent of the amount specified in this clause for participating in the auction for the said area.

(6) Only those bidders who are found to be eligible in accordance with the terms and conditions of eligibility specified in rule 6 and whose initial price offer is equal to or greater than the reserve price, referred to as “technically qualified bidders”, shall be considered for the second round of auction.

(7) The highest initial price offer amongst the technically qualified bidders shall be the floor price for the second round of online electronic auction.

(8) The technically qualified bidders shall be ranked on the basis of the descending initial price offer submitted by them and the technically qualified bidders holding the first fifty per cent. of the ranks (with any fraction rounded off to higher integer) or the top

five technically qualified bidders, whichever is higher, shall qualify as qualified bidders for participating in the second round of electronic auction:

Provided that if the number of technically qualified bidders is between three and five, then all the technically qualified bidders shall be considered as qualified bidders:

Provided further that in the event of identical initial price offers being submitted by two or more technically qualified bidders, all such technically qualified bidders shall be assigned the same rank for the purposes of determination of qualified bidders and in such case, the aforementioned fifty per cent. shall stand enhanced to the extent of tie occurring within the first fifty per cent.

Illustration

In the event there are a total of ten technically qualified bidders, and each technically qualified bidder submits different initial price offer, then the technically qualified bidders holding the first fifty per cent. of ranks shall be considered to be qualified bidders.

If three such technically qualified bidders submit the same initial price offer and are ranked in first fifty per cent. of the total number of ranks, then, all the three technically qualified bidders shall be considered to be qualified bidders and the total number of qualified bidders shall stand increased by two.

(9) Where the total number of technically qualified bidders is three or more, the auction process shall proceed to the second round of auction which shall be held in the following manner, namely:-

(i) The qualified bidders may submit their final price offer which shall be a percentage of value of mineral dispatched and greater than the floor price:

Provided that the final price offer may be revised till the conclusion of the auction as per the technical specifications of the auction platform;

(ii) The auction process shall be annulled if none of the qualified bidders submits a final price offer on the online electronic auction platform;

(iii) The qualified bidder who submits the highest final price offer shall, subject to receipt of approval from the Central Government, be declared as the "preferred bidder", immediately on conclusion of the auction.

(10) Where the total number of technically qualified bidders is less than three, then no technically qualified bidder shall be considered to be qualified bidder and the first attempt of auction shall be annulled.

(11) On annulment of the first attempt of auction, the Administering Authority may decide to–

(a) commence the auction process *de novo* with a separate set of terms and conditions and reserve price as it may deem fit and necessary; or

(b) conduct the second attempt of auction.

(12) In case the Administering Authority decides to conduct the second attempt of auction as per clause (b) of sub-rule (11), the terms and conditions of the second attempt of auction shall remain the same as in the first annulled attempt of auction:

Provided that the highest initial price offer of the technically qualified bidders (if any) in the first annulled attempt shall be the reserve price in first round of the second attempt:

Provided further that the bidding shall continue to the second round even in case the number of technically qualified bidders is less than three and even in case of a single technically qualified bidder.

(13) Upon the annulment or failure of the second attempt of auction, the Administering Authority may, after obtaining the approval of the Central Government, commence the auction process *de novo* with a separate set of terms and conditions and reserve price as it may deem fit necessary.

10. Grant of Production Lease.-

(1) The preferred bidder shall submit the first instalment of the upfront payment as per rule 11 within fifteen days after being declared as preferred bidder:

Provided that the Administering Authority may, for reasons to be recorded in writing extend the period of fifteen days by further fifteen days.

(2) In case the preferred bidder fails to submit the first instalment of the upfront amount within the period or extended period specified in sub-rule (1), the Administering Authority shall,—

(a) forfeit the bid security of the preferred bidder; and

(b) offer the bidder who had submitted the second-highest price offer in the second round of auction to meet the highest final price offer and if the said bidder agrees to the said offer in writing and submit the first instalment of upfront amount within fifteen days of receipt of offer, the Administering Authority shall, subject to receipt of approval from the Central Government, declare said bidder as the preferred bidder and issue a letter of intent in accordance with sub-rule (3).

Provided that the Administering Authority may, for the reasons to be recorded in writing, extend the period of fifteen days referred to in this clause by further fifteen days.

(3) Upon receipt of the first instalment of the upfront payment, the Administering Authority shall issue a letter of intent to the preferred bidder within fifteen days of receipt of first instalment of upfront payment.

(4) The preferred bidder shall be considered to be the "successful bidder" upon,-

(a) continuing to be in compliance with all the terms and conditions of eligibility;

(b) payment of the second instalment of the upfront payment;

(c) furnishing performance security as specified in rule 12;

(d) satisfying the conditions specified in the rules framed under the Act with respect to a production plan; and

(e) satisfying such other conditions as may be specified by the Administering Authority with prior approval of the Central Government.

(5) The successful bidder shall sign the Offshore Mineral Development and Production Agreement with the Central Government upon obtaining all consents, approvals, permits, no-objections and the like as may be required under applicable laws for commencement of production operations.

(6) The successful bidder shall pay the third instalment of the upfront payment subsequent to execution of the Offshore Mineral Development and Production Agreement, and upon such payment the Central Government shall grant a production lease to the successful bidder.

(7) The Production Lease Deed shall be executed by the Central Government within thirty days of the date of completion of the conditions specified in sub-rule (6) and shall be subject to the provisions of the Act and the rules made thereunder.

Provided that no Production Lease Deed shall be executed on expiry of a period of

three years from the date of the letter of intent, and the letter of intent shall be invalidated leading to annulment of the entire process of auction:

Provided further that the Administering Authority with approval of the Central Government may allow a further period of two years for execution of the Production Lease Deed if the reasons for delay were beyond the control of the preferred bidder.

(8) The holder of the letter of intent shall comply with all the requirements to execute the Production Lease Deed within the period referred to in sub-rule (7), failing which, the letter of intent shall be revoked and the bid security or the performance security, as the case may be, and any instalment of upfront payment paid shall be forfeited, and the preferred bidder or successful bidder may be debarred by the Central Government from participating in the future auction of mineral blocks conducted under the provisions of these rules, for three years from the date of such debarment:

(9) The production lease shall be for minerals found in the mineral block pursuant to exploration prior to the auction:

Provided that where, subsequent to the auction, one or more new minerals are discovered, then the holder of production lease shall follow the provisions of the rules framed under the Act for inclusion of such new mineral in the Production Lease Deed.

(10) The date on which a duly executed Production Lease Deed is registered shall be the date of commencement of the production lease.

11. Upfront payment for production lease.- (1) An amount equal to, lower of: (i) 0.50 per cent. of the value of estimated resources; (ii) one hundred crore rupees, shall be the upfront payment.

(2) The upfront payment shall be payable to the Central Government in three instalments of twenty per cent.; twenty per cent.; and sixty per cent as specified in the tender document and shall be adjusted in full at the earliest against the amount to be paid under sub-rule (3) of rule 8 on commencement of production of mineral as specified in the tender document.

12. Performance security for production lease.—(1) The preferred bidder shall provide a performance security by way of a security instrument of an amount being lower of: (i) 0.50 per cent. of the value of estimated resources; (ii) one hundred crore rupees. Such performance security shall be adjusted every five years so that it continues to correspond to the required amount (i.e., 0.50 per cent. of the reassessed value of estimated resources or one hundred crore rupees as the case may be) including the value of any newly discovered mineral that may be included in the Production Lease Deed on its discovery.

Provided that the adjusted performance security on reassessment shall, at all times, be not less than one crore rupees per standard block.

(2) The performance security may be invoked as per the provisions of -

(i) the Offshore Mineral Development and Production Agreement; and

(ii) the Production Lease Deed.

13. Payments under production lease.—

(1) The lessee shall pay royalties in accordance with section 16 and fixed rent in accordance with section 17 to the Central Government as specified in the Act and the rules made thereunder.

(2) The lessee shall pay the applicable amount quoted under rule 8 to the Central Government on a monthly basis.

(3) The lessee shall contribute such amounts as may be required under the Act to -

(a) the designated account of the Offshore Areas Mineral Trust; and

(b) the designated account of the Central Government for the contribution towards

the International Seabed Authority in accordance with section 18.

(4) The lessee shall also pay such other amounts as may be required under any law for the time being in force to the concerned authorities.

14. Payment of Interest.—The lessee or preferred bidder or successful bidder, as the case may be, shall pay simple interest at the rate of twelve per cent per annum on any payment due to Central Government under these rules, the payment of which is delayed beyond the due date thereof.

15. Time Period.—The time period for compliance of rules 10 to 14 shall be as specified in the tender document.

CHAPTER III

GRANT OF COMPOSITE LICENCE

16. Prerequisites for auction of composite licence.—(1) The Administering Authority may initiate an auction process for grant of a composite licence with respect to an area in accordance with section 12 and this Chapter subject to the condition that the requirements of rule 5 of the Offshore Areas (Existence of Mineral Resources) Rules 202[*] have been satisfied.

(2) The Administering Authority shall, prior to issuance of the notice inviting tender with respect to auction and with the prior approval of the Central Government, identify the mineral block for which a composite licence is proposed to be granted through auction by specifying the latitude and longitude of the boundary corners of such mineral block.

17. Auction for composite licence.—(1) The eligibility conditions and auction process as specified in rules 6 to 9 shall be applicable for conduct of auction for grant of a composite licence subject to the following, namely:—

(a) the Administering Authority shall subject to compliance of rule 16, issue a notice inviting tender, including on their website, to commence the auction process and such notice shall contain brief particulars regarding the area under auction, including,-

(i) particulars of the mineral block for which a composite licence is proposed to be granted through auction by specifying the latitude and longitude of the boundary corners of such mineral block;

(ii) estimated mineral resources and brief particulars regarding the existence of mineral resources in the mineral block during exploration in accordance with the of the Offshore Areas (Existence of Mineral Resources) Rules 202[*];

(b) the tender document issued by the Administering Authority, shall contain, geological report specifying:

(i) particulars and estimated quantities of all minerals discovered in the area during exploration pursuant to Offshore Areas (Existence of Mineral Resources) Rules 202[*]; and

(ii) details of the area identified.

18. Grant of composite licence.—

(1) Upon completion of the auction process, the preferred bidder shall submit a performance security in the manner specified in sub-rule (1) of rule 19 within fifteen days after being declared as preferred bidder and upon receipt of such performance security, the Administering Authority shall issue a letter of intent to the preferred bidder within fifteen days of receipt of performance security:

Provided that the Administering Authority may, for the reasons to be recorded in writing, extend the period of fifteen days for submission of performance security by further fifteen days.

(2) In case the preferred bidder fails to submit the performance security within the period

or extended period specified in sub-rule (1), the Administering Authority shall,—

(a) forfeit the bid security of the preferred bidder; and

(b) offer the bidder who had submitted second-highest price offer in the second round of auction to meet the highest final price offer and if the said bidder agrees to the said offer in writing and submits the performance security within fifteen days of receipt of offer, the Administering Authority shall, subject to receipt of approval from the Central Government, declare the said bidder as the preferred bidder and issue letter of intent in accordance with sub-rule (1):

Provided that the Administering Authority may, for the reasons to be recorded in writing, extend the period of fifteen days by further fifteen days.

