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Affidavit

I, the undersigned, Nedal Toman holder of I.D. No. [REDACTED] 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 Distribution Electricity Company ("GEDCO"). GEDCO is responsible for the distribution of electricity in the Gaza Strip.
- 2 I have read paragraphs 4-8 of the "Respondents' Supplementary Submission" of 27.11.2007 in HCJ 8132/07 ("the State Submission"), which were translated into English and provided to me by Gisha-Legal Center for Freedom of Movement. I wish to explain why the suggestions offered in those paragraphs for coping with the electricity deficit in Gaza are not feasible.
- 3 I refer to the contents of my affidavit from 27.11.2007, in which I explain that because of the structure and nature of the Gaza electricity system, GEDCO has no choice but to respond to an electricity deficit by cutting electricity to each of Gaza's 17 main lines, which affect humanitarian institutions (such as hospitals and water wells) and ordinary consumers without differentiation. Since the June 2006 bombing of Gaza's power station, we have been cutting electricity to vital humanitarian institutions and to ordinary buildings, because we have no other choice. Those cuts have worsened significantly since Jan. 5, 2008.
- 4 GEDCO is a semi-public utility, and its workers are Gaza residents painfully aware of the terrible situation facing hospitals and other humanitarian institutions. If we could deal with the electricity deficit without cutting electricity for humanitarian services, we would do so.

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5. Regarding the contents of paragraph 4(e) of the State Submission, particularly the statement that it is possible to regulate the internal distribution grid in Gaza by reducing electricity consumption within the distribution area of each line:
6. The primary way in which we can "regulate" electricity supply in Gaza, to deal with the deficit that has existed since the June 2006 power plant bombing, is by cutting power to main lines by instituting rolling blackouts that also affect humanitarian services. I referred to that process in my 27/11/2007 affidavit.
7. The state has also suggested that we reducing electricity consumption within the distribution area of each line, by reducing loads using "primitive methods," "to reduce consumption on one line in order to enable the proper functioning of a hospital" (paragraphs 6(a) and 6(b) of the State Submission). This is essentially a suggestion for three methods which the State says can reduce consumption in localized areas in Gaza, without harming humanitarian institutions: (1) manually tripping low voltage disconnection pillars on the low voltage transformers to cut power to a line, (2) getting consumers to voluntarily reduce consumption, (3) manually cutting off consumers to reduce demand
8. None of those suggestions is practicable in the current circumstances, as I will explain.
9. First, manually tripping the low voltage disconnection pillars on the low voltage transformers, which the state suggests in Para. 6(b) of its submission: Each of Gaza's 17 main lines has approximately 40 low voltage transformers, for a total of approximately 650 low voltage transformers. Each transformer serves approximately 200 connections, or approximately 2,000 people. On each low

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voltage transformer are approximately four low voltage disconnection pillars (approximately 3,000 in total) which can disconnect electricity to the line. **But using the low voltage transformers to reduce consumption is not a practicable solution, for four reasons:**

- a. First, there is already a severe deficit in electricity, especially during the winter peak season, in which demand is 240 MW, but supply has ranged from 125 MW on the evening of January 20 to the current level of approximately 177 MW maximum. Low voltage disconnection pillars can be and are used to address a localized problem in which demand exceeds supply, but it cannot cope with a significant and overall deficit in electricity across the system. That is the reason we have no choice but to schedule rolling power outages to main lines.
- b. Second, the over-use of the low voltage disconnection pillars is severely damaging the electrical distribution system and endangering GEDCO workers. The low voltage disconnection pillars are designed to be switched on or off no more than twice per year, but since the June 2006 bombing of the power plant and the electricity deficit it caused, we have to turn approximately 1,000 of the low voltage disconnection pillars on and off up to 5-6 times per day. This process is extremely destructive to the infrastructure, because the over-use of disconnectors causes them to get worn and broken.

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Due to the irregular supply of electricity beginning January 5, 2008, in the last two weeks, we have lost 20 low voltage disconnecting pillars and 10 high voltage disconnecting pillars, and 10,000 meters of wires were burnt.

This is significant equipment damage that demonstrates why the fluctuations in electricity supply and the deficit destroy the system. We do not have the spare parts necessary to make repairs. If the deficit and fluctuation continue, the entire distribution system could collapse.

Also, the over-use of the low voltage disconnection pillars is dangerous to GEDCO workers. Over the last few years, it has caused 5 deaths and up to 50 serious burns to face and arms. There are currently two GEDCO workers in hospital with burns from disconnection accidents last week.

- c. Third, we cannot keep the disconnection pillars switched off long-term. We generally switch off the disconnection pillars when urgent consumption cuts are needed to avoid a line tripping out. A line would trip out if consumption exceeds supply. But we cannot keep the transformers switched off long term, because GEDCO cannot prevent users, in need of electricity, from climbing the electricity poles and reconnecting the fuses. Residents of Gaza desperate for electricity routinely use pieces of wood to push the fuses back into place on the low voltage transformers, thus

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restoring electricity to their homes GEDCO does not have a way to stop that. There are no locks on the disconnection pillars.

