This document contains the original questions and answers, from pages 1 to 10, and the RE-questions and answers begin on page 11

NACAG Tender
Questions & Answers (Revision 1 – 15/11/2025)

NOTES: APASA recommends all contestants consult the "2024 and 2025 Q&A" documents for more additional technical information. See on the website: https://austinpowder.com/argentina/licitacion-tecnologia-de-abatimiento/?language=Spanish.
Contestants who wish to sign the Confidentiality Agreement with APASA to access technical information must request it at the following email: licitacion.abatimiento@austinpowder.com

1) Tender Bid-Monitoring Technology: N_2O concentration to be measured?

Answer: The concentration of N_2O and O_2 gases should be measured at the inlet of the new selective catalytic reactor (SCR), and a second measurement at the stack.
Currently APASA does not have exact values of N_2O, in this project the acquisition of monitoring equipment to determine these concentrations is proposed. It should be noted that, in the independent project of abatement of N_2O by replacing the current NSCR type reactor with an SCR type, and according to the technical proposal presented by the bidder of said abatement system, it is estimated that in the input stream to the blast chiller there will be approximately 1500 ppmv of N_2O, and that with the installation of the new SCR catalytic converter, an abatement of more than 95% will be achieved.

2) Tender Bid-Monitoring Technology: Diameter of the flow meter.

*Answer: APASA currently has a flow meter on the floor, it is located in the chimney, and the data sheet is uploaded to dropbox. Therefore, bidders must **EVALUATE** and contemplate the use of this signal provided by the flowmeter. The cost of wiring and work related to sending this signal to the DAHS of the new gas monitoring system will be the responsibility of the contractor and must be included in the economic offer. See **"Annex 005-Technical Specifications-Requirements of B and S _REV.1".***

3) Tender Bid-Monitoring Technology: a) Will the purpose only be to measure N_20? b) Should the same instrument measure NOx?

Answer:

a) *The main objective of the project is to install an N_2O and O_2 monitoring system in the blast chiller inlet stream and in the chimney. However, APASA requests that the additional components for the measurement of NOx (NO and NO_2) in the blast chiller inlet stream and in the chimney, as well as for the measurement of NH3 in the chimney, be presented broken down in the economic offer, indicating the cost of these additional components necessary, leaving it to APASA to decide whether to acquire them at this stage.*
It is clarified that the monitoring system offered must allow in the future the possibility of incorporating, in a modular way, the measurement of NOx (NO and NO_2) and NH_3, without the need to replace the existing system.

b) *See **"Annex 005-Technical Specifications-Requirements of B and S _REV.1"-*** It has been updated and answers this question.

4) In Addendum 001, Page: 2, #6: Chimney Information:

a) Do we need to know data: internal and external diameters, wall thickness and/or insulation, wall material, etc.?
b) The estimated flow range to be measured?

Answer:

a) It is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.
b) See consultation 2, Addendum-001-Plant information REV2 and sand attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

5) In Annex 001- Pages 2 and 3, #5: NSCR information and tail gases: In 5.9 and 5.10 they only report the NOx content to be measured, but there is no information on the ranges of N_2O to be measured, nor on the accompanying gases at both measurement points.

Answer: Currently APASA does not have an N_2O gas meter, we only have an online gas meter at the outlet of the NOx blast chiller (NO and NO_2) See consultation N°1.

6) In Annex 005, p. 2, #2. Gas analyzers. They request that gas analyzers for N_2O measurement be certified under EN 14181 QAL1. That can be fulfilled only in the N_2O analyzer downstream of the reactor. Since upstream of the same the NOx range of 5000ppm exceeds this certification

Answer: Yes, this certification is a requirement of GIZ and applies only to gases (N2O) in the outlet stream of the new SCR blast chiller (in the gaseous stream in the chimney).

7) NACAG- In the Specifications, RQC-004, Page: 28, CRITERION TO BE EVALUATED #2 Accuracy and Precision in the Measurement of the Sample. How do I get the maximum 35 points?

Answer: Criterion #2 has been modified, broken down and detailed as criteria 2 and 3, This new version specifies how the accuracy and precision in the measurement of the sample will be evaluated. Its explanation will be extended for better understanding in the REV.2 specifications published on our website (item 3.12.2 EVALUATION OF THE TECHNICAL PROPOSAL).

All bidders' proposals will be evaluated under the same conditions.

