

MINISTRY OF JUSTICE OF GEORGIA

CENTER OF FORENSIC EXAMINATION AND SPECIAL RESEARCH

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**To: V. Tsetskhladze, Assistant to Chairman of the Administrative and Tax Cases
Panel of the Tbilisi Regional Court**

28 October 2002

Please see attached a conclusion of forensic examination, 11 pages.

/signature/ M. Nikoleishvili

Director, Chief State Forensic Examiner of Georgia
Center of Forensic Examination and Special Research

Tbilisi Regional Court stamp:
Case filed on 6 May 2003
Number: 63
Index: 3/a
M. Nikoleishvili

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Written Undertaking

By forensic expert(s) of the Center of Forensic Examination and Special Research of Georgia:

G. Tsurtsunia
A. Guntaishvili;
M. Sarjveladze.

According to Article 166 of the Criminal Procedure Code of Georgia, expert's rights and obligations prescribed by Article 168 of the Criminal Procedure Code of Georgia have been explained to me (us).

I (we) have further been explained about criminal liability under Article 370 of the Criminal Code of Georgia in case of giving a deliberately false conclusion.

Stamp

Signatures:

G. Tsurtsunia
A. Guntaishvili
M. Sarjveladze.

28 October 2003

1373/15-17

25 February 2003

Upon application # 3a/78 dated 25 October 2002 by Mr. Vakhtang Tsetskhladze, Assistant to Chairman of the Administrative and Tax Cases Panel of the Tbilisi Regional Court and the Order of the mentioned Court dated 7 March 2002 (ordering presiding judge Inga Todria), the Center of Forensic Examination and Special Research received Case No. 3a/78-01 (1 volume, 295 pages) on 28 October 2002 for the purpose of carrying out an engineering-technical and financial accounting examination.

See the Court Order in the Case file, pages 290-292.

The following questions are posed to forensic examiners:

1. Is water flowing from the Heat and Power Plant (the HPP) towards and into the basement and the load-bearing wall of the first floor of the building located in Tbilisi at Uznadze Street No. 4? (Please describe in detail: where to the water flows, where does it go from the basement, is the basement flooded, how long has water been flowing there, are the walls and floors in the basement and the first floor damped, etc).
2. Did the flowing of water in the basement made it difficult to use the basement for its normal purposes?
3. Are the iron door and windows corroded in the basement? Are household items of the inhabitants defaced because of water?
4. What damage has been caused to walls and floors of the building because of the flowing water? Is rifting of the walls and sagging of the foundation possible which may make the living building inclined to wreckage?
5. What is the actual value of repair works required to restore the damage?
6. What works need to be carried out to eliminate water flowing from the HPP side and what is the value of these works?
7. For the purposes of normal combustion of gas by gas-using devices prescribed by the technical documentation, do such devices at the HPP have adequate means for regulating the combustion process, equipment to control heating and other related devices?
8. If such equipment is not available, is it mandatory to have it available? What negative results are caused to the environment, atmosphere, water and people by absence of such equipment?
9. Does the HPP have a permit issued by the State regulatory bodies for operating the gas-using devices? What is the term of validity of such permit? Where requirements of legislation and technological processes were observed when issuing such permit?
10. What substance and in what amounts are regurgitated from the smokestack? What impact does the explosion process or the emitted substances have on human organism?

The following questions are posed to financial accounting forensic examiners:

11. Since the date of entry into force of the Tax Code of Georgia up to present, due to emission of harmful substances by the HPP and other entities related to its operation, what sums were paid to the State budget and what sums should have been paid?

12. According to the financial accounting documents, what happened to these sums and who should pay them to the State budget?

Carrying out of the engineering-technical examination was assigned to Expert Guram Tsurtsunia from the Engineering-Technical Unit of the Ministry of Justice Center of Forensic Examination and Special Research, a construction engineer with high education and 46-year length of service by profession, including 25-year length of service as expert.

Carrying out of the financial accounting examination was assigned to Expert Avtandil Guntaishvili, Chief of Financial Accounting Examination Unit of the Center, with high economic education and 25-year length of service as expert and to Expert M. Sarjveladze, an expert accountant with high economic education and 5-year length of service by profession.

Note: on 21 October 2002 the Center received (through the Ministry of Justice) the Order of the Tbilisi Regional Court (Presiding Judge Inga Todria) dated 23 September 2002 which states that upon request of Experts A. Guntaishvili and G. Tsurtsunia the parties were ordered to submit additional materials. On 4 October 2002, the experts submitted another motion requesting that the parties to submit the additional materials requested in the previous motion.

On 8 October 2002 the experts received a small part of the requested materials (see the letter of the Tbilisi Regional Court No. 3a/78 dated 23 October 2002).

On 2 December 2002 the Center received part of the materials requested by the experts (see the letter of the Tbilisi Regional Court No. 3a/78 dated 28 November 2002).

On 11 December 2002 the Center received part of the materials requested by the experts (see the letter of the Tbilisi Regional Court No. 3a/78 dated 11 December 2002).

