LNG AUCTION MANUAL

Article 1
General Provisions

1. This LNG Auction Manual (hereinafter referred to as the 'Manual') regulates the procedure and the conditions of the LNG Auction.
2. This Manual shall be complementary to those provided for in the NNGS Code (hereinafter referred to as the Code) and the relevant Transmission and LNG Agreements concluded between LNG Users and the Operator.
3. The terms referred in this Manual shall have the meaning assigned to them in Law 4001/2011, in the Code and Transmission and LNG Agreements.
4. In addition to the terms of paragraph [3], the following terms are defined:
    (i) LNG Auction Platform: The electronic platform where the LNG Auction is conducted.
    (ii) Ascending Clock Auction: The biding procedure in which the User places the quantities requested on the basis of fixed price steps, which shall be announced subsequently.
    (iii) Small Price Step: A fixed amount determined by the Operator to implement the Ascending Clock Auction, which is a sub-multiple Large Price Step (€/kWh/Day/Year).
    (iv) Start Day of Phase A: The Day on which the Operator starts offering Standard LNG Slots.
    (v) Start Day of Phase B: The Day on which the Operator starts offering LNG Complementary Capacity, for each Day of the Year to which the LNG Annual Scheduling relates.
    (vi) Large Price Step: Fixed amount determined by the Operator to apply the Ascending Clock Procedure (€/kWh/Day/Year).
    (vii) First Time Undersell: Situation in which the total demand for Complementary LNG Capacity by all Users is less than the offered Complementary LNG Capacity at the end of the second bidding round or any subsequent bidding round of the Ascending Clock Auction.

Article 2
Conduct of an LNG Auction

1. A separate LNG Auction shall be held for each Year of the Annual LNG Scheduling.
2. The LNG Auction shall be held at the LNG Auction Platform.

3. The Operator shall announce the Start Days of Phase A and Phase B of the LNG Auction and the maximum duration thereof, in accordance with Article [83] of the Code.
4. Phase A of the LNG Auction shall be conducted in accordance with Articles [3] and [4] of the Manual.
5. Phase B of the LNG Auction shall be conducted in accordance with Articles [5] to [8] of the Manual.

Article 3
Bid submission procedure in the First Phase of the LNG Auction

1. Any LNG User who is also a Transmission User has the right to submit bids for the booking of Standard LNG Slots , provided that the Operator has not cease the provision of services on the Bidding Day and that the provisions set out in Chapter [3^{A}] of the Code and the relevant provisions of the Transmission Agreement and the LNG Agreement that it has concluded with the Operator, are met
2. The Standard LNG Slots are offered per each Scheduling Period.
3. The process of offering Standard LNG Slots for reservation per Scheduling Period (Cycle K) lasts three (3) hours. Upon the completion of a Cycle, the Operator shall initiate the process of offering the Standard LNG Slots for reservation corresponding to the next Scheduling Period (next K+1 Cycle).
4. Each Cycle starts one (1) hour after the end of the immediately preceding Cycle.
5. For the 1st Scheduling Period, the procedure for making available Standard LNG Slots starts at 09.00 of the Start Day of Phase A.
6. Each Cycle starts and ends within the same day. If it is not possible to complete the offering process of Standard LNG Slots for all the Scheduling Periods by 16.00 of the Start Day of Phase A, the procedure shall continue the following Day.
7. For each subsequent Day of Phase A, the biding procedure begins at 09.00 with the offer of Standard LNG Slots, which relate to the Scheduling Period which follows the last one completed on the previous Day
8. As long as the Operator has not define specific Scheduling Periods, the auction starts at 09:00 on Phase A Start Day and ends at 16:00 on the same Day in a single Cycle (Single Cycle).
9. The Bidding Time of each Cycle starts at the beginning of the Cycle and ends in random time, anytime within the time period starting two (2) hours and forty-five (45) minutes from the start of the Cycle and ending three (3) hours from the start of the sameCycle
10. In the case of a Unique Cycle as referred to in paragraph [8] of Article [3], the Single Cycle Bid Time starts at 09:00 ofthe Start Day of Phase A and ends at random time, anytime within the six (6) hours and forty-five (45) minutes from the start of the Cycle and ending seven (7) hours from the start of the same Cycle.
11. Each Standard LNG Slot Booking Bid submitted by an LNG User shall include:

(A) The EIC code of the LNG User.