8) In Annex-005, pg. 3, #3. Data collection and storage The data already being measured at the plant includes the concentration of NOx and the flow of stack gases downstream of the reactor. Then:

a) Will they continue to use that existing measurement?
b) Why do they need to take another measurement?
c) Will all bidders be asked for another measurement?

Answer:

a) That is subject to each contestant and their technical offer, they can use the existing meter or not, it must be taken into account the current meter only measures NOx (NO and NO_2).

b) The reason why this measurement needs to be made is for process analysis. Although APASA currently has a NOx meter, APASA will analyze integrating all emissions monitoring systems in the future. However, this project is focused on measurements upstream and downstream of the blast chiller (in a chimney) of N_2O and O_2 gases. The monitoring system must measure these gases as it will be funded by GIZ.

For the above, the cost of the additional components for these NOx and NH3 measurements must be presented itemized in the offer for evaluation and eventual acquisition, although APASA may decide not to purchase them at this time.
The monitoring system offered should allow the possibility of incorporating in the future, in a modular manner, additional components for the measurement of NOx (NO and NO_2) and NH_3, without the need to replace the existing system.
In the event that these NOx and NH_3 measurements are included in the project, APASA will pay for the additional components required for them.

c) *The requirements of the tender are described in the tender documents and in the annexed documents and are the same for all bidders. The process is carried out in a transparent manner, guaranteeing equal conditions for all participants.*

9) In Annex-005- Page: 4, #3.2 INSTALLATION AND ASSEMBLY, point 5.
   a) Annual maintenance..... (remotely). Do you mean having a passive telephone guard?
   b) Is it not contemplated for the preventive maintenance of the equipment that on-site visits are carried out?.

Answer: a) *No. b) See* ***"Annex 005-Technical Specifications-Requirements of B and S_REV.1"*** *correctly (item 3.2,* INSTALLATION AND ASSEMBLY. *sub-items 5.1 and 5.2).*

10) In Annex-005- Page: 4, #3.2 INSTALLATION AND ASSEMBLY, point 8.
   a) What physical space is available for the assembly of the Shelter?
   b) Can they be mounted in a shelter with IP65 enclosures?
   c) Can existing stalls be used?
   d) Soil studies, isometric and general plans of the plant are required.?

Answer:
   a) *In the plot plan is attached in the technical information folder (in Dropbox) for companies that have signed the confidentiality agreement, the possible locations for its placement are marked and indicated.*
   b) *No, devices must be mounted in a shelter with IP66 enclosures*
   c) *No, see according to the possible places (in the dropbox), offered by APASA, for the installation.*
   d) *Soil studies, isometric plans and general plans are attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.*

11) Which civil, mechanical, and electrical contractors are authorized by Austin Powder to the entrance to the plant?
Answer: The list of civil, mechanical and electrical works contractors currently authorized by APASA will be communicated only to the bidder that is awarded, after the completion of the bidding process, in order to preserve the confidentiality of the information and ensure compliance with the internal procedures for entering the plant.

12) a) What plant services are available?
   b) Compressed air requirements (quality, type of instrument feed), etc.

Answer:

a) *Services: Instrument Air, Service Air and for electrical technical information see questions and answers from 30 to 34.*
b) *Dry instrument air pressure: 7.5 kg/cm2 abs*
Compressed air (service) pressure: 7.5 kg/cm2 abs
Minimum working pressure for instruments is: 4.09 kg/cm2 abs

13) Are photographs of the points or places of measurement provided?
Answer: Yes, it is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

14) Are there existing samplers and mounting flanges (Standard and Series) or is it necessary to carry out the complete assembly?
Answer: There is no sample collection and it is necessary to carry out the complete assembly, it is only contemplated that the new blast chiller (reactor) will have the exit point and sampling connection input.

15) Will the assembly be carried out hot or during plant shutdown?
Answer: The assembly will be carried out at the plant shutdown scheduled for August/September 2026

16) Are there any area certifications needed to comply with the equipment?
Answer: No hazardous area certification that is not standard from the supplier is necessary, as new cabinets and shelters must be located in unclassified areas. Additionally, the bidder must take into account that, if necessary, an electric tracing to keep the sample warm must contemplate that it will cross the classified area as indicated in the plot plan, as well as if any extra wiring is necessary for sensors or sampling in the monitoring system.
Note: In classified areas, the ATEX certification, Zone 2, Group IIC, T2 must be taken into account and will be in charge of APASA, therefore they must detail it in their technical-economic offer separately (as a separate item).