On 3 February 2003 the Center received additional materials consisting of 6 pages (see the letter of the Tbilisi Regional Court dated 3 February 2003).

In January 2003 the Center received part of the materials requested by the experts (see the letter of the Tbilisi Regional Court).

On 28 January 2003 we received additional materials consisting of 41 pages (see the letter of the Tbilisi Regional Court No. 3a/34 dated 22 January 2003).

Materials requested by the experts were not submitted in full; therefore, the experts are drawing up their conclusions on the basis of materials that were actually submitted.

Materials used for the examination

Case No. 3a/78-02

- a lawsuit (Case file pages 1-8);
- a protocol dated 20 August 2001 drawn up at a meeting of inhabitants of the living building located in Tbilisi at Uznadze Street No. 4 (Case file pages 9-12);
- a counterclaim by the Heat and Power Plant (Case file pages 121-122);
- a statement by the plaintiffs (Case file pages 124-130);
- photos (Case file pages 187-203);
- ecologic passport of the Tbilisi Heat and Power Plant (Case file pages 290-292);

Additionally submitted materials:

- Plans of the basement (Additional Materials, pages 3,8,9);
- Tax Declaration for taxes paid for the pollution of environment by harmful substances (Additional Materials, pages 4,7; 66,71);
- Technical Service Protocol of the Heat and Power Plant (Additional Materials, page 10);
- Protocols of examination of the HPP equipment (Additional Materials, pages 11-13);
- Ecologic passport of the HPP (Additional Materials, pages 16,17, 52-59);
- An explanatory letter regarding underground waters (Additional Materials, pages 18-24);
- Measurement of harmful substances emitted by the HPP (Additional Materials, pages 31-38);
- Measurement of noise emitted by the transformers (Additional Materials, pages 39-44);
- tension of the electric field (Additional Materials, pages 45-47);
- examination of gas passageways (Additional Materials, pages 60-65);

Normative framework:

1. Construction Norms and Rules (CNR 2.07.01-89 – Town Building);
2. CNR 2.07.01-89 – Living Buildings;
3. State Standard GOST 12. 1,036-81 – Admissible levels of noise in living and public buildings.

Examination of the first question:

The Expert conducted observation and examination of the basement of the living building located in Tbilisi at Uznadze Street No. 4 with participation of the plaintiffs. Examination showed the following:

From the outer wall of the basement, which is bordering the Tbilisi HPP territory, flows water which goes through a later arranged groove across the wall into the street through a

hole in the wall. Water flow in the basement is so strong that the groove is not sufficient to carry it in full and the basement floor is flooded in some parts with a depth of up to 0.3 meters. The floor and the walls of the basement are totally damped and moisture reaches the first floor, too.

Examination of the second question:

Part of the basement floor is flooded with water and other parts are strongly damped. For this reason it is impossible to use the basement for its normal purposes as any thing, if stored in the basement, becomes unusable due to the water and moisture.

Examination of the third question:

The Expert examined the iron door installed in the basement of the living house located at Uznadze Street No. 4, Tbilisi. The examination showed that the iron door installed in the basement is heavily corroded. In some parts thin layers are slipped off of the iron door. Other iron-made household items stored in the basement are also heavily corroded. The permanent moisture resulting from the flowing water in the basement facilitates further rusting of metal objects and household items kept in the basement, thereby making it difficult to use the basement for its normal purposes.

Examination of the fourth question:

At the present moment, as mentioned above, water is flowing all the time from the HPP into the premises of the basement adjacent to the HPP, which then proceeds through the hole in the wall towards River Mtkvari; but part of water, because of its large amount, is accumulated and part of the basement is flooded. Permanent water flow and leakage into the concrete in a continuous period causes attenuation of the concrete and wreckage of its structure. Therefore, it is necessary to timely eliminate the flowing of water into the building.

Deriving from the drawing that shows the image of the building from an angle, the absolute mark of the building foundation fluctuates in the range of 386.8 – 388.1 meters from the seal level (see Additional Materials, pages 26-27), while according to the lithologic angle of the prospect-hole mentioned foundation is based on clay-type soil (see Additional Materials, page 28, lithological angle of the prospect-hole No. 3), which is less sensitive to water and for this reason there are no wrecking penetrated cracks for the moment. However, it cannot be excluded that the constant impact of water will result in dangerous cracks in the building.

As regards the source of water flowing into the basement, it may be either ground waters or water leaking from the outdated water pipes or a filtrate of sewerage system (as there is no smell typical for fecal water).

Examination of the fifth and sixth questions:

The Additional Materials contain an explanatory letter regarding underground waters (Additional Materials, pages 19-25), according to which the level of ground waters changes in line with the change of level of River Mtkvari and the level of ground waters ranges within 386-387 meters. However, in our case, pursuant to the data of the technical documentation of the building, the level of the building's foundation is higher than the level of underground waters determined by the level of River Mtkavi. Therefore, the flow of water into the basement in the month of October is caused by other reason (see Additional Materials, page 27). We have no data for other months. In case of heavy increase of River Mtkvari level, water may flow into the basement.

