

KKS**Section****SECTION 3****CLARIFICATIONS****3**

The clarifications in this section 3 refer to the site independent specifications no. 02-01 through 02-11, agreed for Emile Huchet and the latest site specific specifications and Application documents, RTE-documents etc. received for Hornaing including the Acouphen report dated 29.06.2007.

From Emile Huchet also the final contractual version of the site specific specification no 02-103 has been taken as basis for Hornaing.

02-01_General.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
3	1		12	Please change to 11 (For Emile Huchet the original Specification number 12 was changed into 103. The same approach has been selected for Hornaing)
4	2.1		If demolition forms part of the Contractor's scope of services, the costs relating to the corresponding processing, taxes and the obtaining of authorizations, licences and permits shall be borne by the Contractor.	Demolition is not part of Contractors scope.

02-02_Reference_Data.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
3	1		The Contractor shall provide all supplies necessary (pumps, water treatment system, filters, etc) to ensure operation of the combined-cycle unit(s) entirely without restriction in terms of local land occupancy and specific fluids.	It has been agreed that Endesa will provide the water treatment systems with tanks, pumps, piping etc.
4	2.5.		The Client shall be responsible for: Removing any polluted earth and water and transporting them to a specialized depository The demolition of existing structures and removal of building debris to the public dump Rerouting of any existing underground grids if they have not been decommissioned, i.e. are not in disuse.	Please add the following scope to the list: The removal of infill material identified in the soil investigation to be of non-loadbearing quality and the replacement and compaction of the ground upto the proposed power plant level. ... and revise the existing scope topic as follows: Removing any polluted earth and water and transporting them to a specialized depository and install measures to avoid re-contamination of the site from external sources.
5	3		The reference data for the HVAC system shall be contained between -20°C (90% relative humidity) and +35°C (35% relative humidity).	The HVAC Systems are designed according to the minimum and maximum temperatures given by meteo France and listed in the document 02-CCG-J&C-FC102C. Min. -13,2°C, 90% relative humidity, Max. 37,2°C, 35% relative humidity.
5	2.7		A loading capacity and storage area utilization/occupancy curve was provided by the Contractor at the meeting on July 18, 2007; the client confirms the availability of the areas requested.	Not applicable for Hornaing.
5	2.7		These areas shall be handed over to the Contractor in their existing conditions, with no intervention on the part of the Client. It is the Contractor's responsibility to organize, render viable and manage the areas attributed (in compliance with the existing structures and their operation, where applicable).	Especially for Hornaing extensive preparational work and site clearance work is carried out by the Client and the site shall not be handed over to the Contractor prior to completion of the same.
6	3		Noise control requirements: All facilities shall comply	Siemens will not take into account the existing installations.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			with the requirements of the acoustic study presented in annex C. The facilities shall also comply with French regulations in terms of: - emissions for the entire plant (new facilities and existing facilities) - the maximum acoustic pressure level at the boundary of the Client's property for the entire plant (new and existing units)	According to the Acouphen study (report RA-070145-02-A, dated 29th June 2007) the regulatory requirements/Emergence for the existing plant on site is already exceeded. All new installations (Siemens scope) will comply with acceptable noise contribution for the new plant at the Receptor locations given in Acouphen Environment report RA-070145-02-A, dated 29th June 2007. Basis for these acceptable levels are measurements of background noise (please see the acouphen report). With these information and the applicable emergence according to law, the acceptable noise levels for the new installation is calculated. These values are basis for acoustical design, future background noise cannot be taken into account. Siemens will do its own acoustical design study only for the new power plant with own soundproofing measures.
6	3		Air quality. Note that the combined-cycle unit(s) shall be juxtaposed to the existing coal-fired plant with: - Coal storage and handling facilities, - Ash storage and handling facilities, - Coal and ash removal system;	The mentioned fact is noted by Siemens. Especially the arrangement for Hornaing with the close vicinity to ash and coal storage and handling facilities might have an accelerated influence on plant performance deterioration and earlier fouling of equipment like filters and cooling tower basin for which Contractor can not be held liable.
6	4.1		An auxiliary electric power supply also described in this document shall be installed by the Contractor up to the GRTGaz or TIGF gas pressure-reducing station.	The sentence should be modified to "GRTGaz station".
7	4.3		The particular gas conditions at the scope of supply interface specific to each site are detailed in the Operating Specifications File (Annex H).	The interface point between GRT Gaz and the Contractor is specified in Annexe G. Kindly note, that the drawing "plan implantation et zone ATEX - poste GRTgaz - exemple CEH - 1019 -41rév2.pdf" do not reflect the gas station to be supplied by GRT Gaz for Hornaing. These documents should be revised by GRT Gaz. Please also refer Contractors clarifications elsewhere regarding gas conditions as stated in Annex H, e.g. limitations

Pg	Spec	Bid	Originaltext	Clarification/Correction
				on sulfur content.
7	4.3		Note that GRT Gaz/TIGF	The sentence should be modified to "Note that GRT Gaz shall install"
7	4.2		GRTGaz or TIGF: information report;	The sentence should be modified to "GRTGaz: information report;
7	4.3		The natural gas supplied to the site shall be type H gas. Its characteristics are defined in the Gaz de France "Prescriptions Techniques – Projet modifié - 17 décembre 2004" (Technical Requirements – Modified Project of December 17, 2004) document provided in Annex G.	The gas characteristics are described in Annexe H, document "prescriptions_gazdefrance.pdf".
7	4.2		GRTGaz or TIGF:	The sentence should be modified to "GRTGaz:
7	4.1		GRTGaz/TIGF for the pressure-reducing station; the GRTGaz/TIGF specifications are detailed in document no. XXCCG-J&C-FC102.	The sentence should be modified to "GRTGaz station; the GRTGaz specifications are detailed in document no. XXCCG-J&C-FC102".
8	4.4		The main fluid lines requiring interconnection to the Client's existing facilities are: • Raw and, where appropriate, treated water, depending on the given site (from surface or well water); • Potable (drinking) water; • Fire fighting water; • Water for sanitary systems; • Process water (cooling tower drains, HRSG drains, etc.); • Rainwater.	It is agreed, that raw water will be pre-treated by the Client, no interconnection is provided by the Contractor to existing facilities Potable water is taken from a communal header, no interconnection with existing facilities The fire fighting ring main of the new plant (unit4) and the existing unit 3 will be connected. Sanitary system, no interconnection provided with existing facilities Process water, no interconnection provided with existing facilities Rainwater, no interconnection provided with existing facilities
8	4.4		The physical location of the interface points for each fluid and each site are indicated in the guide drawing referenced in Paragraph 2.1.	The interface points considered in the bid are those indicated in Section 2.3 of the bid and the General Layout drawing included in Section 16 of the bid.
8	4.4		For the worksite construction and erection phase, the Contractor may hook up to the Endesa France plant internal system for: • Raw water; • Potable (drinking)	It is understood that Contractor will only be responsible for these services for his scope of supply.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			water; • Water for sanitary systems of the site support installations (camp).	
8	4.4	1.4	The characteristics of these fluids (design calculation and service conditions) are detailed in document no. XX-CCG-J&C-FC102. The Contractor shall validate these data in the detailed design phase.	It is agreed that the raw water will be treated by the client. Also the Demin water will be supplied by the client. The characteristics of these fluids are specified under Design Conditions, chapter 1.4 of our bid.

02-03_Common_Scope.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
3	1.1		(the new units for Emile Huchet Power Station (EH).	Please delete: (the new units for Emile Huchet Power Station (EH).
3	1.1.		(the two new units for EH)	Please delete: (the two new units for EH)
3	1.1		(the new units for EH).	Please delete: (the two new units for EH)
3	1.1		The scope of supply shall constitute the supplies and services listed and defined in the sections below. It stands to reason that this listing shall be understood to be of a descriptive, non-limitative nature, i.e. the ultimate scope may not be limited to this listing, as the Contractor shall be obligated to implement the new power generating facility in a manner which provides and ensures all necessary functional characteristics, adapted to the objectives for which the new power plant unit is needed and utilized	It is agreed that some scope of supply and services for the Hornaing Project will be furnished by the Owner, e.g. site clearance and removal of existing structures, contaminated soil and water, raw water supply, treatment and storage facilities, demin. water plant incl. demin water storage, HRSG, noise protection wall at plant north side etc. All this is essential in order to have a complete and functioning power plant. Hence, the text of the complete para 1.1 should be modified to consider this split in scope and responsibility.
3	1.1		(the new units for EH)	Please delete: (the two new units for EH)
3	1.1		demolition work, disassembly & removal, relocation, overhauling and repair, modifications,	These activities are understood to refer primarily to work in Owners scope. Hence, the text should be modified accordingly.
4	2.1		the Contractor shall assume the role of "Manufacturer", thereby bearing the functions and responsibilities identified by the European Pressure Equipment Directive (PED) and the other pertinent European directives, and shall be responsible for certification of all pressurized equipment and must therefore submit, no later than the date of completion of implementation of the supply scope, the corresponding appropriate declaration of conformity	It is understood that the Owner shall assume this role with the required obligations for his scope of supply.
5	2.1		The common components and systems shall be reduced to a minimum (gas, compressed air, effluent system, etc. as described in the document "specific site data" [for EH: EH07&08-CCG-J&C-102] and designed in such a manner that their non-availability would not entail	Please delete since not applicable for Hornaing: "The common components and systems shall be reduced to a minimum (gas, compressed air, effluent system, etc. as described in the document specific site data" [for EH: EH07&08-CCG-J&C-102] and designed in such a manner that their non-availability

Pg	Spec	Bid	Originaltext	Clarification/Correction
			the non-availability of both units of the power generating facility.	would not entail the non-availability of both units of the power generating facility"
5	2.1		(2 units for Emile Huchet and Lacq),	Please delete: (2 units for Emile Huchet and Lacq),
5	2.1		A summarized description is provided below of the function of each unit.	Please modify to read: "A summarized description is provided below of the function of the unit"
5	2.1		For EH, the power generating facility shall comprise two combined-cycle units designed as distinct and independent units from a physical and functional point of view.	Please delete: For EH, the power generating facility shall comprise two combined-cycle units designed as distinct and independent units from a physical and functional point of view.
6	2.1	12.3	As an alternative solution to the alkalizer treatment described above, a cycle oxidizing agent conditioning system utilizing gaseous oxygen could be used given good agreement with the requirements and experience of the HRSG manufacturer.	The chemistry of the Water/Steam cycle will be without oxygen treatment. The Chemistry of the Water/Steam cycle is discribed in our bid section 12.3.
7	2.1		(for EH: EH07&08-CCG-J&C-102).	Please change to (for Hornaing: HO04-CCG-J&C-FC-102)
8	3.2		Site management shall be ensured by a senior site manager who speaks French.	Please change to read: Site management shall be ensured by a Senior Site Manager who either speaks French or English.
8	3.1		(for EH: EH07&08- CCG-J&C-104)	Please change to: (for Hornaing: HO04-CCG-J&C-FC-104)
9	3.3		The project construction site support facilities shall comprise the temporary site structures, sanitary facilities and showers, etc., necessary for site personnel, which remain at site for the entire duration of construction, erection and commissioning work up to final acceptance and clarification of the remaining open points. The Contractor is in charge of arranging for site sewage removal.	A split of these obligations shall be agreed in view of the large scope provided by the Owner.
9	3.2		The Contractor shall be in charge of control of access to the site pursuant to the procedures which the Contractor shall establish. The Contractor shall establish a separate, independent and dedicated entrance specifically to the project construction site.	A split of this obligation shall be agreed in view of the large scope provided by the Owner.
10	3.4		The Contractor is responsible for the work required to connect the project site zones and site support facilities	This is understood to refer to Contractors scope of supply only.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			to the existing plant.	

02-04_Mechanical.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
5	1		Each unit shall be designed with all the systems and components related to the thermal cycle operation in such a way that they may operate fully independently from each other. Certain auxiliaries may be common if several units are built on the same site (for example turbine supply-gas treatment station, compressed air supply, demineralized water supply, etc.). The facilities shall be designed such that shutdown of one unit does not prevent the normal operation of the common auxiliaries.	It is proposed to delete this sentence in view of Hornaing being a site with only one unit.
5	1		In all cases, the Contractor shall comply with the recommendations of the Dossier de Demande d'Autorisation d'Exploiter, DDAE (file for application for an operating license) and the PC (construction permit). Should this not be the case, it shall request a written waiver from the Client.	A separate list with agreed deviations on the Dossier de Demande d'Autorisation d'Exploiter, DDAE (file for application for an operating license) and the PC (Construction Permit) shall be included in Annexe 3 of the Contract.
6	2.3		(this solution not having been approved in the operating license and such generators not having been registered under the terms of the préfectoral order).	To be clarified for Hornaing in view of préfectoral order not being available yet.
8	3.1		Over the entire operating range detailed above, the turbine shall be able to make load variations at minimum speed of 5\$/min of its rated load.	Load changes will be performed with a load change of 4,4% / min of the gas turbine up to a GT load of approx. 98%. Independently of this normal load changes rate, primary frequency control will be performed with a load change rate according to the RTE requirements. Please refer also to the comments to the respective RTE document.
12	3.5		O2	We think <u>O2</u> concentration should be changed into <u>CO2</u> concentration.
14	4.1		and shall comprise, as a minimum,	Please add a further bullet point : • HRSG housing for noise protection with heating and ventilation system.
16	4.3		N.B. each HRSG drum shall be fitted with two redundant pressure-relief valves (2*100%).	It is not the Siemens concept to have 2x100% pressure relief valves. The HRSG is not in the scope of Siemens and Siemens

Pg	Spec	Bid	Originaltext	Clarification/Correction
				is not responsible for the safety valves design .
18	4.2		HP/MP/LP drum control valves shall be sized on the basis of the operating characteristics requested and fitted with a 100% reserve.	According the agreement for Emile Huchet no 100% reserve valves will be provided.Please see mail of Mr. Knoll dated 8 oct. 2007.
21	5.2		It should be possible to inspect the bearings without having to remove the upper half of the casing.	For better understanding, please change into: It should be possible to inspect the bearings without having to remove the upper half of the turbine casing.
23	5.6		In this latter case, the Contractor shall also provide a pneumatically-operated, manually actuated auxiliary turning gear system.	The turning gear at the steam turbine end is using an electric servo motor and not a pneumatic driven device.
27	6.1.1		The Contractor is not obliged to supply the raw water connection from the 4000 m3 tank to the cooling tower basin.	According our understanding a 4000 m³ tank was required for two single shafts of the project Emile Huchet . For one single shaft of the Hornaing project a 2800m³ tank is sufficient according to our understanding. Nevertheless, the tank is agreed to be Owners scope of supply.
28	6.1.2		The Client draws the Contractor's attention to the imperative compliance with emissions at the "Floerger point".	Not applicable for Hornaing
29	6.3		This system shall be designed to take into account the requirement to reduce to a minimum the consumption of additives and to maintain the chemical characteristics of the drain water within the limits laid down in law and in the operating licenses (see Specification 102: Site-Specific Data).	We respect the values stated in the décret of 13. July 2004 which is mentioned in specification 102. However, to avoid misinterpretation these values has to be included in the section 2.2.7 of Specification 102. Furthermore the consumption and the characteristics of the drain water depending on the raw water provided by the customer. The characteristics of the raw water are in bid section 1.4 Design Conditions.
33	7.3		HP condenser;	Please change to read: "condenser"
37	7.3.5		limit opening of	Please change the wording "limit opening of" into "close"
37	8.1		8.1. Raw water (well or surface water)	This section should be modified to reflect the agreed scope split between Endesa and Siemens, i.e. the raw water treatment plant and the raw water tank is in the scope of Endesa. The raw water tank shall accommodate also the volume of raw

Pg	Spec	Bid	Originaltext	Clarification/Correction
				water for fire fighting purposes (approx. 800m ³ to be confirmed later by Siemens). Nozzles shall be provided by ENDESA at the tank to connect the fire fighting pumps provided by Siemens. The volume of the raw water tank is specified in section 2.1.4 with a capacity of 2000m ³ , the overall volume shall be at least 2800m ³ net capacity.
38	8.2		8.2. Demineralized water	This section should be modified to reflect the agreed scope split between Endesa and Siemens, i.e. the demineralization plant and the demineralization tank are in the scope of Endesa. The demineralization tank shall have a volume of at least 1000m ³ to enable boiler and water steam circuit cleaning within the scheduled time frame.
40	8.3		The Contractor shall provide a differential pressure control valve between the outlet and return header, upstream of the heat exchangers (coinciding with the consumer outlet/inlet headers) that shall ensure a constant differential pressure between the two consumer feed and discharge headers, independently of the number of consumers in operation.	According the Siemens concept no control valve between inlet and outlet header will be provided.
43	8.6.1		the new auxiliary HRSG(s)	Please change to read: "the new auxiliary boiler."
44	8.6.1		without need for the auxiliary HRSG	Please change to read "without need for the auxiliary boiler"
44	8.6.1		without need for the auxiliary HRSG.	Please change to read "without need for the auxiliary boiler"
44	8.6.1		If the auxiliary HRSG(s) is/are not available for whatever reason, it shall be possible to start up the unit or the first unit with certain restrictions (longer startup time, etc.)	Please delete this sentence as there is only one unit provided for Hornaing.
47	8.7.5		If the detection systems protect components of the facility for which tripping of the system leads to a loss of power supply, the detectors shall be installed in redundant mode with a triple/double reading and operated with a 1-out-of-2 operating logic for alarm and 2-out-of-2 logic for tripping the gas turbine and activating the CO2 system.	Please delete the word "triple".

Pg	Spec	Bid	Originaltext	Clarification/Correction
48	8.8.1	15.1	Systems for production of hot and cold shall be composed of: • 2 x 100% refrigerated/cooled units cooled by the cooling water in a closed circuit or by constructing specific systems if necessary. • 2 heat exchangers to which auxiliary steam is fed for the production of the hot water, from the circulating pumps and the accessories.	Hot water for the several consumers is produced by a hot water station SB located in the gas and steam turbine building composing of 2 heat exchangers fed by steam for the hot water production. Cooling will be achieved by either direct expansion evaporators or by split units. A separate cold water production is not required.
48	8.8	15.1	ventilation and heating by electrical air coolers and heaters (and/or air-conditioning depending on requirements) for the electrical and battery rooms;	only the air coolers or air heater located in the electrical and battery rooms will be electrical type.
49	8.8.2	15.1	The air-conditioning system, of the all-air type, shall essentially comprise an air treatment unit, air ducts and room extraction fans.	The air-conditioning system, of the all-air type, shall essentially comprise an air treatment unit, air ducts and extraction unit.
49	8.8.3	15.1	The control room shall be maintained in an overpressure condition and be provided with a “refuge room” for chemical alerts and SEVESO confinement. The Contractor shall equip the control room with 30 gas masks (NH3 and H2S to be considered, at minimum).	We understand that this requirement ist not valid for Hornaing, and hence not included in the bid.
49	8.8.2	15.1	The auxiliary rooms shall be heated by hot water radiators.	hot water air recircualtion units can be also used.
50	8.8.3.2	15.1	The air shall enter the turbine building from the bottom by passing through the air intake grids fitted on the walls of the turbine hall.	The air enter the turbine building via supply air handling units and ducts. The exhaust air will be passing through air outlet openings in the wall of the turbine hall or will be recirculated via duct.
50	8.8.3.2	15.1	The ventilation system may be composed of extractor towers and/or axial fans or a static system.	The supply air handling units will be located at the bottom level of the turbine hall for easier maintenance.
51	8.8.3.4	15.1	The air conditioning facilities detailed in the previous paragraphs shall be operated using a programmable controller in redundant configuration. The monitoring signals shall be communicated to the control room.	Please change to read: The air conditioning facilities detailed in the previous paragraphs shall be operated using a programmable controller without redundant configuration. The monitoring signals will be show at the local control cubicle. A common fault signal will be communicated to the control room.
52	8.9.5		The rainwater shall then be routed to a storm tank (see the section on site-specific details for the particular	The collected rainwater from the roofs of the control room building and the gas and steam turbine building is collected

Pg	Spec	Bid	Originaltext	Clarification/Correction
			requirements governing this tank).	and led via two terminal points to the client for use and treatment.
52	8.9.3		The demineralized water production station effluent shall be routed to the process water collection systems	The demineralized water production is not in the Siemens scope. The quality of effluent depends on the demineralisation plant used by the client. According our understanding the effluent should be routed by the client to the terminal point.
53	8.10		• 1 tank for the diluted carbonohydrazide; • At least 2 pumps for the diluted carbonohydrazide injection;	Instead of dosing carbonohydrazide into the cycle the diluted hydrazine (< 5%) will be used.
53	8.10		• injection of diluted carbonohydrazide (for conditioning): - to the HRSG feedpump suction side;	Instead of dosing carbonohydrazide into the cycle the diluted hydrazine (< 5%) will be used.
54	8.10		arbonohydrazide	Instead of dosing carbonohydrazide into the cycle the diluted hydrazine (< 5%) will be used.
55	8.10		carbonohydrazide	Instead of dosing carbonohydrazide into the cycle the diluted hydrazine (< 5%) will be used.
56	8.11	14.4	• Condensate extraction pump discharge header: acid conductivity (*) and dissolved oxygen (*);	In the main condensate line, where only one measuring points is, we measure cation conductivity and dissolved oxygen only. Only one common dissolved oxygen analyzer is used for all dissolved oxygen measurements.
56	8.11	14.4	• Saturated steam from each HRSG tank: acid conductivity, silica;	Only cation conductivity and silica will be measured in the saturated steam. Only one common silica analyzer is used for all silica measurements.
56	8.11	14.4	• Superheated HP steam: acid conductivity (*), silica (*);	Only cation conductivity and silica will be measured in the superheated steam. Only one common silica analyzer is used for all silica measurements.
56	8.11	14.4	• Superheated LP and IP steam: conductivity and acid (*); silica;	Only cation conductivity and silica will be measured in the superheated steam. Only one common silica analyzer is used for all silica measurements.
56	8.11	14.4	• HP and IP economizer inlet feedwater: pH (*), total conductivity and acid (*) dissolved oxygen (*).	At the inlet of the HP and IP economizer, which is similar to the IP and HP feedwater downstream feedwater pumps, total and cation conductivity and dissolved oxygen will be measured. Only one common dissolved oxygen analyzer is used for all dissolved oxygen measurements. Please refer to our bid section 14.4

Pg	Spec	Bid	Originaltext	Clarification/Correction
59	9.5		unit 2	Please delete reference to unit 2 (not available for Hornaing)
59	9.5		auxiliary HRSG 1	Please change to read "auxiliary boiler"
59	9.5		auxiliary HRSG 2,	Only one auxiliary boiler is required for the CCPP and will be provided, please delete.
60	9.6		The maximum speed at the outlet shall not exceed 10 m/s for liquids and 100 m/s for gas/steam,	The maximum speed at te outlet for fuel gas valves at the GT is about 150 m/s to get small volume in the piping between fuel gas package und combustion.
60	9.6		All the other actuators for the control valves shall be electrically or pneumatically operated.	The control valves of the GT and ST are partly hydraulical driven.
60	9.6		The valves shall normally be supplied with class IV leaktightness,	For the Gas Turbine the following applies: <u>Leakage Test of Natural Gas Valves</u> a) Inner Leakage Test of Natural Gas Valves in Flow Direction The shut off fitting must have leakage rate of 1 according to E DIN 3394-1 (draft 2000), chap. 4.9. b) Inner Leakage Test of Natural Gas Valves in Backward Flow Direction The shut off fitting must have leakage rate of 1 according to E DIN 3394-1 (draft 2000), chap. 4.9. c) Outer Leakage Test of Natural Gas Valves The test is to be performed at 1,3 x nominal pressure according to E DIN 3394-1 (draft 2000), chap. 5.6.1. The leakage rate must comply with E DIN 3394-1, chap. 4.9
60	9.6		the opportunity (determined by the Contractor) to maintain operating range of the valves between 10% and 80% of their travel.	At ignition of the GT the valve of the GT is below 10%.
61	9.7		The Contractor shall indicate the technology used for the demineralized and raw water tanks.	The demineralized and raw water tanks are not included in the scope of the contractor.