17) Are there requirements for materials to be used?
Answer: See Annex 004-Procurement Management Procedure. Please be more specific.

18) What are the hours and working days authorized to work?
Answer: In scheduled plant shutdown, work will be done 7 days a week and 24 hours a day.

19) Does Austin Powder supply scaffolding, cranes, and hoisting?
Answer: In your proposal presented you must take everything mentioned into account.

20) Are chemical toilets required or does Austin Powder enable bathrooms and locker rooms for staff.
Answer: APASA will enable chemical toilets.

21) How will the health and safety service be carried out for contractors?
Answer: The service is carried out according to the requirements, APASA will indicate some of the activities that need to be performed. For more information Annex 002 - SHES Specifications for Contractors

22) From how many workers are a plant safety technician required (own or contracted)?

Answer: The number of safety technicians is due to the risky activities carried out by the contractor. This data will be provided if they confirm the number of people to work and activities to be carried out.

23) Do you share with us the list of companies qualified to participate in the tender?
Answer: The list of contractors currently authorized by APASA will be communicated only to the bidder that is awarded, after the completion of the bidding process, in order to preserve the confidentiality of the information and ensure compliance with the internal procedures for entering the plant.

24) Position of Analyzer Cabinets:
a) Confirm the possibility of locating a new analyzer cabinet close to the existing one in the chimney.
Answer: We do not have room in the current NOx and O2 gas meter shelter for the placement of a new cabinet. The placement of a new shelter in another space with a platform detailed in the plot plan should be considered.
b) The existing N_2O cabinet near the chimney will be removed
Answer: We currently have a cabinet that is complete, but it is a NOx gas meter (NO and NO_2) and an O_2 analyzer. This cabinet will not be removed.
c) Indicate area classification and corresponding certification (example: ATEX/CSA, Zone 1, IIa or IIc)
Answer: See question and answer 16
d) Indicate ambient temperatures of the area where the analyzer cabinets will be located.
Answer: ENVIRONMENTAL AND SEISMOLOGICAL CONDITIONS

Clima (1):	Subhúmedo-Húmedo
Presión Barométrica	950 hPa Media Estimada
Temperatura ambiente normal (2):	29,0 °C
Temperatura media mínima (2):	13,4 °C
Temperatura media máxima (2):	40 °C
Humedad Relativa Normal (2):	55 %
Precipitación media anual(3)	582 mm
Dirección predominante del Viento (4):	ENE
Velocidad del Viento Promedio (5):	9,3 km/h
Altitud sobre el nivel de mar:	498 m
Zonificación Sísmica (1):	Zona 3 de elevado riesgo

(1) Environmental Impact Study of the Nitrate Production Complex of the company Nitratos Austin S.A (NASA), Pag. 1.
(1)(2) Comments on Document: A1290-01-90-P01-TEC-001-0 (Process Design Bases)
(2)(3) According to the records (years 1934 to 1990) Station F.C.G.B. El Tunal (25° 15' S, 64° 39' O.– 454 meters above sea level) (Bianchi and Yáñez, 1994).
(4) Annual average - Environmental Impact Study of the Complex Nitrate Production of the company Nitratos Austin S.A (NASA), Pag. 6.
(3)(5) Average - Environmental Impact Study of the Complex Production of Nitrates of the company Nitratos Austin S.A (NASA), Pag. 7

25) Layout / 3D model of the plant:

a) Please share the 3D model of the plant in order to determine: Process connection to the blast chiller inlet and chimney
b) Location between analyzers and their corresponding cabinets
c) Location of the Ultrasonic Flowmeter and Pressure and Temperature Transmitters
d) Please indicate the area available for installing the analyzer cabinets.

Answer: It is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

26) Is the increase in the inflow to the reactor correct compared to the previous tender?

Answer: No, we assume from APASA that this question refers to the tender for the abatement system or the market study for the monitoring system.

