

ULSTER COUNTY LEGISLATURE

KENNETH J. RONK, JR. Chairman
JAMES F. MALONEY, Vice Chairman
MARY BETH MAIO, Majority Leader
HECTOR S. RODRIGUEZ, Minority Leader
VICTORIA A. FABELLA, Clerk



P.O. Box 1800
KINGSTON, NEW YORK 12402
Telephone: 845 340-3900
FAX: 845 340-3651

MINUTES

JULY 17, 2018

REGULAR MEETING

**244 Fair Street, Kingston, NY and
759 Harvard Street, NW, Washington DC**

7:00 PM

MEETING CALLED TO ORDER BY CHAIRMAN: 7:11 PM

PLEDGE OF ALLEGIANCE TO THE FLAG AND MOMENT OF SILENT MEDITATION:

Led by Chairman Kenneth Ronk, Jr.

ANNOUNCEMENTS

JULY SESSION THEME: Highlighting the 131st Ulster County Fair

FIRE EVACUATION PLAN

PLEASE NOTE THAT IN THE EVENT OF AN EMERGENCY THE FIRE DEPARTMENT HAS REQUESTED THAT LEGISLATORS AND ALL OTHERS MOVE AT LEAST ONE BLOCK AWAY FROM THE COUNTY OFFICE BUILDING IN ORDER NOT TO IMPEDE THE FIREFIGHTERS IN THEIR DUTIES

CELL PHONES

Please silence cell phones for the duration of the Session.

MICROPHONES

Please be reminded to use your microphones when speaking so that you are recorded for the official record.

ROLL CALL: Present: 23 Absent: 0

BIRTHDAYS:

Legislator, Tracey Bartels, July 7

MOTION TO DISPENSE WITH THE READING OF THE MINUTES OF THE PREVIOUS MEETING

Minority Leader Rodriguez motioned, seconded by Majority Leader Maio to dispense with the reading of the minutes of the previous meeting. All in favor.

COMMUNICATIONS FROM:

Ulster County Chairman

Legislator David Donaldson

UC Comptroller, Elliott Auerbach
State of New York, Department of State

NYSAC, Stephen Acquario, Exec. Director

Walkway Over The Hudson
County News
Concerned Citizens
Concerned Citizens
Concerned Citizens
Board of the NYS Humane Association
UC Ag & Farmland Protection Board

Ways and Means Appointment,
Legislator Mary Beth Maio
Letter, Request to Appoint Members UC
Recycling Oversight Committee
2017 Fiscal Stress Assessment
Local Law No. 1 of 2018 Filed 6/14/18
Local Law No. 2 of 2018 Filed 6/25/18
NYSAC Cost of Operations 2019
Federal Water Infrastructure Loans
News Brochure Spring/Summer 2018
Support Initiatives
Vol. 50, No. 13 & 14
(9) Emails, PLL No. 10 of 2018
(17) Emails, PLL No. 9 of 2018
(1) Email, PLL No. 17 of 2018
Schopf Law PLLC Opinion PLL No. 9
Draft Minutes 5/31/18

COMMUNICATIONS (continued):

John J. Faso, Member of Congress 19th Dist.
UC Climate Smart Committee
UCRRA Director Tim Rose
Phelene Lonstein
UC Dept. of Public Works, Comm. Tom Jackson

Shadowland Stages
Nathan Kamp
Legal Services of the Hudson Valley
Central Hudson
Shadowland Stages
Nathan Kamp
Legal Services of the Hudson Valley
Central Hudson
UC Cornell Cooperative Extension
UC Tourism Department
UC Attorney's Office

UC Personnel Department
UC Finance Department
NYS Agriculture & Markets, Scott H. Wyner

UC Board of Health
Mental Health Assoc. in Ulster County
NYS Dept. of Transportation
Evelyn Gross Whitebay
Glide Path, Advanced Energy Solutions

Larry Roth, U&D Railway Revitalization Corp.

Concerned Citizens
Concerned Citizens
Peter Baker
Catskill Mtn. Railroad Co. Ernest Hunt, Pres.
U&D Railway Revitalization Corp.

STOP School Violence Act Funding
Green Business Challenge 6/27/18
Article, China – Trash Problem
Thank You Note
Ohayo Mtn. Rd. Retaining Wall Project
Town of Woodstock
2018 Season Program
Email, AG Zoning Inclusion, New Paltz
Annual Report Summer 2018 Brochure
June, 2018 Brochure
2018 Season Program
Email, AG Zoning Inclusion, New Paltz
Annual Report Summer 2018 Brochure
June, 2018 Brochure
UC Fair VIP 4-H Tour 8/1/18 4:30 PM
Trending July 2018
County Litigation, June 2018
Opinion – Resolution No. 24 of 2018
Civil Service Exam Announcements
Organizational Chart
No Conflict Between PLL No. 9 of 2018
and AML Sections 355 & 374
Minutes 12/11/17, 2/12/18, 4/9/18
2017 Annual Report
Federal Transit Administration Funding
Dyslexia Hill Days 7/11/18 Schedule
Clarify Misunderstandings NY Clean
Energy Future
Court Ruling on UDRRC Petition
7/19/18
(4) Supports Ashokan Rail Trail
(4) Opposes Ashokan Rail Trail
Wade Tours Hudson Valley Rail and Sail
Annual Inspection Report C9 Bridge
Press Release, STB Rules on Catskill
Mtn. Branch Corridor