02-05_Electrical.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
7	2.1	9.1	Rated voltage: 19 ± 7.5% kV	Rated voltage: 20 kV ± 5%
7	2.1	9.1	Short-circuit ratio: 0.44	Short-circuit ratio: 0.5
7	2.1	9.1	Rated capacity: 500 MVA	Rated capacity: 511 MVA
10	2.3	9.1	• Active power: 425 MW • Apparent power: 500 MVA • Power factor: 0.85 • Voltage: 19 kV • Current: 15,193 A	• Active power: 434 MW • Apparent power: 511 MVA • Power factor: 0.85 • Voltage: 20 kV • Current: 14,751 A
10	2.3	9.1	Non-saturated reactances • Direct axis synchronous Xd: 240.87% • Direct axis transient X'd: 45.23% • Direct axis subtransient X''d: 35.12% • Quadrature axis synchronous Xq: 236.72% • Quadrature axis subtransient X''q: 34.88% • Negative phase-sequence current X2: 35% • Zero phase-sequence X0: 17.8%	Non-saturated reactances • Direct axis synchronous Xd: 222.17% • Direct axis transient X'd: 41.72% • Direct axis subtransient X''d: 32.4% • Quadrature axis synchronous Xq: 218.34% • Quadrature axis subtransient X''q: 32.18% • Negative phase-sequence current X2: 32.29% • Zero phase-sequence X0: 16.42%
10	2.3	9.1	Off-load short-circuit ratio: 0.44	Off-load short-circuit ratio: 0.5
11	2.3	9.1	Rotor • On-load excitation current: 3566 A • On-load excitation voltage: 454 A	Rotor • On-load excitation current: 3739 A • On-load excitation voltage: 492 A
11	2.3	9.1	At Cos phi + 1 - Full load : 99.26% - ¾ load : 99.29% - ½ load : 99.24% - ¼ load : 98.84%	At Cos phi + 1 - Full load : 99.32% - ¾ load : 99.31% - ½ load : 99.19% - ¼ load : 98.66%
11	2.3	9.1	- ¼ load : 98.56%	- ¼ load : 98.55%
12	2.4.2	9.1	92.5-107.5%, connected to network	95-105%, connected to network
12	2.4.2	9.1	• maximum excitation current : 1.4 x 3789 A for 10s	• maximum excitation current : 1.4 x 3802 A for 10s
12	2.4.2	9.1	• excitation voltage Uen : 452 V • excitation current Ien : 3789 A	• excitation voltage Uen : 492 V • excitation current Ien : 3739 A
17	3.2.1.1		19 kV	20kV

Pg	Spec	Bid	Originaltext	Clarification/Correction
18	3.2.2.1		3.2.2. General characteristics of busbar grounding disconnectors	Grounding disconnectors for the generator circuit breaker will not be provided. The isolated phase busduct will be grounded by a separate device (with reference to the single line diagram).
21	3.4		19 kV	20kV
23	4.2.1		496 MVA	Rated apparent power of the generator transformer will be 507MVA at 10,9°C.
23	4.2.1		This winding is equipped with off-load tap changers for the adjustment of the voltage within a range of $\pm 2 \times 2.5\%$;	The generator transformer will be equipped with an on-load tap changer. Due to the strong restrictions regarding short circuit on HV side and provision of reactive power to the grid a transformer with a no-load tap changer wouldn't fulfill both requirements.
23	4.2.1		/225	20/225kV
23	4.2.1		ODAF	Type of cooling will be ODAN. The radiator banks will be placed outside the sound enclosure without any fans due to the high heat emission of the transformer inside the housing.
24	4.2.1		19 kV	20kV
25	4.2.2.3		• (*) motor-driven ventilator units with cowling and mesh-screened discharge nozzle, three-phase 400 V power supply at 50Hz (*) r.p.m. (low noise), capacity (*) kW (unit).	Motor-driven ventilator units will not be provided at the cooling system due to the strong noise restrictions.
26	4.2.2.3		and all ventilators	No ventilators will be provided.
27	4.3.1		Tap changer: - Type of tap changer : on-load - Number of taps : 17 - Range of adjustment : $\pm 10\%$	At the unit auxiliary transformer no tapping will be provided.
27	4.3.1		20 MVA	13MVA
27	4.3.1		19 kV	20kV
27	4.3.1		19/6.9 kV	20/6.9kV
28	4.4		470	after detailed analysis
29	4.5.1.4		1,590	1620
29	4.5.1.3		1,330	1380
29	4.5.1.3		18%	24%
29	4.5.1.3		12%	7%
30	4.5.1.5		Main Step-down transformer transformer - Heating of oil	Main Step-down

Pg	Spec	Bid	Originaltext	Clarification/Correction
			70 K 70 K - Heating of the hot spot of copper 88 K 88 K - Average heating of copper 80 K 75 K	transformer transformer - Heating of oil 69 K 69 K - Heating of the hot spot of copper 87 K 87 K - Average heating of copper 79 K 74 K
30	4.5.1.5		9.5°C	10,9°C
34	5.3.1.3		< 50°K	< 50K
35	5.3.2.1		Maximum time between occurrence of fault and initial opening of contacts in ms	Maximum time of initial opening of contacts in ms
36	5.4		The Class A h.v. switchboard will be equipped with fire protection and detection devices.	The MV switchboard is equipped with arc protection, the power control center is equipped with fire detection and fire protection devices. However, fire detection and fire protection devices in the switchboard itself won't be included. (based on the results of the technical meeting on 25th October 2007 in Trier)
39	5.5.3.4		This device will incorporate one neon lamp per phase, powered by means of an isolating capacitor connected to each cable terminal pad.	Voltage in the cables will be indicated via the display in the low voltage compartment door. (based on the results of the technical meeting on 25th October 2007 in Trier)
39	5.5.3.4		Busbars will be grounded by means of a dedicated carriage for this purpose.	Busbar grounding will be carried out via a busbar earthing switch located in one of the transformer feeders in the switchgear. There will be no separate grounding carriage in our scope. (based on the results of the technical meeting on 25th October 2007 in Trier)
40	5.5.4.1		an electrical command device for opening in response to a voltage (and/or) loss of voltage.	Only incoming feeders will be equipped with undervoltage relays. (based on the results of the technical meeting on 25th October 2007 in Trier)
40	5.5.4.1		an "enabled-disabled" status indicator device with mechanical indicator and electrical contact.	An inspection window inside the door will indicate the position of the withdrawable part. The test position will be indicated in the DCS. (based on the results of the technical meeting on 25th October 2007 in Trier)
40	5.5.4.2		10 kA,	8kA (based on the results of the technical meeting on 25th October 2007 in Trier)
40	5.5.4.2		10 kA,	8kA (based on the results of the technical meeting on 25th October 2007 in Trier)

Pg	Spec	Bid	Originaltext	Clarification/Correction
41	5.5.4.2		It must be possible for the contactor to be locked-out in either position (open or closed), by means of a lock or padlock.	Contactor can be locked-out in open position only. (based on the results of the technical meeting on 25th October 2007 in Trier)
43	5.5.6		automatic disablement of the energy storage spring of the device in case of the extraction of the latter from its cubicle	An automatic disablement of the energy storage spring of the device in case of the extraction of the latter from its cubicle is not possible. (based on the results of the technical meeting on 25th October 2007 in Trier)
44	5.6		5.6. Interlocking	The interlocking of the MV and LV system will be carried out according Siemens wellproven standard (hardwired and mechanical within the switchboards and via DCS between different components). However, a key interlocking systems will not be included in the offer. (based on the results of the technical meeting on 25th October 2007 in Trier)
45	6.2		dedicated electrical equipment rooms,	PCCs (prefabricated control centers) as described in our offer section 10.1 will be provided for electrical equipment exclusively.
46	6.3.1		400 V switchboards will be equipped with appropriate fire detection devices.	The power control center is equipped with fire detection and fire protection devices. However, fire detection and fire protection devices in the switchboard itself won't be included. (based on the results of the technical meeting on 25th October 2007 in Trier)
47	6.3.3		a source reversing switch with appropriate options	A source reversing switch will not be included in our scope. (based on the results of the technical meeting on 25th October 2007 in Trier)
47	6.3.3		source reversing switch,	A source reversing switch will not be included in our scope. (based on the results of the technical meeting on 25th October 2007 in Trier)
47	6.3.3		relay circuitry will transmit a start-up command to the diesel generator set	The start-up command for the emergency diesel generator set will be triggered in the DCS. (based on the results of the technical meeting on 25th October 2007 in Trier)
55	9.3		The start-up of the diesel generator and the transfer of power supplies will be entirely automatic and independent of the presence of direct current supplied	The presence of the DCS and hence the battery is essential for start-up of the emergency diesel. The start-up signal for the diesel will be generated from DCS

Pg	Spec	Bid	Originaltext	Clarification/Correction
			by the batteries of the generating unit.	in case of undervoltage on the 400V switchboards. (based on the results of the technical meeting on 25th October 2007 in Trier)
57	11.		The Contractor's bid will confirm that the device concerned is suitable for connection to the SNCC (distributed control system) ethernet fiber-optic monitoring system via a copper/optical converter.	Note: The communication with the protection relays will be carried out as agreed in chapter 5.5.5.2.
58	12.1		emergency	Please change to "normal"
86	19.1		of the system for retransmission, via a databus, of all information (alarms, faults, signals, etc.) between the various standard protective relays in communication with the SNCC system.	Note: The communication with the protection relays will be carried out as agreed in chapter 5.5.5.2.
90	21.		NT CN21-INFR-ASPR 04-4256	Please change to "NT RTE CN21-INFR-ASPR 04 4256"
99	24		In the case of the Emile Huchet site, the Contractor will not be responsible for the design analysis, supply, cabling, testing and commissioning of the RTE metering cabinets to be installed in the new and dedicated relay building for the two 400 kV "unit incoming feeder" cubicles to be installed in the RTE switchyard at Saint-Avoid.	We assume, that this scope split will be binding for Hornaing site too. Design analysis, supply, cabling, testing and commissioning of the RTE metering cabinets are not included in the offer.

02-06_I_and_C.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
3	2		four	Please change to read "three"
4	2.1.2		Such uniformity shall encompass at least all the defined operating zones (e.g. GT, ST, generator, HRSG, BOP) and in particular: • instrumentation (transmitters, sensors), • actuators (control valves, solenoid valves, motor-operated valves, etc.), • specific equipment such as frequency variators, starters, etc., All transmitters of the same type must be of the same brand, at least for all the operating zones referred to above.	Even within the defined operating zones GT, ST and Generator incl. their auxiliaries there might be control valves, solenoid valves, motor operated valves, transmitters, sensors etc. used which are of different brands and type due to their special application. This equipment has been selected in order to ensure the required reliability and availability of the turbine train and can hence not be changed without jeopardizing these objectives.
4	2.1		Use of smart instrumentation.	Nota: HART protocol with local handheld communication tool. Based on the special requirements for Gas Turbine and Steam Turbine, smart instrumentation is limited to pressure transmitter. Transmitter for special applications e.g. level, position, speed, vibration, temperature will not have HART feature.
5	2.1.3		alarm-cabled and combined defect-cabled signals.	hardwired signals
9	3.4.1		The main safety function (fail safe) for the zones covered by the digital I&C system, and the coordination of interlocks and protections for each of the units, shall be performed by a dedicated fail safe system comprising an SIL 3 qualified device in accordance with IEC 61508, with a certificate issued by a recognized European certifying body for SIL 3 applications or equivalent (e.g. RC6 in accordance with DIN 19250). Other "non main" safety systems shall be dealt with in SIL 1 or SIL 2.	Based on the requirements of IEC61508/61511 for Safety Related Systems Siemens PG carries out a hazard and risk analysis for the Safety Instrumented Systems. With the risk analysis the Safety Integrity Level (SIL) for each assessed Safety Instrumented System is determined. The SIL assignment is done following the PG internal risk evaluation method. It is a power plant specific quantitative method considering personal hazards, which is TÜV approved. IEC61508/61511 does not foresee a general definition of Safety Integrity Level for all Safety functions. Each Safety Function is designed according to the individual Safety Integrity Level of the specific Safety Function.
14	3.5.3		Synchronization with the other units of the power plant shall be in accordance with the philosophy used in the existing power plant.	Please appreciate that synchronization with the other units of the power plant in accordance with the philosophy used in the existing power plant is not known to Siemens. Hence, we

Pg	Spec	Bid	Originaltext	Clarification/Correction
				propose to delete this sentence.
16	4.1		The Manufacturer shall additionally provide a 50" plasma screen for each unit or a wall monitor (to be offered as an option) using DLP technology with controller.	Please delete this sentence
16	4.1		Each operator workstation must manage its own unit as well as all auxiliary installations and common parts, but it shall not be capable of interacting with the other unit, with the obvious exception of common parts, and in the case of interchangeability of units, subject to an appropriate authorization procedure.	Please change to read: "Each operator workstation must manage the unit as well as all auxiliary installations and common parts."
16	4.1		console for each unit	Please change to read: "console for the unit"
16	4.1		The latter shall be common to both units where applicable.	Please delete this sentence since there is only one unit in Hornaing.
16	4.1		for each unit.	Please delete this wording since there is only one unit in Hornaing.
16	4.1		comprising, for each unit,	Please delete this wording since there is only one unit provided for Hornaing.
16	4.1		and a corresponding LAN connection.	please delete this wording
17	4.2		common to the unit(s),	Please delete this wording since there is only one unit provided for Hornaing.
17	4.2		at least one computerized operating station per unit. These "technical" stations,	Please change to read: "one computerized operating station. This "technical" station,"
17	4.3		The room shall also house the processing units of the main sub-assemblies or packages of non-uniform type but totally integrated into the digital I&C system.	Nota: Subassemblies is understood as GT, ST, generator, HRSG, Balance of Plant. Packages of non-uniform type is understood as auxiliaries for gas turbine and steam turbine.
18	5.1		modules	Please change to read: "Automation Server"
18	5.1		in each unit	Please delete this wording since there is only one unit provided for Hornaing.
18	5.1		The planned instrumentation and control architecture must take account of the fact that the two units of the	Please delete this wording since there is only one unit provided for Hornaing.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			power plant will be constructed and placed into service in different phases, and that it will consequently be necessary to guarantee reliable operation of one of the units while the other is still under construction.	

02-07_Civil_Engineering.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
5	21.7.		Warehouse	Please remove the text. The warehouse is not in the Contractor's scope
5	21.5.		Water treatment building	Please remove this requirement. The water treatment building is not in the Contractor's scope of supply.
6	1.		The marking and layout of prohibited areas, for example fauna (amphibian habitats) protection areas	Please remove text. This is not applicable to Hornaing
6	1.		Use of devices required to protect the water table from risk of pollution during work and during operation of the new installations,	The contractor restricts its responsibility to soil or water table contamination avoidance from its own activities during construction and during future operation of the proposed CCPP. Removal of existing contaminated soil, ground water and provisions to stop re-contamination of the proposed site are not included in the Contractor's scope.
6	1.		Concrete road systems and areas providing access for heavy and light vehicles, lifting equipment for the assembly and maintenance of buildings and equipment	The Contractor reserves the right to use other wearing surfaces and does not wish to restrict its self to concrete surfaces. Eg tarmac, gravel, in accordance with each specific situation. Please remove the word "Concrete" from the specification.
6	1.		Cleaning, clearing and leveling of all areas placed at the Contractor's disposal (new production installations, site installation and storage areas • Possible demolition of existing paving, foundations and structures in areas intended for new structures and equipment, including the clearance of demolition materials and debris and backfilling of appropriate areas, using good, carefully compacted materials,	The site preparation works* for the area designated for the new CCPP are not included in the Contractor's EPC Offer; the completion of the site preparation is a pre-requisit for Site the handover to the Contractor. * Removal of all existing structures, their foundations (down to pile heads), removal of contaminated soil and soil deemed unsuitable for loadbearing purposes and the replacement of the displaced earth to the proposed site level. In addition the provision of a subteranean wall designed to stop re-contamination from areas surrounding the proposed site.
6	1.		Earthworks, including the clearance and dumping of resultant rubble,	Earthworks as understood by the contractor are those works instigated for constructional purposes.

Pg	Spec	Bid	Originaltext	Clarification/Correction
				Site preparation works are excluded from the contractor's scope.
7	1		Neutralization ponds	We understand that the neutralization pond refer to the demin. water treatment plant which is in Owners scope. Hence, it should be deleted here.
7	1.		Gas sub-stations	This reference is understood to refer only gas sub-stations within the Contractor's Scope and not those supplied by the local gas utility supplier.
7	1.		Potable and/or raw and demineralized water tank foundations	Note, the raw water tanks and demineralized water tanks are not in the Contractor's sope. Potable water will not be stored on site in any significant quantities worth mentioning. Please remove this text from the specification
7	1		Chemical analysis laboratory	The chemical analysis laboratory is understood to be part of the water treatment system provided by Owner. Hence, it should be deleted here.
7	1.		Fences, gates and guard post	It is assumed that the existing guard post will be used and as such no provision for a Guard post has been made in the Contractor's EPC Offer.
7	1		Electrical building(s), control room	Please note that the electrical and C&I equipment except for Black Box Systems are located in prefabricated Power Control Centers (PCC's). The central control room is located in the combined admin. and control room building.
7	1.		Buildings, equipment foundations and water treatment systems	Please remove this requirement. The water treatment building, laboratory and ancillary tanks are not in the Contractor's scope of supply.
8	2.		No claims of ignorance of where constraints are sited and consequent suggestions is admissible.	In view of the special site conditions in Hornaing and considering that Owner will prepare the site in advance of site handover to the Contractor, please advise of any special constraints on the Contractor still remaining.
9	5.		Topsoil stripping and storage for use in green areas and disposal of surplus soil on the public tip	Please revise the following text: Topsoil stripping and storage for use in green areas and

Pg	Spec	Bid	Originaltext	Clarification/Correction
				disposal of surplus soil on the public tip within the immediate site owned by the Client.
9	5.		Disposal of any polluted earth on the special tip	Please add to the sentences: Provision of a subterrainian wall to avoid re-contamination of the site from ground water from neighbouring areas. Removal, replacement and compaction of the top infill material strata within site in accordance with the Contractor's requirements. (ca 2 to 2.5m depth across the whole proposed site) With reference to the last sentence, the information supplied in the provisional soil report indicated that the infill material used to build up the top 2 to 3m of ths site is unsuitable for load bearing purposes.
9	4.		The Contractor shall be responsible for carrying out all necessary siting surveys and defining base types and techniques.	Please add a reference to the Client's responsibilities: The Client will provide a digital site survey showing all the remaining pile heads, their diameter and give a qualified indication of the declination of each pile.
9	5.		Earthworks (excavation, backfilling, removal to the public tip or to temporary backfill storage) required to provide finished levels for the new installations, site installations and storage areas.	Please move this text to the works within the Client's resonsibilities
9	5.		Disposal of waste, debris, surplus earth and excavated material on the approved public tip, irrespective of the distance involved.	Please rivise the text as follows: Disposal of its own waste and debris, surplus earth and excavated material on the approved public tip, irrespective of the distance involved.
10	5.0		Backfilling shall consist of good quality makeup	It is now understood that this text refers largely to the backfill

Pg	Spec	Bid	Originaltext	Clarification/Correction
			materials (natural aggregate) or methodically compacted excavated materials if useable for backfilling purposes. Compacting shall be to a min. 95% of Optimum Modified Proctor. Soil compaction checks shall be carried out in the form of reconstitution tests for each layer. • Min. obtainable values shall be the following: - Module EV2 > 70 Mpa - Ratio EV2/EV1 < 2 - WESTERGAARD K Module > 7bars/cm	used in the site preparation works that will be executed by the Client.
12	5.2.3		Existing underground structures (cables, pipes, etc.) shall be separately staked out.	It is understood that the Owner will either reroute existing cables, pipes etc. or remove them prior to handing over site to Contractor.
13	5.2.4.		The Contractor shall first perform a survey of the ground area to be developed and shall prepare verification drawings for the surveys and soundings to be carried out, in coordination with the Client and/or the departments concerned (administration, concession agents), in order to identify buried networks and structures which may interfere with the work which it is required to carry out.	Please revise the beginning of the sentence to read: The Contractor shall first perform a survey provide a layout plan of the ground area to be developed. and shall The Client will prepare verification drawings for the surveys and soundings to be carried out, in coordination with the Client and/or the departments concerned (administration, concession agents), in order to identify buried networks and structures which may interfere with the work which it is required to be carried out.
13	5.2.5.		The backfilling of trenches situated below pavements, paving slabs and heavy traffic areas shall consist good quality makeup materials carefully compacted in accordance with densification q4 and q3 top layer, as per GTR/MEW definition Road beds and surface coatings shall be exactly restored.	Please revise the text: The Where backfilling of trenches is necessary outside the site perimeter, the infill material situated below pavements, paving slabs and heavy traffic areas shall consist good quality makeup materials carefully compacted in accordance with densification q4 and q3 top layer, as per GTR/MEW definition Road beds and surface coatings shall be exactly restored.
13	5.2.7.1.		Construction of platforms using excavation material	In Hornaing, the platform will be prepared by the Client. As such all works listed below are relevant to the Client only. Should, the Contractor, in his works remove or re-use infill material, then the recommendations listed below will be considered by the Contractor.

Pg	Spec	Bid	Originaltext	Clarification/Correction
13	5.2.5.		Trenches shall be opened by hand only. Surface coatings, pavements, paving slabs, etc. shall have been carefully cut beforehand.	The Contractor is only responsible for works within the defined site perimeter. It is assumed that following hand over of the site to the Contractor, there will be no necessity to excavate trenches by hand. Roads, pavements within the new CCPP site will all be new.
14	5.2.8.		The Contractor shall carry out any flushing work proving necessary due to the presence of pockets of poor quality earth.	Please clarify the term "FLUSHING". We assume this refers to removal of poor earth and replacement with good load bearing material. This being the case, then this is not in the Contractor's scope and is part of the site preparation works included within the Client's scope.
14	5.2.7.2.		If necessary, deep excavations shall be shored up. Props shall be removed during backfilling.	Please note, in a very few cases, the sheet piling used to retain the earth will be permanent.
15	5.2.9.1.		The Contractor shall warn the Client if preparatory work reveals an area of compressible soil not initially recognized as such which is likely to jeopardize structural stability. Protective steps shall then be taken by the Contractor which shall not affect the contract price or contract deadline.	Please revise the text as follows: The Contractor shall warn the Client if preparatory work reveals an area of compressible soil not initially recognized as such which is likely to jeopardize structural stability. Protective steps shall then be taken by the Contractor at the expense of the Owner which shall not affect the contract price or contract deadline.
17	6.1.		Unused areas shall be grassed over and planted with shrubbery at the rate of 1 every 30 m2 (tall trees) and 1 every 15 m2 (half standard height trees). page 17 from 56	The building permit describes how many trees will be planted. In accordance with the Permit description, we have included 38 semi-mature trees in our offer. Grassed areas will be limited to the outer site perimeter and around the Administration building and parking areas. To avoid confusion, we request that this text be adjusted accordingly.
19	7.2.		the Contractor shall provide for a downstream retention basin adapted to deal with any water run-off.	A retention basin UGU01 with a capacity of Approx. 2400m ³ has been offered by the Contractor. Any additional stormwater retention basins will be supplied by others.
19	7.1.		All roads shall have pedestrian traffic areas (pavements), in accordance with the building permit.	Due to significant changes in the road layout due to changes in scope and the necessary consequences of the noise

Pg	Spec	Bid	Originaltext	Clarification/Correction
				protection concept, roads and pathways are not in accordance with the Building Permit. Once the design freeze has been agreed between the Contractor and the Client, then a revision to the Building Permit will have to be prepared by the Client's Architect and presented to the Local Authorities for approval.
19	7.2.		It shall collect rainwater from roofs, roads, paving slabs and retention basins.	Rainwater from specially identified building roofs will be sent directly to one of two terminal points identified in the General Plant layout. In accordance with the site specific requirements in the Client Specification, this water will not be routed through the retention tank.
20	7.4		This system shall be designed for process and equipment effluent. All industrial water shall be collected in a separate system and treated before discharge.	It is assumed for the bid that Owner will be fully responsible for effluents from his scope of supply e.g. water treatment systems, and that there is no interface with Contractor for such Owner effluent systems.
21	7.6		The Contractor shall provide for fire-fighting water storage, with pumps, for supplying water to the new installation's system.	As the water tanks are not in Contractors scope, please change to read: "The Contractor shall provide for fire-fighting water storage, with pumps, for supplying water to the new installation's system."
21	7.6		The Contractor shall provide enough fire hydrants to cover the whole site.	The Contractor shall provide outdoor fire hydrants for the site area inside the new plant boundary fence shown on the General Layout (Drawing No. FKR807-UC-UZ-0001) included in Section 16 of the bid.
23	8.		The level of the top surface of external support pads shall be 20 cm above the finished level of graveled or paved areas. The level of building floor slabs and floors shall be at least 15 cm above external levels. The level of internal building support pads shall be 10 cm above the paving slab level (in relation to high points on sloping ground). Roads shall have kerbs: Kerb height 14 cm	Please note that many structures in the Offer are pre-engineered and the heights specified may not match exactly those values. The Contractor, will where possible respect these values but reserves the right to adjust the levels as the situation dictates.
31	13.3		The Contractor shall follow the instructions of the Operation Authorization Section for containing the effect of an explosion, in particular those regarding the quality	The Operation Authorization (Arrete Prefectoral) is not available yet for Hornaing and hence not considered in the bid. The bid is based on the assumption that Contractors

Pg	Spec	Bid	Originaltext	Clarification/Correction
			of materials, the fire resistance of buildings, building ventilation and building design	Clarifications on issues relevant for the Operation Authorization (Arrete Prefectoral) are taken into account, e.g. clarifications with regard to the Decree 2910 (e.g. fire resistance of building housing the turbine train and arrangement of the oil skids) and french regulation regarding roof segregation (for smoke evacuation) in buildings exceeding a certain surface area etc.
31	13.2		Basic outside conditions shall be comparable to those prescribed for energy generation purposes and, by default, shall be at least: • in winter: -20°C and 90% RH • in summer: 35°C and 35% RH	The HVAC Systems are designed according to the minimum and maximum temperatures given by meteo France and listed in the document 02-CCG-J&C-FC102C. Min. -13,2°C, 90% relative humidity, Max. 37,2°C, 35% relative humidity.
32	13.4.		13.4. Building permits The Contractor shall take account of building permit documents, in particular the architectural section and material qualities.	It is understood that the building permit will have to be revised due to the changed scope and acoustic conditions. The Contractor will assist the Client's Architect in preparing the revised application after an agreed design freeze between the Client and the Contractor. Note many of the original architectural proposals can not be fulfilled due to acoustic constraints on the power plant.
38	18.8.		18.8. Access to roofs Access by caged ladder and safety gate shall be provided for all roof areas without equipment. A guard rail shall be provided around the roof edge.	Refer to 18.6; there handrails are only provided where maintenance access to equipment on roofs is necessary. Handrails around roofs are not included in the Contractor's Offer. It should be understood that general access to roofs without services should be restricted to specialist roof maintenance contractors. The provision of easy access to roofs and the provision of handrails along the roof edges can only increase the risk to the Client's own staff.
47	21.1		Building and building facade design shall be architecturally uniform.	The architectural approach must be discussed during the negotiation phase. We recommend a discussion round with the Client's architect.
47	21.1		The Contractor shall follow the Architect's recommendations regarding the architectural design of	The Contractor has made its own interpretation of the Architect's Design concept. The Contractor's proposal also

Pg	Spec	Bid	Originaltext	Clarification/Correction
			buildings and the determination of materials.	takes into account measures to reduce accidental damage to the facade from low level vehicular traffic and mobile machinery as well as the additional acoustic constraints not addressed by the original architectural concept.
48	21.1.5.		Access to roofing areas shall be by caged ladder	Please revise the sentence as follows: Access to roofing areas shall be by caged ladder where service access to mechanical equipment on the roof is necessary
50	21.3.1.		The outsides of transformer boxes shall comprise removable galvanized tubular panels (screen mesh between 400 and 650 mm ² , not exceeding 60 mm in size, galvanized 4 mm wires), with built-in screen door (idem for metal doors).	This provision is no longer possible due to the extreme acoustic restrictions in Hornaing.
51	21.4.		regards the careful choice of furniture and furnishings on display and the materials used, including the entrance hall area and the meeting room in which people from outside are received.	Please note that furniture and furnishings are not included in the Contractor's scope.
51	21.4.		Large meeting room (40 people), with audiovisual means provided (wall projector with computerized connection to central switchboard, screen, video conference, etc.)	Cable connections in the building structure will be provided. Wall projectors and computerized switchboards and video conference equipment will be supplied by others. Please revise the text accordingly.
52	21.5		21.5. Water treatment building	Please delete this section as the water treatment building is not included in the scope of the contractor.
54	21.5.7.		21.5.7. Chemical testing laboratory	The chemical testing laboratory is considered part of the water treatment building and is equally not in the Contractor's scope. Please delete this section as well.
54	21.6		21.6. Water treatment Building-related installations	Please delete this section as the water treatment is not included in the scope of the contractor.
55	21.7		21.7. Warehouse	Please delete this section as the warehouse is not included in the scope of the contractor.

02-08_Maintenance_Equipment.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
5	3		Tools necessary to replace HRSG or condenser tubes/bundles.	Please delete the reference to the HRSG.
5	4		The Contractor shall equip the storeroom with materials and equipment needed to maintain the turbine, as mentioned in the Contractor's bid (section 2: annex 2.1) and the storeroom equipment proper, as mentioned in the Contractor's bid (section 15.5).	The storage building and store room equipment is not included in the bid. The special tools and tackles provided by the Contractor according to bid Section 2, Annex 2.1 shall be stored in either an existing or new building provided by the Owner.
6	6		The only language used shall be French.	Please delete this sentence. The language issue is dealt with elsewhere, e.g. in the EPC contract.
7	7		The Contractor shall supply itemized cost-estimated spare parts lists (separate amount for each piece of equipment):	Provision of these offers shall be dealt with under the separate service contract entered into between Owner and Contractor.
7	7		The total cost of these spare parts shall be included in this EPC contract.	As basically agreed the EPC price does not include for provision of the spare parts listed under the above bullet points. Such spares shall be purchased under the separate service contract entered into between Owner and Contractor.

02-09_Service_Documentation.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
15	2.1		The Contractor shall be obliged to supply all documents	Please change to read "The Contractor shall be obliged to prepare all documents"
17	2.1.5		Excluding exceptions for the use of foreign languages, the official language for all documentation related to the project shall be French. French shall be the only language used to generate interface documents with RTE and GRTgaz.	Please change to read: The official language for all documentation and correspondence shall be english. Exception from this rule shall be documents submitted to official french authorities which shall be in french, and those parts of the OM-Manuals which according to EC Directive shall be in in the language of the operator, i.e. french.
31	2.6		All documents must be written in French.	Please change to read : All documents to be submitted to the authorities must be written in French.

