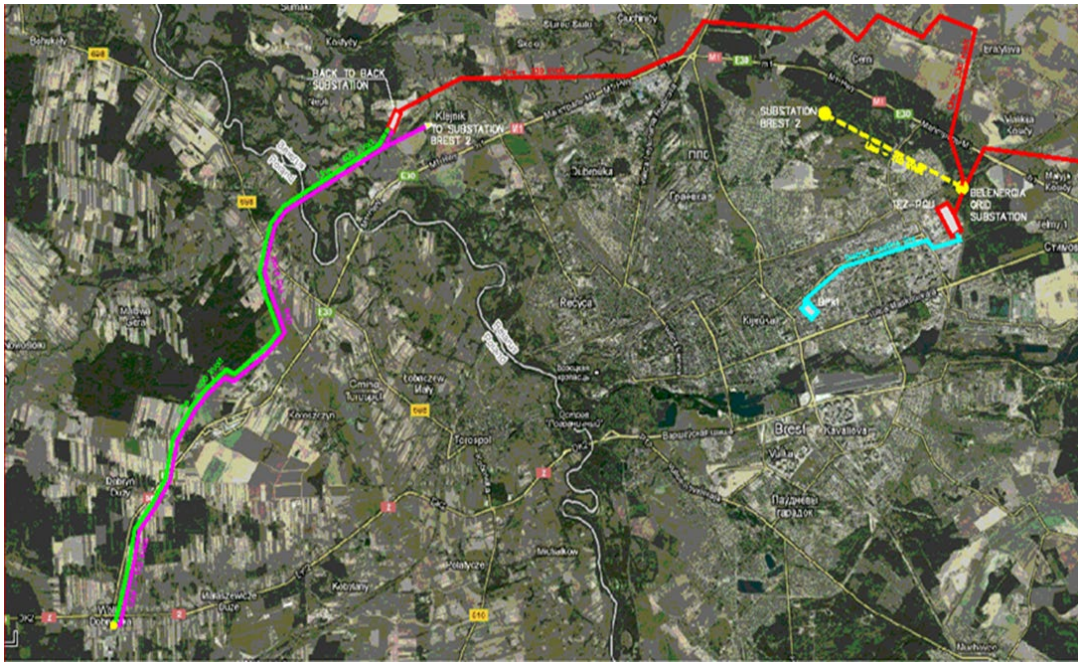
BELENERGIA IOOO PROJECT

Summary
of
the Project

Status based on the agreements negotiated up to 2013



December 2013

Synthetic Decription of the Project

Cogeneration plant of 400 MWe in Brest, fueled by gas (Project developed by Belenergia IOOO with the Maeg Costruzioni SpA/ Ansaldo Energia SpA consortium) and the Electric interconnector between Belarus and Poland

- **Project's structure :**

- ***CHP Power Station:***

  1) Electric Capacity delivered to Belarus Grid: 280 MW

  2) Electricity Capacity for Tranfer between Belarus and Poland: 120 MW

- ***Primary network for heat distribution to the city of Brest.***
  1) Design Capacity 150 MWt
  2) Winter Peak Capacity expected 270 MWt

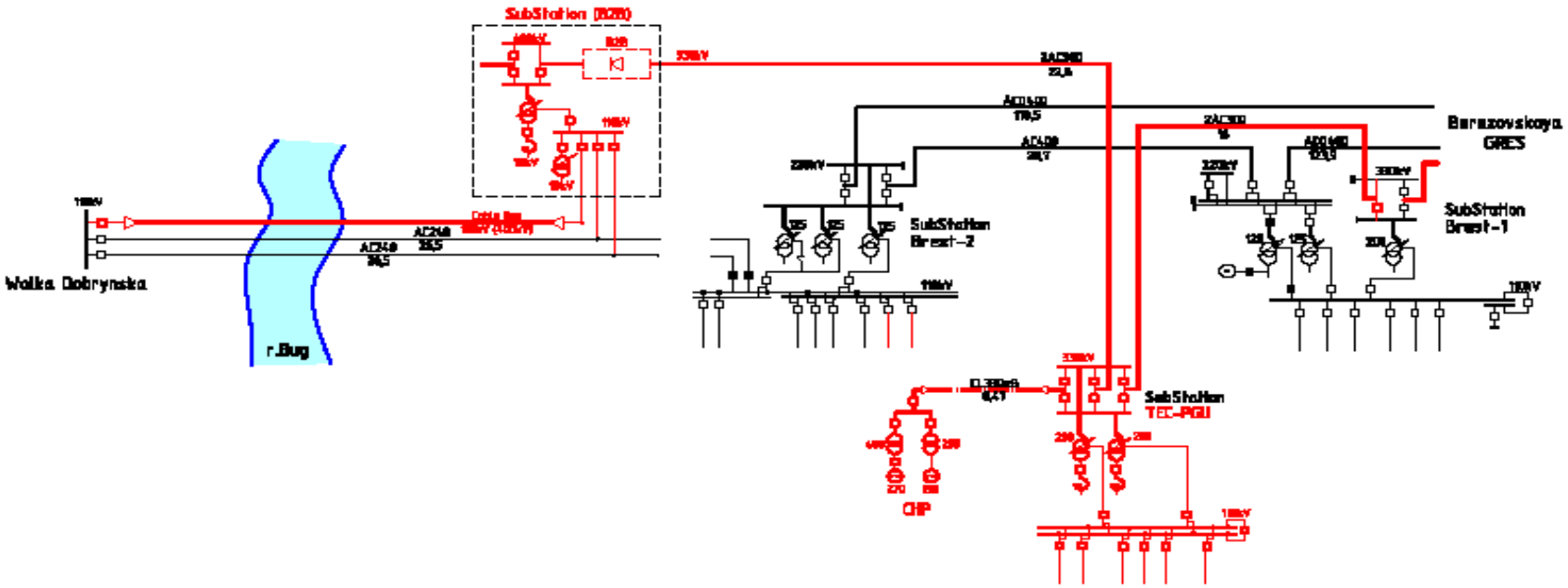
- ***International Electrical corridor between Belarus and Poland*** specified as follows:

1. electric line AT 330-kV between the substation of the Belarus grid Brest 1 and a new substation at the boundary AT 330/400/110kV (BY)
2. back to back plant of about 135 MW (A second section will be built in the future up to 540 MW)
3. revamping and repowering of the 110 kV line to Wolka-Dobrynska (PL)