COMMUNICATIONS (continued):

UC Regional Chamber of Commerce

Bard College
NYS Senator, John J. Bonacic

Grand Opening Unwind Boutique Nail
Spa 6/30/18
Ribbon Cutting Highland Dental 7/11/18
Ribbon Cutting Facets of Earth 7/19/18
Fisher Center Bard Summerscape
Receipt of Legislative Memorializing
Letter, SCOTUS Sales Tax Ruling

COUNTY EXECUTIVE COMMUNICATIONS:

Minutes, 5/4/18 Inter-municipal
Collaboration Council
Minutes, 4/25/18 UC Corporate
Compliance Committee
Press Release, UC Placement Protection
Budgetary Transfers, June 2018
Executive Order No. 1-2018
Press Release, State Supreme Court
Decision
Press Release, Order To Protect Worker
Privacy
Reappointment UC Arson Task Force
Board; Wayne Freer, Kevin Keller, Paul
Casciaro Terms Expire 6/30/2021
Appointment UC Arson Task Force
Board; Everett Erichsen, Lieutenant V.
Altieri Terms Expire 6/30/2021
Press Release, Pharmacy Take Back Law
Press Release, Signs Local Law Banning
Conversion Therapy

MEMORIALIZING LETTERS:

Ulster County Legislators

South Dakota V. Wayfair Ruling – In
Support of Sales Tax Collection

COMMITTEE REPORTS:

DATE:

Economic Development, Tourism, Housing, Planning & Transit	June 5, 2018
Energy & Environment	June 7, 2018
Law Enforcement and Public Safety	June 5, 2018
Laws and Rules, Governmental Services	June 18, 2018
Legislative Programs, Education & Community Services	June 12, 2018
Legislative Programs & Ways and Means Joint Mtg.	June 12, 2018
Public Health and Social Services	June 4, 2018
Public Works and Capital Projects	June 6, 2018
Ways and Means (2)	June 19, 2018
	June 12, 2018

PUBLIC COMMENT:

There were (59) speakers signed up for public comment.

1. Rebecca Diamond – NYSHA: Ms. Diamond, representing the NYS Humane Association, spoke strongly in opposition to Proposed Local Law No. 9 of 2018.
2. Tom Denton, New Paltz: Mr. Denton spoke in opposition of term limits - Resolution No. 285. If elected officials do not perform vote them out, noting Reclaim New York a formal/informal national organization has been active in Ulster County.
3. Jane Schanberg, New Paltz: Ms. Schanberg spoke in opposition to Reclaim New York and Resolution No. 285 creating term limits for elected officials.
4. Jordan Etzel, New Paltz: Mr. Etzel spoke in opposition to Reclaim New York injecting term limit tactics in the community.
5. Sarah Gardner, Town of Lloyd: Ms. Gardner spoke in strong opposition to Reclaim New York expressing Ulster County is not for sale.
6. Rachel Labare, Town of New Paltz: Ms. Labare spoke in opposition to Reclaim New York and asked that Resolution No. 285 is postponed or referred back to committee.
7. Geri Ritchie, Highland: Ms. Ritchie spoke in opposition to Proposed Local Law No. 9 of 2018.
8. Bryan A. Blas, Kingston: Mr. Blas opposes the trail project noting it should have been put before tax payers through voter referendum.
9. Patty Goodwin, Glenford: Ms. Goodwin is in support of all Ashokan rail trail resolutions.