02-10_Startup.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
8	6.4	9.1	generator operation at the limit of the capability curve and surveillance of the most significant temperatures (this test shall be repeated without a heat exchanger and certain excitation cross sections)	Generator operation at the limit of the capability curve and surveillance of the most significant temperatures will be provided. This test will not be repeated without a heat exchanger and certain excitation cross section.
11	6.6.3		(+/- 5% of the main transformer voltage-off meter device)	Due to the strict short circuit limitation and fulfillment of the RTE requirements regarding U-Q-diagram the generator transformer will be equipped with an on-load tap changer with an adjustment range of +/- 9 x 1,25%.
12	6.6.3		413,6 MW	For Hornaing the corresponding value is 421.6 MW
12	6.6.3		CARLING site - Ref. NT XSY SEE 06-103 index 1 of 03/04/2006 shall be taken into account.	Siemens comments and observations refer to the respective document for Hornaing site "Specifications for the Technical Dossier of the SNET gas-fired combined-cycle power plant in Hornaing". The following notes under 6.6.3 are to be replaced by Hornaing specific data and conditions.
14	7		each of the 2 units.	Please change to read: the unit.
17	010 8.1.1	1.2.2.	Net power shall be measured at step-up transformer HV terminals.	Siemens assumes that voltage transformers of class 0.2 are available at the HV terminals at the point of energy delivery to the grid manager and access to this VT's will be given for measuring purposes during the Performance Test to Siemens.
18	8.1.5		with test power sockets	Please change to read "with test connections"
18	8.1.6	1.2.2	The PCI measurement determined by GRTgaz/TIGF shall be used during testing to establish that the installation operates satisfactorily under the anticipated performance test conditions.	Please change to read: "The PCI measurement determined by GRTgaz/TIGF prior to the test shall be used to establish that the installation operates under the anticipated performance test conditions" This wording is in line with the negotiations for Emile Huchet and in line with the previous para in the specification according to which the heating value of the gas used during the performance test shall be determined in a laboratory from the gas samples taken during the test.
19	8.1.7	1.2.2	Consumption levels for common circuit auxiliaries in	This is not applicable for the Hornaing project with only one

Pg	Spec	Bid	Originaltext	Clarification/Correction
			normal operating conditions shall be taken at 50% of the value in the calculation of performance tests.	Unit. Any power supplied from the power station to consumers in Owners scope shall be deducted, e.g. water treatment plant, HRSG etc.
20	8.3		shall remain within the limits laid down in Art. 5.5.2.	We have not been able to find an Art. 5.5.2 specifying noise limits.
22	8.6	1.2.2	GT-CMTE and GT-CMC	It is not possible to measure the GT-load for a single shaft unit. Therefore the load level has to be defined as combined cycle load.
22	8.6	1.2.2	cycle leaks monitored for nominal or minimum flow rate (degasser vent pipe, chemical samples of continuous high-/intermediate-pressure blowdowns, etc.	Please clarify the meaning of this sentence.
22	8.6		isolation of common installation services (electricity, water/steam)	It is understood that this sentence can be deleted since Hornaing has only one unit.

02-101_Site_Presentation.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
3	1.1		• HO-CCG-J&C-FC-106.	The HV connection from power plant to the 225kV switchgear and the works on the 225kV switchgear specified in HO-CCG-J&C-FC-106 has not been included in Siemens offer.
3	1.1		• HO-CCG-J&C-FC-104,	The design, supplying, transportation, connection and setting into service of a 20 kV delivery station, a 20/6,6kV or 20/5,5kV and a medium voltage switchgear specified in HO-CCG-J&C-FC-104 has not been included in Siemens offer.
5	1.5.1		The Contractor must observe the conditions imposed by this Prefectoral Decree.	The Arrete Prefectoral is not available yet for Hornaing and has not been considered by Siemens in the offer.
6	1.5.2.1.		the architectural features imposed by this permit application (materials, colors, etc.),	The architectural layout and design as offered will diverge significantly from the building permit documents due to major changes in scope and extreme acoustic restrictions. For this reason the original architectural concept can only be followed in the most superficial way. The HRSG will be completely enclosed, the main transformers (UBF) will be enclosed, infact every noise source will have to be muffled through diverse noise reduction measures. Openings and windows will be reduced and translucent bands as described will not be offered in the Contractor's scope. A new layout and architectural approach will be offered for re-submission to the Local Authority.
6	1.5.2.1.		leveling of the platform on which the Unit will be constructed,	The proposed Site level and plant level will be based on an analysis of the immediate existing road network and present site level.
8	2.3.1		The site is notable for the presence of various shut-down or disused plants and for the presence of the underground remains of structures which have since been demolished and various networks which are no longer in use running alongside the networks which are currently in use.	It is understood that these still existing structures etc. will be removed by the Owner prior to hand over of the site to the Contractor.
9	2.3.4.		This rail delivery facility is no longer in use and could, if necessary (depending on the location chosen the	It is understood that this demolition and clearance work will be executed by the Client prior to handing over the site to the

Pg	Spec	Bid	Originaltext	Clarification/Correction
			constraints associated with the presence of these railway lines), be dismantled by the Contractor.	Contractor. Please revise the text accordingly. This rail delivery facility is no longer in use and could, if necessary (depending on the location chosen the constraints associated with the presence of these railway lines), be dismantled by the Contractor Client.
10	2.3.5.2		The Contractor should pay particular attention to the proximity of these facilities to the sites available for the projects	This close proximity of the ash handling and storage plant might result in accelerated deterioration of plant performance and earlier fouling of equipment.
12	2.3.6.2		However, it is up to the Contractor to ensure that this information is accurate by visiting the site and to make any adjustments which may be necessary by notifying the Client beforehand.	The Scarpe river station will be refurbished by the Owner as specified in the part 102, Rev. C, section 2.1.2.5 "Refurbishing of the Las Scarpe river pump station". This paragraph should be deleted.
12	2.3.6.2		The pumps are installed at a level of approx. +17.80 m above sea level (to be checked by the Contractor).	The Scarpe river station will be refurbished by the Owner as specified in the part 102, Rev. C, section 2.1.2.5 "Refurbishing of the La Scarpe river pump station". The checking of the installed level of the Scarpe river raw water pumps is not in the responsibility of Siemens, the sentence "to be checked by the Contractor" should be deleted.
12	2.3.6.2		It is up to the Contractor to investigate this point and in particular to approach the Waterways Authority, VNF, in order to confirm these variations in levels.	The Scarpe river station will be refurbished by the Owner as specified in the part 102, Rev. C, section 2.1.2.5 "Refurbishing of the Las Scarpe river pump station". The checking of the variation levels is not in the responsibility of Siemens, the sentence should be deleted.
15	2.3.9		Note that the mine gas pipe connecting the Surschiste unit runs above ground alongside the ash conveyor belts leading to the ash storage area and the branch pipe supplying boiler 3 runs alongside the metal structures for conveyor belts TS21 and TM4 to the north-east corner of the T3 building. Unit 3 is usually started up by means of heavy fuel oil burners which are in turn lit by gas burners which are supplied from propane tanks located to the south of the dust	It is assumed that the proximaty of the mine gas piping, the heavy fuel oil piping and storage facilities and the propane tanks to the new power plant to be constructed does not have any limiting influence on Contractors activities during construction and commissioning.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			extraction systems for Unit 3.	
16	2.3.12		Discharges The power plant is currently subject to a Prefectoral Decree concerning the quality of effluents discharged to the environment.	Kindly note, that the industrial effluent limits of the new plant will follow the requirements of the Décrée of 13. July 2004 as specified in the document 102, section. 2.2.3 "Quality of discharged water". The limit of COD with 125mg/l is deviating from the limits required in this section.
16	2.3.10.		This rail delivery facility is no longer in use and could, if necessary, be dismantled by the Contractor as part of this project.	The demolition and disposal of the rail delivery system is in the Client's scope. Please revise the text to take this into account. This rail delivery facility is no longer in use and could, if necessary, will be dismantled by the Contractor as part of this project by the Client.
21	2.3.13.3		The plants at the HORNAING Power Plant are constructed close to the old site of the Heurteau pit.	The presence of the Heurteau shafts at the site necessitates a contractual regulation as laid down in Article 8.3 and 41 of the EPC-Contract.
22	2.3.13.4		These include the following (not an exhaustive list: • a heavy fuel oil tank with a capacity of 6,500 m3. • a network of railway lines (some of which have overhead lines) connected to the SNCF rail network to the west of the site near Escaudain station (old HBNPC track), which lead to the tippling station, amongst other things, and with a shunter shed on the eastern boundary of the Power Plant. • a tippling or coal wagon unloading station plus a corner gallery extended by a gallery housing two conveyor belts, T3 and T4, for supplying coal from this building to the handling building (or mixing station), this gallery being covered by three gantries. • a series of four units for discharging fuel oil by train and associated racks. • a caretaker's lodge at the west entrance. • cooling tower No. 1. • some of the water treatment plants.	It is understood that the Owner will demolish and remove all systems and structures in the area allocated to Contractor as site and construction area. Hence, the contractual specification should be reworded to reflect the status of the site when handed over to Contractor.
23	2.3.13.5		However, it is up to the Contractor to carry out the necessary additional investigations (surveys, etc.) once	The Contractor confirms that additional topographical surveys and soil investigations will be instigated after LNTP. However it

Pg	Spec	Bid	Originaltext	Clarification/Correction
			the contract has been awarded to establish the presence of any networks which might interfere with the construction works (in particular, he will plot elevations and X/Y coordinates and analyze the materials and condition of the site). He will then draw up project specification plans (which will also include the underground structures to be itemized) on this basis and will propose any necessary changes and adjustments (however, the location of these facilities must always comply with the general principles of the contract – this location must be subject to the prior approval of the Client, who reserves the right to refuse – diversion of networks, etc.).	is the responsibility of the Owner to clear the defined CCPP of all existing active services and to inform the Contractor of the then status of the ground including the presence of any services that remain within or around the CCPP site.
24	2.5		Note that the Power Plant's rail network, which was previously used to deliver coal and heavy fuel oil (although this network is now no longer in use), used to be connected to the RFF network via a branch line to the north-west of the Power Plant.	It is understood that these railway sidings will be removed by the Owner prior to hand over of the site to the Contractor. Hence, the contractual specification should be reworded to reflect the status of the site when handed over to Contractor.
24	2.6.		2.6. Future traffic plan The Contractor shall connect all his roadways to the existing roadways within the power plant. The Contractor shall put forward a traffic plan which is subject to the Client's approval.	During the construction phase, normal existing power plant traffic will not be able to pass through the proposed CCPP site. Alternative access roads or two way traffic arrangements on the existing road north of the existing power blocks will have to be used.

02-102_Specific_Site_Data.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
5	2.1.1	14.1.1	2.1.1.1. Introduction Unit 4 shall be supplied by a specific delivery station which will be installed by GRTgaz as part of this project. The appendix of the GRTgaz documents, and in particular the "Functional Specifications File", contained details of: • the components, characteristics and operating ranges, etc. of the gas conditioning station ; • the general characteristics of the gas in the GRTgaz network ; • the specific characteristics of the gas in the Hornaing power plant.	The agreed wording from the Emile Huchet (EH) project should be modified to the Hornaing requirements and added as follows: The new installations, including the auxiliary boiler plant for <u>the new unit 4</u>, shall not be connected to the existing Power Plant gas system. They shall be supplied from a new gas conditioning station purpose built as part of the project. The GRTgaz gas conditioning station shall consist of the following : - Two filtration lines and gas metering system for supply <u>of the new unit 4</u> (2*100%). These lines shall also include a chromatograph - One pressure reducing line and gas metering system for supply of the auxiliary <u>boiler</u>, with gas reheating. This line shall also include a chromatograph. The physical features of HP gas (for gas turbines) at the GRT supply boundary shall be : - - Max. service pressure : 80bar eff., - - Min. service pressure : 36,5 bar eff. - - Min. temperature :-10°C The physical features of HP gas (for auxiliary <u>boiler</u>) at the GRT supply boundary shall be : - - Max. service pressure : 4,5 bar eff., - - Min. service pressure : 2,5 bar eff. - - Set-point pressure : 3 bars eff. - - Min. gas temperature in the event of heating malfunction : -20°C (resistance of pipes)

Pg	Spec	Bid	Originaltext	Clarification/Correction
				- Min. gas temperature : 0°C The chemical features of gas supplied by GRTgaz shall be : - Type of gas : type H gas, - General features : complying with those described in Appendix H, however with sulphur limited to less than 11 mg/Nm3.
5	2.1.1.2		• type of gas: Gas H , • temperature of gas for purposes of guaranteed performance: -10°C, • pressure for guaranteed performance: 42 barg, • min. pressure at which the GT shall operate without restriction: 36.5 barg,	These bullet points shall be replaced by the agreed wording for EH: "Temperature of gas for purposes of guaranteed performance: +15°C at the outlet of the pressure regulation station supplied by the Contractor (consumption guarantee values shall not include consumption of heating gas)."
5	2.1.1.2		Characteristics to be taken into account for guaranteed performance	Should be read as agreed for EH: "Characteristics to be taken into account for guaranteed performance consumption levels"
5	2.1.1.2		Guaranteed performance levels shall be established on the basis of the following assumptions regarding gas characteristics at the GRTgaz supply boundary:	Should be read as agreed for EH: "Guaranteed performance <u>consumption</u> levels"
6	2.1.1.3		2 barg	As agreed for EH a min. gas pressure of 2,5 barg will be considered. Please refer also to our comment on section 2.1.1 "Natural Gas".
6	2.1.1.2		Metering characteristics with the GRTgaz equipment: - GT gas conditioning station: .. 1% accuracy for metered energy – continuous GCV measurement by chromatography ; .. Minimum flow rate = 4,000 Nm3/h .. Maximum flow rate = 80,000 Nm3/h - Auxiliary boiler station if required: .. 1% accuracy for metered energy – continuous GCV measurement by chromatography ; .. Minimum flow rate = \$xx\$ [manufacturer shall clarify this] .. Maximum flow rate = \$xx\$ [manufacturer shall clarify this] These parameters shall be applicable only in the context of performance warranty. The contractor shall design the installations so that they are able to	This paragraph should be deleted as agreed for EH.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			operate without restriction under the conditions detailed in the following paragraph.	
6	2.1.1.3		-20 °C	As agreed for EH a min. gas temperature of -10°C will be considered. Please refer also to our comment on section 2.1.1 "Natural Gas".
6	2.1.1.3		55 barg	As agreed for EH a max. gas pressure of 80 barg will be considered. Please refer also to our comment on section 2.1.1 "Natural Gas".
6	2.1.1.3		5,5 barg	As agreed for EH a max. gas pressure of 4,5 barg will be considered. Please refer also to our comment on section 2.1.1 "Natural Gas".
6	2.1.1.3		55 barg	As agreed for EH a max. gas pressure of 80 barg will be considered. Please refer also to our comment on section 2.1.1 "Natural Gas".
6	2.1.1.3		5,5 barg	As agreed for EH a max. gas pressure of 4,5 barg will be considered. Please refer also to our comment on section 2.1.1 "Natural Gas".
7	2.1.1.4		"GRTgaz pressure reducing station"	Should be modified to "GRT gaz station"
7	2.1.1.4		1 modbus connection between the GRTgaz relay circuitry and the combinedcycle unit DCS – Connections to the various slaves are the EPC contractor's responsibility.	Please note, that Siemens DCS System provides a international recommended MODBUS RTU protocol or IEC60870-5-104 protocol as a standard protocol interface for communication with other third party systems. We assumed the terminal point for the fibre optic communication link is Terminal Point 1 (TP1, Gas Fuel Supply) and a interface in the gas conditioning facilities according to these protocols will be provided by the client.
7	2.1.1.4		The signal exchange diagram at the GRTgaz station feeder is shown hereafter.	exchange diagram is not clear to us. We suppose only one serial interface module for the communication between

Pg	Spec	Bid	Originaltext	Clarification/Correction
				GRTgaz and the DCS
7	2.1.1.3		pressure reducing	The pressure reducing station for the gas turbine supply will be provided by Siemens.
8	2.1.7.		Preparation of the GRTgaz installation area: The Contractor shall be responsible for removing railway lines and clearing and removing vegetation earth in the GRT station deployment area.	It is assumed that all the railway rails, sleepers and ancilliary equipment will be removed from the site by the Owner prior to site hand over to the Contractor.
8	2.1.1.7.		GRTgaz station perimeter fencing: The Contractor shall be responsible for implementing the GRT station perimeter fencing as well as the gate providing access to this station. The complete installation shall be performed in conformity with GRT specifications.	The size, and specification of the GRT sub station has not been devulged to Siemens. As such the site preparation and enclosure of the GRT enclosure is not included in the Siemens scope. Please revise the text to read: GRTgaz station perimeter fencing: The GRT Contractor shall be responsible for implementing the GRT station perimeter fencing as well as the gate providing access to this station. The complete installation shall be performed in conformity with GRT specifications. (The text should make it quite clear that this work is not in the Siemens scope)
8	2.1.1.7.		The Contractor shall take GRT specificities into account when providing this access (discussions to be carried out subsequently with GRTgaz).	The Contractor's Offer does not include this.
8	2.1.1.6		The Contractor shall provide for GRTgaz's needs, and electrical needs in particular, during the work.	It is understood that GRT gaz will be paying for their consumption and running costs and will arrange for their internal distribution from the terminal point as well as maintenance of the same.
9	2.1.2.1		These water resources are: • water from the a Scarpe river the withdrawn flow rate of which may not exceed 600 m3/h; this water shall be used first and foremost to make up the cooling circuits, • water of borehole No. 1 with a capacity of about 90 m3/h, • water boreholes No. 2, 3, 4 and 6 with a global capacity of up to 350 m3/h.	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply. The management of the available raw water recources is in the responsibilty of the Owner.
9	2.1.2.1		Up to the unit shutdown scheduled for 2012, or 2015 at the latest, the sharing of the available water resources	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			between units No. 3 and 4 shall be optimized. The Contractor shall consequently give consideration, as part of its design studies, to optimization, and accordingly provide installations and modifications to existing circuits so as to provide the water needs of the two units and manage water according to its cost. It shall also take account of the survey of the effect on the water table of using borehole water. As part of this design study, it shall give consideration to the various possible operating configurations of the two units, the capacities of the current installations or installations to be refurbished (capacity of pump stations, capacity and requirements of the existing decarbonization installation, buffer capacity of reservoir, etc.)	Clarified water (pretreated water) will be received at the plant boundary in a required quality, pressure and mass flow. Optimization and/or modifications of existing circuits to supply the existing unit 3 and the new unit 4 is not in Siemens responsibility.
9	2.1.1.8		Gasometric reserve The Contractor shall provide a minimum gasometric reserve metered between: - the GRTgaz/Contractor point of interface, - and the upstream flange on the contractor's first control valve, of 13 m3 for the gas turbine main supply line and 4 m3 for the auxiliary boiler supply line. At the detailed design stage, the Contractor shall provide SNET with a design note on the determination of this volume.	As agreed for EH, the gasometric reserve is not needed as Siemens will supply the gas pressure reducing station only. Paragraph should be deleted.
10	2		Water quality	The raw water quality (untreated water) is relevant for the pre-treatment design only. These data are not relevant for the Siemens scope of supply.
10	2.1.2.1		The Contractor shall design and in particular implement the distribution facilities of the three types of current water supplied to one or other of the units, or even simultaneously to both units. The Contractor shall give particular attention to the current capacities of the pumps and manifolds. In particular, it shall confirm the possibility of supplying water to the tanks to be supplied in particular according to, on the one hand, the connection and filling level and, on the other, the	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply. Clarified water (pretreated water) will be received at the plant boundary in a required quality, pressure and mass flow. Optimization and/or modifications of existing circuits to supply the existing unit 3 and the new unit 4 is not in Siemens responsibility. The two water sources (Scarpe river water and well water) will be managed upstream of the clarified water terminal point by

Pg	Spec	Bid	Originaltext	Clarification/Correction
			characteristics of the pumps (graphs) and the head losses in the headers. If necessary, it shall propose a palliative solution. It should be recalled that these modifications shall take into account the need for rerouting and modifying existing networks associated with the layout of the new unit and and the shutting down and future dismantling of unit No. 3 (anticipation of dismantling facilities to avoid having to re-modify or reroute a water supply circuit to unit No. 4). This interconnection between the two units imposed by the need to optimize the use of the available water will also call for the modification of the instrumentation and control of certain auxiliaries of unit No. 3 and provide communication between the two units. These modifications will also need to be developed in the optimization study to be carried out by the Contractor.	others. This clarified water will serve the cooling tower circuit and the demineralization plant of a reverse osmosis process.
11	2.1.2.3		Use of water from the la Scarpe river, pretreatment and raw water and pretreated reservoirs.	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply. Clarified water (pretreated water) will be received at the plant boundary in a required quality, pressure and mass flow. The two water sources (Scarpe river water and well water) will be managed upstream of the clarified water terminal point by others. This clarified water will serve the cooling tower circuit and the demineralization plant of a reverse osmosis process.
11	2.1.2.3.1		the pumps for auxiliary needs.	Please change to read: the pumps for auxiliary needs, if required within Contractors scope.
11	2.1.2.1		Use of a storage tank for the pretreated water, connected to the pump stations providing makeup for:	This tank is agreed to be in ENDESA's scope of supply. The raw water tank shall accomodate also the volume of raw water for fire fighting purposes (approx. 800m ³ to be confirmed later by Siemens). Nozzles shall be provided by ENDESA at the tank to connect the fire fighting pumps provided by Siemens. The volume of the raw water tank is specified in section 2.1.4 with a capacity of 2000m ³ ,

Pg	Spec	Bid	Originaltext	Clarification/Correction
				the overall volume shall be at least 2800m ³ net capacity.
11	2.1.2.3.1		a pump station specific to the makeup needs of an additional pretreatment and demineralization station for the makeup needs of unit No. 4,	It is agreed, that the pretreatment and the demineralization plant are in the ENDESA's scope of supply. The pump station to serve water from the pretreatment plant to the demineralization plant is excluded from the Siemens scope of supply.
11	2.1.2.3.1		Necessity or otherwise of a raw water tank directly supplied by water from the la Scarpe river and borehole makeup with a pump station line to pretreatment installations.	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply. A raw water tank directly supplied by water from the la Scarpe river is not included in the Siemens offer.
11	2.1.2.3.1		a pump station specific to the makeup needs on the cooling water circuit of unit No. 3,	A pump station serving clarified water from the new plants combined raw water and fire fighting water storage tank is not included in the Siemens offer.
11	2.1.2.3.1		In the case water from the la Scarpe river for all the needs (with additional backup or makeup provided by boreholes)	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply. Clarified water (pretreated water) will be received at the plant boundary in a required quality, pressure and mass flow. The two water sources (Scarpe river water and well water) will be managed upstream of the clarified water terminal point by others. This clarified water will serve the cooling tower circuit and the demineralization plant of a reverse osmosis process.
11	2.1.2.3.1		Pretreatment of the water collected by this tank.	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply.
11	2.1.2.2		The Contractor shall perform the measurements required for the temperature of the two types of water. The Contractor, due to its knowledge of river water, shall pay particular attention to the possible variations of the quality of the water from the la Scarpe river (effects of flooding, seasonal effects, strong turbidity, etc, ...).	The Owner is responsible to perform necessary measurements of the different types of water (considering seasonal effects) in order to design the pre-treatment system according to the Siemens requirements in respect to water quality.
12	2.1.2.3.1		A pretreated water tank shall be supplied from the Unit's pretreatment station as well, if necessary, by the water outfed from the existing decarbonization unit of unit No. 3 (from pumps drawing off from the 540m ₃ tank supplied by gravity from the Circulator.	This tank is agreed to be in ENDESA's scope of supply. The raw water tank shall accomodate also the volume of raw water for fire fighting purposes (approx. 800m ³ to be confirmed later by Siemens). Nozzles shall be provided by ENDESA at the tank to connect the fire fighting pumps provided by

Pg	Spec	Bid	Originaltext	Clarification/Correction
				Siemens. The volume of the raw water tank is specified in section 2.1.4 with a capacity of 2000m ³ , the overall volume shall be at least 2800m ³ net capacity. We like to point out, that the requirements for the pretreated raw water quality apply also to water supplied by the existing unit 3. An interconnection to the existing unit 3 is in the responsibility of ENDESA.
12	2.1.2.3.1		• A demineralized water tank dedicated to the needs of unit No. 4.	It is understood that the demineralization tank is is ENDESA's scope of supply. The demin water tank size should be not less than 1000 m ³ net in order to enable boiler and water steam circuit cleaning within the scheduled time frame.
12	2.1.2.3.2		If only borehole water is used for water/steam cycle makeup needs (water from the la Scarpe river not used for the demineralization installations and thus in particular for water/steam cycle makeup)	The demineralization is not in Siemens scope of supply, but we recommend to supply the demineralization plant with pretreated water only (not directly by well water). The Siemens design do not comply with the alternative requirements specified in this section 2.1.2.3.2. This section should be deleted.
12	2.1.2.3.1		A raw water tank with a capacity to be defined and justified by the Contractor as part of its bid.	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply. A raw water tank directly supplied by water from the la Scarpe river is not included in the Siemens offer.
13	2.1.2.4		Internal modifications designed to optimize the supplying of this water to the two units and to the various rerouting imposed by the layout of the new unit These services are the responsibility of the Contractor.	The modifications to optimize the supply of water to the existing unit 3 and the new unit 4 is in the responsibility of the Owner.
13	2.1.2.6		The Client reserves the option of arranging an inspection of the DN500 water intake header from the Scarpe to the power plant. This inspection will be restricted to the current power plant perimeter fence.	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply. Clarified water (pretreated water) will be received at the plant boundary in a required quality, pressure and mass flow. The two water sources (Scarpe river water and well water) will be managed upstream of the clarified water terminal point by