(3) On receipt of the letter of intent the preferred bidder shall be considered to be the "successful bidder" upon fulfilment of the following conditions, namely:—

(a) compliance with all the terms and conditions of eligibility;

(b) obtaining all consents, approvals, permits, no-objections and the like as may be required under applicable laws for commencement of exploration operations; and

(c) submitting the exploration plan.

(4) Upon fulfilment of the conditions specified in sub-rule (3), the Central Government shall grant a composite licence to the successful bidder and such composite licence shall be subject to the provisions of the Act and the rules made thereunder, as applicable to the composite licence and production lease.

Provided that on expiry of a period of one year from the date of the letter of intent, if no Composite Licence Deed is executed then the letter of intent shall be invalidated leading to annulment of the entire process of auction:

Provided further that the Administering Authority may allow a further period of six months for execution of the Composite License Deed, if the reasons for delay were beyond the control of the preferred bidder.

(5) The holder of a composite licence shall conduct exploration operations of the area under the composite licence so as to ascertain existence of mineral resources and shall submit periodic reports in accordance with the Act and rules made thereunder, as applicable to exploration operations and all reports, studies and other documentation related to the exploration operations of the area under the composite licence shall be submitted to the Indian Bureau of Mines and Administering Authority.

(6) If a holder of a composite licence,—

(a) fails to complete exploration operations in accordance with sub-section (3) of section 12 or fails to establish the existence of mineral resources in accordance with the Offshore Areas (Existence of Mineral Resources) Rules 202[*], or fails to comply with the terms and conditions of the composite licence or the requirements of the Act and the Rules prescribed thereunder such holder shall not be eligible to receive a production lease and the composite licence shall be terminated;

(b) completes exploration operations and submits to the Indian Bureau of Mines and the Administering Authority the result of the exploration operations in the form of a geological report resulting in determination of existence of mineral resources conforming to the Offshore Areas (Existence of Mineral Resources) Rules 202[*]; specifying the area required for grant of a production lease and makes an application to the Administering Authority in terms of the rules framed under the Act for grant of a production lease accompanied by first instalment of the upfront payment as specified in rule 11;

(7) Upon receipt of the application submitted under and on being satisfied with the existence of mineral resources in accordance with the Offshore Areas (Existence of Mineral Resources) Rules 202[*] and the licencee being in compliance with the terms of the composite licence and the Act including the terms of sub-section (6) of section 12, the Administering Authority shall make a recommendation to the Central Government for grant of a production lease to the licensee. Upon receipt of approval of the Central Government, the Administering Authority shall issue a letter of intent for production lease.

Provided that any excess area shall be surrendered by the holder of composite licence in accordance with the provisions of the Act and the rules framed thereunder.

Provided further that after submission of the geological report prepared in accordance with the Offshore Areas (Existence of Mineral Resources) Rules 202[*], the holder of composite licence may relinquish the entire area in accordance with the rules framed under the Act and in such case the Administering Authority shall, after being satisfied that the geological report has been prepared conforming to the Offshore Areas (Existence of Mineral Resources) Rules 202[*], return the performance security.

(8) The Offshore Mineral Development and Production Agreement shall be executed between the Central Government and the holder of composite licence if the holder of a composite licence —

(a) continues to comply with the terms and conditions of eligibility;

(b) pays the second instalment being twenty per cent. of the upfront payment;

(c) furnishes the enhanced performance security as specified in sub-rule (2) of rule 19;

(d) satisfies the conditions specified in the rules framed under the Act with respect to a production plan;

(e) obtains all consents, approvals, permits, no-objections and the like as may be required under applicable laws for commencement of production operations; and

(f) satisfies such other conditions as may be specified by the Administering Authority.

(9) The holder of the composite licence shall pay the third instalment being sixty per cent of the upfront payment, subsequent to execution of the Offshore Mineral Development and Production Agreement, and upon such payment, the Central Government shall execute a Production Lease Deed with the holder of the composite licence within thirty days of payment of the third instalment.

Provided that no Production Lease Deed shall be executed on expiry of a period of three years from the date of the letter of intent (granted under sub-rule (7) of rule 18 above), and the letter of intent shall be invalidated:

Provided further that the Administering Authority with approval of the Central Government may allow a further period of two years for execution of the Production Lease Deed if the reasons for delay were beyond the control of the licencee.

(10) The production lease shall be subject to the provisions of the Act and the rules made thereunder.

(11) The production lease shall be for minerals found in the area covered by the composite license pursuant to exploration prior to the auction:

Provided that where subsequent to the auction, one or more new minerals are discovered then the holder of the production lease shall follow the provisions of the rules framed under the Act for inclusion of such new mineral in the Production Lease Deed.

(12) The date on which a duly executed Production Lease Deed is registered shall be the

date of commencement of the production lease.

19. Performance Security for composite licence.—

(1) An amount being lower of: (i) 0.25 per cent. of the value of estimated resources; (ii) fifty crore rupees, shall be payable or provided by the preferred bidder or licencee, as the case may be, as performance security prior to the issuance of the composite licence.

Provided that for the mineral block having such type of deposit as specified whose estimated quantity of mineral resources is not possible to be assessed for calculating the value of estimated resources under clause (n) of sub-rule (1) of rule 2, but the mineral potentiality of the block has been identified based on the existing geoscience data, the performance security shall be one crore and fifty lakh rupees.

(2) The amount of performance security shall be revised, prior to the issuance of the production lease, to an amount being lower of: (i) 0.50 per cent. of the value of estimated resources established by the holder of the composite licence after completion of exploration operations in accordance with sub-section (3) and (5) of section 12 resulting in determination of existence of mineral resources conforming to the Offshore Areas (Existence of Mineral Resources) Rules 202[*] (ii) one hundred crore rupees.

(3) The performance security provided under sub-rule (2) shall be adjusted every five years so that it continues to correspond to amount being lower of: (i) 0.50 per cent. of the reassessed value of estimated resources; (ii) one hundred crore rupees, as the case may be.

Provided that the adjusted performance security shall not be less than one crore rupees per standard block.

(4) The performance security provided by way of security instrument may be invoked as per the provisions of the:-

(i) Composite License Deed; or

(ii) Offshore Mineral Development and Production Agreement; or

(iii) the Production Lease Deed:

Provided that the Administering Authority on being satisfied that the holder of composite licence has completed exploration operations in accordance with sub-section (3) and (5) of section 12 but is unable to establish the existence of mineral resources even after making all possible efforts in accordance with the Offshore Areas (Existence of Mineral Resources) Rules 202[*], shall return the performance security provided by the holder of the composite licence.

Provided further that in case the holder of composite licence fails to complete exploration operations in accordance with sub-section (3) and (5) of section 12, the performance security provided by it shall be forfeited.

CHAPTER IV MISCELLANEOUS

20. Power to rectify apparent mistakes.—Any clerical or arithmetical mistake in any order passed by the Central Government or any authority or officer under these rules and any error arising therein due to accidental slip or omission, may be corrected by the Central Government, the concerned authority or officer, as the case may be:

Provided that no rectification order prejudicial to any person shall be passed unless such person has been given a reasonable opportunity of being heard.

21. Special provisions relating to minerals specified in Part B of the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957).—(1) Notwithstanding anything contained in these rules—

(a) if the holder of a composite licence or production lease discovers any mineral specified

in Part B of the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) of a grade equal to or greater than such threshold value as the Central Government may, by notification in the Official Gazette, specify in the area granted under such licence or lease, the discovery of such mineral shall be reported to the Director, Atomic Minerals Directorate for Exploration and Research, Hyderabad within sixty days from the date of discovery of such mineral;

(b) the licencee or lessee shall not win or dispose of any mineral specified in Part B of the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) of a grade equal to or greater than such threshold value as the Central Government may, by notification in the Official Gazette, specify;

(c) the quantities of any mineral specified in Part B of the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) of a grade equal to or greater than such threshold value as the Central Government may, by notification in the Official Gazette, specify, recovered incidental to such exploration or production operations shall be collected and stacked separately and a report to that effect shall be sent to the Director, Atomic Minerals Directorate for Exploration and Research, Hyderabad every month for such further action by the licencee or lessee as may be directed by the Atomic Minerals Directorate for Exploration and Research.

(2) The licencee or lessee referred to in sub-rule (1) shall, within sixty days from the date of discovery of any mineral specified in Part B of the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) of a grade equal to or greater than such threshold value as the Central Government may, by notification in the Official Gazette, specify, apply to the Secretary, Department of Atomic Energy, Mumbai, through the Administering Authority, for grant of a licence to handle such minerals under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and the rules made thereunder and the Department of Atomic Energy shall intimate to the Administering Authority regarding issue of the licence in this regard.

22. Exploration Obligation.—The holder of a production lease shall complete detailed exploration (G1 level exploration) and prepare a detailed feasibility study report conforming to Part IV and V of the Offshore Areas (Existence of Mineral Resources) Rules 202[*] over the entire area under the production lease, within a period of five years from the date of commencement of such production lease.

23. When day of completion of any requirement is a public holiday.— When the day of completion of any requirement under these rules is falling due on a public holiday, the day of completion shall be deemed to be due on the next successive working day.

Explanation.— The expression "public holiday" includes Saturday, Sunday and any other day declared to be a public holiday by the Central Government.

SCHEDULE I

Terms and conditions of eligibility

[See rule 6]

1. The following net worth requirements shall be applicable for an auction of production lease depending on the value of estimated resources, namely:–

   (a) If the value of estimated resources is equal to or more than one thousand crore rupees, the applicant, including an individual, shall have a net worth more than 2 per cent. of value of estimated resources.

   (b) If the value of estimated resources is less than one thousand crore rupees but more than one hundred crore rupees, the applicant, including an individual, shall have a net worth more than 1 per cent. of value of estimated resources.

   (c) If the value of estimated resources is less than or equal to one hundred crore rupees, the applicant, including an individual, shall have a net worth more than 0.5 per cent. of value of estimated resources.

   Provided that the net worth requirement shall not exceed two hundred crore rupees.

2. In case of auction of composite licence, the applicant shall have a net worth of more than 1 per cent. of the value of estimated resources and where the value of estimated resources is equal or less than one hundred crore rupees, the applicant must have a net worth more than 0.5 per cent. of value of estimated resources.

   Provided that the net worth requirement shall not exceed one hundred crore rupees.

   Provided that for the mineral block having such minerals , whose estimated quantity of mineral resources is not possible to be assessed for calculating the value of estimated resources under clause (n) of sub-rule (1) of rule 2 of Minerals (Existence of Mineral Resources) Rules, 202[*], but the mineral potentiality of the block has been identified based on the existing geoscience data, the applicant shall have a net worth more than or equal to twenty-five crore rupees.

   Explanation.–

   (1) In case an applicant is a subsidiary of another company incorporated in India, the net worth of such holding company may also be considered:

   Provided that, in such case, the applicant shall continue to be a subsidiary of such holding company until such time the applicant meets the aforementioned net worth threshold.