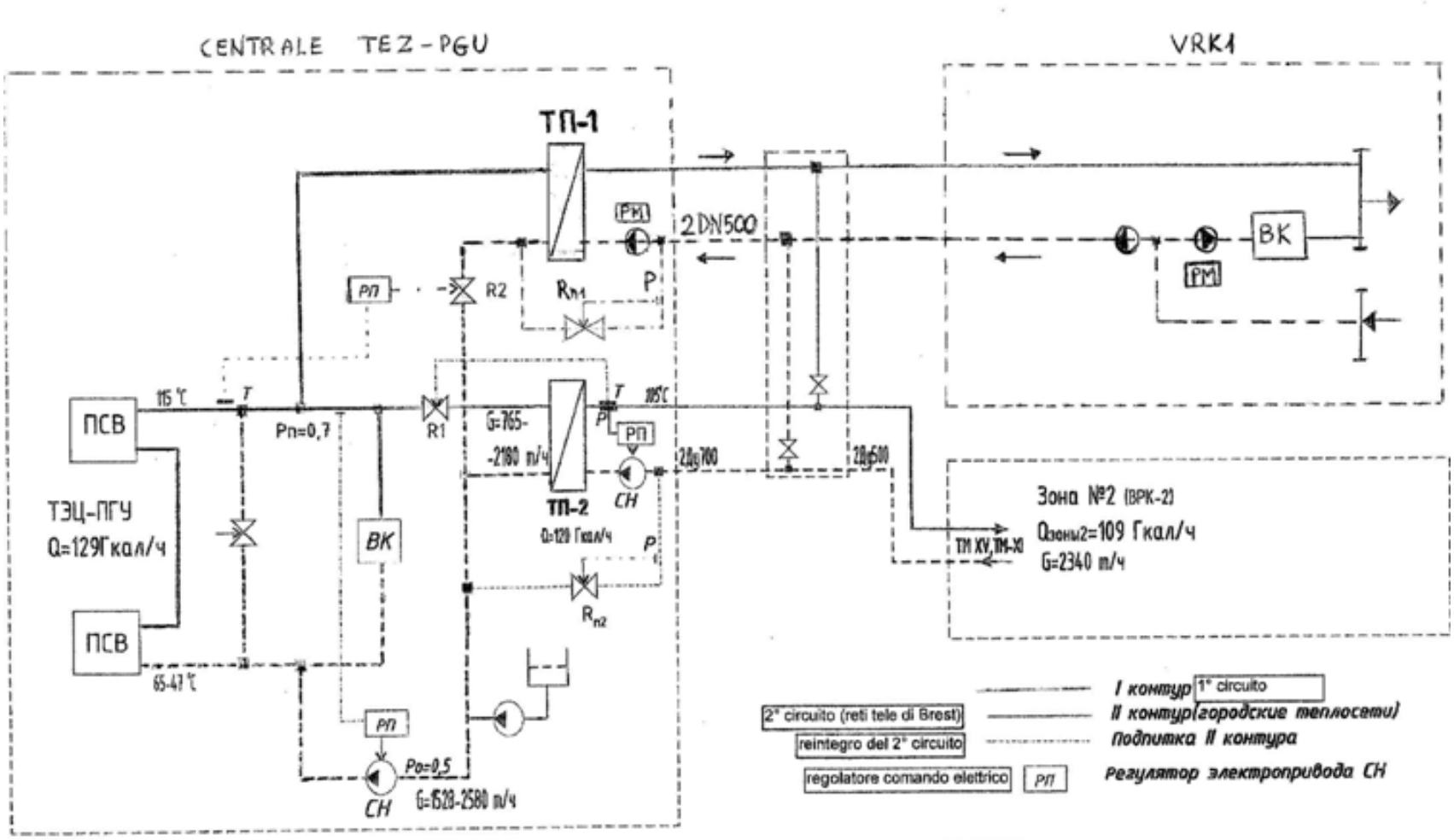
PERMITS

- August 2008, BELENERGIA IOOO company Establishment (Annex 1)
- Decree of the President of the Republich of Belarus, 11.11.2008 (Annex 2)
- Land assignment for the CHP Power Station (Annex 3)
- Investment Agreement with the Brest region Executive committee, 22.12.2010 (Annex 4)
- Modified Design Project, 2011 (Annex 5 - Ansaldo project)
- Additional agreement to the Investment Agreement, 22.12.2011 (Annex 6)
- Land assignment for the electric and thermal lines construction, 2012 (Annex 7)
- EPC Contract between Belenergia – MAEG, 2012 (Annex 8)
- Environmental Impact Assessment by Belnipienergoprom, 2012 (Annex 9)
- Construction and erection works permit to MAEG for CHP Power Station construction opening, May 2012 (Annex 10)
- Agreement with Beltransgas for gas transport and supply, 2013 (Annex 11)
- Technical negotiations with Brestenergo on electric and thermal energy selling , 2013 (Minutes of the meeting, march 2013, Annex 12)
- 2013 Meeting with Belenergo in Minsk for the Investment agreement modification and the formal Letter to the Brest Region Governor with proposal for the modification of Power plant operation terms (Annex 13)
- Business plan (Annex 14)
- Interconnector Project (Annex 15)