Pg	Spec	Bid	Originaltext	Clarification/Correction
				others. The sentence "This inspection will be restricted to the current power plant perimeter fence" should be deleted.
14	2.1.3		The water pressure is generally within a range of 2 to 4 bar and the maximum operating pressure is 10 bar rms. The header is buried.	For a safe water supply Siemens calculate with minimum pressure of 3 bar g at the terminal point. Please check and confirm this pressure.
14	2.1.4		This connection to the existing circuit will require certain modifications (coming under Contractor responsibility). It shall in particular ensure the compatibility of the characteristics of the two circuits and the appropriate sections of the lines to which it will be connected and if applicable shall readjust the sections of existing lines.	Kindly note, that the fire fighting circuit is designed according to the pressure and flow rate demands of the new plant only. The fire fighting circuit of the new plant is designed for a nominal pressure of 16 bar, any additional requirements from the existing units 3 circuit are not known and not included in the Siemens offer.
14	2.1.3.		The contractor shall provide a connection to this supply at the level of the building's south face.	Please revise the text to indicate that the terminal point for potable water will be at the southern boundary of the new CCPP perimeter fence (see TP6 in Contractor's General layout Plan).
14	2.1.3.		The Contractor shall give particular attention to the fact that part of this line is to be built in the Power plant's main routing area containing many existing buried networks.	Please remove this sentence. The new TP6 is not in the originally specified area. (see TP6 in Contractor's General layout drawing).
14	2.1.2.7		The Client reserves the option of arranging an inspection of the DN450 water intake header from the borehole to the power plant. This inspection will be restricted to the current power plant perimeter fence.	The two water sources (Scarpe river water and well water) will be managed upstream of the clarified water terminal point by others. The sentence "This inspection will be restricted to the current power plant perimeter fence" should be deleted.
14	2.1.3.		The contractor shall supply and install an approved meter downstream of the branch connection and provide the appropriate connectors when necessary.	Please revise the sentence to read: The contractor shall supply and install an approved meter downstream of the Terminal Point 6 connection and provide the appropriate connectors when necessary.
15	2.1.4.		The demolition of cooling tower No. 2 entails eliminating a spare water capacity of about 600m3 (not connected to the fire-fighting circuit but providing a spare supply of water available to fire fighters if needed). To compensate for this loss, the 6500m3 fuel tank which is no longer used for this fuel storage function shall be	We would like to advise that this work, if necessary will have to be executed prior to removal of the 600m ³ water cap. in Cooling Tower 2 in order to maintain the fire fighting capability in the existing Power Plant. This conversion is therefore not included in the Offer.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			converted into a water capacity. For this purpose, the contractor shall inspect this tank and, according to its condition, carry out any safety establishing, cleaning, reinforcing and other work that may be needed to convert it in the end into a water tank. It shall connect it to the existing raw water circuit (reuse of the line supplying the basin of cooling tower No. 2 or, if applicable, by a branch connection to the water makeup line of cooling tower No. 3) and to the installation of fire-fighter connection points. It shall also, if need be, carry out any reinforcing that may be required, so that the retention wall is able to withstand any wave effect due to a breakage of this water capacity.	We recommend that this reference to the conversion to the oil tanks be removed from the Specification.
15	2.1.4		The fire-fighting water pump station specific to the Unit's fire-fighting circuit shall consist of: • 1 minimum 30 m3/h capacity jockey pump (to be used in the event of the isolation of the new installation systems from the existing network), • 1 standby electrically-driven pump - capacity 200 m3/h, • 1 diesel motor-driven pump - capacity 200 m3/h.	The jockey pump is used to maintain the required pressure within the fire fighting circuit, the flow rate will be lower than 30m³/h. The fire fighting pumps are designed according to the highest fire risk of the plant. The electrical and diesel motor driven pumps are currently designed with a flow rate higher than 200m³/h.
15	2.1.4		As a reminder, the new installations shall interface with various circuits, including the fire-fighting circuit. The Contractor shall reroute and modify this circuit and, if applicable, relocate existing terminals fire hydrants.	A connection between the new and the existing fire fighting circuit will be considered, any rerouting or modification of the existing circuit and fire hydrants are not included in the Siemens offer.
15	2.1.5		Demineralized water	It is agreed, that the new demineralised water supply system including adjacent auxiliary systems are excluded from Siemens Scope of Supply & Services. Therefore, it is Siemens understanding that the supply of demineralised water for the purpose of erection and commissioning activities is "free of charge" to the Contractor.
15	2.1.4		These pumps shall be connected to the Unit's raw water tank (capacity 2000 m3).	The fire fighting pumps will be connected to the combined raw water and fire fighting water storage tank containing clarified water.
16	2.2.1		industrial effluents customers (cooling circuit	It is expected, that no additional treatment of the industrial

Pg	Spec	Bid	Originaltext	Clarification/Correction
			blowdowns, miscellaneous water/steam circuit drains, demineralization station eluates, pretreatment station effluents, miscellaneous draining, etc.) shall, after appropriate treatment (neutralization, settling, cooling, buffer storage, etc.), enter an industrial effluents communal main drain entering the DN1000 header.	effluents is necessary, these effluents will be discharged directly into the communal header without additional buffer storage. It is assumed, that the existing communal header will accomodate the additional amount of effluent water arising from the new plant. The raw water pre-treatment (provided by others) effluents shall be discharged separately from the industrial effluent of the new plant.
16	2.1.7		As part of the project for the construction of units 4, the customer has adopted not to provide any interconnection between this new unit and the existing unit No. 3 at the level of the service air, instrument air, nitrogen and demineralized water circuits given that the Contractor shall, however, be required to reroute or adapt some of the these circuits interfacing with the new installations.	The Contractor is not responsible to reroute existing installations interfacing with the new plant.
16	2.2.1.		Collected rainwater runoff shall enter the Unit's "communal rainwater header" directly.	Please revise the text as follows: Collected rainwater runoff from the roofs UCA and UMC shall enter the Units "communal rainwater header" directly.
17	2.2.1		It shall also carry out an inspection of the DN1000 header (report to be submitted to the Customer) and, if necessary, reinforce the connection area.	Necessary refurbishment works of the existing DN1000 haeder resulting from such an inspection are not known and are not covered in the Siemens scope of supply.
17	2..1		All services in connection with the installation of these systems and their connection to the existing network, including modification of the latter as required and the rerouting of existing networks and circuits to ensure that these provisions are applied, shall be the Contractor's responsibility.	Siemens is not responsible for any necessary modifications or refurbishment works of the existing installations downstream of the terminal point. We assume, that the existing lift pumps are sufficiently sized to discharge the additional amount of effluent from the new plant.
17	2.2.3		These industrial effluents shall, before being discharged into the DN1000 header, meet the requirements of the ministerial decree of 13 July 2004 modifying the decree	We respect the values stated in the Decr�e of 13 July 2004. However, to avoid any misinterpretation these values should be included in section 2.2.7 of the specification.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			of 30 July 2003. SS shall, however, be less than 30mg/l.	
17	2.2.3	1.4	The temperature of the liquid effluent discharged to the DN1000 drain shall be below 30°C under all operating conditions and upstream of any dilution with effluent from the existing installations.	The temperature of the liquid effluent discharged to the DN1000 drain will not exceed 30°C under operating conditions as defined in section 1.4 "Plant design basis and base reference conditions" of our bid.
17	2.2.1		Within the framework of its design studies, it shall confirm the flow rates of rainwater and process water generated by the use of the new unit and shall confirm the capacities of the final existing treatment line to accept this additional supply.	Siemens is not responsible to confirm the capacities of the final existing treatment line. It is assumed, that the existing communal header will accomodate the additional amount of effluent water arising from the new plant.
18	2.2.7		Industrial effluents customers (cooling circuit blowdowns, miscellaneous water/steam circuit drains, demineralization station, pretreatment station effluents, miscellaneous draining, etc.) shall, after appropriate treatment (neutralization, settling, cooling, buffer storage, etc.), enter an industrial effluents communal main drain entering the DN 1000 header.	It is expected, that no additional treatment of the industrial effluents is necessary, these effluents will be discharged directly into the communal header without additional buffer storage. It is assumed, that the existing communal header will accomodate the additional amount of effluent water arising from the new plant. The raw water pre-treatment (provided by others) effluents shall be discharged separately from the industrial effluent of the new plant. The effluent limits required by the Décrée of 13 July 2004 shall be included in this section of the specification.
18	2.2.6.		Collected roof runoff shall enter the Unit's "communal rainwater header" directly	Please note only roof run off from UCA and UMC will be fed directly through the rain water header. Please revise the following sentence accordingly: Only collected roof runoff from the main buildings (UCA & UMC) shall enter the Units "communal rainwater header" directly.
19	2.2.8		The metering and sampling systems shall be provided in accordance with the law.	The parameters to be monitored shall be mutually agreed and included in this specification.
19	2.3		The pollutant content in flue gases shall be in conformity with regulations.	Flue gas emissions from the HRSG Stack will be in accordance with Section 1.2.1.3.1 of the bid and flue gas emissions from the Aux. Boiler Stack will be in accordance

Pg	Spec	Bid	Originaltext	Clarification/Correction
				with Section 1.2.1.3.2 of the bid.
19	2.3.1		The diameter of this stack (especially at the outlet level) shall be defined by the contractor so as to comply with the min. ejection speeds laid down in the regulations governing the entire load range which the unit may be required to accommodate. The contractor shall also ensure that this speed is never below the ejection speed taken into account in the atmospheric dispersion study appended to the attached DDAE.	Either the text should be deleted since the Owner is responsible for the HRSG or the the wording "contractor" shall be replaced by "Supplier of the HRSG"
20	2.4	1.2.1	2.4. Sound effect The unit shall comply with French regulations, in terms of: • emergence for the whole power plant (new units and existing installation - unit 3-); the nearness of housing shall be taken into account in particular. • maximum acoustic pressure level at the limit of the Power plant property for the whole Power plant (new units and existing unit). All the installations shall in particular comply with the requirements of the appended acoustic design study which shall, if necessary, be supplemented by any measurement campaigns and surveys that the Contractor may consider necessary with a view to complying with regulations. The Contractor shall thus be responsible for all the validation measuring campaigns or additional data appended to the contract and thus to the drawing up of an acoustic survey on the basis of the data of the existing system and in particular on the specific characteristics of the installations it supplies.	This chapter should be deleted. Siemens will not take into account the existing installations. According to the Acouphen study the regulatory requirements/Emergence for the existing plant on site is already exceeded. All new installations (Siemens scope) will comply with acceptable noise contribution for the new plant at the Receptor locations given in Acouphen Environment report RA-070145-02-A, dated 29th June 2007. Basis for these acceptable levels are measurements of background noise (please see the acouphen report). With these information and the applicable emergence according to law, the acceptable noise levels for the new installation is calculated. These values are basis for acoustical design, future background noise cannot be taken into account. Siemens will do its own acoustical design study only for the new power plant. Regarding this, a noise protection concept will be provided after award of order. Before final testing, a noise acceptance test procedure will be provided and mutually agreed.
21	3.1.		Fences: providing of a fence around the GRTgaz area by the Contractor.	The GRTgaz fenced area is not included in the Offer. Please revise the text to indicate that the fencing will be made by the GRTgaz contractor.
21	3.1		Electrical: the GRTgaz station shall be supplied by the	Please remove or clarify the meaning of the following text from

Pg	Spec	Bid	Originaltext	Clarification/Correction
			Contractor; the Contractor shall also provide for the GRTgaz site electrical needs,	this requirement: "the GRTgaz station shall be supplied by the Contractor" Retain the following sentence: "Contractor shall provide the GRTgaz site electrical needs",
21	3.2		Backup metering shall be provided.	It is understood, that back-up metering will be supplied by GRT Gaz.
22	5		1 modbus connection between GRTgaz relay circuitry and the combined-cycle unit DCS – Connections to the various slaves are the EPC contractor's responsibility.	Please note, that Siemens DCS System provides a international recommended MODBUS RTU protocol or IEC60870-5-104 protocol as a standard protocol interface for communication with other third party systems. We assumed the terminal point for the fibre optic communication link is Terminal Point 1 (TP1, Gas Fuel Supply) and a interface in the gas conditioning facilities according to these protocols will be provided by the client.
22	4		220V	Back-up voltage will be 230V.
22	4		Availability for GRTgaz The manufacturer shall supply power to the GRTgaz site from the 10 kW delivery station – GRTgaz to confirm + water point	It is understood that GRTgas will provide their distribution network from the terminal point and will be paying for consumption and running cost and will be responsible for maintenance downstream the terminal point.
22	4		• Power disposal See document No. HO CCG J&C FC 106	Power evacuation downstream of the Generator transformer terminals is within the responsibility of the Owner. Hence, the Specification 106 is not applicable and the reference to it can be deleted.
22	5		See RTE specification	The data exchange system is limited to the interfaces described and shown in our offer section 2.3 Terminal Points / see TP13.1 Please note also the applicable comments to RTE specification.
23	6.		altitude in meters = 21 m	Initial study indicates a proposed site level of approximately 22m (This level is subject to results of a topographical survey and a soil investigation by the Contractor).
24	6.1.1.		The appended soil survey indicates the water table level. Attention is, however, drawn to the fact that this	The Contractor is not responsible for the fluctuations in the water table. Should the water table prove to be higher than

Pg	Spec	Bid	Originaltext	Clarification/Correction
			water table level fluctuates according to various parameters and the Contractor shall assume responsibility for these fluctuations.	10m as indicated in the Specification and as a result make it necessary to take additional measures, then the Contractor would have the right to issue a variation order.
24	6.1.1.		Hydrogeology: Below the site this water table is confined and its piezometric level is between 10 and 15 meters deep,	Note, for the pupose of the Tender and the corresponding price, the Contaractor has adopted the highest quoted water table height of 10m below the existing plant level. We suggest that this level be clearly defined in the Specification.
24	6.1.		The information below and in particular the topographical measurements and soil survey (mechanical characteristics and physical/chemical analysis) are given for information. The Contractor is responsible for carrying out at its own cost any additional investigations that it may consider necessary to check these measurements and supplement these topographical measurements and soil data.	The preliminary geotechnical data provided by the Customer with "Rapport d'Etude Geotechnique preliminaire" by Compétance Géotechnique, February 2007, and "Preliminary Pollution Assessment", by Sol Impact, May 2007, are used as basis for our preliminary foundation concept. The provided information from Client regarding existing piles on site is not sufficient to assess additional measures. Therefore existing piles have not been considered in our proposal for special foundation measures. Based on soil data within the power plant area in above report it is assumed that bored piles to be inserted into strata 3 (sand layer) are feasible for medium and heavily loaded foundations. Shallow foundations are expected to be feasible for footings of very lightly loaded structures. All mentioned measures are subject to confirmation by a detailed soil investigation. The demolition works are carried out by Client and are not within the scope of SIEMENS. The site will be completely cleared by Client of all structures above and below ground including all foundations which will be removed completely down to the pile heads. All voids and trenches resulting from removal of structures and buried services shall be filled as specified by SIEMENS. Any contamination, coal, ash, slag or unsuitable material will be removed by Client and the site level will be raised by client to 21.8m Altitude using imported fill as specified by SIEMENS. In case the characteristic of the

Pg	Spec	Bid	Originaltext	Clarification/Correction
				resulting plane is not feasible additional measures might have to be applied (e.g. soil replacement) which have not been considered in our proposal. The design ground water level is adopted as +20.5m Altitude based on topographical drawing "PLAN TOPO HO 07-102-04-2.dwg" until more details are available. A detailed soil investigation is included in the tender, which needs to verify the preliminary foundation concept. In case this detailed soil investigation indicates the necessity of additional or other special foundation measures or construction measures as but not limited to rock blasting, soil improvement, soil exchange, further piling, or if during execution of works unexpected conditions are discovered, which deviate from the provided preliminary geotechnical information and Siemens assumptions as given above, Siemens will have to adjust the contract price and the contract schedule accordingly. The soil risk of other structures and soil conditions not identified within the preliminary soil investigation report provided by the Customer remains with the Customer. No provisions have been included for contaminated soil, contaminated groundwater, faults, boulders, archaeological findings, landslides, caverns, explosive, abandoned mines and buried obstructions on site.
31	6.3.2.		The Power plant is subject to Vigipirate regulations.	Please define the consequence of the Vigipirate designation on the Site over a non-Vigipirate site in order the the Contractor can allow for these regulations in the offer price. At present, the Offer does not take the Vigipirate security regulations into account.
31	6.3.5.		6.3.5. Insurance company specific local requirements The Contractor shall comply with these requirements.	The Contractor kindly requests information relevant to the contractor with reference to the "Insurance Company's specific requirements". The Offer does not take into account these requirements in the Offer.
31	6.3.2.		6.3.3. CHSCT and/or CRAM specific requirements The Contractor shall comply with these requirements.	The Contractor kindly requests further information on the above mentioned requirements. At present no special

Pg	Spec	Bid	Originaltext	Clarification/Correction
				measures have been included in the offer for the above.
32	6.3.8		The Contractor shall, if it considers necessary, compile air analysis results, or even carry out any air analysis it considers necessary to define the materials and devices to be used in particular at the level of: • gas turbine air intakes	An air analysis is not required nor provided. The gas turbine systems are designed for the local site conditions. High dust concentrations can however shorten filter life.
32	6.3.7.		The Contractor shall adhere to the routing plan inside the Power plant as well as to any requirements associated with the operation of existing installations.	The Contractor's Offer is restricted to a defined zone in which it is assumed all existing active services have been removed or re-located to be sufficiently away from any new construction activities. Any services within the Contractor's designated zone should be clearly identified and documented to avoid accidental damage to the existing installation.

02-103_performance_guaranties.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
5	2.2		The performance guarantees refer to the whole of the combined-cycle unit,	Please change to read: The performance guarantees refer to the scope of supply provided by Contractor.
6	2.2.1.2		413600	Please change to read: 421600
6	2.2.1.3		6223 k1	Please change to read: 6254 kJ
6	2.2.1.6		248.2	Please change to read: 253.0
7	2.2.2		As for the physical and chemical characteristics of the cooling tower bleed-off, the reference shall be specification EH 07 and 08 – CCG-FC-102, section 2,2,7.	Reference should be made to EH 07 and 08 CCG-FC-102, section 2.2.3 "Quality of discharged water".
10	3.1		420.0	Please change to read: 423.6
10	3.1		6357	Please change to read: 6417
10	3.1		418.3	Please change to read: 427.2
10	3.1		6290	Please change to read: 6332
10	3.1		408.5	Please change to read: 417.4
10	3.1		6193	Please change to read: 6232
10	3.1		383.4	Please change to read: 391.5
10	3.1		6219	Please change to read: 6268
10	3.1		40	Please change to read: 37.2
10	3.1		343.6	Please change to read: 359.7
10	3.1		6325	Please change to read: 6311
10	3.1		264.6	Please change to read: 277.4
10	3.1		251.0	Please change to read: 264.9
10	3.1		245.1	Please change to read: 250.4
10	3.1		230.1	Please change to read: 234.9
10	3.1		40	Please change to read: 37.2
10	3.1		206.2	Please change to read: 228.4
15	4.2.1		average hourly concentration	Such data are required as a standard for a daily average. Hourly values may not exceed the double of the daily average.
17	4.2.4.2	1.2.1	the ACOUPHEN study on Emile Huchet (57) (report RAQ-05019801B, dated 11 October 2006) attached as	Shall be changed to read: ...the ACOUPHEN study: Environmental Impact study of the hornaing site (59) (report RA-070145-02.A, dated 29 June

Pg	Spec	Bid	Originaltext	Clarification/Correction
				2007) attached as...
18	4.2.5		The temperature of effluents discharged outside the facility must always be less than 30°C at maximum continuous load (CMC) at an ambient temperature of less than 39.9°C (wet bulb temperature less than 20.5°C) and a concentration factor of 3.5.	The conditions are not according to the Hornaing site conditions, please change to "ambient temperature of less than 37,2 °C (wet bulb temperature less than 19°C) and a concentration factor of 3.0."
19	4.2.5		Prefectoral operating permit bylaw: In addition to the above values, the Manufacturer shall guarantee that the effluents at the unit boundary shall not exceed the limits indicated in the prefectoral bylaw governing the effluents from the overall power plant (c.f. attached prefectoral bylaw), with the exception of waivers accepted in the specification EH-07&08-CCG-J&C-FC-102.	The values of the cooling tower blow down water will be guaranteed after completion of the following engineering steps: - The water quality downstream of the pre-treatment process required by Siemens in section 1.4 "Plant Design Basis" of this bid is confirmed by ENDESA - The final effluent limits outlined by the Arrêté Préfectoral are available and have been reviewed for possible compliance by Siemens
21	6		413.6 MW	Please change to read: 421.6
22	6		Saint-Avoid	Please change to read: Hornaing

02-104_Site_Specific_Structures.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
4	2		It is understood that during these shutdowns, the contractor's work shall not hinder scheduled maintenance work.	It is assumed that such maintenance work will not be necessary in areas occupied by Contractor.
4	2.		Shall remove any existing roads no long used thus making the freed designated site area permeable again.	Please revise the sentence to read: Shall remove any existing roads within the designed CCPP perimeter fence no longer used thus making the freed designated site area permeable again.
4	2.		This chapter describesthe layout area these two layouts, the possible access ways, the restrictions and the need to draw the Contractor's attention to the structures, networks and roadways interfacing with these designated site areas and which it will need to remove (removal of foundations and buried structures, demolitions, removal of networks, rerouting of networks, etc.).	Please revise text in order to remove the explicit reference to the Contractor. This chapter describes the layout area these two layouts, the possible access ways, the restrictions and the need to draw the Contractor's attention to the structures, networks and roadways interfacing with these designated site areas and structures that which it will need to remove will have to be removed by the Owner (e.g. removal of foundations and buried structures, demolitions, removal of networks, rerouting of networks, etc.).
4	2.		For the work site, one of the problems to be managed by the Contractor is to allow the operation of theexisting Unit, and schedule any work requiring it to be stopped during scheduled shutdowns only.	It is assumed that Contractor will not be hindered in his work due to the operation and presence of the existing Plant.
4	2.		Make sure there an access way to the Heurteau bore holes, or if not, provide one.	The Heurteau bore holes are outside the proposed CCPP perimeter fence. A proposal for linking the bore holes to the new CCPP is not included in the Offer; we request further clarifications on this matter.
5	2.1.		Some demolition work was only carried out on the surface.	It is understood that all existing structures and their foundations will have been removed down to the Pile heads prior to handing over the Site to the Contractor. Please revise the sentence to read:

Pg	Spec	Bid	Originaltext	Clarification/Correction
				Some demolition work was only carried out on the surface. All existing structures and their foundations will have been removed down to the Pile heads prior to handing over the Site to the Contractor.
5	2.1.		it is the Contractor's responsibility to carry out any and all investigations required;	Please remove this sentence. The text no longer applies.
5	2.1.		The Contractor shall be responsible for platform preparation. The demolition of existing buried structures and any rerouting of installations that may be required shall be the Contractor's responsibility with the exception of the works described in § 2.9.	Please revise the text as follows: The demolition of existing buried structures and any rerouting of installations that may be required shall be the Contractor's is the Client's responsibility . with the exception Some, but not all of the works are described in § 2.9. The clearance of the remaining gravel, disused underground pipes and services are the responsibility of the Contractor. Note in addition the Contractor's Offer assumes that all non-loadbearing soil will be replaced with compacted loadbearing material in accordance with the Contractor's requirements.
9	2.1.1.3.		Two solutions can be considered to compensate for the elimination of this road:	Please refer to the Contractor's proposal. Optimization, where necessary can be agreed during the technical negotiation phase prior to Contract and very likely during the execution phase.
10	2.1.2.1		with the CCG axis being parallel to these buildings.	Such an arrangement is not applicable.
10	2.1.1.4		It is understood that the Contractor shall include the designated site area made available to GRTgaz and shall fence off the Heurtaux borehole area.	Please refer to our proposal, in which the designated site area (linked with GRTgaz) has been highlighted as well. Optimisations, where necessary, shall be agreed during further technical negotiation phase activities prior to the Contract.
15	2.1.3		Electricity supply cable: Instrumentation and Control:	Power supply or instrumentation cables/interfaces for this scope are not included in the offer.
15	2.1.3		DN500 water intake header: The Contractor will be responsible for connecting to this header at the point to be specified and will then arrange for this header to be diverted if necessary.	It is agreed, that the raw water pre-treatment is excluded from the Siemens scope of supply. Clarified water (pretreated water) will be received at the plant boundary in a required quality, pressure and mass flow.

Pg	Spec	Bid	Originaltext	Clarification/Correction
				The two water sources (Scarpe river water and well water) will be managed upstream of the clarified water terminal point by others. A connection to the DN500 Header is not part of the Contractors scope of supply.
15	2.1.5.		2.1.5. Case of rerouting or modification of existing installations This work shall be carried out to minimize, wherever possible, the effect on vehicle traffic during the operation of unit No. 3. This work shall not be disrupt the operation of this unit No 3. Operation-related circuits shall be rerouted during a scheduled shutdown of unit No. 3.	It is understood that existing systems used by Unit 3 will re-routed by the Client. No special re-routing provisions are included in the Contractor's Offer.
16	2.2.	16.1	These permeable formations rest on the compact grey clay of the lower Landénien, which forms the substratum of the landénien sands water table and alluvial deposits. This clay formation, located 10 meters from the site level, rests on Sénonien chalk. It thus isolates the chalk water table from the superficial water table.	This information is neither examined nor described in the provisional soil investigation. In view that the provisional soil investigation is the basis for our Offer, we kindly request that this text block be removed from the specification. Please refer to chapter 16.1 of our proposal
16	2.2.	16.1	The soil survey is appended. It is provided for information only.	The commercial contractual basis for Hornaing is based on the Emile Huchet contract. This being the case the Client is responsible for the correctness of the provisional soil investigation. For this reason we request that the text "It is provided for information only." be removed from the specification. Please refer to chapter 16.1 of our proposal
16	2.4.		The Contractor is responsible for dismantling, modifications and/or rerouting of structures and networks (buried and overhead) interfacing with the new installations and, if applicable, with the connections to be implemented in compliance in particular with the operation of unit No. 3. Some dismantling shall be extended beyond the directly concerned area to ensure "global cleaning" (for example: railway line networks,	It is understood that all active services will be re-routed by the Client prior to handover of the CCPP site to the Contractor. It is similarly understood that all structures (including railway rails, sleepers and electrical signalling equipment, lighting etc.) including their foundations, will be removed by the Client. For this reason we recommend revising the text accordingly or removing Section 2.4. from the Specification.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			catenaries, fuel depot delivered by railway lines, etc, ...). The lists given hereafter are not considered as all-inclusive. The Contractor is responsible for making enquiries about the networks and structures to be diverted, modified or dismantled on the basis in particular of consultable drawings and site inspections. Particular attention shall be given to: The rerouting of the networks currently in service and related to the operation of unit No. 3. The demolition of structures located near the installations or networks in service, It is the Contractor's responsibility, from the time the contract is awarded, to carry out all the investigations required (search through archives, soil surveys, etc.) so as to locate any structures which may hinder the construction work of the new unit, the connection implementation work, etc, ... In particular, the drawings appended to the specification or available at the level of the Power plant and defining the configuration of buried structures and networks are for information only, and the Contractor is responsible for confirming these data by investigations (surveys, etc.).	
16	2.3.	16.1	2.3. Soil pollution survey The customer has carried out a few isolated soil surveys. These surveys are appended. The Contractor is responsible for carrying out all additional investigations to check the soil condition and take appropriate steps in conformity with the construction program.	The information made available to the Contractor suggests that the water table is contaminated with mineral oil. The Client is responsible for the removal of contaminated soil and the provisions necessary to stop ingress of contaminated ground water into the proposed CCPP site. Please revise the text so that it is clear that the Client is responsible for the removal of contaminated soil and water and is similarly responsible for the protection of the site from re-contamination due to ingress of contaminated oily water from areas outside the proposed CCPP site area. Please refer to chapter 16.1 of our proposal
17	2.4.1.		Description: Removal of rubble deposits north of the	Please clarify scope more precisely. Removal of rubble

