

Completion Certificate No. 5

Date: 02.12.2019
Loan/Credit N°: 8451-MD / P132443
ICB N°: 8451-C1.10

Project: District Heating Efficiency Improvement Project
To: Joint Venture Techno Test SRL and PROMINTERGAZ SRL
Attn: Mr. Gheorghe BURDILA

Dear Mr. Burdila,

Pursuant to GC Clause 24 (Completion of the Facilities) of the General Conditions of the Contract entered into between yourselves and the Employer dated February 8, 2019, relating to the **Procurement of Plant Design, Supply and Installation of 120 Individual Substations and associated pipes in Chisinau District Heating System**; we hereby notify you that the following parts of the Facilities were complete on the date specified below, and that, in accordance with the terms of the Contract, the Employer hereby takes over the said parts of the Facilities, together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

I. Description of the Facilities or part thereof:

The following consistent (general) works were carried out:

- installation of DH pipes
- preparation and repairs of rooms
- installation on new DH substations
- connection of the new DH substations to the DH, CW, SH, DHW, DHWRC systems
- installation of electrical equipment, automation of the control system, valves, strainers, piping and electricity supply systems.

The installation/reconstruction works have been performed for the following objects:

1. **Object 6:**

IHS S22 – Grenoble 207, str.;
IHS S23 – Grenoble 205/2 s.1, str.;
IHS S24 – Grenoble 205/2 s.2, str.;
IHS S25 – Cuza Voda 38/2 s.1, str.;
IHS S26 – Cuza Voda 38/2 s.2, str.;
IHS S27 – Cuza Voda 38, str.;

DH associated pipes:

Pre-insulated steel pipe with signal wire – DN168,3 ≈ 80 m; DN76,1 ≈ 50 m;

Electro-welded steel pipe – DN219 ≈ 8 m; DN159 ≈ 7 m; DN133 ≈ 16 m; DN89 ≈ 90,5 m;
DN76 ≈ 4 m; DN45 ≈ 1 m; DN32 ≈ 1 m; DN25 ≈ 2 m.

2. **Object 7:**

IHS S28 – Traian 20 s.1, str.;
IHS S29 – Traian 20 s.2, str.;
IHS S30 – Traian 16/2, str.;

3. **Object 9:**
IHS S38 – Cuza Voda 23 s.1, str.;
IHS S39 – Cuza Voda 23 s.2, str.;
IHS S40 – Cuza Voda 23 s.3, str.;

DH associated pipes:

Pre-insulated steel pipe with signal wire – DN114,3 ≈ 220 m.

4. **Object 21:**
IHS S83 – Cetatea Chilia 73, str.;

5. **Object 22:**
IHS S84 – Cuza Voda 24/2, str.;
IHS S85 – Cuza Voda 26/1, str.;

DH associated pipes:

Pre-insulated steel pipe with signal wire – DN76,1 ≈ 72 m;

Electro-welded steel pipe – DN76 ≈ 30 m.

6. **Object 23:**
IHS S86 – Daci 9/1, bd.;

7. **Obiectul 24:**
IHS S88 – Cuza Voda 29/2, str.;

8. **Obiectul 25:**
IHS S89 – Dacia 12, bd.;

9. **Obiectul 27:**
IHS S97 – Independenței 4/1, str.;
IHS S98 – Independenței 4/2, str.

DH associated pipes:

Pre-insulated steel pipe with signal wire – DN114,3 ≈ 34 m;

Electro-welded steel pipe – DN219 ≈ 8 m; DN108 ≈ 33 m; DN76 ≈ 15 m; DN45 ≈ 3 m;
DN25 ≈ 2 m;

Date of Completion: December 2nd, 2019.


However, you are required to complete the outstanding items listed in the Attachment 1, 2 and 3 (beneficiary's objections) hereto as soon as practicable.

This letter does not relieve you of your obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Very truly yours,

Project Manager

Ovidiu Radu



MEPIU Technical Supervisor

Iulian Tovarnițchi

Responsible from „Termoelectrica” SA:

Carolina Cebotari

Alexandru Lupan

Marcel Condrea

Viorel Babii

Ghenadie Oclanschi

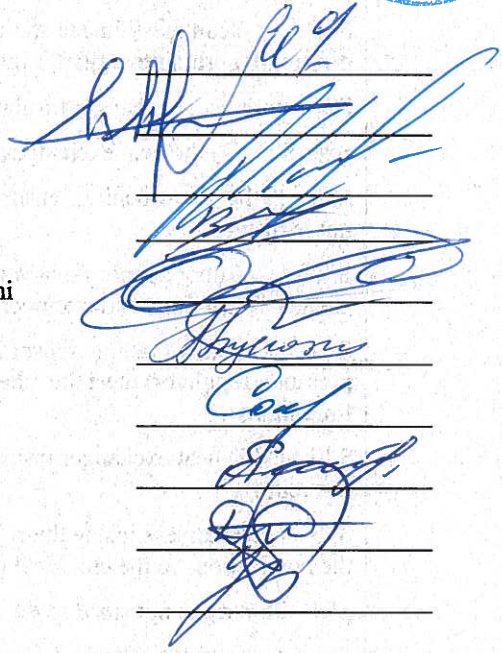
Alexandru Bucățel

Tatiana Comaniuc

Andrei Prepeliță

Veaceslav Djelali

Leand Țiganu



Attachment 1 to the Completion Certificate

of December 2nd, 2019 under the Contract No. 8451-C1.10

Outstanding items under the Contract to be completed by the Contractor:

At all IHS's to check the bolts on the flanges of the pipes with rubber vibration dampers (some are weakly tightened)

S22 - 1) PE strip is not painted and is not fixed to the wall; 2) the dome light is not fixed to the ceiling;

S23 - 1) PE strip is not fixed to the wall; 2) the actuator flap is skipping during rotation (verification is required); 3) the welding points of the IHS frame must be painted;

S24 - the welding points of the IHS frame must be painted;

S25 - 1) cleanliness inside the room must be ensured; 2) the dome lights are not grounded; 3) the differential pressure regulator must be checked (gives no impulse);

S27 - both heat exchanger insulators are missing;

S28, S29 - 1) the heat exchanger insulator is missing; 2) data transmission is not configured;

S30 - 1) the door opening sensor is not fixed; 2) data transmission is not configured; 3) the servomotor nut is rusty;

S38 - 1) the door opening sensor is not fixed; 2) the PE strip is not fixed to the wall; 3) the heat exchanger isolator is missing; 4) the temperature sensor must be moved (indicates the wrong temperature);

S39 - 1) the door opening sensor is not fixed; 2) the heat exchanger isolator is missing; 3) the differential pressure regulator must be checked (it does not adjust across the entire spectrum / adjust with limitations);

S40 - 1) the heat exchanger insulator is missing; 2) the polyethylene pipe for water has no support from the ceiling;

S83 - 1) cleanliness inside the room must be ensured; 2) the grill is missing at the water drainage pit; 3) the connections in the electrical distribution panel are not completed;

S84 - PE strip is not fixed to the wall;

S85 - 1) the heat exchanger insulator is missing; 2) the grill is missing at the water drainage pit; 3) the PE rail is not painted;

S86 - 1) the door opening sensor is not fixed; 2) the heat exchanger isolator is missing; 3) the PE rail is not fixed to the wall;

S88 - both heat exchangers are not insulated;

S97 - 1) the door opening sensor is not fixed; 2) the heat exchanger isolator is missing;

S98 - the heat exchanger isolator is missing;

Attachment 2 to the Completion Certificate
of December 2nd, 2019 under the Contract No. 8451-C1.10

Works that were not completed by the Contractor or that for which the provisions of the project were not respected:

S22, S23, S24, S25, S26, S27, S28, S29, S30, S38, S39, S40, S83, S84, S85, S89 - the potential equalization is not executed at the pipes separated by rubber vibration dampers;

S28, S29, S38, S39, S40, S84, S85, S86, S89 - the automation panel is not grounded;

S83, S86, S88, S89 - pipes on both circuits are not isolated;

S23 - 1) the electrical distribution panel (DP) is not grounded; 2) The IHS is not grounded;

S27 - 1) in the DP the cables are connected with insulating tape; 2) all the cables are of one color (at the top of the circuit breakers);

S40 - the DP cables are all of one color (at the top of the circuit breakers);

S86, S88 - In the DP the Null is connected in series instead of in parallel (all circuit breakers depend on a single connection which is not secure and not according to the regulations).

Attachment 3 of December 2nd, 2019.

ACT
de verificare

OBIECT: S1-22' S1-23' S1-24' S1-25' S1-26' S1-27' / S1-28' S1-29' S1-30' S1-38' S1-39' S1-40' /

Scopul

Corespunderea instalației montate cu proiectul.
Verificarea documentației de execuție.
Corespunderea instalației montate cerințelor DNT.

Caracteristica succintă a instalației electrice examinată vizual:

1. Categoria de alimentare III
2. Sistem de alimentare TN-C-S
3. Tensiunea nominală 220/380 V
4. Puterea electrică 3 kW
5. Tipul încăperii conform cerințelor securității electrice - încăpere deosebit de periculoasă

Neajunsurile depistate:

În rezultatul examinării vizuale și în rezultatul efectuării măsurărilor și încercărilor, au fost depistate următoarele neajunsuri:

1. La panourile electrice lipsesc marcajul autotururilor.
2. Lipsesc denunțurile de dispecerat la panourile electrice.
3. Lipsesc fișete de marcaj pe cabluri în PD
4. La corpurile de iluminat lipsește conveniența conductivității PE.
5. Nu este indicat tensiunea de lucru a izolației electrice
6. Măsurtoarea de împănătură nu este verificată în vederea nărilor
7. Nu este realizată alegerea potențialelor conform proiectului
8. Execuțarea conexiunilor a cablurilor în PD nu corespunde cu documentația normativ-technic.
9. Nu sunt îndeplinite cerințele p. d. t. S. N.A.I.E.
10. Se introduc contor trifazat de tip "LUN 4" (conform proiectului)

Concluzii:

Instalația electrică:

poate pusă în funcție după înlăturarea neajunsurilor depistate.

Membrii:

Delauschi S.
Babic J
Botnari J

26.11.2019

S.A. TERMoeLECTRICA
LABORATORUL
ELECTROTEHNIC

S.A. TERMoeLECTRICA
SERVICIUL
ELECTRIC