(B) The Scheduling Period to which it relates.

(C) The serial number of the Standard LNG Slot in accordance with the list of Standard LNG Slots displayed on the Operator's website in accordance with Article [83] of the Code.

D) The unit price for each bid. The unit price shall be expressed in EUR per one thousand kilowatt hours of Gross Calorific Value (€/1,000 kWh) with an accuracy of two (2) decimal places and shall not be less than the Phase A Reserve Price as calculated in accordance with the NNGS Tariffs Regulation and announced by the Operator in accordance with the provisions of Article [83] of the Code.

12. The Operator shall record for each bid its particulars, as referred to in paragraph [11], as well as the submission time .

13. The LNG User bids which:

(a) submitted outside the Bid Submission Time as defined in paragraphs [9] and [10];

(b) include information which is incomplete and/or incorrect in relation to the particulars, of paragraph [11] above;

(C) include a unit price below the Phase A Reserve Value;

are rejected as no valid and do not produce legal effects.

14. The maximum number of bids recorded on the LNG Auction Platform within the Bid Submission Time of each Cycle for each participating LNG User shall be one (1) bid per Standard LNG Slot.

15. Any LNG User may withdraw its bid or submit a newer bid within the Bid Submission Time of each Cycle.

16. Any newer bid replaces User's previous bid. The newest bid shall be recorded at the time of submission.

17. In the event that the newest LNG User bid is not valid, User is bound by the last valid bid submitted.

18. Within the Bid Submission Time, each participating LNG User shall be informed via the LNG Auction Platform for the number of Users who have submitted a valid bid and the maximum and minimum unit price for each Standard LNG Slot, without reference to the Users information who have submitted the relevant bids. The Operator shall ensure the secrecy of the auctioning procedure and the anonymity of the bids submitted by the participating Users.

Article 4
Bid evaluation procedure in Phase I LNG Biding Procedure

1. The Operator shall initiate the bidding evaluation process at the end of each Cycle.

2. For each Standard LNG Slot of a Cycle, the Operator shall classify valid bids in descending order of bided unit price. Where two or more bids contain the same unit price, the Operator shall rank the bids in ascending order of the time of submission.
3. Where more than one valid bid has been submitted for a Standard LNG Slot, the successful bidder shall be identified as:
    (A) The LNG User who submitted the bid at the highest price, provided that no other valid bid was made at that price.
    (B) If two or more valid bids were submitted at the same price, which is the highest price, the LNG User who submitted the bid at the highest price earlier than other valid bids at the same price.
4. The Operator shall inform each LNG User participating in a Cycle, for the Standard LNG Slots for which it has been declared as the as the successful bidder, no later than thirty (30) minutes before the start of the next Cycle.
5. On the Day following the Day of the completion of the process of Standard LNG Slots Offering for all Scheduling Periods of that Year, the Operator shall:
    (A) Announce the ranking of successful bidders in Phase A of the LNG auction, and
    (B) Notify each LNG User, who has been declared as a successful bidder for the:
        (i) Aggregated list of Standard LNG Slots for which he was declared the successful bidder;
        (ii) Maximum limit of Continuous Capacity entitled to book in accordance with Article [5];
        (iii) The Complementary LNG Capacity available in Phase B of the LNG Auction.

Article 5
LNG User Continuous Capacity Commitment Cap

For each LNG User (j) who was a successful bidder in the Phase A of the LNG Auction, the Operator shall calculate a maximum Continuous Capacity $\Sigma\Delta_{max,j}$ that can be booked in the Phase B of the LNG Auction as follows:

$$\Sigma\Delta_{max,j} = \min_{l=1,d}\left(Q_{LNG,l} - \sum_{k=1}^{jt} Q_k^l\right) \quad \forall\, k \neq j$$

Where:

l	index referring to each Day of the Year, to which the LNG Annual Scheduling relates and including the total number (d) of Days of the Year to which the Annual Scheduling relates

d	the number of Days of the Year to which the LNG Annual Scheduling relates
$Q_{LNG,l}$	the Bundled LNG Capacity (kWh/Day) on Day l
jt	the number of successful LNG Users in the Phase A of the Auction
k	index referring to each of the LNG Users who are also successful bidders in the Phase A of the LNG Auction and including all of the above Users (jt count), excluding the bidding LNG User (j)
Q_k^l	Bundled LNG Capacity for each of the LNG Users (k) who are also successful bidders, as derived from the Standard LNG Slots at which these LNG Users have successfully bided in Phase A of the Auction, excluding the bidding User (j) (kWh/Day)