Interconnector: transborder connection scheme



Heat Delivery and Distribution System Scheme



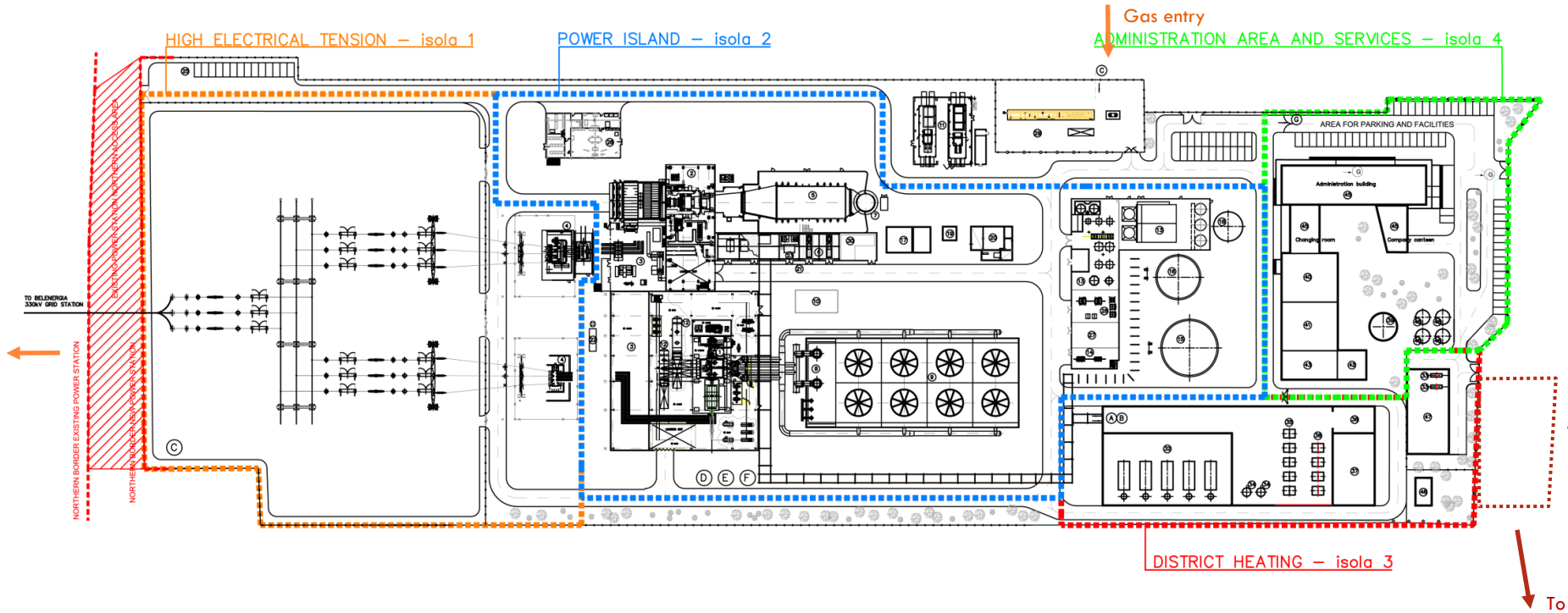
Dis. 4.1. Schema principale di distribuzione termica dalla centrale TEZ-PGU e del funzionamento collettivo con VRK-1

Рисунок 4.1 Принципиальная схема выдачи теплоэнергии от ТЭЦ-ПГУ и совместной работы с ВРК-1

CHP Power Station

June 2013

Brest TEZ-PGU Power Station Layout



POWER SYSTEM LEGEND			
No. Item	DESCRIPTION	No. Item	DESCRIPTION
1	STEAM TURBINE BUILDING	16	DEMI WATER TANK
2	GAS TURBINE BUILDING	17	RAIN WATER BASIN
3	S.T. & G.T. ELECTRICAL BUILDING	18	WATER TREATEMENT
4	STEP UP AND UNIT TRANSFORMERS	19	NEUTRALIZATION BASIN
5	HEAT RECOVERY STEAM GENERATOR	20	OILY WATER TREATEMENT
6	FEED WATER PUMP	21	HRSG ELECTRICAL BUILDING
7	STACK	22	EMERGENCY DIESEL
8	CIRCULATION WATER PUMPS	23	CHEMICAL INJECTION
9	COOLING TOWERS	24	ELECTRICAL CONNECTIONS 220 KV
10	CIRCULATION WATER PUMP ELECTRICAL BUILDING	25	PARKING
11	GAS COMPRESSORS BUILDING STATION	26	CONTROL ROOM
12	DISTRICT HEATING HEATERS	27	COMMON SERVICE ELECTRICAL BUILDING
13	DEMI WATER PRODUCTION BUILDING	28	AIR COMPRESSOR BUILDING
14	FIRE FIGHTING PUMPS BUILDING	30	GAS METERING & FILTRATION

COGENERATING SYSTEM LEGEND			
No. Item	DESCRIPTION	No. Item	DESCRIPTION
32	BACK UP 25mX45m	40	WORKSHOP
33	HEAT EXCHANGERS	41	WAREHOUSE
34	EXPANSION TANK	42	COMPRESSED AIR
35	DISTRICT HEATING PUMPING STATION	43	WATER SOFTENER
36	BOOSTER PUMPS	44	LOCKER ROOM-LAVATORIES
37	ELECTRICAL BUILDING	45	OFFICES - Canteen - Changing room
38	CONTROL ROOM	46	POWER UNIT CONTAINER
39	WATER TANK	47	RECIRCULATING PUMPING STATION
		48	WATER TANK LTR

- (A) IN / OUT DISTRICT HEATING WATEF
- (B) OUT AUXILIARY BOILER
- (C) HV GIS BUSHING
- (D) NATURAL GAS SUPPLY
- (E) COOLING TOWERS BLOW DOWN WATER
- (F) INDUSTRIAL WATER SUPPLY
- (G) SANITARY WATER SUPPLY
- (H) WASTE WATER DISCHARGE

