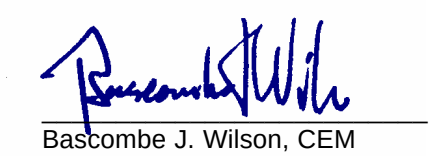
Before the Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	ET Docket No. 03-104
Inquiry Regarding Carrier Current	)	
Systems, including	)	
Broadband Power Line Systems	)	

REQUEST TO ACCEPT LATE-FILED REPLY COMMENTS

The Director of Information Technology of the Disaster Emergency Response Association, Inc. (DERA), a nonprofit charitable service, educational, and professional organization, respectfully requests the Federal Communications Commission to accept and consider the attached reply comments to the Notice of Inquiry published in the Federal Register on May 23, 2003 (68 FR 28182-28186) despite our lateness. While the FCC gave the Public and other interested parties legally sufficient notice in this matter, many affected parties, including DERA, did not initially understand the far-reaching, damaging and irreversible impact this proposal would have. **The matters being considered by the Commission and our comments regarding them are of such fundamental, immediate and lasting importance to public safety and national welfare that consideration of these late comments is warranted in the public interest despite their being filed after the Commission's announced deadline for reply comments.**

Respectfully Submitted,



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COMMENTS OF THE DISASTER EMERGENCY RESPONSE ASSOCIATION, INC. (DERA) ON BROADBAND OVER POWER LINES IMPLEMENTATION

The Director of Information Technology of the Disaster Emergency Response Association, Inc. (DERA), a nonprofit charitable service, educational, and professional organization, respectfully submits comments below that relate to proposed Broadband over Power Line (BPL) implementation by way of modification to Part 15 of the Federal Communications Commission rules (47 CFR Part 15). **DERA concludesthat serious interference to and disruption of critical emergency communications systems in several licensed services throughout North America would almost certainly result from BPL implementation as currently proposed.**

TECHNICAL SUMMARY

1. In ET Docket No. 03-104; FCC 03-100, Proposed Rule; Notice of Inquiry, the Federal Communications Commission (FCC) wisely asks: "Would the new high speed Access and In-House BPL equipment pose a higher risk of interference to licensed radio services than the traditional carrier current systems?" Based on all available technical data and field studies in the U.S. and United Kingdom, the answer to the FCC question is: **YES: Proposed BPL systems would not only pose a higher risk of harmful interference, BPL systems have already been shown to actually cause harmful interference to licensed radio services.**

2. Certain critical communications systems operating in licensed services are vital to public safety and welfare and due to their very nature, must be protected from all sources of interference to the maximum extent feasible, both in terms of technology and regulation. **DERA believes that degraded reception of aviation and maritime distress signals will occur as a result of BPL system operation as proposed.**

(a) AVIATION SAFETY. One paramount example is licensed stations using the Aviation Distress Calling Frequency, an Amplitude Modulated (AM) channel at 121.5 Megahertz (MHz). There are also HF frequencies allocated for aviation distress communications, such as 2,182 kHz, and our comments regarding BPL interference to HF distress channels will be included in the next paragraph. Authorized uses of the VHF aviation distress channel include Emergency Locator Transmitters (ELT), Emergency Position Indicating Radio Beacons (EPIRB) and Personal Locator Beacons (PLB). Additionally, FAA TSO C91A standard provides that signals from these beacons must be suitable for intercept by orbiting Cospas-Sarsat search and rescue satellite systems. Crashed aircraft whose beacons are activated on this frequency and individuals in distress operating handheld survival radios are often in desperate, life-threatening situations. Survivors are often situated in the worst possible locations for transmitting radio signals. Injured persons often must make radio calls with debilitated speech and physical restrictions which degrade their ability to efficiently operate radios. Furthermore, the possibility of successful rescue depends in large part on radio batteries which get weaker every minute they are used. Survival radios are often damaged by the crash impact; antennas are frequently broken off or bent, and batteries damaged. Under these adverse conditions, even the slightest increase in ambient RF noise level can make the difference between a distress signal being heard or not being heard by those in a position to help. An unheard signal--even for a few minutes--can make the difference between life and death for survivors. The laws of physics dictate that BPL, carried as High Frequency electromagnetic signals over unshielded, unbalanced open power lines, will be radiated as RF energy, increasing ambient noise levels, not just in the vicinity of power lines, but for great distances. Unintended RF radiation from such BPL systems cannot be a matter for policy speculation or wishful thinking. Signals under these conditions will radiate from power lines. RF noise levels will increase. Already, licensed HF communications systems are adversely affected by RF noise radiated from poorly maintained power distribution lines. Second and third order harmonics of BPL signals will inevitably increase background noise (even when they do not