   (2) In case of a company, the net worth shall be the sum of paid up share capital and the free reserves as per the audited balance sheet of the financial year ended immediately preceding the date of issuance of notice inviting tender.

   (3) In case the notice inviting tender is issued between 1st April to 30th September (both days inclusive) of a year, the audited balance sheet of the financial year before the immediately preceding financial year, from the date of issuance of notice inviting tender, may be submitted by the bidder, if the audited balance sheet of the immediately preceding financial year is not available.

   (4) In case of an individual, the net worth shall be the closing cash balance on the last date for submission of application, and such amount may include amount in savings bank accounts in Scheduled Bank or Post Office, free and un-encumbered fixed deposits in Scheduled Banks, Post Office, Listed Companies or Government organisation or Public Sector Undertakings of a State and the Central Government, Kisan Vikas Patra, National Saving certificate, Bonds and Shares of Listed Companies, Listed Mutual Funds, Unit Linked Insurance Plan, Public Provident Fund, Surrender Value of Life Insurance policies, and un-encumbered immovable property in the name of Applicant.

SCHEDULE II

Format of Performance Security for Production Lease

[See rule 12]

[*Reference number of the bank*] [*date*]

To

The President of India

[*address*]

WHEREAS

A. [Name of the Preferred Bidder] incorporated in India under the Companies Act, [1956/2013] with corporate identity number [CIN of the Preferred Bidder], whose registered office is at [address of registered office], India and principal place of business is at [address of principal place of business, if different from registered office] OR [Name of individual] who is citizen of India, having income tax permanent account number [number], residing at [address] OR [partnership firm/association of individuals], all members of whom are Indian citizens and residents of India whose principal place of business is at [address of principal place of business] (the "Preferred Bidder") is required to provide an unconditional and irrevocable bank guarantee for an amount equal to INR [figures] (Indian Rupees [words]) as a performance security valid until [date of expiry of performance bank guarantee] ("**Expiry Date**").

Provided that any reference to the Preferred Bidder shall mean the Successful Bidder upon fulfilment of the conditions of sub-rule (4) of Rule 10 of the Offshore Areas Mineral (Auction) Rule 202[*].

B. The Performance Security is required to be provided to the President of India represented by the Ministry of Mines, Government of India ("**Central Government**") for discharge of certain obligations under the tender document dated [date] with respect to auction of [particulars of auction], Offshore Mineral Development and Production Agreement to be executed between the Central Government and the Preferred Bidder and the Production Lease Deed to be executed between the Central Government and the Preferred Bidder (collectively the "**Agreement**").

C. We, [***name of the bank***] (the "**Bank**") at the request of the Preferred Bidder do hereby undertake to pay to the Central Government an amount not exceeding INR [*figures*] (Indian Rupees [*words*]) ("**Guarantee Amount**") to secure the obligations of the Successful Bidder under the Agreement on demand from the Central Government on the terms and conditions herein contained herein.

NOW THEREFORE, the Bank hereby issues in favour of the Central Government this irrevocable and unconditional payment bank guarantee (the "**Guarantee**") on behalf of the Successful Bidder in the Guarantee Amount:

1. The Bank for the purpose hereof unconditionally and irrevocably undertakes to pay to the Central Government without any demur, reservation, caveat, protest or recourse, immediately on receipt of first written demand from the Central Government, a sum or sums (by way of one or more claims) not exceeding the Guarantee Amount in the aggregate without the Central Government needing to prove or to show to the Bank grounds or reasons for such demand for the sum specified therein and notwithstanding any dispute or difference between the Central Government and Successful Bidder on any matter whatsoever. The Bank undertakes to pay to the Central Government any money so demanded notwithstanding any dispute or disputes raised by the Successful Bidder in any suit or proceeding pending before any court or tribunal relating thereto the Bank's liability under this present being absolute and unequivocal.

2. The Bank acknowledges that any such demand by the Central Government of the amounts payable by the Bank to the Central Government shall be final, binding and conclusive evidence in respect of the amounts payable by Successful Bidder to the Central Government under the Agreement.

3. The Bank hereby waives the necessity for the Central Government from demanding the aforesaid amount or any part thereof from the Successful Bidder and also waives any right that the Bank may have of first requiring the Central Government to pursue its legal remedies against the Successful Bidder, before presenting any written demand to the Bank for payment under this Guarantee.

4. The Bank further unconditionally agrees with the Central Government that the Central Government

shall be at liberty, without the Bank's consent and without affecting in any manner the Bank's obligation under this Guarantee, from time to time to:

(i) vary and/or modify and of the terms and conditions of the Agreement;

(ii) extend and / or postpone the time for performance of the obligations of the Successful Bidder under the Agreement, or

(iii) forbear or enforce any of the rights exercisable by the Central Government against the Successful Bidder under the terms and conditions of the Agreement.

And the Bank shall not be relieved from its liability by reason of any such act or omission on the part of the Central Government or any indulgence by the Central Government to the Successful Bidder or other thing whatsoever which under the law relating to sureties would, but for this provision, have the effect of relieving the Bank of its obligations under this Guarantee.

5. Any payment made hereunder shall be made free and clear of and without deduction for, or on account of, any present or future taxes, levies, imposts, duties, charges, fees, commissions, deductions or withholdings of any nature whatsoever.

6. The Bank agrees that Central Government at its option shall be entitled to enforce this Guarantee against the Bank, as a principal debtor in the first instance without proceeding at the first instance against the Successful Bidder.

7. The Bank further agrees that the guarantee herein contained shall remain in full force and effect during the period that is specified in the Agreement and that it shall continue to be enforceable till all the obligations of the Successful Bidder under or by virtue of the said Agreement with respect to the Performance Security have been fully paid and its claims satisfied or discharged to the satisfaction of the Central Government or till the Central Government certifies that the terms and conditions of the Agreement with respect to the Performance Security have been fully and properly carried out by the Successful Bidder and accordingly discharges this guarantee. Notwithstanding anything contained herein, unless a demand or claim under this guarantee is made on the Bank in writing on or before the Expiry Date the Bank shall be discharged from all liability under this guarantee thereafter.

8. The payment so made by the Bank under this Guarantee shall be a valid discharge of Bank's liability for payment thereunder and no person shall have any claim against the Bank for making such payment.

9. This Guarantee is subject to the laws of India. Any suit, action, or other proceedings arising out of this Guarantee or the subject matter hereof shall be subject to the exclusive jurisdiction of courts at New Delhi, India.

10. The Bank represents that it has the authority and power to issue this Guarantee in favour of the Central Government. This guarantee will not be discharged due to the change in the constitution of the Bank

11. The Bank undertakes not to revoke this Guarantee during its currency except with the previous consent of the Central Government in writing.

12. The Central Government may, with prior intimation to the Bank, assign the right under this Guarantee to any other departments, ministries or any governmental agencies, which may act in the name of the President. Save as provided in this Clause 12, this Guarantee shall not by assignable or transferable.

13. Notwithstanding anything contained herein,

a. the liability of the bank under this bank guarantee shall not exceed the Guarantee Amount.

b. This bank guarantee shall be valid up to the Expiry Date.

14. The Bank is liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if the Central Government serves upon the Bank a written claim or demand on or before the Expiry Date.

Dated the [day] day of [month] [year] for the Bank.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp.

(Signature)

(Name and Designation) (Bank Stamp)

SCHEDULE III

Format of Performance Security for Composite Licence

[**See rule 19**]

[Reference number of the bank] [date]

To

The President of India

[address]

WHEREAS

A. [Name of the Preferred Bidder] incorporated in India under the Companies Act, [1956/2013] with corporate identity number [CIN of the Preferred Bidder], whose registered office is at [address of registered office], India and principal place of business is at [address of principal place of business, if different from registered office] OR [Name of individual] who is citizen of India, having income tax permanent account number [number], residing at [address] OR [partnership firm/association of individuals], all members of whom are Indian citizens and residents of India whose principal place of business is at [address of principal place of business] (the "**Preferred Bidder**") is required to provide an unconditional and irrevocable bank guarantee for an amount equal to INR [figures] (Indian Rupees [words]) as a performance security valid for an initial period of [●]([●]) years from the date hereof ("**Expiry Date**").

   Provided that any reference to the Preferred Bidder shall mean the Successful Bidder upon fulfilment of the conditions of sub-rule (3) of Rule 18 of the Offshore Areas Mineral (Auction) Rule 202[*].

B. The Performance Security is required to be provided to the President of India, represented by the Ministry of Mines, Government of India ("**Central Government**") for discharge of certain obligations under the Tender Document dated [date] with respect to auction of [particulars of auction] and Composite Licence Deed to be executed between the Central Government and the Preferred Bidder and Offshore Mineral Development and Production Agreement to be executed between the Central Government and the Preferred Bidder and the Production Lease Deed to be executed between the Central Government and the Preferred Bidder (collectively the "**Agreement**").

C. We, [name of the bank] (the "**Bank**") at the request of the Preferred Bidder or Successful Bidder do hereby undertake to pay to the Central Government an amount not exceeding INR [figures] (Indian Rupees [words]) ("**Guarantee Amount**") to secure the obligations of the Preferred Bidder or Successful Bidder under the Agreement on demand from the Central Government on the terms and conditions herein contained herein.

NOW, THEREFORE, the Bank hereby issues in favour of the Central Government this irrevocable and unconditional payment bank guarantee (the "**Guarantee**") on behalf of the Preferred Bidder in the Guarantee Amount:

1. The Bank for the purpose hereof unconditionally and irrevocably undertakes to pay to the Central Government without any demur, reservation, caveat, protest or recourse, immediately on receipt of first written demand from the State, a sum or sums (by way of one or more claims) not exceeding the Guarantee Amount in the aggregate without the Central Government needing to prove or to show to the Bank grounds or reasons for such demand for the sum specified therein and notwithstanding any dispute or difference between the Central Government and Preferred Bidder on any matter whatsoever. The Bank undertakes to pay to the Central Government any money so demanded notwithstanding any dispute or disputes raised by the or Preferred Bidder in any suit or proceeding pending before any court or tribunal relating thereto the Bank's liability under this present being absolute and unequivocal.
2. The Bank acknowledges that any such demand by the Central Government of the amounts payable by the Bank to the Central Government shall be final, binding and conclusive evidence in respect of the amounts payable by Preferred Bidder to the Central Government under the Agreement.
3. The Bank hereby waives the necessity for the Central Government from demanding the aforesaid amount or any part thereof from the Preferred Bidder and also waives any right that the Bank may have of first requiring the Central Government to pursue its legal remedies against the Preferred Bidder, before presenting any written demand to the Bank for payment under this Guarantee.
4. The Bank further unconditionally agrees with the Central Government that the Central Government shall

be at liberty, without the Bank's consent and without affecting in any manner the Bank's obligation under this Guarantee, from time to time to:

i) vary and/or modify and of the terms and conditions of the Agreement;

ii) extend and / or postpone the time for performance of the obligations of the Preferred Bidder under the Agreement, or

iii) forbear or enforce any of the rights exercisable by the Central Government against the Preferred Bidder under the terms and conditions of the Agreement,

and the Bank shall not be relieved from its liability by reason of any such act or omission on the part of the Central Government or any indulgence by the Central Government to the Preferred Bidder or other thing whatsoever which under the law relating to sureties would, but for this provision, have the effect of relieving the Bank of its obligations under this Guarantee.