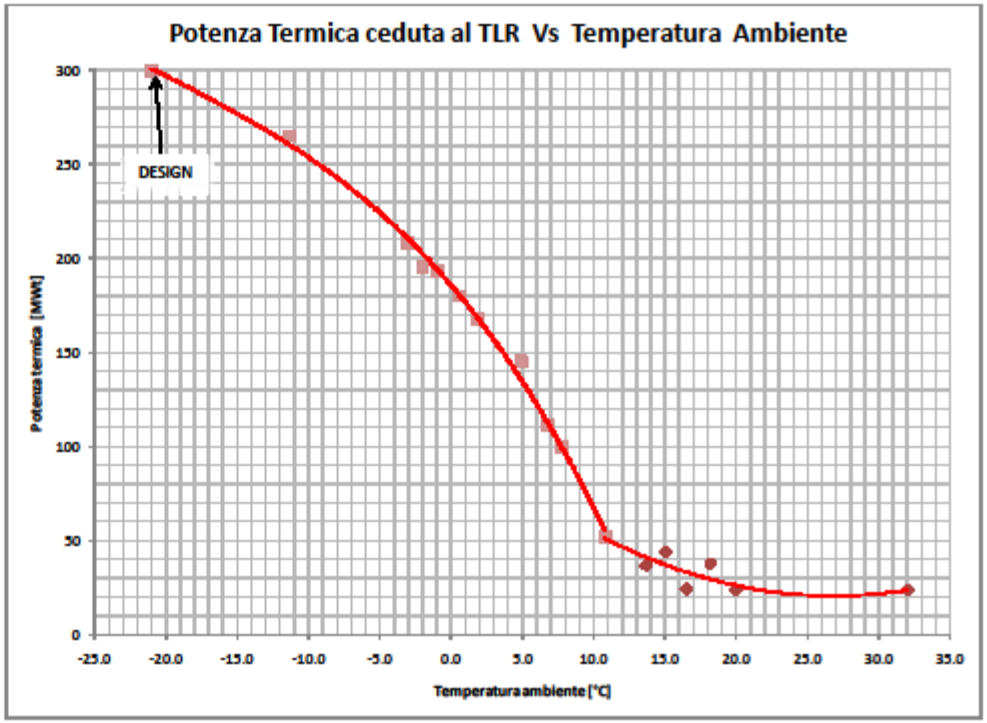
Environment Temperature (2009-2010)

Dati comparativi per le temperature nel 2009 e 2010

	Temperatura dell'aria, °C		Temperatura suolo,°C		Temperatura Dell'acqua, iniziale, °C		Temperatura dell'acqua nella rete			
							(andata),°C	(rientro),°C	(andata),°C	(rientro.),°C
	2010r.	2009r.	2010r.	2009r.	2010r.	2009r.	2010r.		2009r.	
gennaio	-9,1	-3	4,2	3,7	6,2	5,8	82,2	50,3	70,3	45,4
febbraio	-2,8	-1	3,6	3,1	7,3	6	70,5	45,3	67,9	44,3
marzo	3,2	1,9	3,6	3,3	9,0	7	63,5	43,0	62,7	42,1
I trimestre	-2,9	-0,7	3,8	3,4	7,5	6,3	72,1	46,2	67,0	43,9
aprile	9,5	10,8	7,5	7,1	12,1	11,6	60,3	43,9	58,8	43,4
maggio	15,1	13,7	11,1	10,5	16,1	15,4	59,4	44,2	59,7	44,7
giugno	18,6	16,5	14,6	13,6	18,7	18,9	60,6	46,2	59,2	44,1
II trimestre	14,4	13,7	11,1	10,4	15,6	15,3	60,1	44,8	59,2	44,1
I semestre	5,8	6,5	7,4	6,9	11,6	10,8	66,1	45,5	63,1	44,0
lugio	22,4	20	16,9	16,9	22,4	20	59,7	45,6	59,3	45,3
agosto	20,6	18,2	18,1	17	21,9	19,6	59,2	44,5	59,1	44,9
settembre	12,4	15	15,1	15,6	16,8	18,1	59,8	43,2	59,1	44,7
III trimestre	18,5	17,7	16,7	16,6	20,4	19,2	59,6	44,4	59,2	45,0
9 mesi.	10,0	10,2	10,5	10,1	14,5	13,6	63,9	45,1	61,5	44,3
ottobre		6,8		12,2		13,2			59,2	42,7
novembre		4,9		8,7		9,9			59,4	41,6
dicembre		-2		6,4		7			69	44,6
IV trimestre	0,0	3,2	0,0	9,1	0,0	10,0	0,0	0,0	62,5	43,0
anno	**7,5**	**8,5**	**7,9**	**9,9**	**10,9**	**12,7**	**47,9**	**33,9**	**61,7**	**44,0**

Thermal Supply to Heat District Vs Environment Temperature

Temperatura Ambiente [°C]	DH [MWt]	Temperatura DH in [°C]	Temperatura DH out [°C]	portata [kg/s]
-21.0	300	60.0	105.0	1589.4
-11.3	265	70.0	105.0	1805.1
-3.0	208	45.4	70.3	1994.5
-2.0	196	44.8	69.0	1927.6
-1.0	193	44.3	67.9	1953.3
0.6	180	42.0	64.0	1948.0
1.9	168	42.1	62.7	1942.3
4.9	145	41.5	59.4	1931.4
6.8	111	42.7	59.2	1608.2
7.8	100	42.6	59.1	1444.9
10.8	52	43.4	58.8	809.9
13.7	37	44.7	59.7	580.2
15.0	44	44.7	58.1	781.1
16.5	24	44.1	59.2	381.8
18.2	38	44.9	58.1	678.3
20.0	24	45.3	58.3	434.0
32.0	24	45.3	58.3	434.0