Pg	Spec	Bid	Originaltext	Clarification/Correction
			railway lines Information: Surveyor measurements	deposits are not included in the Offer until the scope is better clarified.
18	2.4.1		Rerouting, as needed, of some of the buried effluent and rainwater headers (DN300, DN400 and DN500) including the relocating of movement openings	Rerouting of existing buried effluent and rainwater headers are excluded from the Siemens scope of supply.
18	2.4.1		Presence of a borehole water supply line (e.g. borehole line No. 1) – piping not in service (to be checked by the Contractor)	Should a removal become necessary, this service is included in the Owners scope of supply.
18	2.4.1.		Description: Relocation of the sedimentation basin for the hearth ash water including lift pumps, instrumentation and air injection ramp and modification of the compressed air and water pipes and the supply and control/instrumentation cables. This relocation also calls for a modification of the buried effluent network	The relocation of the sedimentation basin is not included in the Offer. Please bring this scope into the Client's responsibilities in Section 29 and remove this reference.
18	2.4.1		the Contractor shall provide the temporary provisions to ensure the evacuation of effluents. The Contractor shall be responsible for implementing these temporary structures, locating lift pumps and implementing their electrical power supply.	Temporary provisions to discharge existing effluents are excluded from the Siemens scope of supply.
18	2.4.1		Rerouting of the fuel supply rack (fuel and steam lines + cables) between the storage area and unit No. 3 and removal of the lines connected to the old fuel depot by train (fuel and steam lines)	This issue is specified as the Clients responsibility, please refer to section 2.9.
18	2.4.1		Presence of a water system along the North route (between the route and the railway lines) – piping not in service (to be checked by the Contractor)	Should a removal become necessary, this service is included in the Owners scope of supply.
19	2.4.1.		Modification of the roadways including the re-establishing the permeability of the existing roadways not reused	Only roads within the proposed CCPP perimeter will be removed or re-aligned by the Contractor. Roads outside this area (deligated by the site perimeter fence in the Contractor's layout drawing) are not included in the Contractor's scope.
19	2.4.1		Presence of the old DN350 makeup water lines of cooling towers No. 1 and No. 2	Should a removal become necessary, this service is included in the Owners scope of supply.
19	2.4.1.		Description: Removal of any foundations of old	It is understood that the removal of all existing structures and

Pg	Spec	Bid	Originaltext	Clarification/Correction
			structures probably still present (water tower and unidentified future structure under the future main transformer, water tank under the air cooling unit) Information: Survey to be performed by the Contractor Comments: A modification of the layout could avoid the possibility of such interfaces (except for the unidentified structure)	their foundations down to pile heads is within the Client's scope. As such this work is excluded from the Contractor's scope. We recommend removing this text from the Specification.
19	2.4.1.		Removal, if necessary, of the structures in the basement of cooling tower No. 1 during the 1994 dismantling	It is understood that the removal of all existing structures and their foundations down to pile heads is within the Client's scope. As such this work is excluded from the Contractor's scope. We recommend removing this text from the Specification.
23	2.6		The project designated site area shall be made available as is. The customer shall not modify the site layout with the exception of the works listed in § 2.9.	It is understood that the Owner will clear the site of all structures and reroute all services etc. as discussed elsewhere. The obligations of the Owner shall not be limited by a positiv list of his work leaving the Contractor with the responsibility for any remaining work. Hence, please delete this sentence.
23	2.6.		Contractor shall be responsible for the various preparatory work in these areas, in particular (list not exhaustive):	Note: the following list describes activities that will now be shared between the Client and Contractor depending on the precise location and works phase. To avoid unnecessary confusion, we recommend removing this section or specifically revising every listed point to cater for the individual situation. These issues have been adequately covered in other sections. (For Information purposes, the Contractor assumes that the proposed CCPP site will be cleared of existing structures, their foundations down to pile heads, the removal of top fill material unsuitable for load bearing purposes and the refilling with compacted material. The Client is also responsible for the removal of contaminated material, and the necessary measures required to avoid re-contamination of the CCPP site

Pg	Spec	Bid	Originaltext	Clarification/Correction
				for contaminated ground water.)
23	2.5		Contractor shall also be required to operate outside these areas in order to install connections to existing or third party installations	From our understanding of the revised scope there is no connection work required in areas outside the designated site area.
24	2.7		At the start of the work site, the Contractor shall fence off all the designated site areas to isolate the Power plant. It shall remain responsible for the provision and management (guard-manned) of these access points.	Contractor shall only be responsible for his site areas and their access control, e.g. site areas occupied by Owners contractors shall be prepared, fenced, maintained, guarded etc. by others.
24	2.8.		This action shall be subject to padlocking procedures.	Please clarify what is meant by this requirement.
24	2.8.		As part of its work, the Contractor shall be required to work on circuits, installation or structures in service.	Please revise the sentence to read: As part of its work, the Contractor shall be required may find it necessary to work on circuits, installation or structures in service.
25	2.9.		Demolition of cooling tower No. 2: This cooling tower will be demolished down to the level above the piles and any rubble resulting from this demolition will be removed. The space will be backfilled to ground level with crushed ballast.	Please revise the text to make it clear that the foundation will be removed down to the pile heads.
25	2.9		This list of operations is exclusive:	Please change to read "The list of operations is not exclusive"
25	2.9.		Demolition of the wagon tipper building and its ancillary premises and dismantling of the internal installations: The entire superstructure will be demolished including the floor slab. The structure and the buried section of the T1/T2 conveyor gallery will be backfilled using grout which will stop approx. -0.80 m from ground level.	Please revise the text to make it clear that the foundation within the CCPP site will be removed down to the pile heads and the ground will be backfilled with compacted load bearing material up to the existing ground level.
25	2.8.		Thus, for example: • the rerouting of piping and cables, • Work on potable water and fire-fighting water supply systems should not impose particular constraints, • the rerouting of circuits specific to the operation of plant units may have to await a planned scheduled shutdown.	It is understood that re-routing of existing services and systems will be executed by the Client prior to site hand over to the Contractor. Only new pipe routes and cables within the proposed CCPP site perimeter are included in the Contractor's scope taken from agreed terminal points defined on the Plant layout drawing supplied by the Contractor and agreed by the Client.
26	3.2.		For each site access, the Contractor shall build a road	All new roads within the proposed CCPP site perimeter fence

Pg	Spec	Bid	Originaltext	Clarification/Correction
			with a bituminous covering, making sure to provide continuity with existing structures.	will be finished in a bituminus covering or similar approved. The link (terminal point) to the existing power plant road network is also included in the Offer. All other existing roads in or around the existing power plant are not included within the Contractor's Offer.
26	3.2.		The internal roads shall be built so as to withstand the heaviest load (construction, operation, maintenance). These roads shall be built in accordance with the building permit and connected with the access points with the outside.	All new roads within the proposed CCPP site perimeter fence will be finished in a bituminus covering or similar approved. The link (terminal point) to the existing power plant road network is also included in the Offer. All other existing roads in or around the existing power plant are not included within the Contractor's Offer.
26	3.2.		The Contractor shall erect the GRTgaz gas conditioning station fence incorporated in the site's main fence.	The extent and specification of the GRTgaz fencing has not been specified. As such is not included in the EPC Offer.
26	3.2.		The three secondary access points (access point 2, 3 and 4) shall be provided with an automatic gate, a surveillance camera (with the image being sent to the control room), corresponding lighting and an intercom, with connections being made with the control room (the Contractor is also responsible for the connections).	The three secondary access points are not included in the EPC offer.
28	4.1.1.1	4.5	The Contractor shall be responsible for the design, supplying, transportation, connection and setting into service of a 20 kV delivery station to be installed at the Hornaing production site limit. The Contractor shall refer to the "work site network supply - Hornaing backup power supply" diagram No.	The design, supplying, transportation, connection and setting into service of a 20 kV delivery station, a 20/6,6kV or 20/5,5kV medium or 400V low voltage switchgear is not included in the offer. The limit of supply will be the HV terminals of the station transformer located on the power plant area.
28	4.1.1.2		the two production units.	Please change to read: "the production unit"
28	4.1.1.1		The electrical consumption shall be limited to 5 MVA max (power to be validated by the Contractor).	We assume a maximum electrical power consumption of 7MVA from local grid for commissioning of the electrical consumers.
28	4.1.1.2		units supplied directly by each of the unit's two step-down transformers.	Please change to read: "unit supplied directly by the unit's step-down transformers".
29	4.1.1.3		IEC 185: current transformer	Current transformers may be according IEC60185 or IEC60044

Pg	Spec	Bid	Originaltext	Clarification/Correction
29	4.1.1.2		of the two production units of the Hornaing power plant.	Please change to read: "of the production unit of the Hornaing power plant"
30	4.1.1.5.1.		4.1.1.5.1. Building	The design and construction of a 20 kV delivery station building and ancillary structures is not included in the EPC Offer.
36	4.1.2		Work site network – Services coming under Contractor responsibility	Please delete this section since not in Contractors scope.
37	4.2		The Contractor shall be responsible for arranging for FRANCE TELECOM to install, at the level of the accommodation facility and preassembly areas, a telephone splice box provided with the number of telephone pairs sufficient for its needs and those of GRTgaz.	As agreed during our Site Visit (25/09/07), the Client agreed to arrange free telephone lines and/or pairs as per the Contractor's requirement. Details have been incorporated in our bid; please refer to our Siemens Site Layout Installation Plan - Terminal Points etc.; Annex 01 in Section 17.2.
38	4.6		Raw water	Due to the fact that the Client will cover as well the applicable raw water system to be installed and used for the new power plant configuration, it is Siemens understanding that all the supply for the purpose of construction, erection and commissioning activities will be defined as "free of charge" deliveries to the Contractor.
38	4.5		Fire-fighting equipment	As briefly discussed during our on-site meeting (25/09/07), Siemens understood that additional connection points have to be implemented to the existing fire protection ring-network system from Power Plant Unit 3. The relevant Terminal Points (TP's) are highlighted in our General Siemens Site Layout Plan, defined as TP's 7.x. However, the provision of fire fighting water is "free of charge" to the Contractor.
39	4.8.		4.8. Evacuation of waste, rubble, etc. All these services are to be provided by the Contractor.	Waste and rubble provided by the contractor as part of his work will be disposed of or recycled as seen fit by the contractor. Waste or rubble disposal within site installation areas produced by the Contractor will be included in the scope of supply. Removal of existing waste material, plastics, sleepers or significant accumulations of debris are not included in the scope of supply
40	4.9.1.		fencing and access:	Fencing is not included in the basic EPC Offer. Once the GRT

Pg	Spec	Bid	Originaltext	Clarification/Correction
				Gaz specification and scope has been clearly identified then an Optional price for GRT gaz works can be agreed.
40	4.9.1		evacuation of effluents:	Not included.

02-106_Grid_Connection.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
3	1.1	4.5	The Contractor will be responsible for the design analysis, supply, civil engineering, installation, transport, secure supervision, testing and industrial commissioning of the power transmission line from the new HORNAING 4 power plant unit, connecting the main unit transformer to the 225 kV switchyard at HORNAING, together with all the requisite fiber-optic links, control/instrumentation/measuring lines, grounding cables and equipotential links required between the generating unit and its associated 225 kV switchbay in the HORNAING switchyard.	The HV cable connection from power plant to the HV switchgear and the extension of the 225kV HV switchgear and any works on the switchgear are not included in the offer. The limit of Siemens PG supply will be at the terminals of the HV cable connection box at generator transformer. Hence, this specification no. 106 is not taken into account for the bid.

02-11_Codes_Standards.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
8	2.1		IEC 60 273 – Post Insulators for Systems Greater Than 1000 V	IEC 60273 isnt applicable. Siemens will provide cast-resin insulators.
8	2.1		IEC 60 726 – Dry Type Power Transformers • IEC 60 905 – Loading Guide For Cast Resin Transformer	Dry Type (Cast Resin) Transformers according IEC 60076-11
27	3.6		Operating decrees for each power plant (see detailed site section).	The Operating Decree (Arrete Prefectoral) for Hornaing is not available yet, and has not been considered for the bid.

02-999_A_A_678-Not_FosseSept_Sewage.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
1	00		LICENSE APPLICATION for installation of sewage treatment equipment including a septic tank	Sewage treatment is using a bio-disc and not a septic tank. Hence, this application is considered not to be applicable.

02-999_A_A_678-Not_PC_Building_Permit.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
9	01		678 Gas-fired combined cycle unit at the Hornaing Power Plant - Details of net habitable areas (page 5 & 6 from 23)	Please note that the Offer is based on a pre-engineered design. The Contractor has not taken any of these values into account in preparing the Offer. Should the State, the Client or any of his representatives insist on attaining the values, then the Contractor reserves the right to issue a variation order for the additional costs and the effect on the project schedule.
9	02		Architectural views including elevations of plant and plant layout (Drawings 678-01 through 678-04)	The architectural views, plans and elevations of the plant do not reflect the plant layout and design as offered. A different layout is necessary in order to give due consideration to the noise constraints on site as the architectural design in the Building Permit does not take into account of the stringent noise requirements necessary, e.g. housing for HRSG A2, auxiliary boiler A8, pumps, generator transformer A6 etc. The EPC Offer also explicitly excludes the translucent panels on the facades and roofs on acoustic grounds. In addition, the Contractor does not consider itself bound by any dimensions and materials indicated in the Building Permit; it will therefore be necessary for the Architect (Nicole Habert) to issue a revision to overall proposal once a design freeze has been agreed between the Client and the Contractor. Another important departure from the design is in Building A5; the Contractors proposal includes free standing prefabricated Power Control Centers (PCC's) housing electrical and C&I equipment. The proposed civil design is based on Contractors Reference Power Plant design and the Contractors interpretation of the architectural concept and thereby does not fully comply with the civil design indicated. In addition, some of the structures indicated are not required (e.g. Gas compressor station C2) or are in the scope of the Client (e.g. store building D2 and water treatment building B1). This comment shall not be regarded as complete and

Pg	Spec	Bid	Originaltext	Clarification/Correction
				Contractor reserves its right to deviate on further issues.
11	11		Stairways (when there is no elevator): - step height: maximum 16 cm - tread: 28 cm minimum - width: . min. 1.40 m if walls on 2 sides . 1.30 m min. if wall on one side only . min. 1.20 m if no wall	It is assumed this regulation would only applies to the administration and public areas and does not apply to service access stairways. Eg access to machine componets or to the PCCs. The additional comment "none (service gangways) suggests that this is understood by the Client's architect.
14	2		and electrical rooms (A5).	Electrical and C&I equipment except for black box systems are arranged in several prefabricated Power Control Centers (PCC's) and not in a separate electrical building.
14	2.		E4 Low-voltage panel)	The low voltage switchgear for the supply of the cooling tower will be located inside PCC (power control center) near the cooling towers.
14	2		A "Stores" building for spare parts (D2).	A store building is not included in the Siemens scope of supply.
14	2		A natural gas compression plant (C2)	A gas compression plant is not needed and hence not included in the Siemens scope of supply.
14	2.		The site is completely flat and the project will be built at the existing level without the need for any major earth movements.	This statement appears to have no factual relevance and does not match the recommendations in the provisional soil investigation. The contractor assumes that the present fill material constituting the ground material is not of adequate load bearing quality and assumes that the Client will remove this material prioir to hand over to the Contractor.
14	2		The boiler has a chimney which is 89.5 m high (A3).	From other documents it is understood that the stack is 104 m high.
14	2		The proposed materials and colors are attached as an appendix. For overall harmony, they are controlled by mandatory colors for the service systems (red, yellow, green, gray). (Page 14 from 23)	Please provide a copy of the appendix referred to here so that the Contractor can assess the implications on the Contractor`s scope of supply.
14	2.		The auxiliary outside boiler room (A8), with a 43 m chimney. The burner section will be protected by steel cladding provided with access for maintenance.	The auxiliary boiler is equipped with a stack of 104m, attached to the main stack. The auxiliary boiler with a thermal capacity less than 25 MW(th) will be placed inside the feedwater pump

Pg	Spec	Bid	Originaltext	Clarification/Correction
				house, no containment for the burner section will be provided.
14	2		A water-treatment plant (B1) to produce demineralized water for the “combined-cycle gas” water/steam systems. This plant has two exterior storage tanks (B2 B3).	The water treatment plant and the water storage tanks are not included in the Siemens sope of supply.
15	15		Any plants located around the project site will be retained,	Within the constraints of the Client's brief, the necessary site clearance and soil removal activities, the Contractor will attempt to minimise disturbance of mature trees and shrubs where pragmatically reasonable. A "Carte Blanc" can not be promised here.
15	15		The existing fences will be retained and any missing or damaged sections on the site boundary will be replaced (rigid mesh fencing h. 200 cm, white or grey) (Page 15 from 23)	Note only permanent fencing surrounding the proposed CCPP is included in the EPC offer. Repairs or new installation to the existing Client owned site perimeter is not included in the EPC Offer and if necessary will be executed by others.
16	1.		This series of coling towers will be supplemented by a water treatment plant (E3). This plant ensures the quality of water required to protect the equipment as regards clogging and corrosion, as well as sanitary treatment, as now required at all cooling tower facilities.	The water treatement plant for the cooling towers is not included in the offer. No sanitary provisions for the cooling towers are included in the offer.
17	1		A natural gas compression station completes this facility (C2).	A gas compression plant is not needed and hence not included in the Siemens scope of supply.
17	1		A water treatment plant (B1) for producing demineralized water to meet the requirements of the steam/water circuits of the “gas combined cycle”. This station has two external storage tanks (B2 B3).	The water treatment plant and the water storage tanks are not included in the Siemens sope of supply.
17	1		An “auxiliary steam boiler room” building that provides auxiliary steam for maintaining temperature, for start-up, and for heating (A8).	Please be informed, that for the auxiliary boiler no seperate building will be provided.
17	1		A “Stores” building for spare parts (D2).	A store building is not included in the Siemens scope of supply.
18	4		The sizing and precise design of the structures will be the subject of construction surveys by the builder or specialist design consultants.	The Power Plant is based on a pre-engineered design and it is a common understanding that equipment and structures and not dimensionally adjusted to meet Planning Application

Pg	Spec	Bid	Originaltext	Clarification/Correction
				Documentation.Exception to this exclusion is where national environmental or binding health & safety regulations stipulate otherwise.
18	4		A2-A3: ... A stairway will provide access to all levels up to the upper platform, located at 27 m, also allowing access to the chimney stack.	The final level of the upper platform will be fixed by the HRSG supplier during detail design.
18	4		A5 : Electrical rooms Two-story building 36 m x 10 m, to be built of concrete.	The switchgears, batteries, protection and control cabinets except for black box systems are located in PCC's
18	4		The auxiliary boiler room is an exterior unit provided with a 43-m steel chimney stack. The burner section will be protected by steel cladding with access for maintenance.	The auxiliary boiler is equipped with a stack of 104m, attached to the main stack. The auxiliary boiler with a thermal capacity less than 25 MW(th) will be placed inside the feedwater pump house, no containment for the burner section will be provided.
19	4		D2 : Store	A store building is not included in the Siemens scope of supply.
19	4		B1: Water treatment plant	The water treatment plant is not included in the Siemens scope of supply.
20	4.		E4: TGBT (low voltage switchboard) building This 6 x 14 m room adjoins room E3, and has the same height. Concrete structure covered with metal cladding. Sloping roof of ribbed steel. Two entrances Fire detection and prevention System.	The low voltage switchgears will be located inside prefabricated power control centers (PCC's).
20	4		C2: Compression station	A gas compression plant is not needed and hence not included in the Siemens scope of supply.
20	5.		Electrical rooms and electrical cabinets are kept locked, and access to them is controlled.	Access control for rooms and cabinets and any signals from door contacts are not included in the offer and won't be provided.
22	5		for starting up the submersible fire pump, the booster pumps, and possibly the diesel fire pump if the submersible pump is unavailable.	Kindly note, that the fire fighting pumps are not of a submersible type. Fire fighting booster pumps are not needed and not included in the Siemens scope of supply.
23	5.		The electrical and water-treatment buildings will be heated by using forced-air convection heaters.	The electrical buildings (prefabricated power control centers) will be equipped with airconditioning units.

02-999_A_B_DAE_HOR_1_RNT_Operating_Licence_Applic.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
4	1.2		1416: hydrogen bottle containers for cooling the alternators	Bottle containers shall be read as bottle rack. There is only one Turbine Generator provided for the single shaft plant offered.
4	1.2		LA SNET intends to build and operate two combined-cycle, natural gas-powered 400 MWe units on the site of the Hornaing Plant.	Only one Unit offered.
4	1.2		2910: two combustion turbines and a natural gas backup HRSG,	It should be noted that only one gas turbine is offered for Hornaing. The wording "natural gas backup HRSG" is understood to refer to a natural gas fired auxiliary boiler. It should also be noted that a hot water boiler station fired with gas will be installed in the vicinity of the gas pressure reducing station. It is advised that one hour fire stability for the building housing the gas turbine as required in the decree 2910 is not included in Contractor's scope and price. Furthermore, it is advised that the standard arrangement of the Contractor for the lube oil skid, the seal oil skid and the hydraulic oil skid is offered. Hence, the minimum distances from the combustion turbine specified in Clause 2.1 of the decree 2910 for the lube oil skid, the seal oil skid and the hydraulic oil skid are not complied with. To compensate this arrangement the above skids will be provided with fire fighting systems."
4	1.2		2921: two wet cooling towers	Corresponding to provision of one power block only one wet cooling tower is provided.
4	1.2		2920: three natural gas compressors	Contractor has not included natural gas compressors in it's scope of supply.
4	1.2		2920: two air compressors	Beside a central air compressor station comprising two compressors there is also a compressor station provided for the GT included in Contractors scope. Any compressed air required for the demin. water treatment plant or other systems in Owners scope shall be supplied from air compressors in

Pg	Spec	Bid	Originaltext	Clarification/Correction
				Owners scope.
10	1.4		An air compression station will also be necessary to supply the consumers in the unit with compressed air (a 110 kW compressor and a reserve compressor)	The central air compressor station designed to supply 300Nm ³ is rated with less than 110kW.
10	1.4		The LA SNET project provides for installation of two natural gas-fired combined cycle units ("CCGs")	Only one Unit offered.
10	1.4		and a natural gas compression station (optional) upstream of the gas turbine supply (a 1600 kw compressor and a reserve compressor) .	A natural compressor station (incl. reserve compressor) is not needed and not included in the scope of supply.
10	1.4		A common backup auxiliary steam supply facility and a demineralized water production facility will be installed.	One auxiliary steam boiler is offered for the one Combined Cycle Plant offered.
12	2		The new CCG plant will produce channeled atmospheric releases, principally originating from the gas turbine and the auxiliary HRSG (CO, NOx) and from the cooling towers (legionella) .	Atmospheric releases will also produced by gas fired hot water boiler station (supplying hot water to the fuel gas supply system to ensure the gas temperature demanded by the gas turbine).
13	3.1.1	14.2.1	The maximum water consumption for the CCG is estimated at around 532 m3/hr i.e. a consumption of 12,780 m3/day and this for the most unfavorable period of the year. As an average value over the year, the water requirement would appear to be more like 400 m3/hr, or 9,600 m3/day.	The approximate maximum and average water consumption of the new plant is indicated in the water balance diagram of our bid section 14.2.1.
14	3.1.2.		Used water will be treated in septic tanks.	Domestic sewage will be treated in a compact bio-disc sewage treatment unit. Septic tanks are not proposed in the Contractor's Offer.
15	3.2.2		originate essentially from the gas turbine stack	It should be noted that the gas turbine exhaust gas is routed to the atmosphere via the stack of the HRSG.
15	3.2.2		The channeled releases from the new facilities originate essentially from the gas turbine stack and the cooling unit.	Atmospheric releases will also produced by gas fired hot water boiler station (supplying hot water to the fuel gas supply system to ensure the gas temperature demanded by the gas turbine).
16	3.2.3		Maximum concentrations* of future combustion turbines	The values refer to emissions in the upper load range at steady state operation.
16	3.2.3		The continuous analyses of NOx, CO and O2 will be	The CEMS included in the scope of supply will be connected to

Pg	Spec	Bid	Originaltext	Clarification/Correction
			performed on the stack of the gas turbine and the backup HRSG.	stack of the HRSG. A CEMS for the auxiliary boiler (= "backup HRSG") is not included.
16	3.2.3		SO2 traces <2 kg/hr 10 mg/Nm3	SO2 emission is depending on sulphur content in the fuel only and any limitation of this emission is not included in Contractors scope of supply.
16	3.2.2		A backup HRSG,	The "backup HRSG" is understood to refer to the auxiliary boiler. It should also be noted that a hot water boiler station fired with gas will be installed in the vicinity of the gas pressure reducing station.
17	3.2.4		that the atmospheric releases from the gas turbine will not exceed the regulatory limit values imposed.	It is understood that exceedings of the emission limits is permitted during start up and if the Unit is operated at low loads outside the range where emissions are in compliance with applicable emissions limits.
19	3.6		LA SNET will apply all the recommendations for reducing acoustic emissions resulting from a prior acoustic study.	Contractor shall be obliged to comply with the guarantees for noise emission stipulated in the Contract. This will require measures for noise protection as worked out by Contractor. Hence, Contractor shall not be bound to "apply all the recommendations for reducing acoustic emissions resulting from a prior acoustic study" performed by the Owner or any third party.
19	3.7		No site clearance work is necessary.	It is understood that site clearance is necessary and performed by the Owner prior to hand over of site to Contractor.
21	3.9.4		NOISE After implementation of the soundproofing recommendations on the project facilities, table 15 shows that installation of the CCG will not modify the acoustic impact of the site and, therefore, its results in respect of the WHO recommendations. The values measured to date beyond these recommendations (Zone 4b, Zone 5b and Point 6) should not worsen.	Siemens will not take into account the existing installations. According to the Acouphen study the regulatory requirements/Emergence for the existing plant on site is already exceeded. All new installations (Siemens scope) will comply with acceptable noise contribution for the new plant at the Receptor locations given in Acouphen Environment report RA-070145-02-A, dated 29th June 2007. Basis for these acceptable levels are measurements of background noise (please see the acouphen report). With these information and the applicable emergence according to

Pg	Spec	Bid	Originaltext	Clarification/Correction
				law, the acceptable noise levels for the new installation is calculated. These values are basis for acoustical design, future background noise cannot be taken into account. Siemens will do its own acoustical design study only for the new power plant with own soundproofing measures.
23	3.12		Automatic regulation of use of sulfuric acid to minimize releases & its use	The sulfuric acid dosing rate will be adjusted according to make up water flow rate. Additionally sulfuric acid will be dosed when the target pH value is exceeded. Apart from this control there is no further regulation of the sulfuric acid dosing rate considered.
24	4.2		.. Scenario 5: Loss of containment in gas compressor buffer tank	Not applicable, a gas compressor station is not needed for the fuel gas supply system.
25	4.3.2		The distances of the domino effects (200 mbar) reach the electrical building, but do not exit the site boundary.	It shall be noted that the actual fuel oil storage volume provided for the emergency diesel and the diesel driven fire pump is much smaller than assumed for the risk assessment. Hence, the actual impact of an explosion is less than assumed. It shall also be noted that the aggregates using fuel oil are arranged differently than assumed for the risk assessment. Finally it shall be noted that there is no electrical building. Switchgears, electrical and C&I cabinets, batteries etc except for black box systems are installed in prefabricated Power Control Centers (PCC's).
25	4.3.3		4.3.3. - Loss of gas compressor buffer tank containment	Not applicable, a gas compressor station is not needed for the fuel gas supply system.
25	4.3.1		The distances of the domino effects (8 kW.m-2) reach the electrical building, but do not exit the site.	It shall be noted that the actual fuel oil storage volume provided for the emergency diesel and the diesel driven fire pump is much smaller than assumed for the risk assessment. Hence, the actual impact of a fire is less than assumed. It shall also be noted that the aggregates using fuel oil are arranged differently than assumed for the risk assessment. Finally it shall be noted that there is no electrical building. Switchgears, electrical and C&I cabinets, batteries etc except for black box systems are installed in prefabricated Power Control Centers (PCC's).