Article 6
Bid submission procedure for the Phase B of the LNG Auction

1. Any LNG User, who is also a Transmission User has the right to submit bids for LNG Complementary Capacity Reservation, provided that:
   (a) Has been declared as successful bidder in the Phase A of the Auction for at least one Standard LNG Slot as defined in the Code and the Manual, and
   (b) the Operator has not cease the provision of services on the Bidding Day and that the provisions set out in Chapter [3^A] of the Code and the relevant provisions of the Transmission Agreement and the LNG Agreement that it has concluded with the Operator, are met
2. The Complementary LNG Capacity shall be made available for each Day of the Year to which the Annual Scheduling relates in order to allow the Continuous Capacity booking in accordance with Article [82^B] of the Code.
3. For the allocation of Complementary LNG Capacity to LNG Users, an Ascending Clock Procedure with multiple bidding rounds is applied, as referred to in Article [7].
4. In relation to the bidding rounds, the following shall apply:
   A) The first bidding round shall last three (3) hours.
   B) Subsequent bidding rounds shall last one (1) hour.
   (C) Between subsequent bidding rounds there is an idle period of one (1) hour.

(D) The first round of bids submission shall begin at 09.00. The last round for each Day on which the algorithm is applied cannot start after 15:00.

(E) In the event that the process is not completed within Start Day of Phase B, it shall be continued for the Days required up to the maximum duration of the Phase B announced by the Operator in accordance with Article [83] of the Code

5. Each bid shall include:

   (A) The EIC code of the LNG User.

   (B) The level of LNG Continuous Capacity (in kWh/Day/Year) requested by the LNG User for the Year to which the LNG Auction concerns. The Amount of Continuous Capacity may not exceed the maximum booking of Continuous Capacity for the LNG User, as specified in Article [5].

6. The LNG Complementary Capacity amount requested by the LNG User (j), $\Sigma\upsilon\mu\Delta_{i,j,l}$, for each day of the Year, by each bid submitted during the Phase B of the Auction, shall be calculated on the basis of the LNG Continuous Capacity amount $\Sigma\Delta_{i,j}$, indicated in each User's bid, as follows:

$$\Sigma\upsilon\mu\Delta_{i,j,l} = \left(\Sigma\Delta_{i,j} - Q_{j,l}\right)$$

Where:

i	index referring to bid submitted by a participating LNG User in Phase B of the Auction
j	index referring to LNG User participating in Phase B of the Auction
l	index referring to each Day of the Year to which the Annual Scheduling relates and includes the number of Days of the Year to which the Annual Scheduling relates
d	the number of Days of the Year to which the Annual Scheduling relates
$Q_{j,l}$	the Bundled LNG Capacity for the LNG User (j) as derived from the Standard LNG Slots to which the LNG User submitted during Phase A of the Auction (kWh/Day)

In the case of a zero or negative value of the amount $\Sigma\upsilon\mu\Delta_{i,j,l}$, the requested LNG Complementary Capacity shall be considered to be zero (0) kWh/day for that Day.

Article 7
Ascending Clock Algorithm

1. The submission of a valid bid in the first bidding round is mandatory for a User to participate in the second round. Participation in each subsequent round requires a valid bid to be submitted in the previous round.

2. During the first round of submission of bids, the round price shall be equal to the Phase B Reserve Price as calculated in accordance with the NNGS Tariffs Regulation and announced by the Operator in accordance with Article [83] of the Code.