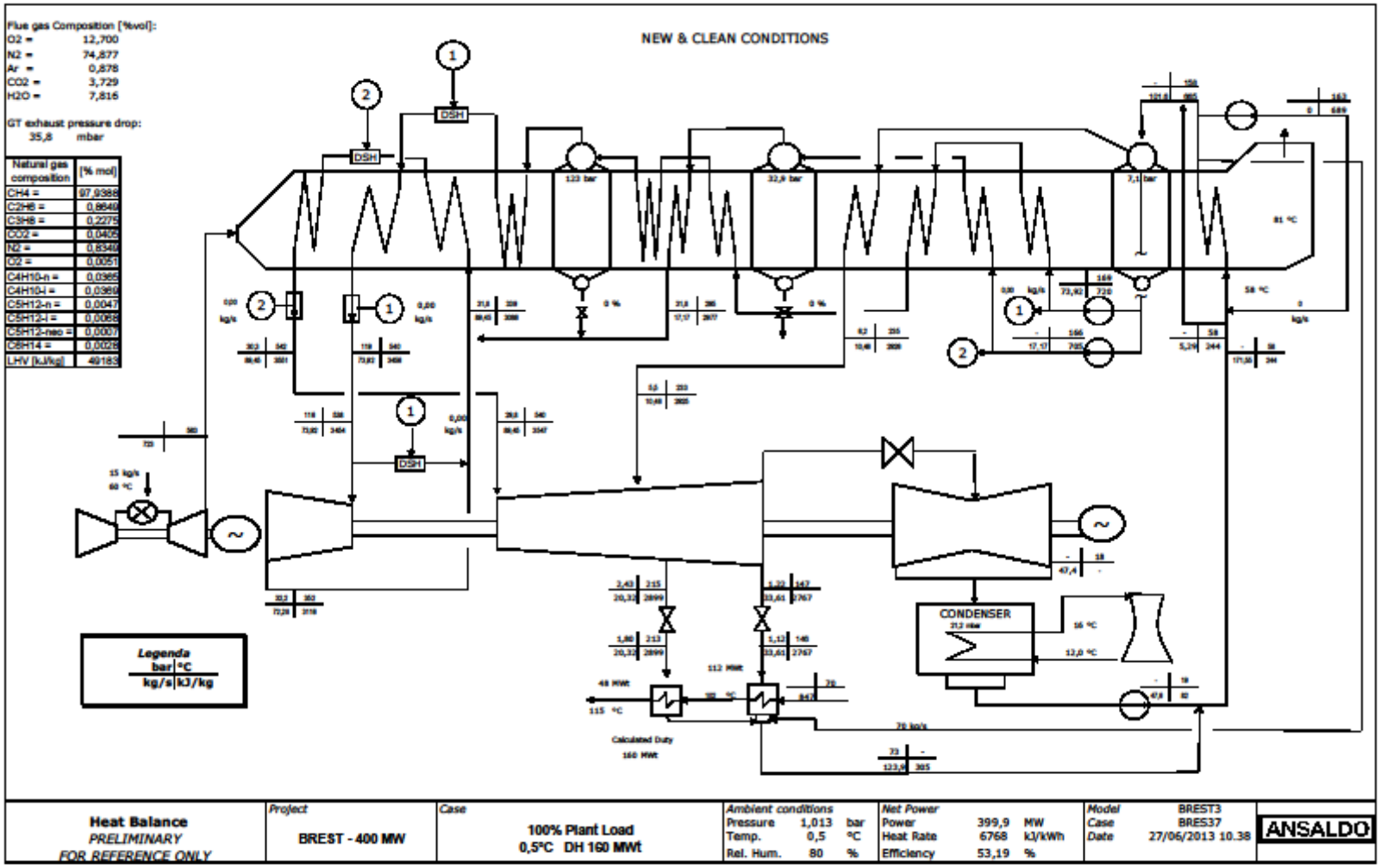
Thermal Capacity Demand of Brest District Heating (2009)

BREST BIELORUSSIA

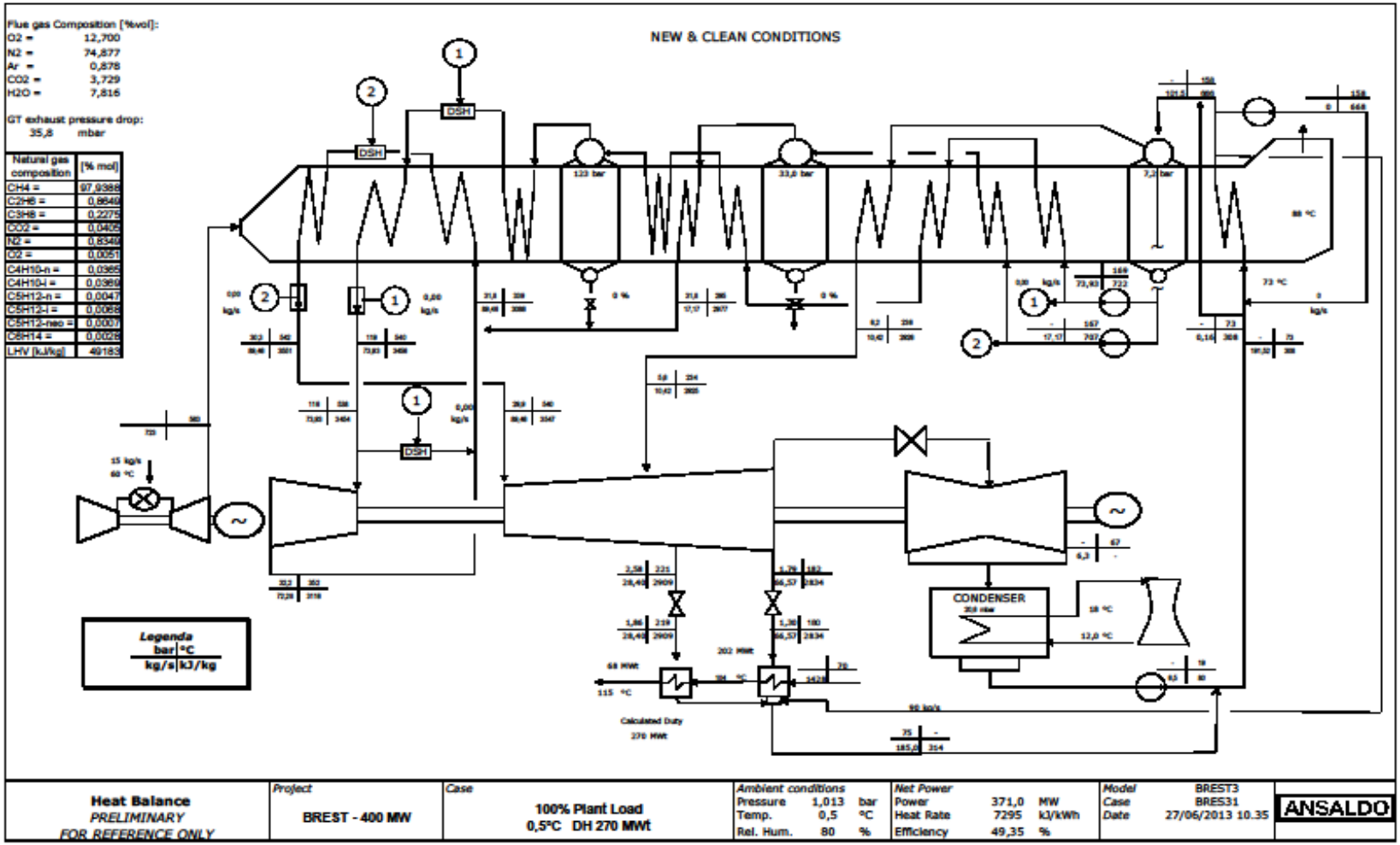
Energia termica immessa 2009 (su media mensile) [MWt]	Imp. Cogenerativo		BREST 1	BREST 2	Centrale SUD		Centrale AEN
gennaio	57373		74989	37880	42112		154981
febbraio	47871		62400	31886	35652		129938
marzo	45605		59565	30865	34435		124865
aprile	27777		11414	12299	13953		37666
maggio	14544		13715	6082	7362		27159
giugno	22635		12353	5058	0		17411
luglio	17750		10232	6281	1092		17605
agosto	5696		16112	6586	5245		27943
settembre	7847		20006	5217	6388		31611
ottobre	23981		39827	20377	22603		82807
novembre	39279		47453	26984	29972		104409
dicembre	58079		67133	36919	41520		145572
Totale	368438		435199	226435	240334		901967