5. Any payment made hereunder shall be made free and clear of and without deduction for, or on account of, any present or future taxes, levies, imposts, duties, charges, fees, commissions, deductions or withholdings of any nature whatsoever.
6. The Bank agrees that Central Government at its option shall be entitled to enforce this Guarantee against the Bank, as a principal debtor in the first instance without proceeding at the first instance against the Preferred Bidder.
7. The Bank further agrees that this bank guarantee and the guarantee obligations herein contained shall remain in full force and effect and shall continue to be enforceable till: (i) all the obligations of the Preferred Bidder under or by virtue of the said Agreement with respect to the Performance Security have been fully paid and its claims satisfied or discharged to the satisfaction of the Central Government; or (ii) till the Central Government certifies that the terms and conditions of the Agreement with respect to the Performance Security have been fully and properly carried out by the Preferred Bidder and accordingly discharges this guarantee; or (iii) on provision of a revised performance security under sub-rule (2) of rule 19 of the Offshore Areas Mineral (Auction) Rules, 202[*] whichever is later. Notwithstanding anything contained herein, unless a demand or claim under this guarantee is made on the Bank in writing on or before the Expiry Date the Bank shall be discharged from all liability under this guarantee thereafter.
8. The payment so made by the Bank under this Guarantee shall be a valid discharge of Bank's liability for payment thereunder and no person shall have any claim against the Bank for making such payment.
9. This Guarantee is subject to the laws of India. Any suit, action, or other proceedings arising out of this Guarantee or the subject matter hereof shall be subject to the exclusive jurisdiction of courts at New Delhi, India.
10. The Bank has the power to issue this Guarantee in favour of the Central Government. This guarantee will not be discharged due to the change in the constitution of the Bank
11. The Bank represents that it has the authority and power to revoke this Guarantee during its currency except with the previous consent of the Central Government in writing.
12. The Central Government may, with prior intimation to the Bank, assign the right under this Guarantee to any other departments, ministries or any governmental agencies, which may act in the name of the President.

    Save as provided in this Clause 12, this Guarantee shall not by assignable or transferable.
13. Notwithstanding anything contained herein,

    a. the liability of the bank under this bank guarantee shall not exceed the Guarantee Amount; and

    b. this bank guarantee shall be valid up to the Expiry Date.
14. The Bank is liable to pay the Guaranteed Amount or any part thereof under this bank guarantee only and only if the Central Government serves upon the Bank a written claim or demand on or before the Expiry Date.

Dated the [day] day of [month] [year] for the Bank.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp.

_____

(Signature)

_____

(Name and Designation)
(Bank Stamp).

MINISTRY OF MINES NOTIFICATION

New Delhi, the [*]th [*], 202[*]

G.S.R. [*](E).—In exercise of the powers conferred by section 35 of the Offshore Areas Mineral (Regulation and Development) Act, 2002 (17 of 2003), the Central Government hereby makes the following rules, namely:—

1. Short title and commencement:

(1) These rules may be called the Offshore Areas (Existence of Mineral Resources) Rules, 202[*].

(2) They shall come into force on the date of their publication in the Official Gazette.

2. Application: These rules shall apply to all minerals except -

(i) mineral oils and hydrocarbons described in sub-section (1) of section 3 of the Act;

(ii) minerals specified in Part B of the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) (having grade equal to or more than the threshold value as notified by the Central Government from time to time).

3. Definitions and interpretation:

In these rules, unless the context otherwise requires, -

(a) "**Act**" means the Offshore Areas Mineral (Development and Regulation) Act, 2002 (17 of 2003);

(b) "**conforming**" means in a form as near thereto as circumstances of each case may require;

(c) "**existence of mineral resources"** means the existence of mineral resources established as specified in rule 4, or sub-rule (2) of rule 5, as the case may be;

(d) "**threshold value of minerals**" means the limits prescribed by the Indian Bureau of Mines from time to time based on the beneficiability and marketability of a mineral for a given area and given time, below which the material obtained after mining can be discarded as waste;

(e) "**Schedule**" means the Schedule annexed to these rules;

(f) the expressions Reconnaissance Survey (G4), Preliminary Exploration (G3), General Exploration (G2), Detailed Exploration (G1), Reconnaissance Mineral Resource (334), Inferred Mineral Resource (333), Indicated Mineral Resource (332), Measured Mineral Resource (331), Probable Mineral Reserve (121 and 122), Proved Mineral Reserve (111), Feasibility Mineral Resource (211), Pre-Feasibility Mineral Resource (221 and 222), Modifying Factors, Geological Study (F3), Pre-Feasibility Study (F2), Feasibility Study (F1), Intrinsically Economic (E3), Potentially Economic (E2) and Economic (E1) used in these rules shall have the meanings assigned to them in Part-I of Schedule-I;

(g) all other words and expressions used in these rules, but not defined, shall have the same meaning as assigned to them in the Act or the rules made thereunder.

4. Existence of mineral resources for grant of production lease -

(1) An area shall be considered to be having existence of mineral resources in accordance with the second proviso of section 6 and sub-section (1) of section 13 for auction to grant production lease, if in respect of such area, -

(a) at least General Exploration (G2) has been completed to establish Indicated Mineral Resource (332); and

(b) a geological study report has been prepared conforming to Part IV of Schedule-I.

Provided that for Construction Grade Silica Sand and Lime Mud or Calcareous Mud in an area, such area (if so determined by Administrating Authority with approval from the Central Government) may be considered to be having mineral resources under sub rule (1) of rule 4 of the rules, if in respect of such area,-

(a) at least Preliminary Exploration (G3) has been completed to establish Inferred Mineral Resource (333); and

(b) a geological study report has been prepared conforming to Part IV of Schedule-I.

5. Existence of mineral resources for grant of composite licence–

(1) An area may be notified for auction to grant a composite licence in terms of section 12 of the Act, if, in respect of such area, -

(a) at least Reconnaissance Survey (G4) has been completed to estimate Reconnaissance Mineral Resource (334) or mineral potentiality of the mineral block has been identified based on the available geoscience data but resources are yet to be established; and

(b) A geological study report has been prepared conforming to Part IV of Schedule-I.

(2) Any person intending to obtain composite licence in respect of an area may submit a proposal to the Administering Authority in accordance with section 12 and the format specified in Schedule-II along with available geoscience data for notification of the area for auction to grant a composite licence.

(3) In order to identify mineral potentiality of an area based on the available geoscience data where resources are yet to be established as referred in clause (a) of sub-rule (1), including in any area proposed by any person under the sub-rule (2), the Administering Authority shall place it before a committee consisting of the following members:—

(a) Administering Authority – Convenor;

(b) Deputy Director General of Geological Survey of India (Marine Wing) – Member;

(c) Chief Mining Geologist - Indian Bureau of Mines – Member.

(4) On being satisfied of mineral potentiality of the area, the committee may recommend the area for notification for auction with such alteration in it as may be required.

(5) The committee shall recommend or reject the proposal within sixty days of its receipt by the Administering Authority and thereafter the Administering Authority shall notify the recommended area as suitable for auction within sixty days of such recommendation.

(6) On completion of exploration operations under sub-section (3) and (5) of section 12, Geological Study Report shall be prepared by the licensee in accordance with the parameters specified in rule 4, which shall include at least a Pre-Feasibility Study Report to establish Probable Mineral Reserve (121 or 122) conforming to Part V of Schedule-I.

6. Relaxation. -

Depending upon the local geological setup, mode of occurrence and nature of mineralization, the Administering Authority, may relax the exploration norms as specified in Part-III of the Schedule-I, in whole or in part for any mineral or any area.

SCHEDULE-I

[See rule – Rule 3, 4, 5, 6]

The terms used, pertaining to levels of exploration and the category of resources and reserves achieved through various levels of exploration have been defined in Part-I of the Schedule-I. The parameters for establishing the existence of mineral content in an area in terms of quantity and grade have been specified in Part-II, Part-III, Part-IV and Part-V of the Schedule-I.

Part – I Definitions

The definitions and codes used in this Part are proposed following the United Nations Framework Classification (UNFC) and Committee for Mineral Reserves International Reporting Standards (CRIRSCO) Template and have been suitably modified to suit the needs of the country.

(a) Definition of stages of exploration:

The exploration for any mineral deposit involves four stages namely, Reconnaissance Survey (G4), Preliminary Exploration (G3), General Exploration (G2) and Detailed Exploration (G1) and these stages of exploration lead to four resource categories, namely, Reconnaissance Mineral Resource, Inferred Mineral Resource, Indicated Mineral Resource and Measured Mineral Resource respectively reflecting the degree of geological assurance, which are explained as follows:

Sl. No.	Stages of Exploration	Definition with explanation
1.	**Reconnaissance Survey (Exploration) (G4)** Quantity with grade estimated mostly based on regional seabed mapping supported by limited subsurface sampling and indirect existence.	Reconnaissance Survey (G4) identifies areas of enhanced mineral potential based primarily on results of regional seabed mapping comprising bathymetric survey, limited sub-bottom profiler, shallow seismic survey, study of wide spaced surface sediment samples and limited subsurface seabed samples for sedimentological and mineralogical data through laboratory studies.
2.	**Preliminary Exploration (G3)** Quantity with grade estimated with low level of confidence	Preliminary Exploration involves the initial delineation of an identified mineral deposit area of previous stage of exploration (G4) by furthering the exploration to extend and identify both laterally and vertically down (third dimension) of the ore body. The methods utilized may involve : detailed bathymetric survey carried out at closer spaced survey lines, close spaced sub-bottom profiler and / or shallow seismic survey, collection of core samples at closer interval, detailed study of samples for particle size distribution and mineral content for delineation of mineral bearing sediment unit both horizontally and vertically, chemical analysis of selected bulk samples for major oxides, trace elements including deleterious elements, REE (rare earth elements).
3.	**General Exploration (G2)** Quantity with grade estimated with moderate level of	General Exploration involves increasing the geological confidence level and understanding style and mode of occurrence of mineralization. Methods used may include multibeam bathymetric survey / swath bathymetry for detailed morphology of seabed, Close spaced sub-bottom profiling and or shallow seismic profiling, sub-seabed

Sl. No.	Stages of Exploration	Definition with explanation
	confidence	sampling with deeper coring/drilling at further closer intervals (spacing may vary for each type of mineral depending upon its depositional characteristics), detailed study of samples for particle size distribution and mineral content for delineation of mineral bearing sediment unit both horizontally and vertically. Chemical analysis of selected bulk samples for major oxides, trace elements including deleterious elements, REE (rare earth elements). and selected bulk sampling for laboratory scale mineral beneficiation and estimation of mineral reserve if felt necessary. Collection of environmental parameters such as current, waves, wind water quality Total Suspended Solids (TSS) etc. The objective is to establish the main geological features of a deposit, giving a reasonable indication of continuity along lateral and vertical (third dimension) extensions which provide an initial estimate of size, shape, structure of mineralized zone, quantity and grade of the mineral deposit.
4.	**Detailed Exploration (G1)** Quantity with grade estimated with high level of confidence	Detailed Exploration involves the detailed three-dimensional delineation of a known mineral deposit which may be achieved through various studies that may include close spaced sub-bottom profiling and / or shallow seismic profiling for detailed sub-sea morphology, close spaced sub-seabed sampling with deeper coring/drilling(spacing may vary for each type of mineral depending upon its depositional characteristics), detailed study of samples with closer subsampling for particle size distribution and mineral content for delineation of mineral bearing sediment unit both horizontally and vertically. Chemical analysis of selected bulk samples for major oxides, trace elements including deleterious elements, REE (rare earth elements), collection of environmental parameters such as current, waves, wind water quality Total Suspended Solids (TSS) etc. Sampling locations are closely spaced such that size, shape, structure, quantity, grade and other relevant characteristics of the deposit are established with a high degree of confidence. Bench scale beneficiation tests involving bulk sampling may be required in certain cases to understand the recovery and any additional by products.