3. An LNG User may withdraw his bid or submit a newer bid during a bidding round.
4. LNG User Bids which:
    (A) are submitted outside a bidding round;
    (B) contain information which is incomplete and/or incorrect in relation to the elements of paragraph [5] of Article [6] and paragraphs [9] and [12] below;

    are discarded as invalid and do not produce legal effects.
5. The maximum number of bids registered in the LNG Auction Platform within any bidding round for each participating LNG User shall be one (1) bid. Each valid bid shall remain valid until it is revoked or replaced by a newer valid bid. Each valid bid becomes binding for the User. In the event that the newest LNG User's bid is not valid, the User is bound by the last submitted valid bid.
6. At the end of each bidding round, the Operator shall convert the LNG Continuous Capacity requested by each LNG User into LNG Complementary Capacity in accordance with paragraph [6] of Article [6] and calculate for each Day of the Year to which the LNG Auction relates the sum of the LNG Complementary Capacity for all LNG Users submitted a bid in this round (Daily Sum of Complementary Capacity
7. If at the end of the first bidding round the Daily Sum of LNG Complementary Capacity is less than or equal to the LNG Complementary Capacity available for each Day of the Year to which the LNG Auction relates, the procedure shall be completed and any LNG User who has submitted a valid bid in that round shall be declared as successful bidder for the amount of LNG Complementary Capacity which is included in his bid. In this case the Phase B clearance value is equal to the Phase B Reserve Price.
8. If, at the end of the first bidding round or any subsequent bidding round, the Daily Sum of LNG Complementary Capacity is greater than the bided LNG Complementary Capacity, for one or more Days of the Year to which the LNG Auction relates, a new round of bids shall begin at a price equal to the price of the previous round of bids, increased by the Large Price Step.
9. The amount of LNG Continuous Capacity included in a User's bid in each bidding round where the price increases with the Large Price Step may not exceed the amount of LNG Continuous Capacity which the same User included in his bid in a previous round.
10. If at the end of the second or any subsequent bidding round, the Daily Sum of LNG Complementary Capacity is equal to the bided LNG Complementary Capacity for all Days of the Year, the procedure shall be completed and any User who has submitted a valid bid in that round shall be desclared as a successful bidder for the amount of LNG Complementary Capacity included in his bid. In this case the clearance price of the Phase B shall be equal to the price of this specific round.
11. If First Time Undersell occurs even for one Day of the Year to which the LNG Auction concerns, a new bidding round shall begin with a price equal to the price applicable during the bidding round preceding the First Time Undersell, plus the Small Price Step. If, at the end of this round, the Daily Sum of LNG Complementary Capacity is greater than the LNG Complementary Capacity bided, for one or more

Days of the Year to which the LNG Auction relates, subsequent bidding rounds shall be followed by a price increase, in each round, by a Small Price Step, until the Daily Sum of LNG Complementary Capacity shall be less than or equal to the bided LNG Complementary Capacity for all Days of the Year to which the LNG Auction relates.

12. The Amount of LNG Continuous Capacity requested by the LNG User in rounds where a price increase is applied by the Small Price Step shall be:

    (A) less than or equal to the amount of the LNG Continuous Capacity bided by the LNG User concerned during the bidding round preceding the First Time Undersell round, if the Small Price Step is applied for the first time;

    (B) less than or equal to the LNG Continuous Capacity amount bided by the User in a previous Small Price Step round;

    (C) equal to or greater than the amount of LNG Continuous Capacity submitted with the User's bid during the bidding round where First Time Undersell occurred.

13. If the Daily Sum of Complementary Capacity is greater than the Complementary Capacity available for at least one Day of the Year to which the LNG Auction relates, in a round in which the price is equal to that which led to the First Time Undersell, minus a Small Price Step, the procedure shall be completed. Any User who has submitted a valid bid in the First Time Undersell bidding round shall be declared as the successful bidder for the amount of Complementary Capacity included in that bid. The clearing price is the price that led to the First Time Undersell.

14. Within fifteen (15) minutes from the end of each bidding round, the Operator shall publish on the LNG Auction Platform the Daily Sum of Complementary Capacity in that round for each Day of the Year to which the LNG Auction relates.

15. The price of the last bidding round in which the procedure was completed shall be considered as the clearing price, except where paragraph [13] applies.

16. If at the end of the last bidding round within the maximum time period for the auction, in accordance with paragraph [4] of Article [6], the Daily Sum of LNG Complementary Capacity is greater than the offered LNG Complementary Capacity, for one or more Days of the Year, the procedure shall be stopped and no LNG Complementary Capacity shall be allocated for that Year.