Pg	Spec	Bid	Originaltext	Clarification/Correction
26	4.3.5		The distances of the domino effects (8 kW.m-2) reach the electrical building, the diesel unit and the demineralized water treatment unit, but do not exceed the limits of the site.	It shall be noted that there is no electrical building. Switchgears, electrical and C&I cabinets, batteries etc except for black box systems are installed in prefabricated Power Control Centers (PCC's). Based on the layout used for the bid the some PCC's (UBA's), the Turbine Building (UMC) and the cooling tower make -up water dosing building (UGJ) would be within the range of the calculated distance for the domino effect, but neither the emergency diesel unit (UBN) nor the demin. water treatment plant (UGD).
26	4.3.6		Explosion of natural gas in auxiliary HRSG	It is understood that the auxiliary boiler is meant.
26	4.3.4		The distances of the domino effects (200 mbar) reach the electrical building, the diesel unit and the transformer zone but do not exceed the limits of the site property	It shall be noted that there is no electrical building. Switchgears, electrical and C&I cabinets, batteries etc except for black box systems are installed in prefabricated Power Control Centers (PCC's). Based on the layout used for the bid mainly some PCC's (UBA's), the HRSG (UHA), the main pipe rack (UMY), the feedwater pump building (ULA), the gas metering, filtering and preheating station (UEN02) and the Generator and Unit Aux. Transformer (UBF, EBE), the Generator Circuit Breaker (UBX) and the emergency diesel unit (UBN) would be within the range of the calculated distance for the domino effect.
27	4.3.6		The distances of the domino effects (200 mbars) reach the pump and various equipment zone, the HRSG building and a part of the cooling towers (E1) but do not exceed the limits of the site property.	Based on the layout used for the bid mainly the HRSG (UHA), the main pipe rack (UMY), the feedwater pump building (ULA), the gas metering, filtering and preheating station (UEN02), the emergency diesel unit (UBN). the raw water tank (UGA - Endesa scope) and the demin. water tank (UGC - Endesa scope) would be within the range of the calculated distance for the domino effect.

02-999_A_B_DAE_HOR_2_Administrative_Settings.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
10	6.2		1 diesel motor-generator set: Power output: 2,4 MWth	The power output of the emergency diesel generator will be less than 2,4MW (appr. 640kW).
10	6.2		1 motorized diesel fire pump: Power output: 0,3 MWth	The power of the diesel fire fighting pump will be less than 300kW.
10	6.2		Air conditioning for a total of 40 kW	The rated power for the air conditioning facilities will be more than 40 kW.
10	6.2		Two 1600-kW natural-gas compressors, including one for backup Total power: 1600 kW	A gas compressor station is not needed and hence not included in the Siemens scope of supply.
10	6.2		Combustion facility, when the facility consumes natural gas, liquefied petroleum gases, domestic fuel oil, coal, heavy fuel oils, or biomass exclusively, alone or in a mixture.	The gas fired hot water boiler station are additional combustion facilities not listed in this paragraph (supplying hot water to the fuel gas supply system to ensure the gas temperature demanded by the gas turbine).
10	6.2		1 auxiliary emergency natural-gas steam-production boiler: Power output: 25 MWth	Please be informed that the thermal power of the supplied auxiliary boiler will be less than 25 MW(th).
10	6.2		2 air compressors: 2 x 110 kW	The rated power for the air compressor facilities will be less than 110 kW.
10	6.2		Battery of 8 wet-cooling towers Total power output : 280,000 kWth	The thermal power of the cooling Tower during normal operation is less than 280MW
11	6.2		Storage of 10 m3 of HFO for the emergency generator set	The fuel oil amount for the emergency diesel generator set will be approximately 2,8m³.
11	6.2		Storage of 3 m3 of HFO for the motorized fire pump.	The storage of HFO for the diesel fire fighting pump will be less than 3m³
12	6.2	14.2.1	GCC: 535 m3/hr at peak, 400 m3/hr on average during the period of overlapping of GCC Units 3 and 4.	The approximate values for raw water consumption (peak and average) of the new plant are indicated in the water balance diagram of bid section 14.2.1.
12	6.2		SS > 90 kg/day COD > 120 kg/day	The industrial water effluent limit for SS (Suspended solids) is listed in the specification 102 with 30mg/l. On this basis 3000t/day of industrial water are allowed to discharge. The industrial water effluent limit for COD (Chemical oxygen demand) is specified in the Arrêtée Préfectoral of 13.07.2004

Pg	Spec	Bid	Originaltext	Clarification/Correction
				with 125mg/l. On this basis 960t/day of industrial water are allowed to discharge. Siemens will base their bid on effluent limits: TSS 30mg/l (specification 102) COD 125mg/l (Arrêtée Préfectoral of 13.07.2004)

02-999_A_B_DAE_HOR_3_General_Presentation.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
28	4.9	1.2.1	4.9. - INITIAL SOUND LEVELS	The report/ annex 7 is not included. Basis noise data for Siemens Design and the Receptor locations are given the Acouphen Report "Acouphen Environment report RA-070145-02-A", dated 29th June 2007. Basis for the acceptable levels at receptor locations are measurements of background noise (please refer to the acouphen report). With these information and the applicable emergence according to law, the acceptable noise levels for the new installation is calculated. These values are basis for acoustical design. Deviating from actual background (June 2007), future background noise cannot be taken into account.
40	3.2		35,000 l,	The lube oil module has a storage volume of 40m ³ . When the unit is in operation part of the lube oil is running through the system (e.g. piping, bearing pedestals etc.). So during operation there will be approximately 25m ³ in the lube oil tank, while the rest is in the system. After shut down of the lube oil system the lube oil will drain back to the lube oil tank, so that the tank will fill up again to the storage volume of 40m ³ .
53	1.2.1		The actual characteristics of the GCC unit on the Hornaing Power Plant site have been calculated and are given in Table 18 below:	It is understood that Contractor is not bound by the numbers stated in table 18.
53	1.2.1 Table 17		Table 17 : Typical characteristics of the 400 MWe combined cycle	It is understood that Siemens shall not be bound by these typical characteristic values.
55	1.2.1		The natural gas required by the project will be supplied via a new Gaz de France Transport (GDFT) pressure-reducing station which will be installed to the west of the site (north of cooling tower 3).	The pressure reducing station is already included in the Siemens scope of supply, an additional pressure reducing station shall be excluded from the scope of the gas supplier.
55	1.2.1		The GDFT supply station comprises a pressure reducing section and its own safeguards	The pressure reducing station is already included in the Siemens scope of supply, an additional pressure reducing station shall be excluded from the scope of the gas supplier.

Pg	Spec	Bid	Originaltext	Clarification/Correction
55	1.2.1		The pipework connecting the delivery station and the compression station will be underground.	A gas compressor plant is not needed and hence not included in the Siemens scope of supply.
55	1.2.2		The natural gas used for the project will be type H and has the following composition:	Please observe that the gas composition stated in table 19 is different from the gas composition stated in specification no. 102, clause 2.1.1.2. We have assumed that the gas composition stated in specification no. 102 shall be applied.
56	1.2.1		Before it can be admitted to the gas turbine combustion chamber, natural gas needs to be compressed and brought to the correct temperature in certain cases.	A gas compressor plant is not needed and hence not included in the Siemens scope of supply.
56	1.2.1		Compression station	A gas compressor plant is not needed and hence not included in the Siemens scope of supply. The paragraph from "Compressor station" up to "Final gas conditioning" is not applicable.
58	1.2.1		The natural gas filtration skid for the gas turbine comprises two coalescer filters, each able to process the entire natural gas throughput. These filters are followed by safety and decompressions shutoff valves.	The gas will be already filtered at the plant entrance (2x100%) with an efficiency identical to the final filter. Hence, only a very small amount of dust is expected in the section upstream of the final filter, a redundant configuration is not necessary. Filter cleaning is in line with the gas turbine maintenance.
58	1.2.1		Downstream of the compression station, the underground gas pipe connects up to the series of gas conditioning units installed close to the gas turbine.	A gas compressor plant is not needed and hence not included in the Siemens scope of supply.
58	1.2.2		In transient operating conditions, this heater is backed up by an electric heater.	Gas is heated by water from the heat recovery boiler, electrical gas heating is not provided.
59	1.2.3		The gas turbine, the steam turbine and the generator are installed in an acoustic housing on a metal frame (skid) shared with the auxiliary equipment (bearing lubrication system, scrubbing system (both during operation and when shutdown), start-up system, etc.)	The turbines and the generator of the single shaft unit are installed on individual foundations. Whereas the gas turbine will be provided with an acoustic enclosure, the generator and the steam turbine will be provided with local sound protection only. The lube oil skid, the compressor washing skid etc. will be arranged outside the acoustic enclosure. For details of the arrangement, please refer to section 16 of the bid.
60	1.2.3		The maximum natural gas throughput is 78,756 Nm ³ /h.	The maximum natural gas throughput is among other things depending on the heating value and the density of the natural

Pg	Spec	Bid	Originaltext	Clarification/Correction
				gas delivered. Hence, the value of 78756 Nm³/h is not considered binding on the Contractor.
61	1.2.3		Nitrogen is also used to inertize the gas equipment for safety reasons	Due to fuel gas content the nitrogen flushing of the Fuel Gas System to prevent corrosions is not required and not included in our offer.
61	1.2.3		an auxiliary bearing lubrication system (35 m3 oil tank, oil filter, feed pump and heat exchanger for cooling in the cooling water circuit,	Siemens standard lubrication system comprises a 40 m3 oil tank. The lubrication system for the single shaft components is a common system.
61	1.2.3		an auxiliary scrubbing system during operation and when shut-down: the gas turbine is scrubbed using detergents to which antifreeze may be added in the winter months,	The compressor washing system, offered is only foreseen for washing of compressor blades and vanes only. In the base scope there is no anti freezing included for the compressor washing. Siemens can quote for this anti freezing facilitie to enable compressor washing at a temperature > -10°C as an option.
61	1.2.3		High temperature oil detectors will be installed at the exit from the bearings. They will cause the plant to shut down.	Monitoring of the bearing temperatures is performed by themocouples sensing the metal temperature in the bearing and not by measuring the oil temperature in the oil drainage from the bearings.
62	1.2.6	9.1	Maximum electricity generation at the generator outlet is 446 MWe.	Maximum electricity generation at the generator outlet at low ambient conditions is less than 446 MWe
62	1.2.4		In order to prevent corrosion, trisodium phosphate is injected into the tanks and the boiler heat exchangers.	Trisodiumphosphate will be dosed in the boiler drums only.
62	1.2.4.		High Pressure (H) : P = 124 bar relative, T = 550 °C - medium pressure (MP) : P = 26 bar relative, T = 550 °C - Low Pressure (LP) : P = 3 bar relative, T = 295 °C.	Please be informed, that following pressure ranges are typical for the Siemens steam water cycle: - High Pressure (H) : P = 129 bar relative, T = 565 °C - Medium and Reheat pressure (MP) : P = 33 bar relative, T = 565 °C - Low Pressure (LP) : P = 8 bar relative, T = 235 °C.
62	1.2.5		Sensors to detect high lubricating oil temperatures are located in the vicinity of the turbine bearings. They cause the plant to shut down.	Each bearing is equipped with Thermocouples to monitor the bearing temperature. A too high temperature causes a Turbine Trip
62	1.2.6	9.1	a stator water cooling system: this makes it possible to	Not applicable. The stator winding is cooled indirect by

Pg	Spec	Bid	Originaltext	Clarification/Correction
			dissipate the heat given off by the stator. Heat is dissipated via a water//H2 heat exchanger.	hydrogen.
62	1.2.5		It also benefits from the soundproofing system in the acoustic housing shared with the GT.	Whereas the gas turbine will be provided with an acoustic enclosure, the generator and the steam turbine will be provided with local sound protection only.
62	1.2.5		a lubrication system comprising a (35 m3 oil tank,	The lube oil module has a storage volume of 40m ³ . When the unit is in operation part of the lube oil is running through the system (e.g. piping, bearing pedestals etc.). So during operation there will be approximately 25m ³ in the lube oil tank, while the rest is in the system. After shut down of the lube oil system the lube oil will drain back to the lube oil tank, so that the tank will fill up again to the storage volume of 40m ³ .
63	1.2.6	9.1	In addition, CO2 is also used to flush hydrogen out of the generator during maintenance periods. CO2 is stored in bottle racks outside the GT building which are connected to a distribution manifold.	Argon will be used instead of CO2.
63	1.2.7		Production of water for the new unit will be based on reverse osmosis. The production capacity required to fill the buffer tank amounts to 15 t/h demineralized water for a maximum average consumption of approx. 5 t/h. A buffer store of 1,200 m3 demineralized water will be located on the site to supply any additional amounts required in the boiler water circuits.	The demineralization plant and the demin water tank are excluded from the Siemens scope of supply. The net capacity of the demineralization plant shall not be less than 2 x 8 t/h, the demin water tank size should be not less than 1000 m ³ net in order to enable boiler and water steam circuit cleaning within the scheduled time frame.
63	1.2.7		In order to prevent corrosion, a phosphate solution is injected into the tanks in order to check pH.	Phosphate treatment will be done in case of malfunction / elevated conductivity only.
63	1.2.7		The heat recovery boiler also produces superheated water for the purpose of reheating the natural gas before it passes on to the gas turbine distribution skid.	Warm water from the HRSG is used for heating (not reheating) the fuel gas before used in the Gas Turbine.
63	1.2.6	9.1	The hydrogen used for cooling a generator is stored in six 158 m3 racks, i.e. approx. 100 kg of H2 in total.	The recommended hydrogen storage during commissioning is 1116 m ³ for one generator (approx. 100 kg). The recommended hydrogen storage during operation is 360 m ³ sufficient for 20 days operation for two generators (approx. 32 kg). The annual hydrogen consumption of the generator is approx. 500 kg. Cycling mode will not increase hydrogen

Pg	Spec	Bid	Originaltext	Clarification/Correction
				consumption significantly.
64	1.3.1		boiler blowdown downstream of the atmospheric flash tank,	As agreed for Emile Huchet the boiler blowdown will be transferred through the flash tank / clean drain tank directly into the cooling water without prior cooling. Contractor being responsible for the process design confirm such design will not have impermissible impact on the operation of the unit.
64	1.3.1		and sodium bromide	Sodium bromide will not be used (please refer discussion and agreement for Emile Huchet).
64	1.3.1		The intention is to store 30 m3 12.5% sodium hypochlorite solution and 5 t bromide.	Sodium hypochlorite storage tanks with a capacity of xm3 will be provided according to Contractors concept design and Contractors process responsibility. Sodium bromide will not be used. (please refer discussion and agreement for Emile Huchet)
64	1.3.1		Additional injection of corrosion inhibitors made up of caustic soda, polyacrylates and tolytriazole.	No special anti corrosion agent will be used. Cooling water conditioning will be done according to Contractors process responsibility (please refer discussion and agreement for Emile Huchet).
64	1.3.1		the bearings of the various pumps,	Not all pumps have water cooled bearings.
65	1.3.3		Emergency auxiliary steam is produced by a 25 MWth gas boiler with fire tubes.	The capacity of the auxiliary boiler is approximate 12 MW.
66	1.4.1		regulator valves, mainly air-operated,	The type of actuators will be chosen by Contractor.
66	1.3.3		The plants are shut down in accordance with the following sequence: .. Reduction in turbine power, .. Disconnect the generator from the national grid .. Slow reduction in turbine speed, then close the steam inlet valves to the ST and the gas valves to the GT. These operations take twenty minutes or so.	The shut down of the plant is described in the operational concept chapter 1.6.1 of our offer. The shut down needs according our experience round about one hour .
66	1.4.1		filters/separators for O2,	Filters/separators for O2 are not provided.
66	1.4.1		continuous measurements of atmospheric emissions (NOx, CO, O2),	A CEMS is only installed for the HRSG exhaust stack.
67	2	9.1	Hydrogen Cooling the generator 100 kg in rack 50 kg	The recommended hydrogen storage during commissioning is 1116 m³ for one generator (approx. 100 kg). The

Pg	Spec	Bid	Originaltext	Clarification/Correction
				recommended hydrogen storage during operation is 360 m ³ sufficient for 20 days operation for two generators (approx. 32 kg). The annual hydrogen consumption of the project is approx. 500 kg. Cycling mode will not increase hydrogen consumption significantly.
67	2 Table 20		Oil Lubrication of rotating machinery 10 m ³ 1 m ³	A permanent lube oil storage of 10 m ³ appears to be on the high side. An anual consumption of 1 m ³ cannot be confirmed by Siemens. E.g. in a year where the turbine train lube oil tank filling is exchanged the "consumption" will be >> 1 m ³
67	2 Table 20		Nitrogen Inertization of gas equipment	Inertization of gas equipment with nitrogen is not provided for as a permanent installation. It might be applied as temporary measure during special maintenance work.
67	2		Tri-sodium phosphate 1 t in 1000 l cubitainers 1 t	Trisodium Phosphate will be provided as a solid product in bags. Approx. 100 kg will be stored in the phosphate dosing container, which will be located next to the boiler. Phosphate will be dosed during malfunction only. Therefore the annual consumption is expected to be less than 1t.
67	2		antifreeze Periodic washdown of the gas turbine 3000 kg 0 to 10 t/ year	Only applicable if an advanced compressor washing system is ordered and installed (Option).
67	2	9.1	CO ₂	Argon will be used instead of CO ₂ for deaeration of the generator.
67	2		Hydrazine < 5% subst. act. 2 t in 1000 l cubitainers 3.5 t	Hydrazine will only be dosed during start up and shut down. Therefore the annual hydrazine consumption is expected to be less than 3,5t. Storage quantity of 1t for hydrazine are judged to be sufficient by Contractor.
67	2		Sodium hypochlorite 12.5% 30 m ³ 552 t	Sodium hypochlorite storage tanks with a capacity of 2x30m ³ will be provided according to Contractors concept design and process responsibility (please refer discussion and agreement for Emile Huchet). Annual hypochlorite consumption depends strongly on chlorine attrition which is not predictable and depends on raw water quality.

Pg	Spec	Bid	Originaltext	Clarification/Correction
67	2		Sulfuric Acid 94/98 % 50 t 161 t	The storage capacity for sulphuric acid is 15m3 . The annual sulphuric acid consumption is expected to be less than 161 t.
67	2		Ammonia < 25% 1 t in 200 l drum 1 t	Ammonia will be provided in IBC with a capacity of 1000l. The ammonia consumption will be higher than 1 t/a. The ammonia dosing concept is in the responsibility of the manufacturer. (please refer discussion and agreement for Emile Huchet)
67	2		Corrosion inhibitors 7 t in 1000 l container 14 t	Hardness stabilizer, dispergent agent and sulphuric acid will be used for cooling water conditioning only. According to Siemens process responsibility there is no need for a separate corrosion inhibitor. The hardness stabilizer consumption will be higher than 14t. The dosing concept is in the responsibility of Siemens. The hardness stabilizer storage tank has a capacity of 4m3 which corresponds to an autonomy of at least 15 days.
67	2		Fire-fighting equipment 1000 kg	Siemens requests to store approx. 1300kg of carbon dioxide and 2600kg of inert gas for fire fighting purposes.
67	2		In any event, the storage areas will be located in dedicated areas and provided with their own retention systems (drums placed on gratings with retention tank or individual 1 m3 cubitainers depending on the quantities stored).	A separate storage building is not included in Contractors scope.for
68	2		In general terms, the products used to operate the GCC unit will be the same as for the units which are already operational, which means that the stores will be optimized to the greatest possible extent.	Siemens shall not be bound to design the equipment in order to achieve this objective.
69	3.1		Power 300 MWe	The power output of the GT at very low ambient conditions will be slightly lower than 300 MW.
69	3.1		Natural gas compression station Two 1600 kW centrifuge compressors (although only one can operate at any one time) / 10 m3 buffer tank at a pressure of 46 bars	A gas compression plant is not needed and therefore not included in the Siemens scope of supply.

Pg	Spec	Bid	Originaltext	Clarification/Correction
69	3.1		Gross electricity generation: 446 MWe / hydrogen cooling	The gross electricity generation at lowest ambient conditions will be slightly lower than 446 MW
70	3.2 Table 22		250 MWth condensation	The max condenser performance at very low ambient conditions will be slightly lower than 250 MWth (abnormal operation and bypass operation not considered)
70	3.2 Table 22		1 domestic fuel oil-fired thermal motor (300 kWth NCV) and associated fuel storage (3 m3).	The rated power of the fire fighting pump will be less than 300kW, the fuel oil storage capacity will be less than 3m ³ .
70	3.2 Table 22		Demineralized water production Filter module/Buffer storage of demineralized water, 1,200 m3	The demineralized water tank is excluded from the Siemens scope of supply. The demin water tank size should be of at least 1000m ³ to enable boiler cleaning within the scheduled time frame.
70	3.2 Table 22		Air conditioning (40 kW).	The power of the air conditioning system will be more than 40kW.
70	3.2 Table 22		Local air-conditioning units for each room with a total installed power of 40 kW, containing overall 30 kg of refrigerant fluids, type R 134a.	The power of the air conditioning system will be more than 40kW, refrigerant type 134a or similar.
70	3.2 Table 22		2 compressors each with a power of 110 kW (i.e. a total of 220 kW)	The power of the air compressors will be less than 110kW.
70	3.2 Table 22		fire tube boiler for production of emergency auxiliary system (25 MWth NCV). 43 m chimney.	The auxiliary boiler will have a output less than 25MW(th). The stack will be 104m in height and attached to the main stack.
70	3.2 Table 22		1 domestic fuel oil-fired thermal motor (2,400 kWth NCV) and associated fuel storage (10 m3).	The emergency diesel generator set shall be able to run approximately 8 hrs. continuously with the fuel in the day tank. A separate storage tank will not be provided. The rated power will be less than 2400 kW.
70	3.2 Table 22		equipped with continuous NOx, CO, O2 analysis systems.	Only the exhaust gas stack of the HRSG will be provided with a CEMS.
70	3.2 Table 22		Set of 8 forced draught cooling towers representing a maximum dissipated thermal power of 280,000 kW.	The thermal power of the cooling Tower under normal operating conditions will be less than 280MW.
71	4.1.1	9.1	Maximum electricity generation at the generator outlet is 446 MWe.	The maximum electricity generation at the generator outlet at very low ambient conditions is slightly lower than 446 MWe.
71	4.1.1		The maximum electricity exported (supplied to the national grid) will be 436 MWe after deducting the amounts consumed by the auxiliary equipment. The	The maximum net electricity power exported to the grid at very low ambient conditions will be slightly lower than 436. The reference to a maximum power specified in the PTF

Pg	Spec	Bid	Originaltext	Clarification/Correction
			maximum power specified in the PTF (Technical and Financial Proposal) is 436 MW.	(Technical and Financial Proposal) is considered not binding on Siemens.
72	4.1.2		Associated devices : Monitoring gas emissions triggering an alarm and/or shutdown. Monitoring the temperature of the dielectric triggering an alarm and/or shutdown (two thresholds). Retention on a pebble bed (to put out dielectric oil fires). Fireproof housing	For dry type transformers only PT100 devices will be provided. A fireproof housing is not provided for dry type transformers and they are not placed on a pebble bed.
72	4.1.1.		Fireproof housing	Please revise the text to define the required fire resistance. eg. 1hour fire stability
72	4.1.2		Power Output 2 400 kW PCI	The power output of the emergency diesel generator will be less than 2400 kW.
72	4.1.2		An emergency diesel generator set is to be provided to supply each unit with electricity.	Only one Unit is offered for Hornaing.
72	4.1.2		Storage of fuel 10 m3	The fuel tank of the emergency diesel generator set will be sufficient for 8 hrs continuous operation.
72	4.1.2		Dielectric : Mineral-oil (6 m3).	The LV transformers offered will be of cast resin type.
72	4.1.2		The auxiliary systems use 5 to 7 MW during normal operation,	The auxiliary load could be in the range of 2 % of rated load
72	4.1		electrical building.	Electrical cubicles, batteries etc. except for Black Box Systems will be installed in prefabricated Power Control Centers (PCC's) Hence, there is no electrical building provided.
72	4.1		Voltages : 20 kV / 235 kV	The voltage level of 235 kV shall be subject to optimization during detail engineering.
72	4.1		Dielectric : Mineral-oil (90 m3)	The quantity given in the DDAE document can only be regarded as an estimated value. Final volume will be given during the detail design.
72	4.1.2		Voltages : 2 windings: 20 kV / 4.7 kV and 20 kV / 6.75 kV.	The voltages offered will be 19kV/6,93kV at no-load conditions. An excitation transformer will be provided seperately.
73	4.2		The project uses natural gas as its primary energy supply and requires a new pressure-reducing station to be constructed from the GDFT network.	The pressure reducing station is already included in the Siemens scope of supply, an additional pressure reducing station shall be excluded from the scope of the gas supplier.
73	4.1.3		- Associated devices : Monitoring gas releases and triggering an alarm and/or shutdown, Monitoring the	For dry type transformers only PT100 devices will be provided. A fireproof housing is not provided for dry type transformers

Pg	Spec	Bid	Originaltext	Clarification/Correction
			temperature of the dielectric triggering an alarm and/or shutdown (two thresholds), Retention on a pebble bed (to put out dielectric oil fires). Fireproof housing	and they are not placed on a pebble bed.
73	4.2		The maximum natural gas throughput required for nominal operation of a new unit is 78,756 Nm ³ /h.	The maximum natural gas throughput is among other things depending on the heating value and the density of the natural gas delivered. Hence, the value of 78756 Nm ³ /h is not considered binding on the Contractor
73	4.2		The plot plan for the project shown in Appendix 11, also explains the location of apparatus which uses gas and the associated networks.	We have not been able to find Appendix 11and hence we have been unable to comment on the location of other apparatus using gas and there associated networks.
73	4.1.3		Several auxiliary transformers supply the low voltage auxiliary equipment from the high voltage distribution switchboard. These transformer stations are located next to the electrical building. Their key characteristics are as follows: - Voltages : 6 600 V / 410 V - Dielectric : Mineral oil (6 m3)	Transformers that supply LV System, Starting Frequency Converter and Static Excitation Equipment will be of Cast Resin type. Electrical cubicles, batteries etc. will be installed in prefabricated Power Control Centers (PCC's) Hence, there is no electrical building provided.
74	4.3.1	14.2.1	The maximum water throughput for the GCC unit is estimated to be 532.5 m ³ /h, i.e. a consumption figure of 12,780 m ³ /day and this figure applies to the most unfavorable period in the year. As an average value over the year, water requirements tend to be around 400 m ³ /h, or, in other words, 9,600 m ³ /day. This includes water consumption by the cooling towers and the production of demineralized water for the GCC unit.	The approximate water consumption of the new unit is indicated in the Water balance diagram of bid section 14.2.1.
74	4.3.2		During normal operation, the effluent flow rate for the future power plant is around 171.5 m ³ /h (current blowdown rate for the cooling towers is equal to 32%), or, in other words, 4,116 m ³ /day, which will be in addition to the current discharges during simultaneous operation of Unit 3 and the GCC unit.	The approximate blow down rate of the water steam cycle and the cooling tower is shown in the "Water balance" . Please see chapter 14.2.1 of our offer.
74	4.3.2		The power plant effluents (chemical, physical, oil and biological) will be treated at source in the unit and then discharged into the plant's sewage system.	Treatment of industrial effluents are not included in the Siemens offer.
74	4.3.2		The project plot drawing shown in Appendix 11 shows	We have not been able to find the specific plot plan referred to

Pg	Spec	Bid	Originaltext	Clarification/Correction
			the discharge systems for the various kinds of water produced and collected as part of the project.	as Appendix 11 and hence we have not been able to furnish our comments on the same.
74	4.3.1		The new unit will be supplied with untreated water using the existing surface water and boreholes, although the latter may be refurbished.	The raw water treatment plant is agreed to be supplied by ENDESA.
75	4.3.1		2 screw-type air compressors, dry technology, with a capacity of 2 x 600 Nm ³ /h used in normal emergency mode (a standby compressor) an electric motor with a power of 110 kW per compressor,	The air compreesors for the general compressed air supply are designed with a capacity of 300Nm ³ /h each, electrical power less than 110kW. In addition the GT is having a compressed air station for its own needs. If compressed air is required for any equipment or systems in Owners scope of supply, these would then be additional air compressors.
76	5		Storage area	The storage building (incl. equipment) is not included in the Siemens scope of of supply.
76	5 Table 24		Conditioning untreated water before injecting into the cooling water circuit / houses the units for injecting anticorrosion products, sulfuric acid and sodium hypochlorite, sodium bromide and biocide	The following dosing concept is agreed according to Contractors design philosophy: - no separate corrosion inhibitor will be dosed but a combi product consisting out of hardness stabilizer and corrosion inhibitor. - sodium hypochlorite is the only biozide injected into the cooling water. - no sodium bromide will be dosed into the cooling water. Cooling water conditioning will be done under Contractors design philosophy and process responsibility.
76	5 Table 24		Gas compressor building (optional)	A gas compression plant is not needed and therefore not included in the Siemens scope of supply.
76	5 Table 24		Also houses a physical and chemical analysis laboratory	The laboratory (including equipment) is excluded from the Siemens scope of supply as it is normally a standardarized Annex of the demineralization plant supplied by others.
76	5 Table 24		Storage area Storage of components and products required for daily maintenance of the new unit: storage of spare parts, oil and grease	This storage building is not in the Siemens scope of supply. Storage of spares, oil and grease will be provided by the Client in an existing building on site.