27) Process data:
a) blast chiller inlet: Confirm maximum ▪ pressure and temperature of both purge gas and process gas
b) Report the composition of the gas in the process.
c) Indicate the components that need to be analyzed (example: N2O / CO2 / CO / NOx / etc)
d) Indicate expected ppm of each of those mentioned in the previous point.
e) Chimney outlet Confirm maximum ▪ pressure and temperature of both purge gas and process gas
f) Confirm if at the time of installing the blast chiller, they will maintain the same NSCR agent reducer (NH3 purge gas and Natural Gas dosing)

Answer: a; b; c; d and e) See Addendum-001-Plant Information REV2. The rest of the missing information is attached to the technical information folder (in Dropbox) for companies that have signed the confidentiality agreement.
Answer: f) No, the new SCR blast chiller will be powered by NH3.

28) Plumbing Data:
Blast-chiller entrance:
a) Please indicate the outer diameter of the same
b) Material del piping
c) Espesor / Schedule

Chimney:
a) Please indicate the outer diameter of the same
b) Material del piping
c) Espesor / schedule.

Answer: It is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

29) Instrumentation Air:
a) Confirm dry, clean, particulate filtered instrument air close to the stack
b) Confirm dry, clean, particulate filtered instrument air near the blast chiller.
c) Confirm air pressure in the chimney and blast chiller sector.

Answer: a and b) Instrument air pressure at the inlet of the nitric acid plant according to field instruments is 7.5 kg/cm2abs. See question 12. c) It is attached in the technical information folder (in Dropbox) for companies that have signed the confidentiality agreement.

30) Power supply: Inform if they have stabilized voltage.
Answer: Yes, we do.

31) Power supply: Inform type of voltage and available power.
Answer: 220 V AC and 60 hz. ITM (thermomagnetic switch)10 Ampere.

32) Power supply: If UPS is required, confirm if APASA will be responsible for the supply.
Answer: If APASA will be responsible. ITM (Thermomagnetic Switch)10 Ampere.

33) Power supply: We must provide a power cabinet to power the analyzer cabinets or we will take existing power supply in the plant.
Answer: They must take existing electrical power supply at the APASA plant.
APASA will provide the power switch, and from that point on it will be the responsibility of the bidder, in addition to carrying out the corresponding installation, including the line calculation, considering a minimum cable section of 4 mm2, including the voltage drop.

34) Power supply: Confirm if the location of the cabinet will be indoors or outdoors (indoor/outdoor).
Answer: Cabinet Location: Outside.

35) Electrical installation: In the survey, the existence of trays and pipes was noted. Confirm if existing materials can be used
Answer: Yes, but consider the pipes for committed. They have an approximate length of 200 meters from electrical room number 1 (one) to the cabinet that is currently located near the fireplace (10-J-001).

36) Electrical installation: Confirm if they have particular specifications for the types of cables to be used (e.g.: twisted, shielded and meshed pair)
Answer: Yes, it is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement (name of the document: "A1290-01-90-E09-TEC-208")).

37) Send requirements for work at height.
Answer: Yes, it is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

38) In case you require scaffolding, we can provide it and/or it can be recommended by APASA
Answer: Yes, they must provide them. See questions and answers N°11 and 19.

39) Confirm if both the blast chiller inlet and the chimney require coatings or surface treatments once the instruments have been assembled
Answer: Yes.

40) If necessary, indicate: Specific painting requirements
Answer: Yes, it is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

41) Thermal insulation or corrosion protection.
Answer: It is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

42) Welding Specifications
Answer: It is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

43) MEAC (PC + Software):
   a) Confirm if it will be installed in a secure area and/or control room
   b) Indicate the communication protocol available in the area where the analyzers will be located (e.g., Modbus TCP/IP over Ethernet or Fiber Optics.
   c) Confirm distance to analyzer cabinets

Answer:
   a) It will be installed in the control room.
   b) Communication protocol available where the analyzers will be located: Modbus TCP/IP or RS485 or 232 over Ethernet or Fiber optics.
   c) Distance between control room and the shelter, approximately 150 meters. This shelter is located next to the fireplace.
   Distance between the sample collection point and the shelter analyzer is approximately 35 meters

44) Calibration gases: Indicate whether they can be installed outdoors or must be installed indoors.
Answer: They must not be installed inside the shelter, they can be outdoors but contemplating a roof, with connections as close as possible to the equipment, a photo is attached as it is currently for reference.

45) The specification indicates that the analyzer must have QAL1 approval: confirm or alternatives can be presented. Generally, only technologies with extractive sampling can achieve this certification, but not in-situ measurement technologies, such as TDLS (laser diode) for example.
Answer: No alternatives can be presented, but this QAL1 certification applies only to the measurement of gases (N2O) in the exhaust gas stream of the new SCR blast chiller (in the chimney).