Article8
LNG Capacity Consolidation Process

At the end of the Ascending Clock auction, the Operator shall consolidate to a LNG Continuous Capacity, the LNG Complementary Capacity for which a User has been declared as the successful bidder, with parts of the Bundled LNG Capacity corresponding to each Standard LNG Slot, for which a User was declared the successful bidder in the Phase A of the LNG Auction, as follows:

(A) For each Day of the Year in which the User has been declared as successful bidder for Bundled LNG Capacity in the Phase A of the LNG Auction (‘Phase

A Capacity'), all or part of Phase A Capacity shall be consolidated with the LNG Complementary Capacity for which the User has been declared as successful bidder in the Ascending Clock Process ("Phase B' Capacity")

(B) The part of Phase A Capacity which is consolidated for each of the above Days shall be calculated as the minimum between the LNG Continuous Capacity indicated by the User in the bid by which he became a bidder in the Ascending Clock Process and the total Phase A' Capacity on that Day.

(C) Each Day on which the Phase A Capacity corresponds to more than one Standard LNG Slots, priority shall be given to consolidating the Phase A Capacity sections corresponding to Standard LNG Slots with the earliest LNG Unloading Day.

Article 9
Completion of LNG Auction

1. On the Day following the Day of the completion of the consolidation process and the Phase B of the LNG Auction, the Operator shall:

   (A) Announce the ranking of successful bidders of Phase B and the aggregated results of the LNG Auction;

   (B) Notify to each LNG User, who has been declared as successful bidder:

      (i) a consolidated list of the Standard LNG Slots for which it has been declared as the successful bidder and which are included in the LNG Annual Program for that Year,

      (ii) The LNG Complementary Capacity and the LNG Continuous Capacity allocated to him;

      (iii) the Approved Applications corresponding to the LNG Regasification Capacity and the Transmission Capacity for Delivery at the LNG Entry Point, allocated to him.

2. The Approved Applications concluded with each User who has been a successful bidder in the LNG Auction, shall be as follows:

   (A) Approved Application for the booking of LNG regasification Capacity of equal size and duration to the LNG Continuous Capacity awarded to the User through the LNG Auction.

   (B) Approved Application of Firm Services for the booking of Transmission Capacity for Delivery at the LNG Entry Point of equal size and duration to the LNG Continuous Capacity awarded to the User through the LNG Auction.

   (C) One Approved LNG Application for each Standard LNG Slot awarded to the User by the LNG Auction for which, during the consolidation process, not all Phase A' Capacity was consolidated. The Approved Application shall start on the Unloading Day corresponding to that Standard LNG Slot and shall include each Day on which the difference between the Minimum LNG Regasification Capacity corresponding to

the Standard LNG Slot and the LNG Regasification Capacity equal to that part of the Bundled LNG Capacity integrated into LNG Continuous Capacity on that Day is greater than zero. The LNG Regasification Capacity, which shall be booked each Day within the time period of the Application, is equal to the size of the aforementioned difference calculated for that Day.

(D) An Approved Application of Firm Services for each Standard LNG Slot allocated to the User in the LNG Auction for which, during the consolidation process, not all Phase A' Capacity was consolidated. The Approved Application shall start on the Unloading Day corresponding to that Standard LNG Slot and shall include each Day on which the difference between the Minimum LNG Regasification Capacity corresponding to the Standard LNG Slot and the Transmission Capacity for Delivery at the LNG Entry Point equal to that part of the Bundled LNG Capacity, consolidated in LNG Continuous Capacity on that Day is greater than zero. The Transmission Capacity for Delivery at the LNG Entry Point, which is booked each Day within the time period of the Application, shall be equal to the amount of the difference calculated above, for that Day.

3. The Operator shall publish on its website aggregated information on the results of each LNG Auction.

Article10
Procedure and grounds for cancelation LNG Auction

[The procedure and reasons for canceling and annulling an LNG Auction will be included in this Manual after the specification of the LNG Auction Platform information systems] has been established.

Article11
LNG Auction Report

1. Within thirty (30) days after the end of each LNG Auction, the Operator shall submit to RAE a LNG Auction Report.
2. The Report shall include:

A) The Standard LNG Slots and LNG Complementary Capacity allocated per successful LNG User, the unit price of each Phase A bid and the clearing prices for each Phase of the auction.

B) Valid bids submitted per participant User, regardless if they were successful or not.

C) The cases and reasons for the rejection of invalid bids submitted by LNG Users.