

Affidavit

I, the undersigned, Nedal Toman, holder of I.D. No _____, having been notified that I must tell the truth and nothing but the truth and that if I do not do so, I will be subject to criminal penalties under the law, hereby declare as follows:

1. My name is Nedal Toman I am an engineer and a project manager in Gaza Electricity Distribution Company (GEDCO). GEDCO is responsible for the distribution of electricity in Gaza Strip. I make this affidavit in support of a court petition regarding Israel's decision to reduce the amount of electricity supply to the Gaza Strip.

Electricity supply to Gaza:

2. GEDCO is responsible for the distribution of electricity in the Gaza Strip. GEDCO controls the distribution of the electricity coming from Israel and the local power plant. It also controls the electricity received directly from Egypt which is provided directly to the Rafah area. However according to the agreement with the Egyptian side, the 17 MW coming from Egypt is only to be supplied to Rafah Governorate .
3. The Gaza Strip receives its electricity from three sources: Israel Electric Corporation (IEC) – 120 megawatts (62%); Gaza power plant – 56 megawatts (30%); Egypt – 17 megawatts (8%).
4. There are 10 lines of electricity coming from Israel into the Strip, all on the borders of Israel – Gaza: 3 lines in the southern area of Gaza Strip, supplying electricity to the Khan Younis area and part of the Rafah area; 2 lines are in the Erez crossing area serving northern Gaza; 3 lines are in the Karni crossing area serving Gaza City; one line near the coast serving northern Gaza; and one line on the east side of the border serving the Middle Gaza area.
5. The Gaza Power Plant is currently supplying electricity to the Middle Gaza area and the Gaza City area.

6. Since June 2006, following the bombing of Gaza's Power Plant, in which all six transformers at the power plant were destroyed, we have been in a constant state of deficit. Within minutes, the bombing eliminated 43% of Gaza's total power capacity. Currently, after a long process of restoring the power plant, it is able to produce between 50 and 60 megawatts out of its original capacity in June 2006, which was 90 megawatts.
7. Currently, the total supply to Gaza from all sources is 190-193 megawatts, but the actual need of Gaza is 237 megawatts. We already are suffering from a considerable shortage of electricity and dealing with a constant state of deficit, and have been since Israel destroyed the local power plant transformers.

GEDCO's Inability to Control Who Will Lose Electricity

8. In order to deal with the insufficient power capacity in Gaza, we are forced to initiate power outages. Every day, we cut the electricity for few hours in different part of the Gaza Strip.
9. We cut the electricity by shutting down main lines in a certain area, in order to be able to have enough electrical capacity to supply electricity properly to the rest of the areas. Main lines of electricity serve hospitals, water wells, pumping stations, treatment plants, schools, pharmacies, and local clinics, as well as ordinary homes and buildings. Because essential services and ordinary buildings are served by the main lines without differentiation, when we cut power to the main lines, we unwillingly cut electricity also to essential public services.
10. We do so by operating disconnection pillars, which is a dangerous operation. Disconnection pillars are designed to be switched once a year in their five year working life. But in Gaza, because of the shortage of electricity, we often switch the disconnection pillars as many as 4 times a day, which greatly increases the risk of injury and death to technicians. In the past 4 years, 5 technicians died and 45 have received burns to their arms and faces while operating the disconnection pillars.
11. Each feeder line physically tapers its carrying capacity gradually, from the source, where the supply is provided and the carrying capacity is greatest, to the

far end where the carrying capacity is least. This means that it is not possible to join the far end of a distribution line to an alternative supply because it does not have the carrying capacity (for example, a 12 MW line may only have a 5 MW carrying capacity at its farthest end).

12. The system uses 730 low voltage transformers approximately, each of which controls the supply to approximately 2000 people. Any of these transformers may also control the supply to hospitals, drinking water well pumps, drinking water treatment plants, sewage pumps, waste water treatment plants, health clinics, schools and other essential services. All users of electricity are supplied via the public supply systems; there are no separate or protected supplies for essential services.
13. The way the electricity system in Gaza is built does not allow us technically to differentiate between essential humanitarian systems and other consumers of electricity. There is no interconnected electricity grid in Gaza, the system of the electricity lines is a radial system and not a ring system. That means that it is not possible to stop electricity supply to a sub-line fed from the main line – we can only cut the electricity to the main line. It is therefore impossible, technically, to reduce electricity to Gaza without forcing power outages to vital services, because, the cuts will force power outages to main lines, which serves hospitals, water wells, schools, and ordinary use buildings without differentiation.
14. If the supply of electricity coming from Israel is decreased, we will have to increase the number and length of initiated power cuts and the hours in which essential systems and citizens will remain without electricity. There is no technical way to be able to supply electricity in lower voltage through the main lines: you either supply electricity or not. The result of decreasing the supply of electricity will be more hours that vital systems and the population of Gaza will be without electricity.
15. In a situation where we are already suffering from a deficit of electricity, any additional decrease in the electricity capacity of Gaza will have a severe impact on all public and essential services already being affected by the existing deficit.