(b) Definition of stages of feasibility study:

Sl. No.	Category	Definition with explanation
1.	**Geological Study (F3)**	A geological study involves reporting of all the exploration activities undertaken during each stage of exploration including the assessment of the mineral resources with quantity and grade. A preliminary economic evaluation of the deposit should be done based on the gathered field data and a comparison with the similar deposits already in operation. This is achieved by applying meaningful threshold values, cut off values for grade, thickness and depth of the mineralized zone.
2.	**Pre-Feasibility Study (F2)**	Pre-Feasibility Study is the study to demonstrate the possible techno- economic and socio-environmental viability of a mineral deposit through application of various modifying factors wherein a preferred production method has been ascertained including the mineral beneficiation method, if any. The study shall also include a preliminary financial analysis based on reasonable assumptions on the applicable modifying factors and the evaluation of any other relevant factors which are sufficient to convert all or part of the resources to reserves. The study should lead to part or whole of the Mineral Resource being converted to Mineral Reserve. A Pre-Feasibility Study has a lower confidence level than a Feasibility Study (wherein the cost estimates of the project will have $\pm$30% degree of accuracy).
3.	**Feasibility Study (F1)**	Feasibility Study is a detailed comprehensive techno-economic and socio- environmental evaluation of a mineral deposit through application of various modifying factors to establish the technical feasibility, economic and financial viability of a mineral deposit. At this stage the preferred production method, beneficiation technology of the deposit has been adequately established with detailed assessments of the applicable modifying factors, relevant operational factors and detailed financial analysis to demonstrate that extraction is reasonably justified. It is expected that all Governmental clearances to start production operations are already in place at the time of reporting and where such clearances have not been obtained then such clearances are expected to be obtained in due course before commencement of production operation. The study may lead to part or whole of the Mineral Resource being converted to Mineral Reserve. The result of the study may reasonably serve as a basis for final decision by a proponent or financial institution to proceed with or finance the development of the project (wherein the cost estimates of the project will have $\pm$20% degree of accuracy).
4.	**Modifying Factors**	Modifying Factors are those factors which are taken into consideration while conducting a Prefeasibility or feasibility study to convert mineral resources to mineral reserves. These include but are not limited to production,

Sl. No.	Category	Definition with explanation
		processing, end use, cut-off grade, threshold value, metallurgical, infrastructure, economic, marketing, transportation, storage, legal, environmental, social, and Governmental factors.

(c) Definition of stages of economic viability:

Sl. No.	Category	Definition with explanation
1.	**Intrinsically Economic (E3)**	Quantities, reported in tonnes or volume with grade or quality, estimated by means of a Geological Study identified to be of intrinsic economic interest, implying that the resources identified may or may not have any immediate economic value. The economic viability of the resources is further ascertained through a prefeasibility or feasibility study by application of appropriate modifying factors. The classes defined are Measured, Indicated, Inferred and Reconnaissance Mineral Resources.
2.	**Potentially Economic (E2)**	Quantities with grade reported by means of a Pre-feasibility (F2) or Feasibility (F1) Study in order of increasing accuracy, not justifying extraction under the prevailing technological, economic, environmental, and other relevant conditions, realistically assumed at the time of the determination, but possibly so in the future The Potentially Economic (E2) Deposits are normally classified as Pre-feasibility Mineral Resources (F2) but sometimes as Feasibility Mineral Resources (F1) which are upgraded to indicated and measured resources.
3.	**Economic (E1)**	Quantities with grade identified on the basis of a Prefeasibility or Feasibility Study in order of increasing accuracy that justify extraction under the prevailing techno-economic, socio-environmental and other relevant conditions, realistically assumed at the time of the determination. The classes defined are Proved and Probable Mineral Reserves.

(d) Definition of classes of mineral resources and reserve:

Sl. No	Classes	Definition with explanation
1.	**Mineral Resource**	Mineral Resource is a concentration or occurrence of solid material in or on the earth's surface for which quantities with grade or quality have been estimated based on certain geological considerations and understanding which may or may not have any immediate or near-term economic value but are assessed for their future prospective value.
2.	**Reconnaissance Mineral Resource (334)**	Reconnaissance mineral Resources (334) are estimates of quantity and grade based on indirect existence including data and information generated through a reconnaissance survey, limited surface, and subsurface sampling data from

Sl. No	Classes	Definition with explanation
		within the exploration block or data extrapolated from nearby production or explored areas as may be required. The quantity and grade estimates have a lower level of confidence than that of inferred mineral resources.
3.	**Inferred Mineral Resource (333)**	(1) Inferred mineral resource is the quantity with grade associated with a mineral deposit which can be estimated with a low level of confidence. (2) This is achieved through application of appropriate exploration techniques involving widely spaced seabed coring /drilling followed by appropriate sub-sampling and analysis, detailed morphology of seabed, sensor surveys like sub-bottom profiling and/or shallow seismic survey to assume geological continuity of the mineralized body, both laterally and vertically. Certain level of extrapolation beyond the sampling points may be allowed with suitable justification depending upon the type of deposit and its mode of occurrence to understand the orebody. (3) This resource cannot be converted to mineral reserve but may be upgraded to indicated mineral resource with additional information.
4.	**Indicated Mineral Resource (332)**	(1) Indicated mineral resource is the quantity with grade associated with a mineral deposit which can be estimated with a moderate level of confidence. (2) This is achieved through application of appropriate exploration techniques involving close spaced seabed coring/ drilling than the previous stage and / or shallow drilling, detailed morphology of seabed, closed spaced sensor surveys (sub-bottom profiling and/or shallow seismic survey) having spacing wider than that required for estimation of measured resources which ensures assumption of the geological continuity of the mineralized body, both laterally and vertically. This also includes the laboratory scale beneficiation studies if required to understand the recovery and by-products, if any. (3) Indicated Mineral Resource may be wholly or partly converted to Probable Mineral Reserve through a prefeasibility study by collecting more geological data, detailed economic assessment etc.
5.	**Measured Mineral Resource (331)**	(1) Measured mineral resource is the quantity with grade associated with a mineral deposit which can be estimated with a very high level of geological confidence. (2) This is achieved through application of appropriate exploration techniques involving sufficiently close

Sl. No	Classes	Definition with explanation
		spaced seabed coring/ drilling, shallow drilling followed by appropriate sub-sampling and analysis to ensure geological continuity of the mineralized body both laterally and vertically. Bench scale beneficiation studies if necessary, may be taken up to confirm the percentage recoverability with additional minerals, if any recovered. (3) Measured Mineral Resource may be wholly or partly converted to Proved or Probable Mineral Reserve through a feasibility or a prefeasibility study.
6.	**Mineral Reserve**	Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted. The quantity and grade of the mineral Reserves is ascertained through suitable prefeasibility or feasibility study by application of appropriate Modifying Factors.
7.	**Proved Mineral Reserve (111)**	Proved mineral reserve is the economically mineable part of a Measured Mineral Resource. The quantity with grade is demonstrated to be economically mineable by means of a feasibility study. A Proved Mineral Reserve implies a high degree of confidence in the Modifying Factors.
8.	**Probable Mineral Reserve (121 and 122)**	(1) Probable mineral reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The quantity with grade is demonstrated to be economically mineable by means of a prefeasibility study. (2) The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proved Mineral Reserve.
9.	**Feasibility Mineral Resource (211)**	Feasibility Mineral Resource is that part of Measured Mineral Resource which is not economically mineable and has been defined by studies at feasibility level as appropriate that extraction is presently not justified. This material is identified as being possibly economically viable subject to changes in technological, economic, and environmental or other relevant conditions.
10.	**Pre-Feasibility Mineral Resource (221 and 222)**	Pre-feasibility Mineral Resource that part of an Indicated mineral resource, and in some circumstances Measured Mineral Resource, which is not economically mineable and has been defined by studies at Pre-feasibility level as not appropriate for extraction at present. This material is identified as being possibly economically viable subject to changes in technological, economic, and environmental and/or other relevant conditions.

Part-II

Geological Parameters for exploration

1.	**Geological Survey (Seabed Mapping):** On 1:50,000 scale for Reconnaissance Survey (G4) stage in the Territorial Waters; 1:3,00,000 scale in the Exclusive Economic Zone for Reconnaissance Survey (G4) stage beyond Territorial Waters; on 1:50,000 or larger scale for Preliminary Exploration (G3) stage; 1:10,000 or larger scale for General Exploration (G2) stage; on 1:5,000 or larger scale for Detailed Exploration (G1) stage. Generally, this stage of mapping may involves bathymetry, sub-bottom profiling and /or shallow seismic profiling, seabed surface sampling at wider spacing, limited coring/ drilling of sub-seabed, water sampling, current measurement at Reconnaissance Survey at selected locations (G4) stage; intensification of all or some methods of surveys with closer spacing at Preliminary Exploration (G3) stage based on the results of (G4) stage; multibeam bathymetry / swath bathymetry, sub-bottom profiling / shallow seismic profiling at closer spacing, intensified coring/ shallow drilling of seabed at much closer spacing, bulk sampling, laboratory beneficiation studies, water sampling, current studies in target areas at General Exploration (G2) stage; much closer, deeper investigation with detailed sensor studies, bench level beneficiation at Detailed Exploration (G1) stage.
2.	**Technological:** Exploration and sampling using appropriate techniques from locations on the seabed. The sampling locations are spaced suitably (in a grid pattern to the extent possible and may be modified depending on seabed morphological features) for establishing existence of mineral rich bodies and its lateral and vertical continuity. Part-III of the Schedule-I may be referred for further details. For Reconnaissance Survey (G4) stage sampling data from seabed may be used for assessment of resources, if possible. For General (G2) and detailed (G1) stages of exploration the depth continuity of mineralization may be considered limited to the depth upto which direct existence of mineralization is established. The lateral extension to be considered for resource assessment shall depend on geological considerations supplemented by geological continuity by mapping or by other means and in any case shall not be more than 50% of the grid spacing of the probe points. Assessment based on selected information such as isolated samples and analysis is not recommended.
3.	**Sampling & sub-sampling:** a) Systematically wider spaced grab sampling, limited core sampling and sub-samples from core samples for reconnaissance stage. b) Systematic sampling from core samples spaced closely enough and limited drill cores to confirm geological and grade continuity for other stages of geological assessment. c) Geological logging and sampling of sediment core at regular interval, preferably at 10 meter or less for the whole core. d) The drilling operation in offshore turbulent conditions is very critical and technique to be deployed shall depend on sea condition in general and weather conditions season wise. Core recovery depends upon the drilling equipment and stability of the floating platform. e) The representative exploration samples surface samples, cores shall be preserved,

	for future use.
4.	**Laboratory Tests:** Chemical analysis of sediment and water samples
5.	**Sedimentological, Petrographic & Mineragraphic Studies:** to ascertain the sediment grain size, sediment types, texture and minerals present and their assemblages
6.	**Bulk Density Study**: The bulk density, porosity, shear strength, liquidity, compaction etc., must be measured by standard methods for geotechnical properties and slope stability for selected samples.
7.	**Bulk Sampling for Beneficiation Studies:** Bulk sampling if necessary for testing processing technology.
8.	**Marine Environmental Setting:** Current, wave, noise levels, deleterious elements if any present in the surface and sub-surface sediments, details about sea water quality, suspended sediment, Total Dissolved Salts (TDS), salinity, temperature, Dissolved Oxygen (DO), Biological Oxygen Demand (BOD), Marine Biota etc. and any other data as may be required by the Ministry of Environment and Climate Change for Environmental Impact Assessment (EIA) studies may be taken up at G2 Stage of investigation.
9.	**Any other data that may be relevant including** geotechnical and slope stability studies.

