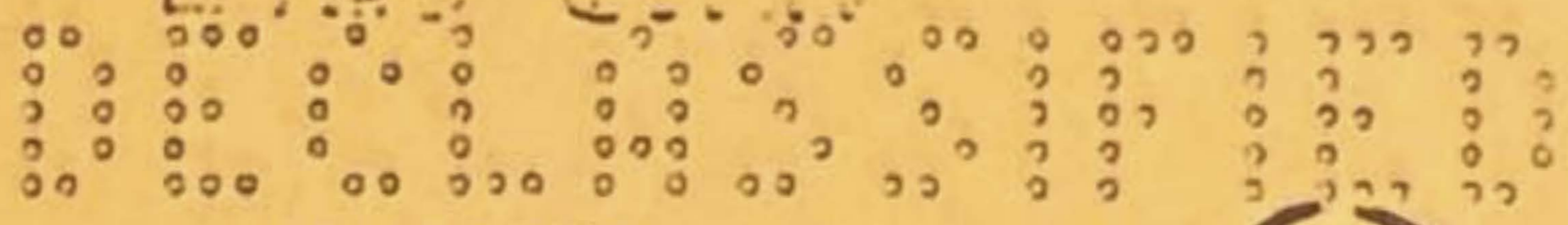


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AID MEMOIR

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TUMS

Steve: This is a summary statement of my understanding of Project BIZARRE results and their implications for TUMS.

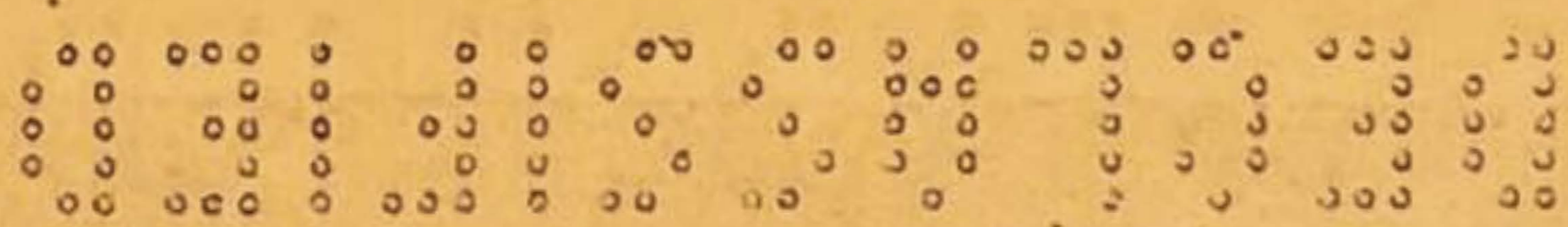
First, the TUMS power levels, insofar as we know them, may be summarized as follows:

1. Reasonable certainty that the power level is not over 50 microwatts/cm².
2. Average of measured high values is 2 microwatts/cm².
3. Average of measured low values is 0.2 microwatts/cm².
4. Single highest peak value is 5 microwatts/cm².

Second, Project BIZARRE findings now begin to assume real importance, as follows:

1. Reasonable certainty that pronounced behavioral effects, performance decrement, can be produced in primates by a modulated carrier signal of approximately 5MW/cm² energy density. I would consider this observation to be established as fact if it were confirmed by an independent laboratory.
2. Suggestive evidence that the behavioral effect observed is due to the modulation feature and not to the energy bearing carrier frequency. This very intriguing and important observation in one animal must be pursued.
3. Suggestive evidence that mild behavioral effects, performance decrement, can be produced in primates by a modulated carrier signal of 1 MW/cm² energy density. This reinforces to some degree the notion that the modulation feature is the important element because 1MW/cm² energy density is really quite low. This was also a single observation and should be confirmed.
4. Two single experimental observations of exposures for relatively short periods of time, one at 0.01 MW/cm² and one at 0.008 MW/cm² energy density, to the same modulated carrier signal produced no behavioral effects.
5. Recovery from maximum effect, or total performance cessation occurred while continuously exposed to the modulated signal at 0.008 MW/cm² energy density.

5 microwatts



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Third, the implications of these findings for persons exposed to TUMS are that as far as power levels are concerned, their exposure is three orders of magnitude lower than the levels at which behavioral effects were observed in Project BIZARRE. Recovery from these same effects were observed in one experiment while the animal was exposed to approximately the same energy density and same modulation as that of TUMS. Therefore, I feel confident in stating that, at the power levels reported for TUMS, persons exposed are at no risk of injury. Concerning the new suggestive evidence that the modulation feature of the carrier frequency, or perhaps some synergistic effect of both together produces a temporary behavioral effect in primates makes any statement about similar effects not being produced in humans by the TUMS signal somewhat less certain than before, but all the same very unlikely indeed.

Fourth, for the record it should be noted that all the positive findings of Project BIZARRE were achieved at one half an order of magnitude below the accepted U.S. standard for safe exposure.

Joe Johnston

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