Water supply to Gaza homes:

16. In Gaza, no electricity means no water. Without a supply of electricity to their homes, Gaza's residents cannot receive water to their homes. Supplying electricity to populated areas is essential in order for the population to receive clean water to and to be able to pump sewage.
17. Drinking water supply and sewage removal and treatment services are all dependent on electricity. Drinking water is extracted from wells by pump, pumped to treatment stations, pumped to homes and pumped to roof top tanks. Sewage is pumped away and treated using electrically powered process.
18. Gaza's residents already suffer from electricity cuts and do not receive water 24 hours a day; therefore they have tanks on the roofs of the houses, to store water. In addition, since Gaza suffers from high population density, there is a high percentage of housing in multi-story buildings. To get water to a roof or high floors, there is a need for continuous electrical power to get the water up. Already today, people who are living in high buildings suffer from frequent disruptions of water supply to their houses. Further cuts will further harm their ability to receive clean water.
19. Attached to this affidavit is a diagram which I have created, showing the four "stations" at which electricity is required to pump water from the ground, purify it, and bring it to the homes of Gaza residents. All four points have to be connected at the same time to the electricity.

The diagram is attached to this affidavit herein and marked "A".

Spare parts:

20. We are extremely worried about the winter. Until the middle of November, we consider the season to be an off peak period. But, with the onset of winter, the demand for electricity increases both for private use (heating) and for public services. For example, the demand for electricity of the Coastal Municipalities Water Utilities (CMWU) increases because the system demands more electric power for its proper functioning.

21. In the winter, because of the weather (wind, rain), there are many faults, we are required to do many repairs, and our need for spare parts increases. For example, already in the night of 21st November, we had 106 emergency calls from people that are not receiving electricity in their area. That night, which was very windy, we had to do 60 repairs.
22. Because of the closure of Gaza's borders and the restrictions on the entry of goods, we are experiencing a severe shortage of spare parts. Since June, We received only 12 low voltage distribution transformers as a donation from the government of Norway and Sweden, imported from Turkey, which is a small fraction of our need. We usually work with local suppliers and a few foreign suppliers, but since Karni Crossing closed, we are unable to purchase spare parts.
23. Our warehouse is out of stock of 190 very basic items, and many other items are about to run out, such as: distribution transformers, disconnected pillars, steel arms, tap connectors, screws, electric network cables, steel polls, electric polls. We even ran out of low and high voltage fuses. We can not even find one in Gaza, and so we are using used and second hand ones. These fuses are highly important because they function as protectors. They control the amount of electricity that enters the transformers, and they protect the wires, so they will not be burned from too much electricity entering them.
24. The shortage in spare parts and the uncertainty regarding the future has forced us to stop all development, rehabilitation and improvement projects, to try to use as few spare parts as possible, and where possible to use second hand and renovated spare parts. We only do emergency repairs and nothing more; effective maintenance can no longer be carried out.
25. Due to the shortage of spare parts and the total lack of cement in Gaza, which has been forbidden to enter Gaza by the Israeli military, we are unable to expand existing networks of electricity lines, to connect new consumers, and to do proper maintenance of the electricity system in Gaza; including installing electric poles and transformers.
26. With no cement, and with the existing shortage in spare parts, we don't know how we will deal with the faults that will be caused by the winter. The electricity

system in Gaza is already very fragile. Further disruptions will be felt acutely by Gaza's residents, including those seeking to access clean water and hospital services.

I declare that this is my name, this is my signature, and that the content of the affidavit and attachment, which I have signed, is true.

N. Toman

Signature

27-11-2007

Date

I certify that on 27 November 2007, Nedal Toman., holder of ID # , appeared before me, and after I put him on notice that he must tell the truth and nothing but the truth and that if he does not do so, he will be subject to criminal penalties under the law, he affirmed the truth of this statement above and signed it in my presence.

عادل تومان
Nedal Toman

Attorney Signature