To examine the other reasons of water flowing in the basement, it is necessary to cut the prospect-holes in three places outside the wall of the living building near the HPP territory. Examination should determine where and at what level to arrange drainage. Therefore, for the moment, it is impossible to determine what volume of works and of what value would be necessary, until working project documentation for arranging drainage is drafted on the basis of cut prospect-holes. Regarding the cutting of prospect-holes, it is technically possible to arrange cutting on the HPP territory across the wall.

Examination of the seventh question:

The Additional Materials contain scheme of natural gas supply to the Tbilisi HPP, according to which the following are installed in the HPP:

- BG-50 Boiler No. 1
- BG-50 Boiler No. 2
- TM-35 Boiler No. 4
- BG-35 Boiler No. 1

The boilers have the following regulating equipment: a tap with a stopper; a regulating valve; a valve of venting into atmosphere; measuring diaphragm; etc (see Additional Materials, pages 3,4,65). Also, the boiling room has a heat neutralizing equipment which is insufficient to ensure protection of the people in the nearby building from harmful elements of exhaust gases. To reduce the exhaust gases to the minimum, it is necessary to install appropriate filters and other tools for protection from harmful gases on smokestacks.

Examination of the eighth question:

Because the HPP has no sanitary zone and it directly borders a living building, it is necessary to install appropriate filters and other devices able to protect the population from harmful gases on its smokestacks.

Examination of the ninth question:

As a rule, the Tbilisi HPP shall have no right to operate gas-using devices without an appropriate issued by the State gas regulatory bodies. However, no such permit could be found in the court case file. Therefore, we are unable to answer this question.

Examination of the tenth question:

It goes beyond the competence of engineering-technical examiners to answer questions such as what substance and in what amounts are regurgitated from the smokestack and what impact the explosion process or the emitted substances have on human organism.

Examination of the eleventh and twelfth questions:

Regarding the following questions: “Since the date of entry into force of the Tax Code of Georgia up to present, due to emission of harmful substances by the HPP and other entities related to its operation, what sums were paid to the State budget and what sums should have been paid? According to the financial accounting documents, what happened to these sums and who should pay them to the State budget?” The financial accounting experts are unable to answer these questions as accounting documents we requested in our motion have not been submitted. Also, we did not receive all of the declarations since 1 May 1996 concerning pollution of environment with harmful substances from fixed sources of pollution. Furthermore, chemical-technological, geological and psycho-physiological conclusions of the Ministry of Environment and Natural Resources and the Institute for the Protection of Environment are insufficient to determine what sums the HPP and other entities related to its operation should have paid to the State budget because the mentioned conclusions do not specify the actual amounts of harmful substances emitted into environment.

Conclusion

1. In the basement, located in Tbilisi at Uznadze Street No. 4, constantly flows water from the Tbilisi HPP territory, into the load-bearing wall and goes through a hole in the outer wall of the building (on the River Mtkvari side). Part of the basement is flooded and the walls of the basement are damped up to the first floor.
2. The constant flow of water into the basement caused damping of the basement to a level that it is difficult to use it for its normal purposes;
3. The water flow in the basement caused corrosion of the iron door, iron pipes and household items of the inhabitants; windows are also damped and damaged;

4. Constant water flow caused heavy damping of the walls of the living building basement; the constant water flow and its leakage into concrete walls may cause attenuation of the concrete and, consequently, dangerous rifting and sagging of the walls.
5. Determination of types and volume of works to eliminate water flow from the side of the HPP into the basement and to restore the caused damage will be possible after working project documentation on drainage works is drafted; to do so, it is necessary to cut three prospect-holes on the side of the HPP across the HPP's bordering wall and to conduct geological (hydro-geological) examination of the soil and underground waters.
7. Gas-using devices have enough regulating equipment to ensure normal combustion of gas, tools of heat control and heat neutralizations equipment; however this equipment is not sufficient to ensure protection of the people in the HPP's nearby building from harmful elements of exhaust gases; it is necessary to install special filters and equipment protecting against harmful gases.
8. Because the HPP has no sanitary zone and it directly borders a living building, it is necessary to install appropriate filters and other devices able to protect the population from harmful gases on its smokestacks.
9. The experts are unable to answer this question due to lack of materials. Materials have not been submitted to us.
10. It goes beyond the competence of engineering-technical examiners to answer questions such as what substance and in what amounts are regurgitated from the smokestack and what impact the explosion process or the emitted substances have on human organism.
11. For the reasons stated above, the experts are unable to determine what sums were paid to the State budget and what sums should have been paid by the HPP and other entities related to its operation due to emission of harmful substances since the date of entry into force of the Tax Code of Georgia up to present.
12. As the expert did not receive the requested financial accounting documents, they are unable to determine according to the financial accounting documents what happened to these sums and who should pay them to the State budget.

Forensic experts:

/signatures/

G. Tsurtsunia
A. Guntaishvili
M. Sarjveladze.