Part -III

Exploration Norms for different types of deposits

As per the present exploration status, the economic minerals identified from the seabed of India broadly fall in five categories and the standards prescribed pertain to those minerals. If some other and / or new minerals are identified during G4 and G3 stages of exploration or during subsequent exploration or production operations, then exploration norms for these other and /or new minerals will be based on norms prescribed by Administering Authority from time to time.

1. **Construction Grade Silica Sand** (seabed sediments with quantities of construction grade silica sand that occurs on the continental shelf as blanket deposit formed along the palaeo strand plains or as channel fills in drowned rivers, estuaries etc).

2. **Non-Construction Grade Calcareous Sand** (seabed sediments with quantities of calcareous materials like, shell, shell fragments and other biogenic material transported or indigenously formed or chemically precipitated sediments).

3. **Calcareous Mud also known as Lime Mud** (seabed sediments with quantities of loose mud or sand sized calcium carbonate sediments consisting mainly of ooids and minor amounts of skeletal matter and mud aggregates).

4. **Phosphatic Sediments** (seabed sediments/ concretions/ nodules / encrustations etc. with P_2O_5 in them in quantities formed biologically or by precipitation from sea water)

5. **Deep Sea Minerals REE (rare earth elements) Minerals, Hydrothermal Minerals/ Iron Manganese Crusts and Nodules** (seabed sediments with concentration of metals and minerals formed in the deep sea by chemical precipitation directly from sea water and/or diagenetic process or through hydrothermal solutions emanating from subsea bed in amounts)

(The grid spacing given below are indicative. A closer spacing may be necessary depending upon the geological complexity of the deposit)

Types of Deposits & Principal Minerals

I. Construction Grade Silica Sand (Sea Sand)

G4 Stage	G3 Stage	G2 Stage	G1 Stage
Bathymetric map in 1:50,000 scale prepared with single beam echo sounder / or spot depth measurement at appropriate intervals and tie lines	Bathymetric map in 1:50,000 scale prepared with single beam echo sounder measurement at 500 m or lesser intervals and tie lines at appropriate intervals.	Multibeam bathymetric survey with seamless coverage having 50% side overlap between adjacent lines. Multibeam Bathymetric map in 1:5,000 scale, Images with MBES (Multi Beam Eco Sounder) backscatter data also to be submitted.	Multibeam bathymetric survey with seamless coverage having 50% side overlap between adjacent lines. Bathymetric map in 1:2,500 scale. Images with MBES backscatter data also to be submitted.
One or more shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 2 km interval, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 1 km interval, presented in a horizontal scale of 1:5,000 and vertical scale of 1:1,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 500 m interval, presented in a horizontal scale of 1:2,500 and vertical scale of 1:500 scale.
Seabed sampling using grab or any other device at 5 x 5 km grid spacing.	Seabed sampling using suitable corer or any other device at 2 X 2 km grid spacing extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less. Core samples are to be subdivided into 1m interval from top.	Seabed sediment / rock sampling using suitable corer or any other device at 1,000 m X 1,000 m extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less. Core samples are to be subdivided into 1 m interval from top.	Seabed sediment / rock sampling using suitable corer or any other device at 500 X 500 m grid spacing. Extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less. Core samples are to be subdivided in to 1 m interval from top.

G4 Stage	G3 Stage	G2 Stage	G1 Stage
Sedimentological/ petrological and mineralogical analysis of the sample to identify various mineral constituents their size range and content (weight. percentage in bulk sample), nature of occurrence etc.	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range and content (weight percentage in bulk sample), nature of occurrence etc.	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range, sediment type and content (weight percentage in bulk sample), nature of occurrence etc.	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range, sediment type and content (weight percentage in bulk sample), nature of occurrence etc.
Chemical analysis of the bulk sediments/ rock for major oxides and trace elements/REE to determine whether the sediment is falling in this category.	Chemical analysis of the bulk sediments/rock for major oxides and trace elements/REE to determine whether the sediment is falling in this category.	Chemical analysis of the bulk sediments/rock and constituent minerals of economic importance for evaluating the composition of the mineral and its economic worth Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.	Chemical analysis of the bulk sediments/rock and constituent minerals of economic importance for evaluating the composition of the mineral and its economic worth Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.
Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present in the survey area.	Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present.
The activities as above or less than that required for Preliminary Exploration (G3) stage.	The activities as above or less than that required for General Exploration (G2) stage.	The activities as above or less than required for Detailed Exploration (G1) stage. Analysis of samples, pilot production for preliminary EIA studies.	

II. Non-Construction Grade Calcareous Sand

G4 Stage	G3 Stage	G2 Stage	G1 Stage
Bathymetric map in 1:50,000 scale prepared with single beam echo sounder / or spot depth measurement at appropriate intervals and tie lines	Bathymetric map in 1:50,000 scale prepared with single beam echo sounder measurement at 500 m or lesser intervals and tie lines at appropriate intervals.	Multibeam bathymetric survey with seamless coverage having 50 % side overlap between adjacent lines. Multibeam Bathymetric map in 1:5,000 scale, Images with MBES backscatter data also to be submitted.	Multibeam bathymetric survey with seamless coverage having 50% side overlap between adjacent lines Bathymetric map in 1:2,500 scale. Images with MBES backscatter data also to be submitted.
One or more shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 2 km interval, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 1 km interval, presented in a horizontal scale of 1:5,000 and vertical scale of 1:1,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 500 m interval, presented in a horizontal scale of 1:2,500 and vertical scale of 1:500 scale.
Seabed sampling using grab or any other device at 5 x 5 km grid spacing.	Seabed sampling using suitable corer or any other device at 2 X 2 km grid spacing extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less. Core samples are to be subdivided into 1m interval from top.	Seabed sediment / rock sampling using suitable corer or any other device at 1,000 m X 1,000 m. Extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less. Core samples are to be subdivided in to 1 m interval from top.	Seabed sediment / rock sampling using suitable corer or any other device at 500 X 500 m grid spacing. Extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less. Core samples are to be subdivided in to 1 m interval from top.
Sedimentological/ petrological and mineralogical analysis of the sample to identify various mineral constituents their size range and content (weight. percentage in bulk	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range and content (weight percentage in bulk	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range and content (weight percentage in bulk	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range and content (weight percentage in bulk

G4 Stage	G3 Stage	G2 Stage	G1 Stage
sample), nature of occurrence etc.	sample), nature of occurrence etc.	sample), nature of occurrence etc.	sample), nature of occurrence etc.
Chemical analysis of the bulk sediments/ rock for major oxides and trace elements/REE to determine whether the sediment is falling in this category.	Chemical analysis of the bulk sediments/rock for major oxides and trace elements/REE to determine whether the sediment is falling in this category.	Chemical analysis of the bulk sediments/rock and constituent minerals of economic importance for evaluating the composition of the mineral and its economic worth.	Chemical analysis of the bulk sediments/rock and constituent minerals of economic importance for evaluating the composition of the mineral and its economic worth.
		Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.	Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.
Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present in the survey area.	Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present.
The activities as above or less than that required for Preliminary Exploration (G3) stage.	The activities as above or less than that required for General Exploration (G2) stage.	The activities as above or less than required for Detailed Exploration (G1) stage. Analysis of samples, pilot production for preliminary EIA studies	

III. Calcareous Mud / Lime Mud

G4 Stage	G3 Stage	G2 Stage	G1 Stage
Bathymetric map in 1:50,000 scale prepared with single beam echo sounder / or spot depth measurement at appropriate intervals and tie lines	Bathymetric map in 1:50,000 scale prepared with single beam echo sounder measurement at 500 m or lesser intervals and tie lines at appropriate intervals.	Multibeam bathymetric survey with seamless coverage having 50% side overlap between adjacent lines. Multibeam Bathymetric map in 1:5,000 scale, Images with MBES backscatter data also to be submitted.	
One or more shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 2 km interval, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 1 km interval, presented in a horizontal scale of 1:5,000 and vertical scale of 1:1,000 scale.	
Seabed sampling using grab or any other device at 5 x 5 km grid spacing.	Seabed sampling using suitable corer or any other device at 2 X 2 km grid spacing extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less.	Seabed sediment / rock sampling using suitable corer or any other device at 1,000 m X 1,000 m.	Seabed sediment / rock sampling using suitable corer or any other device at 500 m X 500 m grid spacing.
		Extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less.	Extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less.
	Core samples are to be subdivided into 1m interval from top.	Core samples are to be subdivided in to 1 m interval from top.	Core samples are to be subdivided in to 1 m interval from top.
Sedimentological/ petrological and mineralogical analysis of the sample to identify various mineral constituents their size range and content (weight. percentage in bulk sample), nature of occurrence etc.	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range and content (weight percentage in bulk sample), nature of occurrence etc.	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range, sediment type and content (weight percentage in bulk sample), nature of	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range, sediment type and content (weight percentage in bulk sample), nature of

G4 Stage	G3 Stage	G2 Stage	G1 Stage
		occurrence etc.	occurrence etc.
Chemical analysis of the bulk sediments/ rock for major oxides and trace elements/REE to determine whether the sediment is falling in this category.	Chemical analysis of the bulk sediments/rock for major oxides and trace elements/REE to determine whether the sediment is falling in this category.	Chemical analysis of the bulk sediments/rock and constituent minerals of economic importance for evaluating the composition of the mineral and its economic worth. Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.	Chemical analysis of the bulk sediments/rock and constituent minerals of economic importance for evaluating the composition of the mineral and its economic worth Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.
Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration. The activities as above or less than that required for Preliminary Exploration (G3) stage.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present in the survey area. The activities as above or less than that required for General Exploration (G2) stage.	Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration. The activities as above or less than required for Detailed Exploration (G1) stage. Analysis of samples, pilot production for preliminary EIA studies	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present.