46) Confirm that there are 2 measurement points
Answer: Yes, the concentration of gases at the inlet of the new SCR blast chiller should be measured, and a second measurement in the chimney.

47) Report Duct and chimney diameter (at measurement points)
Answer: It is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

48) Report Dust Load in Duct and Chimney Where N_2O Gas Is To Be Measured
Answer: There is a considerable dust load at plant shutdowns and start-ups, where the current on-line meter instrument must be purged each time the plant is taken out of service or started.

49) Report Flue and Stack Temperature and Pressure
Answer: It is attached in the technical information folder (in dropbox) for companies that have signed the confidentiality agreement.

50) According to the information provided, there are 100 meters, plus 30 meters (sampling location in the chimney at ground level) between the measurement point in the chimney and the control room: is it possible to provide a house with the analyzer at the foot of the chimney and then communicate the data to the control room via cable? (both optical (TDLS) and extractive systems do not support that distance if the analyzer must be located in the control room)
Answer: Yes, it is possible.

51) Report distance between the measurement point in the duct and control room
Answer: Distance approximately 150 meters.

52) Is Bleed Air/Instrument Air available at the measurement points?
Answer: Yes, it is possible. See question and answer 12 and 29.

Re-Q&A (Review 0 – 19/11/2025)

53) Please specify the list of contractors who are not qualified.
Answer: The list of contractors currently authorized or NOT by APASA will be communicated only to the bidder that is awarded, after the completion of the bidding process, in order to preserve the confidentiality of the information and ensure compliance with the internal procedures for entering the plant.

54) No photos have been included in the shared folder. Please attach
Answer: Photos WERE included in the shared folder. Please see the Dropbox folder called: "plant photos".

55) We understand that the goal is to monitor N2O. During our visit to the plant, we were informed that the objective of the project is the monitoring of N2O, but we were also told of the future interest of being able to monitor NOX (NO + NO2) both at the inlet and outlet of the blast chiller. If required, please indicate if you wish to monitor any additional components (e.g. O2 / CO2) and also indicate the ppm of these components at each end of the blast chiller.
Answer: This project is focused on measurements upstream and downstream of the blast chiller (in a stack) of N_2O and O_2 gases. The monitoring system must measure these gases as it will be funded by GIZ. But in **"Annex 005-Technical Specifications-Requirements of B and S _REV.1"** in item 3. DETAILS OF THE SCOPE (minimum requirements) APASA expressly establishes that it is also required to quote the additional components necessary for the measurement of NOx and NH_3 and at what points they must be measured, leaving the acquisition of these additional components at this stage to the discretion of PASA.

56) Confirm if at the time of installing the blast chiller, they will maintain the same NSCR agent reducer (NH3 purge gas and Natural Gas dosing)

Answer: A new reactor with a selective catalyst (SCR) will be installed through which process gases and ammonia will circulate. The current reactor, which is NON-selective (NSCR) through which process gases and natural gas circulate, will be decommissioned.

57) Will the existing SNCR unit continue to be part of the APASA plant process design after the implementation of the new tertiary reduction system?

Answer: No.

58) If not, on what design basis will the future tertiary reduction system be based? In particular, with regard to the dosage of any chemical, such as natural gas or a gas containing ammonia.

Answer: Process gases + gaseous ammonia.

59) Similarly, will the design of the tertiary reduction system have an impact on the temperature of the flue gases in the final stack? The current specification sets the tail gas temperature (°C) after the turbine 230 - 280

Answer : No change in the temperature of the flue gases in the final stack is expected. The range currently specified should continue to be considered.

60) Since the scope of tertiary reduction should cover NOx reduction and N2O reduction, will that requirement and the need to measure NO, NO2, possibly NH3 also be part of the scope of the N2O monitoring system in APASA? (NOTE: According to the rounds of consultations of this project in its budget stage, only the need to measure N2O and O2 was mentioned. Based on the evolution of the project, we understand that they may require the analysis of other gas components. Please clarify

Answer: See question and answer 3, 8.b and 55.

61) Please attach typical drawings of the standard connection of the plant for the classified area (conduit, electrical boxes, etc.).

Answer: Attached in the technical information folder (in Dropbox) for companies that have signed the NDA.