Energia termica giornaliera (su media mensile 2009) [MWh/giorno]	Imp. Cogenerativo		BREST 1	BREST 2	Centrale SUD		Centrale AEN
gennaio	1851		2419	1222	1358		4999
febbraio	1710		2229	1139	1273		4641
marzo	1471		1921	996	1111		4028
aprile	926		380	410	465		1256
maggio	469		442	196	237		876
giugno	755		412	169	0		580
luglio	573		330	203	35		568
agosto	184		520	212	169		901
settembre	262		667	174	213		1054
ottobre	774		1285	657	729		2671
novembre	1309		1582	899	999		3480
dicembre	1874		2166	1191	1339		4696

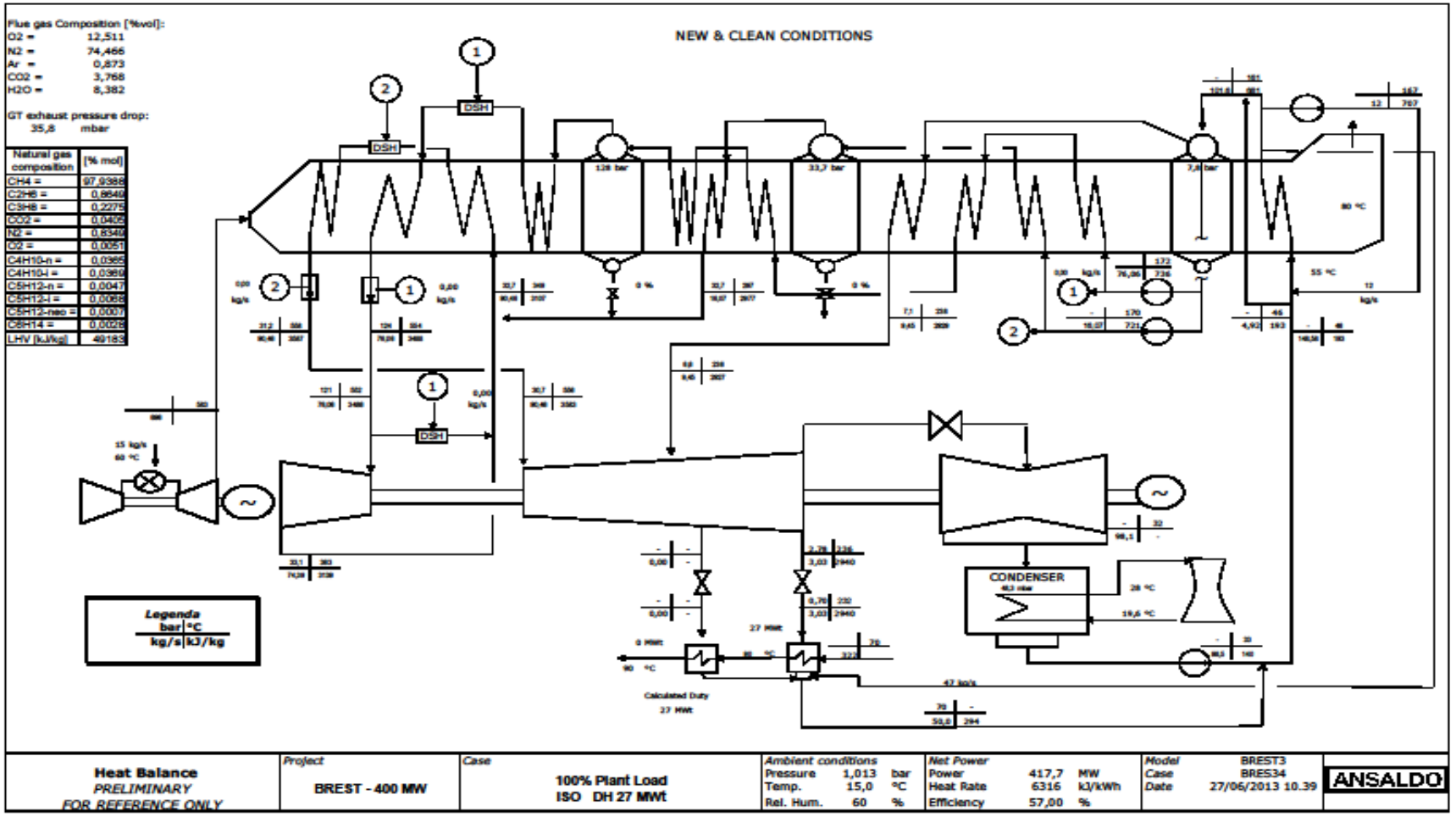
Thermal Plant Balance (DH 160 MW)



Thermal Plant Balance (DH 270 MW)



Thermal Plant Balance (DH 27 MW)