IV. Phosphatic Sediments (seabed sediments with concretions / encrustations)

G4 Stage	G3 Stage	G2 Stage	G1 Stage
Bathymetric map in 1:50,000 scale prepared with single beam echo sounder / or spot depth measurement at appropriate intervals and tie lines.	Bathymetric map in 1:50,000 scale prepared with single beam echo sounder measurement at 500 m or lesser intervals and tie lines at appropriate intervals.	Multibeam bathymetric survey with seamless coverage having 50% side overlap between adjacent lines. Multibeam Bathymetric map in 1:5,000 scale, Images with MBES backscatter data also to be submitted.	
One or more shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 2 km interval, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 1 km interval, presented in a horizontal scale of 1:5,000 and vertical scale of 1:1,000 scale.	
Seabed sampling using grab or any other device at 5 x 5 km grid spacing.	Seabed sampling using suitable corer or any other device at 2 X 2 km grid spacing extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less.	Seabed sediment / rock sampling using suitable corer or any other device at 1,000 m X 1,000 m. Extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less.	Seabed sediment / rock sampling using suitable corer or any other device at 500 X 500 m grid spacing. Extending to a depth upto at least 4 mts or till the depth of mineralization whichever is less.
	Core samples are to be subdivided into 1m interval from top.	Core samples are to be subdivided in to 50 cm interval from top.	Core samples are to be subdivided in to 50 cm interval from top.
Sedimentological/ petrological and mineralogical analysis of the sample to identify various mineral constituents their size range and	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range,	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range,

G4 Stage	G3 Stage	G2 Stage	G1 Stage
content (weight. percentage in bulk sample), nature of occurrence etc.	and content (weight percentage in bulk sample), nature of occurrence etc.	sediment type and content (weight percentage in bulk sample), nature of occurrence etc.	sediment type and content (weight percentage in bulk sample), nature of occurrence etc.
Chemical analysis of the bulk sediments/ rock for major oxides and trace elements/REE to determine whether the sediment is falling in this category.	Chemical analysis of the bulk sediments/rock for major oxides and trace elements/REE to determine whether the sediment is falling in this category.	Chemical analysis of the bulk sediments/rock and constituent minerals for evaluating the composition of the mineral and its economic worth. Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.	Chemical analysis of the bulk sediments/rock and constituent minerals for evaluating the composition of the mineral and its economic worth. Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.
Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present in the survey area.	Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present.
The activities as above or less than that required for Preliminary Exploration (G3) stage.	The activities as above or less than that required for General Exploration (G2) stage.	The activities as above or less than required for Detailed Exploration (G1) stage. Analysis of samples, pilot production for preliminary EIA studies.	

V. Deep Sea Minerals REE Minerals, Hydrothermal Minerals/ Iron Manganese Crusts and Nodules

G4 Stage	G3 Stage	G2 Stage	G1 Stage
Bathymetric map in 1:50,000 scale prepared with single beam echo sounder / or spot depth measurement at appropriate intervals and tie lines.	Bathymetric map in 1:50,000 scale prepared with single beam echo sounder measurement at 500 m or lesser interval and tie lines at appropriate interval.	Multibeam bathymetric survey with seamless coverage having 50% side overlap between adjacent lines. Multibeam Bathymetric map in 1:5,000 scale, Images with MBES backscatter data also to be submitted. The slope map and ruggedness index map are to be prepared in the surveyed area.	Gamma ray meter survey at suitable interval to detect buried crust and nodules. Estimation of Fe-Mn crust/nodule coverage per sq.m by suitable methodology.
One or more sub-bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 2 km x 2 km interval, presented in a horizontal scale of 1:50,000 and vertical scale of 1:10,000 scale.	Shallow seismic profiles / sub bottom profiler across the block indicating the disposition of subsurface sedimentary units/ rocks at 1 km interval, presented in a horizontal scale of 1:5,000 and vertical scale of 1:1,000 scale.	
Seabed sampling using grab or any other device at 5 x 5 km grid spacing.	Seabed sampling using suitable corer or any other device at 2x2 km grid spacing extending to a depth upto at least 1 mt or till the depth of mineralization whichever is less.	Seabed sediment / rock sampling using suitable device at 1,000 m X 1,000 m. Extending to a depth upto at least 1 mt or till the depth of mineralization whichever is less.	Seabed sediment / rock sampling using suitable device at 500 X 500 m grid spacing. Extending to a depth upto at least 1 mt or till the depth of mineralization whichever is less.
Videography at least in 5x5 km at selected locations.	Videography at least in 2 x 2 km at selected locations.		
		Collection of bulk samples by grabbing dredging for beneficiation	Collection of bulk sample by grabbing, dredging for beneficiation study/ testing processing technology.

G4 Stage	G3 Stage	G2 Stage	G1 Stage
		study/ testing processing technology Collection of environmental parameters such as current, waves, wind water quality TSS etc.	Collection of environmental parameters such as current, waves, wind water quality TSS etc. Collection of samples and data on environmental impact analysis.
Sedimentological/ petrological and mineralogical analysis of the sample to identify various mineral constituents their size range and content (weight. percentage in bulk sample), nature of occurrence etc.	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range and content (weight percentage in bulk sample), nature of occurrence etc.	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range and content (weight percentage in bulk sample), nature of occurrence etc.	Sedimentological/ petrological and mineralogical analysis of the sediment/ rock to identify various mineral constituents their size range and content (weight percentage in bulk sample), nature of occurrence etc.
Chemical analysis of the bulk sediments/ rock for major oxides and trace elements/REE to determine the mineral occurrence.	Chemical analysis of the bulk sediments/rock for major oxides and trace elements/REE to determine the mineral content.	Chemical analysis of the bulk sediments/ rock and constituent minerals for evaluating the composition of the mineral and its economic worth.	Chemical analysis of the bulk sediments/rock and constituent minerals for evaluating the composition of the mineral and its economic worth.
		Laboratory scale beneficiation studies of sediments/rock for assessing the content of mineral/metal of interest.	Laboratory scale beneficiation/extraction of metals, studies of sediments/rock for assessing the content of mineral/metal of interest.
Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present in the survey area.	Synthesis of all available data to identify various minerals in the survey areas and their prospective locations for further exploration.	Synthesis of all available data to interpret the nature and quantity/ grade of the minerals present.

G4 Stage	G3 Stage	G2 Stage	G1 Stage
The activities as above or less than that required for Preliminary Exploration (G3) stage.	The activities as above or less than that required for General Exploration (G2) stage.	The activities as above or less than required for Detailed Exploration (G1) stage. Analysis of samples, pilot production for preliminary EIA studies.	

Part IV

Reporting of Mineral Resources

Standard Template for a Geological Study Report which shall also form a part of the Pre-Feasibility or Feasibility Report

1. A Geological Study Report for estimation and reporting of Mineral Resources integrating all data of exploration, sampling and testing generated through marine geophysical, geochemical, geological surveys, marine environment and technological study shall be undertaken for every stage of exploration, i.e., from G4 to G1 for assessing the resources.

2. Mineral resource assessment is normally a collective effort involving a multidisciplinary approach. It is expected that individuals/ subject matter experts involved in each part of the report preparation are given due credit for that part with proper acknowledgement in the report and also, they are willing to take due responsibility regarding the accuracy and authenticity of that part. However, the final responsibility of the report shall lie with the lead expert or a group of experts who, after proper due diligence of all the parts of the report have arrived at the final estimation of the resources and reserves and are convinced about the methodology and processes followed in arriving at the resource estimates. These experts taking the final responsibility for the report shall be referred to as the qualified persons and shall certify the report by signing off the report with their credentials.

Sl. No.		Criteria with parameters of reporting
1.		**Executive Summary**
	i.	The executive summary shall include details about the location of the mineral deposit, purpose of the mineral investigation and the stage of the exploration, brief geology, mineralization, exploration plan with spacing of the sample points, depth of exploration and whether the mineralization extends beyond the depth of direct existence. Outcome of the exploration studies including the quantity of resources identified with grade and quality under various classes.
	ii.	The summary shall also include observation on the issues regarding the future plan or strategy for the deposit including amenability for production of the deposit based on present technological, environmental, social and market conditions.
2.		**Details of the Qualified Person(s) / Exploration Agency** (To be provided separately for all the qualified persons signing off the report)
	i.	(a) Name: (b) Address: (c) Contact Mobile No: (d) E-Mail id: (e) Qualification: (f) Experience: (g) Affiliation to any organization/ company, if yes, specify the name of the organization or company:
	ii.	Details of qualification and experience of persons associated with various aspects of exploration assessment of resources and reserves
3.		**Title and ownership**
	i.	Name of the holder of operating right
	ii.	Address:
	iii.	Telephone No:
	iv.	E-Mail id:
	v.	Details of period of operating right, if any:
	vi.	In case of a license or lease:

Sl. No.		Criteria with parameters of reporting
		(a) Date of grant: (b) Date of execution: (c) Period of license or lease: (d) Date of completion:
4.		**Details of the area under Study**
	i.	Coast/ Sea
	ii.	Offshore Region
	iii.	Nearest Coastal Location
	iv.	Area in sq. km
	v.	Water depth (m)
	vi.	Nearest Harbour/Port
	vii.	Nearest Major Rail Head on land
	viii.	Nearest Airport
	ix.	Name of the nearby village(s) / NHO (Naval Hydrographic Office) Chart No. of the area, Differential Global Positioning System (DGPS) coordinates of all corner points of the area and sampling points in latitude and longitude (Degree Minutes Second) format WGS-84 Datum
	x.	Mineral(s) under investigation or granted under license or lease applied for
5.		**Seabed Morphology, Connectivity and Demographic Data** *(Data to be furnished from the area and nearby coast)*
	i.	Relief of the area / seabed with minimum and maximum water depths
	ii.	Biotope map of the seabed showing critical marine habitats such as corals, seagrasses etc., if any.
	iii.	Commercial fishing grounds in the area, if any
	iv.	Flora and Fauna within in the coastal tract and area
	v.	Water bodies such as river, nala, stream, etc., joining the sea nearby
	vi.	Climatic conditions of adjacent coastal area: (a) Temperature (annual) min_____max___Avg___ (b) Rain fall (annual) min__max___Avg___ (c) Humidity (annual) min_max___Avg___
	vii.	Any other physiographic, social and environmental factor having potential to affect the viability of the project and assessment of resources and reserves.
6.		**Infrastructure**
	i.	Local infrastructure with roads, railways, port facilities, fisheries, harbour, electricity, water etc. nearby from the area. Details of nearby industries in the area which may use the mineral commodity likely to be mined.
7.		**Geology**
	i.	Brief regional geomorphology/seabed morphology of the area outlining the broad geological and structural framework.
	ii.	A discussion on the type of deposit based on the style of mineralization and minerals under investigation. Suggested exploration / production plan with spacing of the sampling points and depth of exploration commensurate with the stage of exploration.
8.		**Previous Exploration**
	i.	Name and address of holder of operating right involved in the exploration of the area with year and period of exploration (if more than one agency is involved details to be given separately for each agency)
	ii.	Brief details of the exploration carried out (to be given separately for each agency)
	iii.	Reserves or resources estimated, if any, during the previous exploration campaign with quantity and grade under various categories