actually produce intelligible signals) on 121.5 MHz as well as other critical channels throughout the HF and VHF radio bands. Maintaining the lowest practical noise level on aviation calling and distress frequencies is of paramount importance and is a basic moral and legal obligation of the FCC.

(b) MARITIME SAFETY. Maritime safety is dependent on numerous HF and VHF channels for distress communications. While the ship in distress might be many miles away from BPL systems and unaware of BPL interference, the shore-based stations listening for and responding to distress calls will likely be affected by BPL interference. Just as with aviation distress signals, even the slightest increase in the RF noise floor will interfere with the ability to detect weak distress signals. HF Maritime calling and distress frequencies include 4125 kHz, 6215 kHz, 8291 kHz, 12,290 kHz, 16,420 kHz plus at least one VHF FM channel. All the HF maritime distress frequencies are in the fundamental frequency range of proposed BPL systems, making them especially vulnerable to direct interference from BPL. Quoting from the Acting Associate Administrator, Office of Spectrum Management, National Telecommunications Information Administration, Mr. William T. Hatch: "The HF bands allocated for the distress and safety communications of the maritime and aeronautical mobile (R) services have been subjected to harmful interference caused by unauthorized use. This unauthorized use of safety related HF frequencies has increased in recent years and is resulting in considerable worldwide interference to the operational distress and safety communications spectrum utilized by the maritime and aeronautical communities. Radio is the sole means of communications for the aeronautical and maritime mobile services and the frequencies in the bands allocated to these services are reserved or used for distress and safety purposes and that the aeronautical mobile (R) service is a safety service**. It is essential for the safety of life and property that distress and safety channels of the maritime mobile service and the allocations to the aeronautical mobile (R) service be kept free from harmful interference."**[1]
(Emphasis added.)

[1] Letter of transmittal and enclosures dated 29 February 1999 informing the FCC of the position of Executive Branch agencies of the United States Government regarding WRC-2000 Agenda Item 1.7, Use of HF Bands by Aeronautical Mobile (R) and Maritime Services for essential communications. Document archive location: http://www.ntia.doc.gov/osmhome/wrc99pre/00271_fcc.pdf

3. Local, state, tribal and federal government agencies are critically dependent on High Frequency (HF) radio systems throughout the U.S. and within and among our North American neighbors during periods of emergency. Many of these licensed systems are not well known because of security concerns and their highly specialized functions. It is understandable that BPL proponents may not have taken interference to these systems into consideration in their earlier comments. Some systems are licensed by the FCC, while others are controlled by NTIA and some are sanctioned by other agencies. Many, due to their nature, have little or no visibility with the public or the commercial telecommunications industry, but the FCC, NTIA, and other controlling agencies have clear responsibility for protecting these allocated frequencies in the public interest. Most of these systems operate intermittently, on irregular schedules driven by crisis situations, and by their very design do not draw attention to themselves. Nevertheless, these systems are absolutely vital to public safety and welfare, and particularly so in periods of natural disaster, transportation or industrial mishaps, or national security crisis. The lives and welfare of thousands...if not hundreds of millions ...of citizens depend on the immediate availability of these high frequency (HF) radio systems when needed, where needed, operating on authorized frequencies clear of interference. Comments filed with the FCC by the Chief Information Officer of the Federal Emergency Management Agency on or about mid-December 2003 are among the most important words ever transmitted by a public official on a matter of telecommunications policy. FNARS and other critical systems detailed in that FEMA comment must be protected from interference as a matter of compelling national security and public safety without compromise. **DERA endorses and supports entirely the comments submitted by FEMA on or about mid-December 2003, which state that BPL systems as proposed will result in unacceptable interference to critical emergency communications systems.**