Power station: Operation conditions

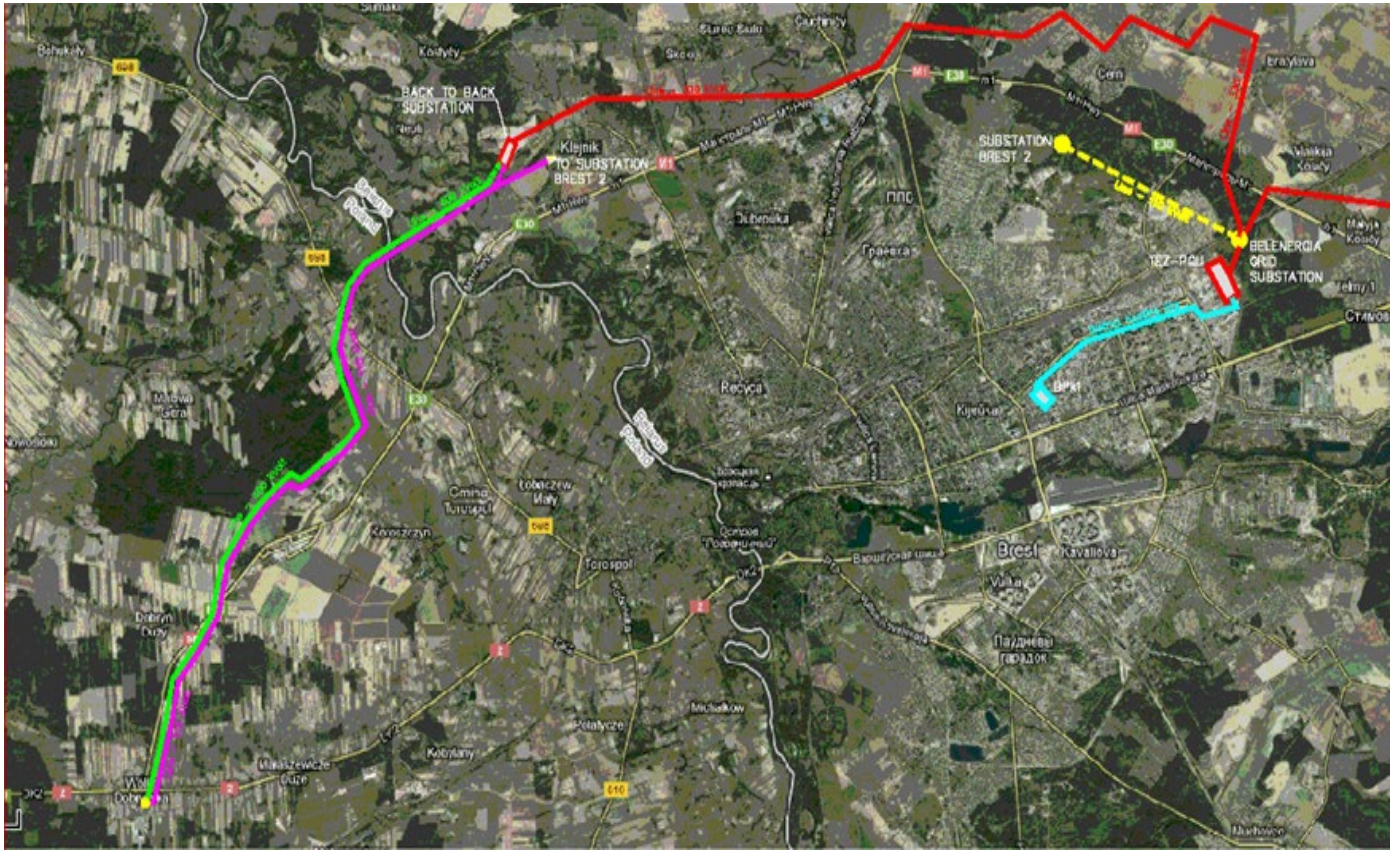
Operation condition	Full Condensing	winter peak	*Summer average*	*winter average*	yearly average
Thermal Capacity delivered (MWt)	0	270	*27*	*160*	98
Specific consumption (kJ/kWh)	6.349	7.295	*6.316*	*6.768*	6.556
Gas specific consumption (mc/kWh)	0,200	0,229	*0,199*	*0,213*	0,206
Electric Capacity (Mwe)	426,2	371,0	*417,7*	*399,9*	408,2
Average Duration (h)	0	n.a.	*3.657*	*4.142*	7.800
Electricity Production MWh			*1.527.713*	*1.656.518*	3.184.231
Heat Production MWht			*98.751*	*662.773*	761.524
Electricity delivered to Belarus market MWh			*1.035.055*	*1.172.280*	2.207.335
Electricity delivered to Polish market MWh			*492.657*	*484.239*	976.896
Gas consumption (mc/year)					656.477.279

District heating cogeneration plant: design inputs

- **Thermal Power Inputs:**
- Winter average capacity: 150 MWt
- Summer average capacity: 27 MWt
- Heat delivered to heat district by Power Station: 752.271 MWht/year
- **Electric Data:**
- ***Power Station Electric Efficiency***
- Average Winter: 53,2% (gas specific consumption 0,213 mc/kWh)
- Average Summer: 57,0% (gas specific consumption 0,199 mc/kWh)
- Average Year: 55,0% (gas specific consumption 0,206 mc/kWh)
- ***Power Capacity***
- Winter Capacity : 400 MW (electricity production: 1.656.378 MWhe)
- Summar Capacity : 417,7 MW (electricity production: 1.527.582 MWhe)
- Yearly Medium Capacity: 408,2 MW (electricity production: 3.183.960 MWhe)

BELENERGIA PROJECT :

“International Electric Interconnector Belarus-Poland station



Synthetic description of the Interconnector

Project's structure:

- ***CHP Power Station with high tension electric substation (330kV)***
- ***International Electrical corridor between Belarus and Poland*** consists of:

  1) electric line AT 330-kV between the substation of the Belarus grid Brest 1 and one new substation at the boundary AT 330/400/110kV (BY)

  2) back to back plant of about 135 MW (a second section will be built in future till 500 MW)