Sl. No.		Criteria with parameters of reporting
9.		**Marine geophysical or geochemical data**
	i.	Details of marine geophysical and geochemical survey taken up and their results.
10.		**Exploration undertaken till now**
	i.	Details of sample points (surface and sub-surface) along with geographical co-ordinates.
	ii.	**Data spacing for reporting of exploration results**: Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the mineral resource estimation procedure(s) and classifications applied.
11.		**Location of data point**
	i.	Accuracy and quality of surveys used to determine the coordinates of sample points, bathymetric surveys and geophysical surveys used in mineral resource estimation.
12.		**Sampling technique**
	i.	Nature and quality of sampling (grab, core / drill core and water sampling) and measures taken to ensure sample representation.
13.		**Coring technique and core sampling employed**
	i.	Corer type (eg. core, gravity corer (gravity core), vibrocorer (vibrocore), piston corer (piston core), box corer (box core), spade corer (spade core) etc.) and details (eg. core diameter, core length).
	ii.	Logging - Whether core have been logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
14.		**Sub-sampling techniques and sample preparation**
	i.	(a) If core, whether cut or sawn and whether quarter, half or all cores taken and whether sampled wet or dry. (b) For all sample types, the nature, quality and appropriateness of the sample preparation technique.
	ii.	Quality control procedures adopted for all sub-sampling stages to maximize representation of samples.
	iii.	Measures taken to ensure that the sampling is representative of the in-situ material collected.
	iv.	Whether sample sizes are appropriate to the grain size of the material being sampled.
15.		**Mineralogical Analysis, Petrological Studies and Sedimentological Analysis**
	i.	(a) Method of study of Mineralogy (b) Nature of quality control procedures adopted (eg. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established. (c) Security and chain of control of samples should be clearly mentioned.
16.		**Beneficiation studies as may be required**
	i.	Details of beneficiation studies carried out at laboratory scale of bench scale involving bulk sampling tests to understand and suggest technological factors for optimum recovery of explored mineral commodity, any additional by-products or co-products that may be available in the sediment also be discussed. The detailed flow sheet with yield recovery factors and to be discussed
17.		**Resource estimation techniques**
	i.	Discussion on sufficient data density to assure continuity of mineralization and synthesis adequate data base for estimation procedure used.

Sl. No.		Criteria with parameters of reporting
	ii.	Discussion on the baseline marine ecology, biotope map, potential impacts of production on marine life and mitigation measures
	iii.	Whether previous exploration data has been used and integrated with the current exploration data for assessment of the updated resources.
	iv.	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters, maximum distance of extrapolation from data points
	v.	The basis for the classification of the mineral resources into varying confidence classes.
	vi.	The assumptions made regarding recovery of by-products.
	vii.	Detailed description of the method used and the assumptions made to estimate tonnages and grades (section, polygon, inverse distance, geostatistical, or other method).
	viii.	Description of how the geological interpretation was used to control the resource estimates.
	ix.	Discussion of. any computer software was used for estimation of resources then name of the software with the version and method chosen, description of programmes and parameters used.
	x.	Geostatistical methods are extremely varied and should be described in detail. The method chosen should be justified. The geostatistical parameters, including the variogram, and their compatibility with the geological interpretation should be discussed. Experience gained in applying geo-statistics to similar deposits should be taken into account.
	xi.	Data verification or validation procedures used, including peer review report.
18.		**Reporting of resources**
	i.	Basis of reporting of resources into various classes. The criteria and methods used for the classification to be specified. The quantities with grades, for each class are to be specified. The average grade under each class is to be specified. Grade wise classification should also be reported under suitable cases. In the case of metallic deposits such as gold, precious metals and base metals the metal content is to be specified and resources should be estimated at various cut off grades. Factor, if any, applied to take care of the confidence level from the actual estimates should also be specified. The inferred, indicated and measured resources should be highlighted in a table.
19.		**Summary and recommendations**
	i.	(a) A discussion on the outcome of the exploration work detailing the nature of the deposit, the dimension of the deposit, general structural trend, depth of occurrence and depth up to which exploration has been done, possibility of continuity of mineralization beyond the depth of exploration and future exploration requirements, if any. (b) The resources estimated under various classes with grade. (c) The possibility of economic extraction based on present technological, environmental, social and market conditions. (d) Hindrances, if any, anticipated in the economic extraction of the deposit.
	ii.	Discussion on the suggested future plan or strategy for the deposit for further exploration and production.
20.		**Plates and maps**

Sl. No.		Criteria with parameters of reporting
	i.	Location plan of the area showing bathymetry of the area nearby the project site based on legacy data.
	ii.	Seabed morphology of the adjoining area from the available legacy data.
	iii.	Surface sedimentological map, bathymetric map, on appropriate scale showing reliable with Differential Global Positioning System (DGPS) - global coordinates of the location of surface and core samples. If the area or part of it has been covered under exploration earlier, then the same with the location details should be shown in a map in appropriate scale.
	iv.	Cross sections at suitable intervals showing vertical projections of litho-units and mineralization.
	v.	Biotope map of the project area seabed
21.		**Annexures or enclosures to the Report**
	i.	The report shall include all relevant data including maps, sections, logs, analysis reports, photographs, etc., in support of the estimates made.
	ii.	In case of a composite license, all relevant orders of grant, execution of license, shall also form part of the report.
22.		Any other information as may be available or required by any authority as prescribed

Part-V

CONTENTS OF PRE-FEASIBILITY AND FEASIBILITY REPORT

Criteria for Prefeasibility or Feasibility Report for Estimation and Reporting of Mineral Reserves (the criteria listed in the geological study report shall also constitute an integral part of this template).

Sl. No.	Contents	Explanation
1.	Mineral Resource estimate for conversion to Mineral Reserve	- Description of Mineral Resource estimate used as a basis for the conversion to a Mineral reserve. - Clear statement as to whether the Mineral Resources are reported additional to or inclusive of the Mineral Reserves. - The type and level of study undertaken to enable Mineral Resources to be converted to Mineral Reserves i.e. Prefeasibility/Feasibility level.
2.	Cut-off grade or quality parameters	- The basis of the adopted cut-off grade(s) or quality parameters applied, including the basis, if appropriate, of equivalent metal formulae and the threshold values prescribed.
3.	Production factors or assumptions.	- The method and assumptions used to convert the Mineral Resource to a Mineral Reserve (i.e. either by application of appropriate factors by optimization or by preliminary or detailed design supported with Conceptual plan for production). - The choice of the nature and the appropriateness of the selected production method(s), the size of the selected production unit (length, width, height) and other production parameters including associated design issues such as pre-strip, access, etc. - The assumptions made regarding geotechnical parameters (eg. slope stability, etc.), grade control and pre-production dredging. - The major assumptions made and Mineral Resource model used for seabed exploration, dredging (if appropriate). - The production dilution factors, production recovery factors, and minimum production widths used. - The infrastructure requirements of the selected production methods. Where available, the historic reliability of the performance parameters.
4.	Metallurgical factors or assumptions	- The metallurgical process proposed and the appropriateness of that process to the type of deposit. - The nature, amount and representativeness of metallurgical test work undertaken and the metallurgical recovery factors applied. - Any assumptions or allowances made for deleterious elements. - The existence of any bulk sample or pilot scale test work and the degree to which such samples are representative of the ore body as a whole. - The tonnages and grades reported for Mineral Reserves should state clearly whether these are in respect of material to the plant or after recovery. - Comment on existing plant and equipment, including an indication of replacement and salvage value.
5.	Cost and revenue factors	- The derivation of, or assumptions made, regarding projected capital and operating costs. - The assumptions made regarding revenue including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, etc. - The allowances made for royalties payable.

Sl. No.	Contents	Explanation
		- Basic cash flow inputs for a stated period. - Yearly planned production, Net Present Value (NPV) and Internal Rate of Return (IRR) of the deposit, intrinsic value of the deposit based on annual projected production.
6.	Market assessment	- The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. - A customer and competitor analysis along with the identification of likely market windows for the product. - Price and volume forecasts and the basis for these forecasts. - For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.
7.	Other modifying factors	- The effect, if any, of natural risk, infrastructure, environmental, legal, marketing, social or governmental factors on the likely viability of a project and/or on the estimation and classification of the Mineral Reserves. - The status of titles and approvals critical to the viability of the project, such as production leases, discharge permits, Government and statutory approvals. - Environmental descriptions of anticipated liabilities. Location plans of mineral rights and titles.
8.	Classification	- The basis for the classification of the Mineral Reserves into varying confidence categories. - Finalization of estimates of grade wise mineable quantities in contemplation with proposed preliminary mine design/conceptual plan subject to all necessary approvals/contracts have been confirmed or there are reasonable expectations that all such approvals/contracts will be obtained within a reasonable timeframe and with certification that that Economic viability is not affected by short-term adverse market conditions provided that longer-term forecasts remain positive.
9.	Mineral Beneficiation and Environmental Protection	- Brief methodology for carrying out production, beneficiation and waste disposal - Brief on measures to be adopted for environmental protection during production, beneficiation and waste disposal - Brief description on baseline marine environmental condition including marine flora and fauna, potential impacts of production and suggested mitigation measures - Details of availability of technical personnel for all operations
10.	Certificate from the qualified Person	Name, date & signature

SCHEDULE II

[*See* rule 5(2)]

FORMAT FOR SUBMITTING PROPOSAL FOR AUCTION OF AN AREA FOR GRANT OF COMPOSITE LICENCE

To,

The Administering Authority,

[*]

Madam/ Sir,

Under the provision of sub-rule (2) of rule 5 of the Offshore Areas (Existence of Mineral Resources) Rules, 202[*], I/we am/are submitting the following details and other particulars of the area for consideration of the Administering Authority for auction of composite licence in respect of the area. It is submitted that I/we intend to participate in auction of composite licence in respect of the said area.

1. Name and Address of the Applicant

(a)	Name:	
(b)	Postal address:	
(c)	Telephone Number (Office):	
(d)	Fax number (Office):	
(e)	Mobile No.:	
(f)	Telephone Number (Residence):	
(g)	E-Mail address:	

2. Location Details of the Area Proposed for Auction

a)	NHO Chart No.	
b)	Area in sq. km.	
c)	Number of standard blocks included in the block area	
d)	Boundary coordinates of the proposed block (in Decimal degree)	
e)	Coast/ Sea	
f)	Offshore Region	
g)	Nearest Coastal Location	
h)	Area in sq. km	
i)	Water depth (m)	
j)	Nearest Harbour/Port	

3. Mineral Potential of the Area

(a)	Name of Mineral(s) identified/ expected in the area/ block	
(b)	Basis on which mineral potential in the area has been identified	
(c)	List of documents and references relied upon in support of item (b) above.	

4. Documents to be enclosed with the application

i) Location of the proposed block demarcated on NHO Chart No.

ii) Documents mentioned in item 3(c) above.

Place

Date Signature of Applicant