## Extracts from U.S. Defence Intelligence Agency Documents from 1972-1983.

Note: Comments in bold italics are mine.

1. Ref: DST-1810S-076-76 March 1976. "If the more advanced nations of the West are strict in the enforcement of stringent exposure standards, there could be unfavourable effects on industrial output and military functions".
2. Ref: DST-1810S-074-76 March 1976 " Personnel exposed to microwave radiation below thermal levels experience more neurological, cardiovascular, and haemodynamic disturbances than do their unexposed counterparts. Some of the ....... effects attributed to exposure include bradycardia, hypotension, and changes in EKG indices." "Subjects exposed to microwave exhibited a variety of neurasthenic disorders against a background of angiodystonia (abnormal changes in tonicity of blood vessels). The most common subjective complaints were headache, fatigue, perspiring, dizziness, menstrual disorders, irritability, agitation, tension, drowsiness, sleeplessness, depression, anxiety, forgetfulness, and lack of concentration". The very things that some mobile phone users report (Mild et al 1998)
3. Ref: ST-CS-01-169-72 July 1972. "Low frequency electromagnetic fields have been found $\qquad$ to generate sonic and ultrasonic oscillations in living organisms. These oscillations produce elastic deformations in the organism. If the frequency of the outside field corresponds to the oscillation frequency of the cells, the latter deteriorate "Since almost all of the Soviet data on electromagnetic radiation (below visible) applies to physiological response, one can only imply that they have substantial knowledge of the psychological effects". "The UCLA Brain Information Service in Los Angeles has compiled an extensive bibliographic list on the biological effects of electromagnetic fields (below visible frequencies) especially on the central nervous system". Numerous studies have since confirmed this including Wever(1974), Konig (1974), Beale et al.(1997), Lilienfeld et al. (1978), Robinette et al.(1980).
4. Ref: DST-1810S-074-76 March 1976 "Soviet research has produced guidelines which were used to establish a value of $10 \mathrm{uW} / \mathrm{cm} 2$ per working day UK standard 110 $u W / c m 2 \ldots \ldots$ Should subsequent research result in adoption of the Soviet standard industries ...... could be required to make costly modifications to protect workers. Recognition of the standard could also limit the application of new electronic technology by making the commercial exploitation of some products unattractive because of increased costs imposed by the need for additional safeguards." "Another possibility is the aiteration of the permeability of the blood-brain barrier. This could allow neurotoxins in the blood to cross. As a result, an individual could develop severe neuropathological symptoms and either die or become seriously impaired neurologically" Proven by Salford et al.(1993)(1994)(1999). Parkinsons, Alzheimers, and vCJD are such possibilities.
5. Ref: ST-CS-01-169-72 July 1972 "Low frequency emfs have been found to generate oscillations in living organisms. If the frequency of the outside field corresponds to the oscillation frequency of the cells, the latter deteriorate as a result of the mechanical resonance" The human brain \& heart function at frequencies within the spectra of cellphones, computers etc.
6. DST-1810S-074-76 March 1976 "personnel exposed to microwave radiation below thermal levels experience more neurological, cardiovascular and hemodynamic disturbances than do their unexposed counterparts

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the press when the Moscow American Embassy irradiation became publicized. ${ }^{1}$ A main reason for obfuscating weapons implications is that-acknowledging biological performance degradations at and below Western radio frequency exposure standards threatens considerable military and commercial investment, as then or presently. All of the microwave exposure studies produced effects either just above or actually below exposure $]$ standards. ${ }^{[140]}$ The $2.3 \mathrm{~W} / \mathrm{kg}$ chronic intermittent continuous wave exposure of Mitchell et al. $1977^{96}$ is the highest, but $2 \mathrm{~W} / \mathrm{kg}$ is allowed for the cell phone head and trunk exposure situation, though experimental exposures were of animal whole body. Depending on frequency, the corresponding occupational exposure standards range from 8.2 to $9.5 \mathrm{~mW} / \mathrm{cm}^{2}$ for the experiments demonstrating effects at $10 \mathrm{~mW} / \mathrm{cm}^{2}$, a power density little above stated regulation. Effects at $5 \mathrm{~mW} / \mathrm{cm}^{2}$ are below occupational standards, and only represent 2.6 3 times the general population standard depending on frequency, while the $D^{\prime}$ Andrea et al. $1986 \mathrm{a}^{27}$ continuous wave experiment of deleterious effect is 1.5 times the population standard. Exposures in Raslear et al. ${ }^{26}$ are below the population standard, and though these results were at high peak pulse level, there are no official limits regarding pulse power. Besides such considerations, extended exposure durations are not well studied. The prudence of exposure standards is not particularly precautionary regarding those effects herein reviewed or as elsewhere. ${ }^{130}$ These standards were developed by the Institute of Electrical and Electronic Engineers (IEEE) apparently with more regard for military and commercial benefit than biological welfare. The existing standards are so weakly written as to be found unenforceable by the Occupational Safety and Health Administration at administrative law. 1

Until actual syndromes are firmly established enough in literature for lawyers to reap benefits like for asbestos or tobacco, a laissez faire policy will contimue even condoning criminal misuse.

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## References

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[^0]:    [a] This power density is highly discrepant to previous treatments. The Senate American Embassy in Moscow irradiation report indicates the radiation from $1963-1975$ remained about 5 microwatts/cm ${ }^{2}$, with an 18 mictowatt/cm ${ }^{2}$ value measured later in $1975,{ }^{2}$ One milliwatticm ${ }^{2}$ is 200 times a 5 microwatt/cm ${ }^{2}$ value. Steneck pg. $94{ }^{1}$ in comment relative to a May 13,1965 memo states that "At the time government sources erroneously estimated that the intensity of the signai was about $0.5-\frac{1}{4} \mathrm{~m}_{\mathrm{m}} \mathrm{Wh}_{\mathrm{c}} \mathrm{cm}^{2}$ ", so there is some in dieation that such measurements were impugned. The Fota releases here reviewed were released in 1989 , but not covered are previous FOIA releases relative to the Moscow American Embassy irradation referenced in Steneck, and much still remains classified.
    [b] Article frequencies are converted to gigahertz (GHz) from megahertz (MHz) for comparison to the Bizarre figures. $1000 \mathrm{MHz}=1 \mathrm{GHz}$
    [C] Peak pulse power in prewions articles wonld vary with power den sity
    [d] Converted value from 0.125 pulses per second. 3000 MHz is also converted to 3.0 GHz .
    ${ }^{[E]}$ Maier et al 2004 , Figure 3, graph B2
    [f] Sharp et al. 1974 concems microwave hearing physical mechanism, but in forward statement refer to ongoing work that heavily implies human experimentation.
    ${ }^{[8]}$ This last reference contains apparently a summary of the same study also reported as part of a collaborative project with the Soviets, which is here included because publications of microwave studies can have limited availability.
    [h] Converted from 2.3 mW Wgm for comparison to the International Commission on Von-Ionizing Radiation Protection (ICNIRP) standards, which are comparable to US stan dards.