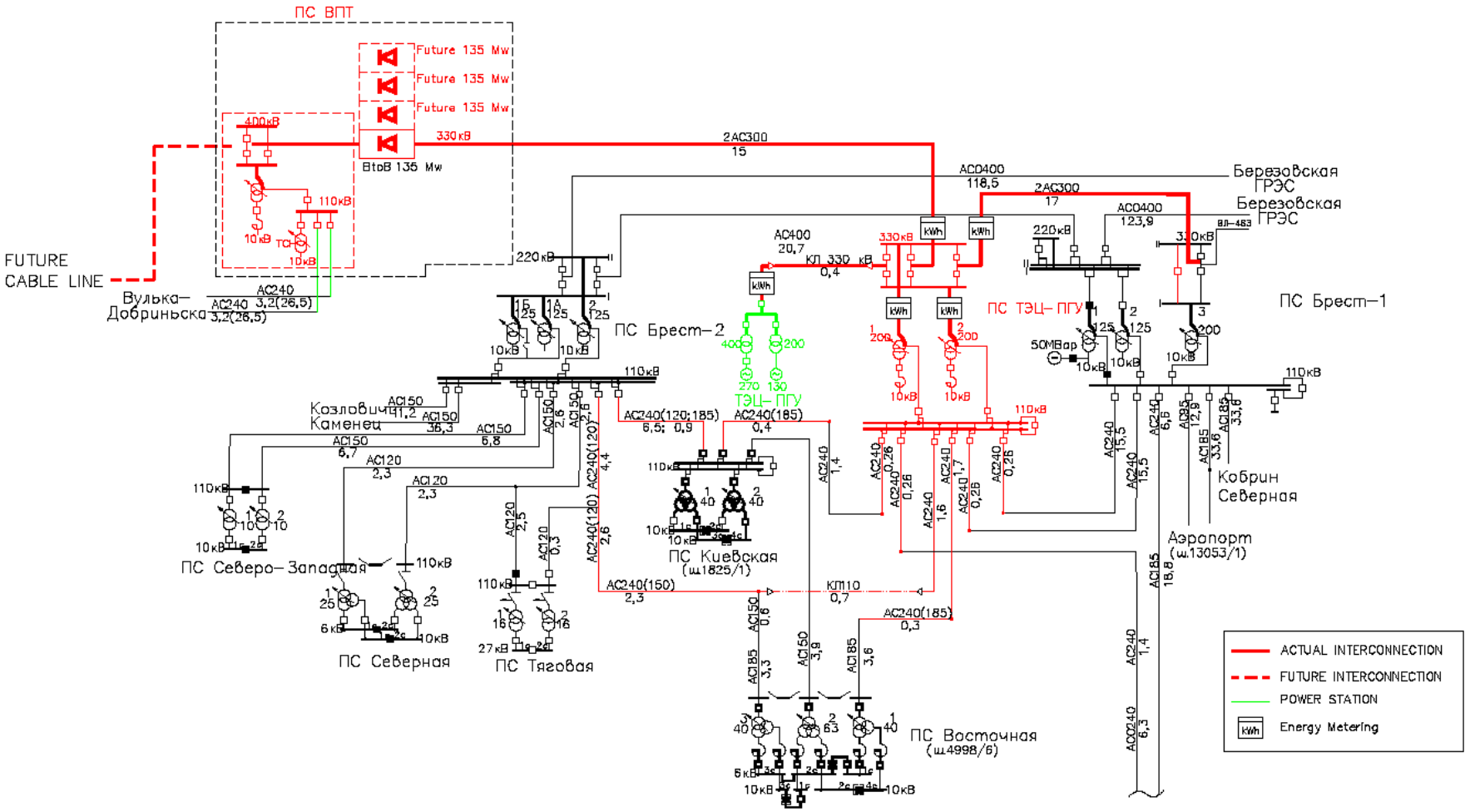
  3) *revamping and repowering 110 kV line to Volka Dobrinska (PL)*

  4) metering system

- ***Revamping and Implementation of the electric network for distribution to the city of Brest.***

- ☐ n° 2 330/110 transformers 200 MVA in grid substation
- ☐ n° 1 110 bur for feed internal distribution system to the city of Brest
- ☐ n° 1 metering system

Interconnector: transborder connection scheme



With this configuration there will be one bidirectional solution 330 kV (high voltage Belarus grid) / 400 kV (high voltage Polish grid) / 110 kV (distribution voltage Polish grid)

Economics and Business Plan

The Business Plan (Annex 14) is composed on the basis of the project's technical data and the results of the negotiations, in particular those with the Belarusian authorities, on the electricity and heat selling according to the scheme summarized in the letter addressed to the Brest Region Governor (Annex 13).

Economical Assumptions of Belarus Market : Price and tariff

Gas Border Price	**2012**		**2015-2017**		**after 2017**	
US$/€ change 1,31	US$/Mmc	€/Mmc	US$/Mmc	€/Mmc	US$/Mmc	€/Mmc
Gas Border Price (pfg) (year 2012 :Pfg=P12)	163	124,4	Pfg=P12*(Pai/P12)		Pfg=P12*(Pai/P12)	
Belytransgag transfer share price (qt)	14,5	11,1	14,5	11,1	14,5	11,1
Distribution share price (qd)	10	7,6	10	7,6	10	7,6
Margin (m)	12,5	9,5	12,5	9,5	12,5	9,5
Gas Price (at delivery point) (PG)	200	152,7	**PG=Pfg+qt+qd+m**			
Electricity Price (*) Pe	**US$/MWh**	**€/MWh**	**US$/MWh**	**€/MWh**	**US$/MWh**	**€/MWh**
Gas share price qg)	42,0	32,1	qg=0,206*PG			
Depreciation and O&M share price (qiom)	42,6	32,5	42,6	32,5	18,3	14,0
Total Electricity price (Pe)	84,6	64,6	Pe=32,5+0,206*PG		Pe=14+0,206*PG	

Investments structure

BELENERGIA PROJECT. Investment costs structure	
Items	**€**
Power Station without offsite	***250.000.000***
Cogeneration plant and offsite	***50.000.000***
Connection to gas grid	5.000.000
Water supply plant	10.000.000
Electric links to electric grid	***69.000.000***
BtoB station	***45.000.000***
Total EPC	**429.000.000**
Preliminary engeneering for permit and procurement	15.000.000
Gas commissiong	15.000.000
Contingencies	15.000.000
Total tecnical Investment	**474.000.000**
Development costs	22.000.000
Financial costs capitalized interest during the construction,financial arrangement costs,advisoring	***45.705.406***
Total investtment	**541.705.406**

Business Plan : Economical Results

- *Equity 30%:€ 162.511.500*
- *Debt 70% : € 379.1933.7500*

- *Interest rate : IRS 6 years + 500 bps*

- *Debt repayment: 10 years*
- *Pay back: 7 years*

- *IRR : 14,7%*

- **Total Investment:**
  € 541.705.406

- *Turnover : € 194.739.798*
- *EBITDA: € 74.086.000*

- *Energy tariff (Belarus Market):*
  during fist ten operation years 64,2 € /MWh
  from 11° operation year 45,7 € /MWh
- *Energy Transfert through BtoB tariff:*
  10 €/MWh