Pg	Spec	Bid	Originaltext	Clarification/Correction
76	5		Demineralized water treatment unit	The demin water treatment plant is agreed to be in ENDESA's scope of supply.
76	5 Table 24		Electrical rooms	Electrical cubicles, batteries etc. except for black box systems will be installed in prefabricated Power Control Centers (PCC's) Hence, there is no electrical building provided.
76	5 Table 24		Demineralized water treatment unit Treatment of untreated water to produce demineralized water by reverse osmosis/ storage of sulfuric acid and soda	This building is not in the Siemens scope of supply. This building and ancillary tanks will be supplied by the Client
77	5.		An outdoor area will be provided for various pumps. This comprises a rack of pipes with pumps installed underneath.	Please clarify what is implied here? What pumps, where, doing what? Can the Contractor ignore this text in respect to the Contractor's responsibilities to the Client and the local authorities and assume the description is a general reference to piping and pumps located around the proposed CCPP site?
77	5 Table 25		Demineralized water treatment unit	This building is not part of the Contractor's scope of supply
77	5 Table 25		Storage area	This building is not part of the Contractor's scope
77	5		Storage area	The storage building (incl. equipment) is not included in the Siemens scope of of supply.
77	5		Gas compressor building	A gas compression plant is not needed and therefore not included in the Siemens scope of supply.
77	5 Table 25		Electrical rooms	Electrical cubicles, batteries etc. except for Black Box systems will be installed in prefabricated Power Control Centers (PCC's) Hence, there is no electrical building provided.
77	5 Table 25		Table 25 : Characteristics of the new buildings	The Power Plant offered is based around a pre-engineered design and all equipment and structures will not be dimensionally adjusted to meet DAE requirements. Exception to this exclusion is where National environmental or binding health and safety regulations stipulate otherwise.
77	5		Demineralized water treatment unit	The demin water treatment plant is agreed to be in ENDESA's scope of supply.

Pg	Spec	Bid	Originaltext	Clarification/Correction
77	5 Table 25		Gas compressor building	This building is not within the Contractor's scope of supply.
77	5 Table 25		Table 25: Characteristics of the new buildings: Height	Siemens design is a pre-engineered package and the overall dimensions of structures will not be adjusted to meet the generic dimensions listed in this document.
77	5 Table 25		Table 25: Characteristics of the new buildings: Walls, Structural steelwork, frame, Roofing Floor	It is understood that the Contractor is not obliged to adhere to either the structural frame nor the cladding as indicated in this table. The Contractor's proposal is based on a pre-engineered design. The Contractor therefore retains the right to diverge from any of the listed requirements if it is considered detrimental to the interests of the Contractor. Having said this, where possible the contractor will attempt to adhere to the overall architectural concept in terms of form and colour.
77	5 Table 25		Surface area at ground level	The Power Plant offered is based around a pre-engineered design and all equipment and structures will not be dimensionally adjusted to meet these DAE requirements.
82	7.3.1		the power plant is a very sensitive site and thus comes under the scope of the French "Vigipirate" system (national security alert system).	No special provisions have been included in the offer for any requirements resulting out of the site falling under the French "Vigipirate" system (national security alert system).
82	7.3.		The site is monitored by security guards from a guard post located several meters from the main entrance and a control room.	There is not a guard post included in the Contractor's EPC scope of supply. Should a shelter or building be required by the Client, then please specify the exact requirements and a guard post will be included into the Offer on an optional basis.
84	7.3.1		the natural gas compressor building for the GCC unit	A natural gas compressor with building etc. is not necessary and not included.
85	7.3.2		The Gaz de France Transport (GDFT) supply station comprises a pressure-reducing station and	The pressure reducing station is already included in the Siemens scope of supply, an additional pressure reducing station shall be excluded from the scope of the gas supplier.
86	7.3.2		Likewise, the lighting sequences are preceded by an ambient nitrogen scavenging period	The exhaust gas system downstream the gas turbine is purged by air from the gas turbine prior to a start. There is no nitrogen purging provided.

Pg	Spec	Bid	Originaltext	Clarification/Correction
86	7.3.2		Natural gas compression	A gas compression plant is not needed and hence not included in Siemens scope of supply. The paragraph from "Natural gas compression" up to "Filtration/gas heating station" is not applicable.
86	7.3.2		At the gas safety vents, a Type 1 zone applies 5 to 7 metres around the opening for these vents.	Siemens will design the gas safety vents according to the minimum requirements of ATEX directive.
88	7.4.1		A network of gas and fire detectors will be installed in the new unit to enable any incipient fires to be detected rapidly and accurately. The new unit will have a gas detection system and company fire detection system which will centralize the network of detectors via IT monitoring. This IT monitor is installed in the control room and is monitored round the clock by the duty staff.	A gas detection system is provided for the gas turbine enclosure only.
88	7.3.3.		Storage of Chemical Products: maintenance oils and grease are stored in small quantities in the storage building (warehouse).	The warehouse is not in the Contractor's scope of supply.
88	7.3.2		Hydrazine and ammonia in the specified water treatment plant.	In line with the agreement for Emile Huchet it is assumed that Endesa agrees with the installation of dosing systems in containers according to Contractors standard.
88	7.3.2		Sodium hypochlorite, sodium bromide and biocide in the cooling water treatment plant.	There will be no sodium bromide dosing station supplied by Siemens as bromide will not be necessary due to the low pH value in the cooling water
89	7.5.1		The fire-fighting water supply to the new site will comprise the new local untreated water storage tank (2000 m3) and the cooling tower pond.	The fire fighting volume needed amount to approx. 800m³ and should be stored in the 2000m³ raw water tank as additional capacity. The cooling tower pond may be used by the fire brigade as an emergency supply source.
89	7.5.1		Power Output 300 kW	The power requirement of the fire fighting pump is less than 300kW.
89	7.5.1		Lubricant quantity 1.2 m3	Lubricant quantity is less than 1,2m.
90	7.5.1		Storage of fuel 3 m3 in the fire system	The storage of fuel is less than 3m³.
90	7.5.1		In addition, the buildings making up the new unit will have smoke evacuation systems in the event of a fire	Only the gas and steam turbine building is provided with certified smoke evacuation outlets.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			and compliant emergency exits.	Other buildings may be provided with not certified openings.
91	2.1		permit an energy efficiency figure above 57%.	The efficiency at full load might vary around 57 % depending on ambient conditions.
91	2.1		The efficiency figure of 57% corresponds	The efficiency at full load might vary around 57 % depending on ambient conditions.
92	3.3		By the same token, operating waste will be conveyed to the recycling and disposal systems which are already well established on the site.	There will be operating waste from the new Unit which will not be connected to the recycling and disposal systems which are already well established on the site, e.g. waste water from compressor cleaning.

02-999_A_B_DAE_HOR_4_Environm_Impact_Study.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
5	1.1		Only the overflow from the septic tank at the main point of entry and rainwater from the Plant access road are discharged to the Hornaing district drainage systems.	Note the contractor proposes using a biodisc sewage treatment plant instead of a septic tank for domestic sanitary waste. The discharge from the biodisc meets national legal requirements.
6	1.3		Waste water is in fact channeled in a closed system and treated before being discharged to the natural environment.	A treatment of waste water is not included in Siemens scope. Please refer to section 2.3 of the offer for terminal point of the waste water discharge system.
6	1.6		The construction and operation of the new installations will not adversely affect these areas of natural interest, either directly or indirectly.	The offer does not include any provisions for special measures to avoid impact on the areas of natural interest.
8	2.1		With regard to industrial water, the CCG will require on average 400 m3/h of water (532 m3/h maximum),	The approximate water consumption of the new unit is indicated in the Water balance diagram included in bid section 14.2.1.
8	2.1		The maximum flow of water consumed for the CCG is estimated at 532 m3/h, i.e. a rate of 12 780 m3/d during the least favorable period of the year. The average water requirement over the year would be around 400 m3/h.	The approximate water consumption of the new unit is indicated in the Water balance diagram included in bid section 14.2.1.
8	2.1		The new unit will be supplied with raw water as follows: - from the existing intake on the Scarpe increased by 400 m3/h during the overlap period of units 3 and 4 CCG, - from existing boreholes possibly redeveloped for noble use and backup. A measuring campaign is planned to validate the maximum capacity of the 5 boreholes (estimated at 1000 m3/h) in relation to the initial capacity (estimated at approximately 700 m3/h).	It is agreed that the raw water treatment and demineralization system is not in scope of Siemens. The raw water composition out of the boreholes and the river is in scope of others. The required raw water amount after raw water treatment plant (delivered by others) is indicated in the water balance diagram included in bid section 14.2.1
8	2.1		Specifically, a maximum production of 15 t/h of demineralized water (produced from industrial water) is needed to fill the buffer tank and for an average consumption rate of 5 t/h. A meter will be fitted to monitor consumption.	The demineralization plant and the demin water tank are excluded from the Siemens scope of supply. The net capacity of the demineralization plant shall not be less than 2 x 8 t/h, the demin water tank size should be not less than 1000 m ³ net in order to enable boiler and water steam circuit cleaning within the scheduled time frame.

Pg	Spec	Bid	Originaltext	Clarification/Correction
9	2.1		During the CCG / unit 3 overlap phase, global consumption (industrial & domestic water) for the whole of the plant, which is 2.4 Mm3/yr, will increase to 4.1 Mm3/yr based on operation of the CCG for 4200 h/yr. Once unit 3 has been shut down, global consumption should be around 2.8 Mm3/yr based on operation of the CCG for 7000 h/yr.	The approximate water consumption of the new unit is indicated in the Water balance diagram included in bid section 14.2.1.
11	2.2.1		Details of the water systems linked to the CCG are shown in the diagram in appendix 11.	Appendix 11 is not available to Siemens and has not been considered in the bid.
13	2.2.1 Figure 3		Thermodynamic watersteam cycle thermal exchange Cooling tower Boiler bleed-offs	The boiler bleed offs is led to the cooling cooling tower and and not to a settling tank .
13	2.2.1 Figure 3		Figure 3: Block diagram showing global water management on site including new facilities	The water management system deviates from the proposed block diagram, please refer to the water balance diagram of bid section 14.2.1. Examples (not exhasutive): Effluents from the raw water pre-treatment and the demineralization plant (ENDESA's scope) shall be discharged separately from the effluents discharged by Siemens. The reuse of rainwater is currently not considered. Potable water will be drawn-off from a public network.
13	2.2.1 Figure 3		Rainwater	Rain water collected from the roofs is led to the client ore to the communal rainwater header.
13	2.2.1 Figure 3		CCG steam cycle treatment: - Injection of phosphate - Injection of oxygen reducer	The CCG steam cycle consist of: - Injection of oxygen reducer (hydrazine hydrate (< 5%)) - Injection of ammonia - Injection of phosphate For the chemistry of the water steam cycle please refer to bid section section 12.3.
13	2.2.1.		Septic tanks (diagram in Figure 3)	Please note that domestic waste will be treated on site using a biodisc sewage treatment plant
14	2.2.2		Periodic use of biocide,	Sodium hypochlorite will be dosed continuously and as shock dosing on demand with higher target concentrations in the main cooling water.

Pg	Spec	Bid	Originaltext	Clarification/Correction
14	2.2.2		and a diffuser,	The injection is in the responsibility of the contractor.
14	2.2.2		An industrial water pretreatment station will be required for clarification and decarbonation.	The raw water pre-treatment is excluded from the Siemens scope of supply.
14	2.2.2		- injection of oxygen reducer:	In line with the agreement for Emile Huchet, hydrazine will be used if necessary as oxygen scavenger. Generally, chemical dosing of this kind will, if necessary, be designed under Contractors process responsibility.
14	2.2.2		Injection of corrosion inhibitor	Sulphuric acid, hardness stabilizer and dipersant will be used for cooling water conditioning only. For conditioning of the cooling water a combi product consisting of hardness stabilizer and corrosion inhibitor will be dosed. Generally, chemical dosing of this kind will be designed under Siemens process responsibility.
14	2.2.2		comprising 2 High-Head metering pumps, 2 Medium-Head	The offer is based on the concept of the phosphate dosing station comprising 3 pumps. In case of failure of one this dosing pumps the other two can be used for dosing into the boiler drum.
14	2.2.2		the auxiliary boiler.	The dosing skids for the auxiliary boiler will be separate.
14	2.2.2		and bromide	Bromide is not used in line with the agreements for Emile Huchet.
14	2.2.2		.. For the steam cycle:	Ammonia will be does into the water / Steam cycle for adjusting the pH (All Volatile Treatment).
14	2.2.2		A water demineralization station with a capacity of 15 t/h is required to fill the storage tank and supply an average consumption of 5 t/h. The technology used will be reverse osmosis.	The demineralization plant and the demin water tank are excluded from the Siemens scope of supply. The net capacity of the demineralization plant shall not be less than 2 x 8 t/h in order to enable boiler and water steam circuit cleaning within the scheduled time frame.
15	2.2.2		Once pre-treated and collected, the industrial water joins the Plant's unit network.	It is expected, that a treatment of industrial effluent water is not necessary. Hence, a treatment of industrial waste water is not included in the bid.
15	2.2.2.		It will then be conveyed to the communal sewer system or to new purpose-built septic tanks which will be	Please note that Contractor's proposal involves utilizing a biodisc sewage treatment plant. The water leaving the unit will

Pg	Spec	Bid	Originaltext	Clarification/Correction
			installed to treat the pollution load collected in each sector. Following purification in these tanks, the water will be conveyed to the network.	meet national health and safety standards.
16	2.2.3		With regard to washing the gas turbine, the effluent generated will be loaded with detergent, antifreeze and hydrocarbons.	Anti freeze is only applicable if an advanced compressor cleaning system is applied (can be offered as an option). There is no washing of the combustion turbine section of the gas turbine.
16	2.2.3		bleed-offs from the boiler (<5 m3/h) i.e.: - 21 000 m3 at 4200 h/annum during the overlap period, - 35 000 m3 at 7000 h/annum, .. bleed-offs from one of the cooling towers (max. 168 m3/h) i.e. 32% of the bleed-off rate. This corresponds to: - 730 600 m3 for 4200 h/annum during the period where the two units overlap, - 1 200 000 m3 for 7000 h/annum.	The approximate amount of boiler blow-down and the approximate amount of cooling tower blow-down are indicated in our water balance diagram included in bid section 14.2.1.
16	2.2.3		The estimated annual volume of waste discharged from operation of the CCG (industrial, runoff and domestic water) is around: - 750 000 m3 per year (based on 4200 h/annum: overlap period), - 1 230 000 m3 per year (based on 7000 h/annum).	The approximate amount of boiler blow-down and the approximate amount of cooling tower blow-down are indicated in our water balance diagram included in bid section 14.2.1.
18	2.4		All the water from the new unit will be treated before final discharge into the natural environment.	Is is expected, that treatment of industrial effluents is not necessary and hence not included in the Siemens scope of supply.
18	2.4		measures and pre-treatments envisaged (hydrocarbon separator for all suspect water), discharge from the new installation will be qualitatively less loaded than current effluent from the plant. Consequently, commissioning the new installation will have no negative effect on the quality of the water discharged from the site.	It is expected that the Contractor can comply with the effluent limits which are stated in the decret 13.07.2004, but these values depend on the quality of the pre-treated raw watwer which is supplied by the Owner.
18	2.4		During the CCG / unit 3 overlap phase, global consumption (industrial and domestic water) for the whole of the plant, which is 2.4 Mm3/yr, will increase to 4.1 Mm3/yr following commissioning of the CCG based on operation during the overlap period of 4200 h/yr. Once unit 3 has been shut down, global consumption	The approximate amount of boiler blow-down and the approximate amount of cooling tower blow-down are indicated in our water balance diagram included in bid section 14.2.1.

Pg	Spec	Bid	Originaltext	Clarification/Correction
			should be around 2.8 Mm3/yr based on operation of the CCG for 7000 h/yr.	
18	2.4		The annual capacity of water discharged from the site is currently 1.8 Mm3. The additional annual volume generated by the new installation will be: - 0.72 Mm3 per year for an operating period of 4200 h during the overlap period, - 1.2 Mm3 per year for 7000 h. The additional volume of water discharged on account of the new plant is 40% during the overlap period. After this phase, the annual volume discharged will be 1.2 Mm3, i.e. 30% less than at present.	The approximate amount of boiler blow-down and the approximate amount of cooling tower blow-down are indicated in our water balance diagram included in bid section 14.2.1.
19	3.1		Marginal closed system atmospheric emissions will mainly be generated by:	Atmospheric emissions are also generated by other equipment, e.g. the gas fired hot water boiler station of the fuel gas supply system.
19	3.1		the backup auxiliary boiler (55m high stack, ejection speed greater than 8m/s)	Please be informed that the stack height will be the same as the HRSG main stack, 104m. The Auxiliary boiler Stack will be attached to the main stack.
20	3.1.1		Figure 4: Location of sources of atmospheric waste	The location of equipment with atmospheric emissions shown in Figure 4 might be different to the locations in the offered layout, e.g. the location of the auxiliary boiler is arranged closer to the HRSG in the offer.
20	3.1.1		The cooling capacity is 20 000 m3/h which will remove 280 MW.	The amount of cooling water needed is indicated in our water balance diagram of bid section 14.2.1. The performance of the cooling tower will be less than the indicated 280 MW under normal operating conditions.
21	3.2		Continuous analyses of NOx, CO, and O2 will be carried out.	Only one CEMS is included for connection to the HRSG stack.
21	3.1		The backup auxiliary boiler with a power rating of 25 MW PCI (net calorific value)	Please be informed that the power rating of the auxiliary boiler will be less than 25MW(th).
21	3.1 Table 1		Dust Traces	Dust emission shall not exceed the value stated in Section 1.2.1.3.1 of the offer.
21	3.1.1		Marginal atmospheric emissions are essentially generated by:	Atmospheric emissions are also generated by the gas fired hot water boiler station of the fuel gas supply system, steam

Pg	Spec	Bid	Originaltext	Clarification/Correction
				vapour from flashing of the HRSG continuous blow down, oil vapour from the turbine lube oil system, H2 venting from the generator seal oil system etc. In addition occasionally emissions during start up/shutdown from natural gas vents, steam vapour from steam piping etc.
21	3.1		The combustion exhaust flue gas is removed via a 55m high stack.	Please be informed that the auxiliary boiler stack will be attached to the main HRSG stack, with the same height of 104m.
21	3.2 Table 1		SO2 traces	Any SO2 emission is solely dependent on the sulphur content in the fuel which is outwith Contractors responsibility. There are no provisions included in the bid for limitation of SO2 emissions.
21	3.2 Table 1		Maximum concentrations* of future GT	The values in this column is understood to refer to operation in the upper load range only.
22	3.2		In established conditions, the temperature of the flue gas exiting the stack varies between 85 and 95°C depending on the load on the unit and the ambient conditions.	Please observe that the exhaust gas temperature of the exhaust gas might be lower than 85 °C and higher than 95 °C depending on e.g. the load, the ambient conditions and the operation mode necessary due to the sulphur content in the fuel.
23	3.2		Qualitatively, waste from the backup auxiliary boiler, natural gas combustion, is NOx and CO. The operating time of the installation is less than 500 h/yr.	The operation of the auxiliary boiler might exceed 500 h/a. Please also observe that atmospheric emissions are also generated by the gas fired hot water boiler station of the fuel gas supply system.
25	4.1		Gas turbine washing water (containing detergents, anti-freeze, hydrocarbons, etc.	Anti freeze is only applicable if an advanced compressor cleaning system is applied (can be offered as an option). There is no washing of the combustion turbine section of the gas turbine.
26	4.1		estimated annual amount of sludge removed from oil separator: 5 m3	For the purpose of the EPC contract and Siemens' responsibility to the Client and the State, we consider this quantity to form only an indication and not be understood as a max/min guarantee. The above comment should be accepted by the Client and recorded in the EPC Contract

Pg	Spec	Bid	Originaltext	Clarification/Correction
26	4.1		0.5 to 1.5 t	Annual amount of waste cannot be confirmed by Siemens.
26	4.2 Table 5		Used oils and lubricants < 500 l	An annual use of oils and lubricants less than 500 l cannot be confirmed by Siemens. In case of a partly or completely exchange of the turbine lube oil filling the volume will in that year be >> than 500 l.
26	4.1 Table 5		Gas turbine washing water (containing detergents, anti-freeze, hydrocarbons...) 16 10 02 Special pit drained by pumping 75 m3 1 / month (each wash)	Assuming a daily wash requiring 0,6 m³ results in about 219 m³ per year. Assuming each third day incl. 20% detergent results in about 14 t of detergent used yearly. These values are not binding on Contractor.
27	4.2.4		gas turbine washing water,	Please observe that only the compressor section of the gas turbine can be washed.
28	5		All machines (shaft lubrication oil tanks, machine housings...) have retention basins when fluid flow is possible.	Not all machines with e.g. oil connections have retention basins covering their ground surface. E.g. the lube oil skid for the turbine train and the hydraulic skids for the turbines are provided with retention basins, but the turbine train itself is not provided with a retention basin for oils etc..
33	7.1.1		1600 kW and 77 kW feedpumps,	It is understood that contractor shall consider actual power loads of the feedpump of the main water/steam circuit and for the auxiliary boiler circuit.
33	7.1.1		1600 kW natural gas compressor,	A gas compressor station is not necessary and hence not included in the Siemens scope of supply.
33	02_999_A_B_DAE_HOR_4_E IS	1.2.1	7 NOISE AND VIBRATION IMPACT	All new installations (Siemens scope) will comply with the acceptable noise contribution for the new plant at the Receptor locations given in Acouphen Environment report RA-070145-02-A, dated 29th June 2007. Basis for these acceptable levels are measurements of background noise (please refer to the acouphen report). With these information and the applicable emergence according to law, the acceptable noise levels for the new installation is calculated. These values are basis for acoustical design, future background noise cannot be taken into account. Siemens will do its own acoustical design study only for the new power plant. Regarding this, a noise protection concept will be provided after award of order. Before final testing, a

Pg	Spec	Bid	Originaltext	Clarification/Correction
				noise acceptance test procedure will be provided and mutually agreed.
36	7.1.4		The company Acouphen has drawn up a list of measures (cf. Appendix 14). Most of these measures are judged to be of moderate cost. The most important, but also the most complex measure, is to reduce the sound power from the cooling tower inlets. SNET will implement all the recommendations to ensure that the noise impact of the project site is conforming.	Contractor will include only those noise protection measures resulting from Contractors own studies. It has furthermore been agreed that the Owner will provide the necessary noise protection wall along the railway according to Contractors requirements.
37	7.2.3		rotating machines.	only the following equipment will be provided with vibration sensors: • steam turbine • gas turbine • generator • condensate extraction pumps • HRSG feed pumps • main cooling water pumps • cooling tower fans
37	7.2		The compressors,	It is assumed that here a possible natural gas compressor is meant. However, such a compressor is not provided.
37	7.2.3		positioned directly	The sensors for the GT are positioned on the casing of the GT.
37	7.2.3		• For the other equipment there will be a changeover to the backup rotating machines (pumps, compressors, ...).	The cangeover to a standby machine is only provided for • main cooling water pumps • condensate extraction pumps • HRSG feed pumps However, this changeover to the standby machine is generally not activated by the vibration sensor, but by a process related signal (e. g. pressure)
39	9.1		The heights of the buildings: .. Turbine buildings: 25 meters, .. Cooling towers: 18 meters.	It is understood that niether the Client nor the State expect the estimated generic values to exactly corolate with the pre-engineered structures offered. The offered structures will

Pg	Spec	Bid	Originaltext	Clarification/Correction
				niether be raised nor reduced in order to meet these values.
39	9.2		According to the development area map (cf. appendix 2), the CCG will be situated in zone UE authorized for industrial activities. In the context of the project, all measures will be taken to comply with the stipulations of the development area map applicable to this area. The project will therefore have no significant impact on urban planning.	Please note, the Contractor's Offer does not take into account of any stipulations in the fore mentioned development plan.
40	11.		In order to prevent the risk of pollution, only products actually being used shall be present on site.	During construction and commissioning of the new plant it is likely that also other products than those used in the old power station will be present at site.
40	10		The approximate duration of the works is 26 months.	For scheduled project duration, please refer to section 1.3 of the bid.
42	12.1.1		The risk of proliferation and dispersion of legionella will be treated within the context of a specific risk assessment, characterizing operation under accident conditions. This assessment will be carried out once the towers have been erected.	The mentioned risk assessment ist not included in the offer.
42	12.1.1		If the project causes an increase in waste discharged, the quality of the waste should be identical to current waste.	Siemens will apply with to effluent limits required by the Décrée of 13.07.2004. Siemens is not in a position to assess that the industrial effluent water quality is identical to the current waste.
42	12.1.1		Sanitary waste water generated by the project which is treated in septic tanks then discharged to the unit network: this water presents no particular toxicity.	Note the Contractor proposes a bio-disc sewage treatmnet plant.
42	12.1.1		Vibration emissions, as the project includes construction measures to ensure that the vibration amplitude generated is below the human perception threshold.	Siemens turboset design and evaluation of mechanical vibration is ISO 7919 for rotating parts and ISO 10816 for non rotating parts. These guidelines secure the entirety of the turbo set and the protection of its environment from heavy secondary damage. A vibration amplitude below the human perception threshold cannot be assured from technical point of view.
43	1		As the auxiliary boiler, pump and generator set operate	It should be noted that frequent operation of the auxiliary boiler

Pg	Spec	Bid	Originaltext	Clarification/Correction
			very little	might be required depending on the load regime of the combined cycle plant.
54	12.3.3	1.2.1	12.3.3 Values used for exposure to noise	Siemens will not take into account the existing installations. According to the Acouphen study the regulatory requirements/Emergence for the existing plant on site is already exceeded. All new installations (Siemens scope) will comply with acceptable noise contribution for the new plant at the Receptor locations given in Acouphen Environment report RA-070145-02-A, dated 29th June 2007. Basis for these acceptable levels are measurements of background noise (please see the acouphen report). With these information and the applicable emergence according to law, the acceptable noise levels for the new installation is calculated. These values are basis for acoustical design, future background noise cannot be taken into account. Siemens will do its own acoustical design study only for the new power plant with own soundproofing measures. THE ABOVE MENTIONED VALUES ARE FROM AN OLDER STUDY AND SHOULD NOT BE TAKEN INTO ACCOUNT!
55	12.4.3	1.2.1	Table 16: Comparison of ambient noise levels and admissible TRV	Siemens will not take into account the existing installations. According to the Acouphen study the regulatory requirements/Emergence for the existing plant on site is already exceeded. All new installations (Siemens scope) will comply with acceptable noise contribution for the new plant at the Receptor locations given in Acouphen Environment report RA-070145-02-A, dated 29th June 2007. Siemens will do its own acoustical design study only for the new power plant.