4. DERA is typical of many organizations which respond in time of disaster. We need communications and we need lots of it. We may need it where it didn't exist before, and we may need more than was ever available before in that area. We applaud every research initiative into new technologies which have the potential of improving and expanding communications, particularly high-speed data circuits. DERA has no "bone to pick" with BPL proponents and we sincerely appreciate the work done by BPL researchers to explore expansion of broadband availability. That said and despite our own desire for access to

expanded broadband service, however, DERA cannot advocate for the deployment of any technology which, by its very nature, will degrade and interfere with other communications systems. At this time, there is no known method by which BPL carried as High Frequency signals over unshielded, unbalanced open power lines can be prevented from radiating RF energy that will interfere with licensed services already providing essential telecommunications. Projection of the effects of ubiquitous, relatively powerful BPL systems based upon past interference experience from a small number of geographically separated, ultra-low-power carrier current systems is not a technical model nor policy matrix worthy of the FCC. If BPL, along with its inherent interference to licensed services throughout the HF spectrum is to be authorized, then the FCC may as well turn back the technological clock in another area as well, and re-authorize the use of unlicensed spark-gap transmissions, which would have a similar detrimental effect on licensed HF communications. **IF BPL SYSTEMS BECOME OPERATIONAL AS PROPOSED, THERE WILL LIKELY BE SEVERE INTERFERENCE TO AND DISRUPTION OF HIGH FREQUENCY RADIO SYSTEMS CRITICAL TO PUBLIC SAFETY AND WELFARE THROUGHOUT NORTH AMERICA.**

5. The RF issues related to BPL are highly technical and very complex. The detrimental impact of BPL on licensed services is only now being fully understood. DERA, among many others directly affected by the BPL proposal anticipated that the FCC would dismiss the BPL system proposals outright because of BPL's inherent incompatibility with licensed communications services and did not anticipate that it would be necessary to file comments explaining the obvious. The recent course of events, including public comments by a senior FCC official praising the merits of BPL without acknowledging the serious and apparently insurmountable problems of BPL, indicates the possibility that some public policy makers may not fully understand and appreciate the grave risk to public safety and welfare that BPL poses. **DERA RESPECTFULLY ADVISES THE FCC AGAINST ANY FORM OF "FAST-TRACK" APPROVAL OF BPL SYSTEMS AND REQUESTS THAT THE FCC ALLOW FOR AN EXTENDED PERIOD OF FULL AND OPEN TECHNICAL DISCUSSION, COMPREHENSIVE RESEARCH, PEER-REVIEWED SCIENTIFIC ANALYSIS, AND THOROUGH TECHNICAL ASSESSMENT PRIOR TO ANY COMMISSION DECISION REGARDING BPL. DERA RESPECTFULLY SUGGESTS THAT THE FCC REQUIRE ANY AND ALL FIELD TESTS OF BPL SYSTEMS TO BE CONDUCTED UNDER THE OVERSIGHT AND GUIDANCE**

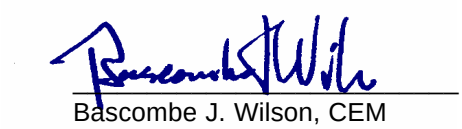
OF AN ACCREDITED AND UNBIASED ACADEMIC INSTITUTION, WHICH WILL ANALYZE AND REPORT FULL AND COMPLETE TECHNICAL FINDINGS ABOUT BPL TO THE FCC AS A MATTER OF PUBLIC RECORD.

6. While the FCC gave the Public and other interested parties legally sufficient notice in this matter, many affected parties, including DERA, did not initially understand the far-reaching, damaging and irreversible impact this proposal would have. **DERA RESPECTFULLY REQUESTS THAT THE FCC RE-OPEN THIS MATTER FOR PUBLIC COMMENT AND PROVIDE FOR FULL AND OPEN PUBLIC HEARINGS ON THE MATTER.**

TECHNICAL ASSESSMENT

DERA respectfully requests that the FCC allow us to submit an interim technical response within 180 days and a full technical assessment of the BPL matter within 270 days from the date of this comment. Technical analysis of BPL deployment is exceedingly complex and the initial response and comment period was not sufficient for us, and we believe others, to complete our full technical assessments. Because the BPL matter involves substantial issues of public safety and welfare, DERA requests that the FCC allow extended time for scientific analysis and comment from us and other parties.

Respectfully Submitted,



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