- d. Fourth, even if it were possible to keep a low voltage disconnection pillar switched off long-term – that would mean that approximately 2,000 people would have no electricity at all. That means that 2,000 people would not be able to refrigerate food and medicine, access clean water and pump sewage away, to heat and light their homes or to operate household medical equipment
10. The **second** suggestion is to reduce consumption on a line (for example, a line that serves a hospital) by asking users to limit their electricity use (see Paragraph 6(b) of the State Submission. In fact, GEDCO already does ask users to limit consumption by broadcasting appeals via FM radio. This has not stopped the electricity crisis. We also know that the severe electricity deficit has created resistance to GEDCO technicians who arrive to disconnect the low voltage transformers in the street. There have been numerous occasions when the GEDCO staff have been attacked by desperate consumers angry at having their electricity switched off. Public response to requests to further limit electricity use is unlikely to be effective. It is important to recall that Gaza consumers are already suffering significant disruptions to electricity supply. They are using electricity for basic functions which are difficult to interrupt, such as light, water supply, and heat. Under these circumstances, it is unrealistic to expect that voluntary calls to further reduce consumption will be effective.

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11. The third suggestion is to manually disconnect users using "primitive methods", as the State suggests in 6(b) of its Submission, such as "turning off" the main switch on the electrical switchboards in consumer premises. The State suggests that this be done in particular for workshops producing Qassam rockets. Again, this suggestion cannot be implemented. It is nonsensical to suggest that the engineers can limit consumption by switching off the switchboards in individual premises. True, GEDCO workers can enter premises to read the meter and check that consumers are not drawing more power than they are supposed to, but:

- a. GEDCO does not know which premises are used for Qassam manufacture, as they do not advertise themselves
- b. GEDCO engineers are not policemen. They can manually disconnect a user, but they cannot stand watch to stop the users from simply switching the supply back on. None of the switchboards or switches are key operated, so GEDCO has no means of locking them in an off position (this also applies to the low voltage transformer disconnectors, which is why consumers are able to re-connect them).
- c. GEDCO has 705 workers. If one worker were needed for each user on the 4 lines on which Israel plans to reduce electricity, it would need a workforce of 32,000 technicians just for those four lines (4 lines x 40 low voltage transformers x 200 user premises each). This does not take account of the manpower needed to address all the other distribution problems we have, because of the electricity deficit in Gaza that has

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existed since June 2006 and has worsened significantly since the beginning of this month.

d. Manually disconnecting users means that they will have no access to water, light, heat, refrigeration, or other basic needs.

12. The State Submission is correct to point out that Gaza's electricity system is far from modern. It was built by Israel in the 1970's, and we have not been able to modernize it. We have no spare parts, we have been dealing with a severe electricity deficit since June 2006, we have had severe fluctuations in power supply, and we have uncertainty as to what kind of supply we will have tomorrow. We can't even get to the metering stations for the lines that bring electricity from Israel, because they are close to the border, and the military does not allow GEDCO workers to access them. This means that the engineers managing the load are working blind. They have no way of knowing how much power Israel is supplying through individual lines, they just get warnings when the load exceeds the supply and then have a short time (30 minutes maximum) to respond by disconnecting low voltage transformers. If they do not get the warnings or get them late and cannot respond in time the supply trips out. So it is true that we can "reduce consumption" to avoid the entire line from Israel tripping out, but we do so by the "primitive" methods I have described above, meaning scheduled power outages that affect humanitarian institutions and ad hoc use of the low voltage disconnection pillars, which also affect humanitarian institutions and cause severe damage to the infrastructure and to the health and safety of our workers.

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13. Gaza is a highly populated area with little industry and a high level of poverty.

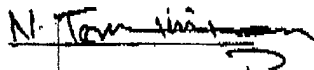
The electricity being used, is being used for basic needs.

14. The cuts in power supply of the last few weeks, due to the impaired functioning of the power plant, have already severely damaged the electricity infrastructure and significantly reduced supply to consumers, humanitarian and "ordinary" alike.

There is no way to cut electricity to Gaza without harming humanitarian needs.

15. As of today, Gaza's power plant is producing approximately 40 MW, because of the industrial diesel shortage, such that the maximum amount of electricity Gaza has, not taking account of technical problems in the lines, is 177 MW. That means a minimum electricity deficit of 63 MW. In reality, because of technical losses on the lines that can reach up to 30% and problems with the equipment, the deficit is much higher. We are currently instituting rolling power outages of approximately 8 hours per day on each of the 17 main lines, but in reality the power outages experienced by consumers are longer, because of localized problems.

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



Signature

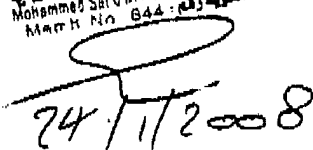
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Date

I certify that on 24 January 2008, Nidal Toman, holder of ID [REDACTED] 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.

Attorney Signature

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