Pg	Spec	Bid	Originaltext	Clarification/Correction
56	12.5		Following implementation of the soundproofing recommendations on the project installations, table 15 shows that setup of the CCG will not modify the noise impact of the site and therefore its results in relation to WHO recommendations. The values measured at present beyond these recommendations (Zone 4bis, Zone 5 bis and Point 6) will not worsen.	Please note that Table 15 refers to "Characterization of risk by inhalation of NOx" Regarding noise impact, please refer to our comments on clause 12.3.3 above.
57	13		Consumption of the CCG auxiliaries will be as follows: .. 5 to 7 MW under normal operation,	Contractor shall not be bound by these values which might be exceeded
57	13		In transient operating conditions (shutdown, startup), some temperature maintenance auxiliaries must be kept in service by the RTE supply network.	Also some other equipment might need to be fed by the RTE supply network during shutdown and startup, e.g. when starting the starting frequency converter.
58	13		The corresponding thermal output will be 758 MW PCI for electricity production of 436 MWe, i.e. maximum plant efficiency of 57%.	The maximum net electricity power exported to the grid at low ambient conditions will be slightly lower than 436. The corresponding fuel input and plant efficiency considering the gas used for the calculated performances in the bid would also be slightly lower than the mentioned 758 MW respectively 57 %.
58	13		consumption of natural gas will be 78 756 Nm ³ /h.	The maximum natural gas throughput is among other things depending on the heating value and the density of the natural gas delivered. Hence, the value of 78756 Nm ³ /h is not considered binding on the Contractor.
59	15 Table 18		Automatic control of use of sulfuric acid to minimize wastage and use	The sulfuric acid dosing rate will be adjusted according to make up water flow rate. Additionally sulfuric acid will be dosed when the target pH value is exceeded. Apart from this control there is no further regulation of the sulfuric acid dosing rate considered.
59	15		(cf. appendix 14)	Siemens will consider the noise protection measures worked out by Siemens (Appendix 14 is not available to Siemens and its content not considered in the bid).

02-999_A_B_DAE_HOR_5_Hazard_Study.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
16	1.1.3		90m3 in main transformer	The amount of the offered transformer may differ from that value.
16	1.1.3		Dry powder, CO2 and foam extinguishers	Kindly note, that the main transformer is protected by a spray deluge system
17	Table 5		Tri-sodium phosphate 10101-89-0	Trisodium Phosphate will be provided as a solid product in bags. Approx. 100 kg will be stored in the phosphate dosing container, which will be located next to the boiler. According to the Siemens fire fighting concept no fire fighting suppression system will be provided.
17	Table 5		Ammonia <25% 001336-21-6	Ammonia will be provided in IBC with a capacity of 1000l. According to the Siemens fire fighting concept no fire fighting suppression system will be provided.
17	Table 5		Sulphuric acid at 94-98% 7664-93-9	The storage capacity for sulphuric acid is 15m3 , stored within the cooling water treatment building UGJ. According to the Siemens fire fighting concept no fire fighting suppression system will be provided.
17	Table 5		Sodium hypochlorite (12.5%) 7681-52-9	Sodium hypochlorite storage tanks with a capacity of 2x30m3 will be provided according to Contractors concept design and process responsibility. According to the Siemens fire fighting concept no fire fighting suppression system will be provided.
17	1.1.3		1 10m3 tank outside overhead, in the sound baffle housing for the electricity generating unit 1 3m3 tank outside overhead in the sound baffle housing for the diesel engine	The emergency diesel generator will be equipped with one internal fuel tank for appr. 8h operation.
18	1.1.3		Dry powder, CO2 and foam extinguisher s	Oil filled transformers will be protected with spray deluge systems.
18	Table 6		Turbine detergents (FYREWASH F1) 73910	Brand for compressor washing detergent shall be according Contractors recommendation.
18	Table 6		Sulphuric acid at 95% 7664-93-9	The storage capacity for sulphuric acid is 15m3 , stored within the cooling water treatment building UGJ. According to the Siemens fire fighting concept no fire fighting suppression

Pg	Spec	Bid	Originaltext	Clarification/Correction
				system will be provided.
18	Table 6		Sodium hypochlorite (12.5%) 7681-52-9	Sodium hypochlorite storage tanks with a capacity of 2x30m3 will be provided according to Contractors concept design and process responsibility. According to the Siemens fire fighting concept no fire fighting suppression system will be provided.
47	1.1.2.		The GT and ST building is equipped with fire walls offering a 2 hour fire break	It is understood that the fore mentioned fire protection wall refers to the wall between UMC and the PCCs. Note the Contractor's basic EPC Offer does not include fire walls in UMC with a 2 hour fire resistance.
47	1.1.1		La SNET has decided to protect sector 4 (CCG boiler) from a heavy fuel oil fire by means of a water curtain.	Such a "water curtain" system or any connnection to it is not included in the bid.
48	1.1.2		Separate fire fighting water system	Kindly note, that the electrical building (electrical container) are not provided with a separate fire fighting water system. The cable distribution area is protected by a spray deluge system connected to the fire fighting ring main, the rooms are protected by an inert gas system.
48	1.1.2		The GT and ST buildings and the product storage room are equipped with gas/fire detection.	Gas detection is provided in the gas turbine enclosure only.
49	1.1.2.		- If, despite all the measures above, the product is found in the basins, possibility of introducing protective buoy.	Please clarify what is meant by a protective buoy?
53	1.1.2 Page 53		CO2 injection fire protection system	CO2 injection fire protection system is not applicable. For more information please refer to bid section 1.6.2 "Fire and Explosion Protection Concept"
53	1.1.2 Page 53		Gas/fire detection Hydrogen sensors	Gas detections and hydrogen sensors are not provided. The Hydrogen bottles will be located outside GT building (ventilated naturally).
56	1.1.2		Existence of a 2000 m3 buffer tank for the CCG, enabling 4 to 5 hours autonomy	The raw-water storage tank can be used for emergency supply of the cooling tower with water .This can be done with the emergency make up water pump.With the 2000m³ stored in the raw water tank the cooling tower can be supplied for 3,5 to 5 h (calculated with concentration factor 3 and depending on

Pg	Spec	Bid	Originaltext	Clarification/Correction
				ambient and operational coditiones)
56	1.1.2 Page 56		untreated water from water holes. It should be noted that the boiler has a 2000 m3 storage tank which provides 200 hours autonomy.	The capacity of demineralized water storage tank is according the Siemens concept 1000 m³. With a normal consumption of 7,5 t/h (calculated with 2% blow down rate) the capacity of the tank is sufficient for round about 130 h operation . The tank is not in the Siemens scope.
63	1.1.2.		Absorbent materials tank	Please clarify what is meant by "absorbent materials tank"? The offer does not include, to our knowledge, a tank of this nature.
64	1.1.3		Fire fighting water The fire-fighting water supply to the new site will comprise the new local untreated water storage tank (2000 m3) and the cooling tower pond.	The new raw water tank contains treated water , the storage capacity is according the Siemens concept 2800m³ (minimal 650 m³ reseved for fire fighting).The water in the cooling tower can be used for fire fighting , but no provision for this use are in the Siemens scope.The raw water tank is not in the Siemens scope.
65	1.1.3		The fire fighting water tank for each new unit consists of the new local untreated water store and the cooling tower basin.	The new raw water tank contains treated water .The water in the cooling tower can be used for fire fighting , but no provision for this use are in the Siemens scope.The raw water tank is not in the Siemens scope.
65	1.1.4		Based on a 3 hour sprinkling during a fire and 3 sprinklers, the fire fighting water in the system is 550 m3. The untreated water and demineralised water tanks and the cooling tower basin.	The fire fighting design is based on a fire duration of 2.hours. The fire fighting water will be stored in the combined raw and fire fighting water tank provided by ENDESA. Demin water or water stored in the cooling tower pond are not considered as fire fighting water.
74	2.1		Gas dam gate at turbine entrance	The requirement of a "gas dam gate" is not understood and therefore excluded from the scope of supply.
75	2.1 Table 18		Gas dam gate at turbine entrance	Text not relevant for this issue (Explosion of burnt gases in auxiliary boiler).
78	2.3.1		The domino effects distance (8 kW/m-2) affects the electrical building but does not go beyond the site.	Please refer comment on clause 4.3.1 of the "NON-TECHNICAL SUMMARY OF THE OPERATING LICENSE APPLICATION FOR A GASFIRED COMBINED-CYCLE UNIT AT THE SNET HORNAING POWER PLANT"

Pg	Spec	Bid	Originaltext	Clarification/Correction
80	2.3.2		The domino effect distances (200 mbars) affect the electrical building but do not extend beyond the site limits.	Please refer comment on clause 4.3.2 of the "NON-TECHNICAL SUMMARY OF THE OPERATING LICENSE APPLICATION FOR A GASFIRED COMBINED-CYCLE UNIT AT THE SNET HORNAING POWER PLANT"
81	2.3.3		Scenario no°5 : Loss of gas compressor buffer tank containment	Not applicable since a gas compressor buffer tank ist not included.
82	2.3.4		The domino effect distances (200 mbars) affect the electrical building, the diesel set and the transformer zone but do not extend beyond the site limits.	Please refer comment on clause 4.3.4 of the "NON-TECHNICAL SUMMARY OF THE OPERATING LICENSE APPLICATION FOR A GASFIRED COMBINED-CYCLE UNIT AT THE SNET HORNAING POWER PLANT"
83	2.3.5		The domino effect distances (8 kW/m-2) affect the electrical building, the diesel set and the demineralised water station but do not go beyond the site limits.	Please refer comment on clause 4.3.5 of the "NON-TECHNICAL SUMMARY OF THE OPERATING LICENSE APPLICATION FOR A GASFIRED COMBINED-CYCLE UNIT AT THE SNET HORNAING POWER PLANT"
84	2.3.6		The domino effect distances (200 mbars) affect the pump and miscellaneous area, the boiler building an a part of the coolants (E1) but do not extend beyond the limits of the site property.	Please refer comment on clause 4.3.6 of the "NON-TECHNICAL SUMMARY OF THE OPERATING LICENSE APPLICATION FOR A GASFIRED COMBINED-CYCLE UNIT AT THE SNET HORNAING POWER PLANT"

02-999_A_B_DAE_HOR_6_Health_Safety.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
6	4.3		Offices and workshops are heated by a hot-water system fed from a natural-gas boiler, or by the steam system.	This is understood to refer to the existing plant.
8	5.3.2		Personal protective equipment appropriate to the dangers presented by the chemicals are provided for employees.	Personal protective equipment is not included in the offer.

02-999_A_C_Noise_Study.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
1	02_999_N oise study	1.2.1	ENVIRONMENTAL ACOUSTIC IMPACT STUDY OF THE HORNAING SITE (59) STUDY REPORT RA- 070145-02-A	General Remark: This study is not Basis for Environmental Impact Assessment. Siemens will take into account this study as a Basis for acoustical calculation and design. Siemens will not take into account the existing installations. According to the Acouphen study the regulatory requirements/Emergence for the existing plant on site is already exceeded. All new installations (Siemens scope) will comply with acceptable noise contribution for the new plant at the Receptor locations given in Acouphen Environment report RA-070145-02-A, dated 29th June 2007. Basis for these acceptable levels are measurements of background noise (please refer to the acouphen report). With these information and the applicable emergence according to law, the acceptable noise levels for the new installation is calculated. These values are basis for acoustical design. Deviating from actual background (June 2007), future background noise cannot be taken into account. Siemens will do its own acoustical design study only for the new power plant. Regarding this, a noise protection concept will be provided after award of order. Before final testing, a noise acceptance test procedure will be provided and mutually agreed.

02-999_A_I RTE_Control_Inform_Interf_04-4256teleinfotelereglages.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
6	4.		The protocol used for the routing of level K (or N) is the HNZ protocol.	It is assumed that the kind of signal exchange agreed for Emile Huchet is also applicable for Hornaing, i.e. the signal exchange between RTE and power plant shall be implemented as a hardware interface with analog 4-20 mA signals and binary signals. This interface will enable the signal exchange for communicating of the -1/+1 load steps.

02-999_A_I RTE_Electr_Param_350tres_techniques_V1projet.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
7	3.4.3		° In response to a frequency step of 100 mHz or less, the unit will be required to restore the full value of the primary reserve in less than 15 s. ° In response to a frequency step exceeding 100 mHz, the unit: ° must restore the full value of the primary reserve in less than 30 s ° must restore 50% of the primary reserve in less than 15 s	According to the principle of primary frequency control in the European UCTE, the unit will respond to a frequency deviation according to its droop setting of 4%, providing this response within a time frame of maximum 30 s. With a droop of 4% the required 2,5% will be released at a frequency deviation of 50 mHz (plus the dead band). There will be no difference in the behaviour between the two scenarios of 100 mHz and 200 mHz frequency deviation.
7	3.4.4		The gas-fired combined-cycle unit at Hornaing must have structural capacity for secondary control to a value of 4.5 % of Pmax, i.e. 20 MW.	The secondary control capacity of 20 MW is understood to be the total band (and not the half band), to be available within 133/800s and the secondary control signal going from -1 to +1, according to test report #15.
10	3.7		Symmetrical short-circuit current input from the installation, interrupted after 50 milliseconds, must be lower than 2.2 kA in the Hornaing 225 kV switchyard.	For determination of the short circuit current, generated from installation unit, the unsaturated transient reactance x_d' of the generator will be used
52	Report No. 14		> Test 1: Unit operating at the maximum capacity Pmax (according to external conditions), subject to the subtraction of the primary reserve Rp (minimum 2.5% Pmax): artificial injection of a frequency step of -200 mHz for 15 minutes at the level of the speed controller.	The starting power level will be approx. 94% of the actual maximum output of the plant.
54	Test Report #15		Test 1: Unit at maximum capacity Pmax (according to external conditions), subject to the subtraction of the secondary reserve band 2.pr:	The value Pr is understood to be the half of the secondary control band of 20 MW. The gas turbine has to provide the whole of this band (approx. 7% of the GT max output) and therefore the starting point for the secondary control test is to be set at approx. 91% of the current maximum output.

02-999_A_I_RTE_SAS_04-4274sas.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
7	4.		The operating principle of the SAS is not described here (see [1]).	A hardware interface with 4-20 mA Signals shall be applied (refer to document 00-CCG-J&C-FC-005 Electrical Equipment).

02-999_A_I_RTE_StandbyTelephone_04-4312sts.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
7	5.1		Computer	As for Emile Huchet it is assumed that Contractor will not supply the mentionned computer

02-999_A_I_RTE_Transm_System_Interf_04-431reseautrans.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
8	5.1		and 2 WAN interfaces (transmission speed of 64Kb/s - 256Kb/s)	Please refer to arrangement made in document 00-CCG-J&C-FC-005 Electrical Equipment, section 21.

02-999_A_J_ExistPlant_AP_HOR_2006-02-16.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
2	00		LA SNET corporation, hereafter designated as the operator, having its head office at 2, rue Jacques Daguerre 92565 RUEIL MALMAISON CEDEX, shall be bound to abide to the provisions of this Order for its LA SNET facilities - The Hornaing Power Plant at rue Paul Lafargue 59171 HORNAING. These provisions apply, in consideration of the operator's written request to the prefect on May 25 2004, that Unit 3 of its aforementioned Power Plant shall not be operated for a period of more than 20,000 hours as from the 1st of January 2008, and shall cease on December 31 2015 at the latest;	The "Arrete Prefectoral" dated 16.02.2006 concerning the existing Unit 3 has not been taken into account for the bid.

02-999_A_J_ExistPlantProject_APC_AM_GIC_existantes_LaSnet_05dec06.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
1	00		DRAFT PREFECTURAL DECREE Article 18, Decree n°77-1133, September 21, 1977 ----- ----- SECTION I GENERAL PROVISIONS ARTICLE 1 – PURPOSE LA SNET, hereafter referred to as the operator, registered at 2, rue Jacques Daguerre 92565 RUEIL MALMAISON CEDEX, shall comply with the provisions of this Decree concerning the LA SNET – Hornaing Power Plant site located at rue Paul Lafargue, 59171 HORNAING. These provisions shall apply in consideration of the operator's written application to the Prefect dated May 25, 2004, requesting that the above-mentioned thermal power plant should not be operated for a duration of more than 20,000 hours between January 1 2008 and December 31, 2015.	This draft "Prefectural Decree" has not been taken into account for the bid.

02-999_A_N_MoM_Firebrigade_CRCAMOJ0001.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
2	1.		Check whether water aspersion is suitable for above transformers given that oil fires are usually extinguished using a mixture of water and foam.	The used transformers are spray water protected; therefore, they are protected by a spray deluge system.
2	1.		Containment area: the installation must be in a Z3 zone --> a containment room is obligatory. The quality of containment is described in the document entitled "using the building as a containment area" in Mr Rouselle's possession. It must be possible to assemble all 45 people in the control room (1m2/person: the current 225 m2 control room is OK.	It is understood that the existing control room will be used as a containment room to hold 45 persons. No special precautions have been included in our Offer for a special Containment area.
2	1		the 'oil tank' in a separate area approach must be fitted with a sprinkler + foam,	This is understood to refer to the existing fuel oil tank. The offer does not include any provisions for the existing fuel oil tank.
2	1.		the volume of 4,000 m3 raw water to serve as a fire-fighting water reservoir	According the Siemens design the raw water tank capacity is 2800m ³ . Out of this approximate 800m ³ are reserved for the fire fighting system. The raw water tank is not in the Siemens scope.

02-999_A_O_Labeling.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
3	1.		The purpose of this specification is to define final identification labels (format, engraving, composition of the materials used) and the supports for these labels which need to be placed on the various apparatus and equipment which make up the auxiliary steam boilers at EMILE HUCHET DPX.	This specification is regarded as for information only and not binding on Contractor. Labeling is included as described in Section 17.3.7 (Labelling) of our offer.

Escape_routes_en.pdf

Pg	Spec	Bid	Originaltext	Clarification/Correction
2	1.		A boiler (A2) with a metal structure and a concrete stack 104 m high and 8 m in diameter (A3)	The HRSG stack will be a steel construction of 104m.
2	1		A spare-parts storage warehouse (D2), 198 m2 in area	The storage building is not included in Siemens scope.
2	1		with a total area of 2,800 m2 and a maximum height of 25 m	It is agreed between the Client and the Contractor that the Contractor is supplying a pre-engineered building with dimensions that may not be compatible with height or volume values given in this document. As such, the Offer does not take these values into account in the Offer and would be subject to a variation order in the event that the stipulations have to be adhered to.
2	1		one 760 MWth gas-fired boiler,	The boiler is an unfired HRSG. The Gas Turbine arranged upstream of the HRSG is gas fired.
2	1		one 0.3 MWth motor-driven fire pump	The power for the fire fighting pump will be less than 300kW
2	1		2920 (Cooling or compression facilities) air conditioning for a total of 40 kW, and 2 air compressors: 2 x 110 kW, total power output 260 kW.	The power of the air conditioning facilities will be more than 40kW, the power for the air compressor will be less than 110kW.
2	1		Two outdoor water-storage tanks (B2 and B3)	The water storage tanks are not included in Siemens scope
2	1		- An auxiliary outside boiler room (A8), with a 43 m chimney	The auxiliary boiler will be placed in the feedater pump house (ULA).
2	1		comprising the compressor,	A gas compressor station is not necessary and hence not included in the Siemens scope of supply.
2	1		one 2.4 MWth diesel motor-generator set	The electrical rating of the emergency diesel generator will be appr. 800kVA.
2	1.		pump, 1 natural gas-fired auxiliary backup steam-production boiler, power 25 MW(th)	The thermal power of the auxiliary boiler will be less than 25MW(th).
2	1		A water-treatment plant (B1) to produce demineralized water for the process	The water treatment plant is not included in Siemens scope.
2	1		A natural gas compression plant (C2) (planned pressure 46 bars)	A gas compressor station is not necessary and hence not included in the Siemens scope of supply.
2	1		2920 (Cooling or compression facilities) two 1600-kW natural gas compressors, 1 for backup, total power 1,600 kW	A gas compressor station is not necessary and hence not included in the Siemens scope of supply.

Pg	Spec	Bid	Originaltext	Clarification/Correction
2	1		An auxiliary outside boiler room (A8), with a 43 m chimney.	The chimney for the aux. boiler is offered with a hight of 104 m (same hight as main HRSG stack).
3	1		power 148 kW.	The installed capacity of the battery, chargers, converters and inverters may differ from that value.
3	1		Bromide	Bromide will not be used for the new power plant.
4	3.2		largest area not intersected by a wall (CF 2h or equivalent) = 2800 m2, fire stability of lower building = less than ½ h, reception and permanent staff building, level 3 risk activity).	Kindly note, that Siemens will apply the same design philosophy as agreed for the EH project: one hour fire stability for the gas and steam turbine building and especially for the housing of the gas turbine is not included in Contractor's scope and price. Lower buildings are not designed for 1/2h fire stability. The document EH 07&08-CCG-J&C-FC-105 should be included also in the Cotract documents for Hornaing.
4	3.2		This amount of water may be provided by one or more water points with a min. unit capacity of 120 m.	The amount of fire fighting water will be stored in the combined raw water and fire fighting water tank provided by ENDESA.
5	3.2		commissioned, a new 2,000-m3 reserve will be established under the cooling-tower battery, together with a new overpressured system.	According the Siemens concept for the offered power plant , no new 2,000-m3 reserve and no new overpressured system will be established under the cooling-tower battery.
6	4.2		the gas compression room (C2)	The power of the air conditioning facilities will be more than 40kW, the power for the air compressor will be less than 110kW.
6	4.2		the TGBT (low voltage switchboard) room (E4)	Low voltage switchgears will be located inside prefabricated power control centers without any fire rating (neither for walls, roof, floor nor for doors). Fire supression systems will be installed inside PCC.
6	4.2		Separate combustion facilities and above-ground storages of combustibile liquids by a minimum distance of 10 m or by a firebreak wall of 2-hr rating.	In line with the discussion and agreement for the Emile Huchet Project such distances cannot be complied with inside the Turbine building. The oil skids cannot be provided with compartments having two hours fire stability
6	4.2		The battery charging shop - electrical rooms on the ground floor and first floor (A5)	The battery charging shop and the electrical room are arranged within PCC container without any fire rating (neither for walls, floor, roof nor for doors). Fire suppression system will

Pg	Spec	Bid	Originaltext	Clarification/Correction
				be installed as compensation for fire rated walls.
6	4.2		Depending on the risk assessment, study of the file containing the application to operate a classified facility under the environmental code may also call for a degree of fire stability for all buildings : e.g., fire-resistance of 1-hr rating for rooms housing combustion facilities.	Kindly note, that Siemens will apply the same design philosophy as agreed for the EH project: one hour fire stability for the gas and steam turbine building and especially for the housing of the gas turbine is not included in Contractor's scope and price. Lower buildings are not designed for 1/2h fire stability. The document EH 07&08-CCG-J&C-FC-105 should be included also in the Cotract documents for Hornaing.
6	4.2		Insulating special fire-risk rooms with at least 1 h firewalls and fire floors and ½ h fire doors fitted with door closers. The areas concerned are :	Please note that the PCCs are out door structures and in accordance with previous agreements in Emile Huchet, the Contractor considers doors and walls enclosing the PCCs not included in this requirement.
7	4.2		Allowing hot smoke and gas(es) to escape in the event of a fire by installing smoke outlets representing 1/100th of the area measured in horizontal projection. Smoke outlets shall be automatically operated, with a second manual control located close to the exit and accessible from the ground.	Kindly note, that certificated smoke outlets are only provided in the roof area of the gas and steam turbine building.
7	4.2		Limit the areas sectioned for smoke extraction to a maximum of 1,600 m2.	It has been already agreed for the EH project, that the Contractors roof design of the Turbine building (having a floor area > 1600 m²) does not consider the required separation of the roof.
7	4.2		Smoke clearance - Ventilation	The gas turbine enclosure is provided with standard ventilation fans. Smoke outlets or smoke ventilation systems are not provided.
7	4.2		Allowing hot smoke and gas(es) to escape in the event of a fire by installing smoke outlets a min. 1 m2 in area at the top of the lift well and providing an air inlet at the bottom. The smoke outlet opening device shall be easily operable from the floor.	This paragraph is not applicable as a lift will not be provided for Hornaing
8	4.2		Putting in an appropriate fixed automatic fire extinguisher installation complying with the standards	There is no fire fighting suppression systems provided in the area of the boiler. For more information please refer to bid

Pg	Spec	Bid	Originaltext	Clarification/Correction
			and texts in force (e.g. transformer, boiler, etc.)	section 1.6.2 "Fire and Explosion Protection concept".
8	4.2		Provide the establishment with a 7000-l reserve of foam compound (7 x 1-m ³ containers), fitted with devices to enable their use by firefighters on the existing above-ground flammable-liquid storage facility.	The described 7000 l reserve of foam compound etc. is not included in the offer.
8	4.2		Installing an early warning gas detection system (lower limit of explosivity) enabling staff to vacate the premises and secure the installation in rooms with a likely risk of occurrence of an explosive atmosphere (in particular, rooms housing the gas turbine, gas compressor if there is one).	The requirements of this paragraph is applicable for the gas turbine enclosure only.
8	4.2		Providing rooms where is a risk of explosion with vent holes or low resistance walls designed to limit the effect of an explosion.	The gas turbine enclosure is not provided with vent holes or low resistance walls.
8	4.2		Following the meeting on January 5, 2006 the Operator stated that it will install a water-curtain system to protect the above-ground flammable-liquids depot from the proposed facilities.	Such a system or any connection to it is not included in the offer.
9	4.2		Every step shall be taken to collect any water and flows liable to become polluted in the event of a fire, including water used to put out a fire and for cooling, with a view to its/their recovery or treatment and the subsequent prevention of any soil, sewer, waterway or natural environment (page 9/10)	Please note that one holding tank UGU01 is included in the Offer. Please clarify any additional measures you may require in order to fulfil this requirement?