10. Gloria Waslyn, Ruby: Ms. Waslyn supports trails, opposes term limits, and supports quality care for all animals.
11. Hilary Smith: Ms. Smith supports the Ashokan rail trail resolutions.
12. Dom Covello: Mr. Covello spoke on behalf of his son in support of the Ashokan rail trail.
13. Michael Baden, Town of Rochester: Mr. Baden spoke in support of Resolution No. 283 that was earlier defeated in committee expressing the entire legislature should have opportunity to debate.
14. Larry Roth, Ravena: Mr. Roth a member of the U&D RRC congratulated rail supporters for their tenacious efforts and also extended an invitation to the legislature for their fundraiser.
15. Russell Bonk, Clinton Corners: Mr. Bonk a member of the U&D RRC was disappointed the two groups couldn't work together and deeds and easements and the rising costs will be accountable to the taxpayers of Ulster County.
16. Helen Chase, Town of Olive: Ms. Chase opposes taxpayers having to spend tax dollars on a trail many will not utilize.
17. Vivi Hlavsa, Kingston: Ms. Hlavsa opposes building a fire training center at SUNY Ulster in Stone Ridge.
18. Howard Baul, Kerhonkson: Mr. Baul spoke in opposition to Proposed Local Law No. 9 of 2018.
19. Michael Baul, Kerhonkson: Did not speak.
20. Steve Rice, Accord: Mr. Rice, Chairman of the UC Trails Advisory Committee, spoke in support of all Ashokan rail trail resolutions.
21. Irwin Rosenthal, Woodstock: Did not speak.
22. Fred Kurtz, Hurley: Mr. Kurtz spoke in opposition to the Ashokan rail trail, noting the county needs world class neighborhoods and towns.
23. Kate Berdan, Kingston: Ms. Berdan spoke in support of the Ashokan rail trail.
24. Nick Mercurio, Cottekill: Mr. Mercurio spoke in support of the Ashokan rail trail resolutions.
25. Stephan Leibowitz, Kingston: Mr. Leibowitz spoke in support of the Ashokan rail trail.
26. Samantha Moranville, Kingston: Ms. Moranville spoke in support of the Ashokan rail trail.
27. Dave Cook, Saugerties: Mr. Cook spoke in support of the Ashokan rail trail.
28. Ellie Reese, Hurley: Ms. Reese spoke in support of the Ashokan rail trail.
29. Tom Polk, Kingston: Mr. Polk teaches cycling at the Kingston YMCA and supports trails.

30. Domenick Cocchiana: Mr. Cocchiana regional coordinator for Reclaim New York initiative, a 501C4 non-profit asked to put policy before politics – let the peoples voice be heard.
31. Donna Johnson, Accord: Ms. Johnson spoke in opposition to term limits at the local level.
32. Karen Miller, Kingston: Ms. Miller spoke in support of the Ashokan rail trails.
33. Tim Guinee, Marbletown: Mr. Guinee spoke in support of banning plastic bags and green tourism.
34. Byran Roberts, Rhinebeck: Mr. Roberts spoke in support of the Ashokan rail trail resolutions.
35. Stuart Auchinclegs, Woodstock: Mr. Auchinclegs spoke in support of the Ashokan rail trail.
36. Charles Lawrence, Lake Katrine: Mr. Lawrence spoke in support of the Ashokan rail trail resolutions.
37. Scott McIntosh, Kingston: Mr. McIntosh spoke in support of the Ashokan rail trail.
38. Jem Maverick: Ms. Maverick supports rail and trail however opposes the Ashokan rail trail resolutions. Also supports the use of plastic bags. Ms. Maverick also would like to see bikes registered and safety classes.
39. Gina Carbonari, Hurley: Ms. Carbonari spoke in support of Proposed Local Law No. 9 of 2018 and clarified the legislation – trapping cats and getting them back to their owner.
40. Irwin Sperber, New Paltz: Mr. Sperber opposes term limits and spoke of grass roots democracy.
41. Andi Weiss Bartczak, Town of Gardiner: Ms. Bartczak opposes term limits at the local level, opposes plastic bags and supports rails.
42. Sharon Burns-Leader, Shokan: Ms. Burns owner of a local business spoke in support of the rail trail.
43. Lee Kalish, Kingston: Mr. Kalish spoke in support of the Ashokan rail trail.
44. Hugo Jule, Woodstock: Did not speak.
45. Clayton Horsey, Woodstock: Mr. Horsey spoke in support of the Ashokan rail trail.
46. Peter Miller, Highland: Mr. Miller Highland Fire Chief expressed the need for a centralized fire training center within Ulster County.
47. Fred DeMaio, Clintondale: Mr. DeMaio spoke in support of building a fire training center in Ulster County.
48. Eric Orr, Wallkill: Mr. Orr spoke in support of having a centralized fire training center at SUNY Ulster.

49. Paul Alexander, Woodstock: Did not speak.
50. Mark Eis, Town of New Paltz: Mr. Eis is a member of the New Paltz town and village bicycle & pedestrian subcommittee spoke in support of the Ashokan rail trail and outdoor recreation safety.
51. Lloyd Hoffstatter, Town of Olive: Mr. Hoffstatter spoke in support of rail and trail.
52. Laura Cunningham, Stone Ridge: Ms. Cunningham suggested an alternate location to build a fire training center vs. SUNY Ulster. Ms. Cunningham also shared concern of potential health hazards.
53. Donna Bruschi, New Paltz: Ms. Bruschi spoke in support of rail trails and bicycle riders.
54. Christine Gains, New Paltz: Did not speak.
55. Jamie Myers, New Paltz: Did not speak.
56. Susan Jaworski, Shokan: Ms. Jaworski spoke in opposition to term limits and Reclaim New York.
57. Kate Reese Hurd, High Falls: Ms. Reese Hurd shared information/risks of wireless WiFi, EMF's and 5G frequency exposure.
58. Jodie Lomeli, Washingtonville: Ms. Lomeli spoke in support of Proposed Local Law No. 9 of 2018.
59. Kali Rosenblum, Bearsville: Ms. Rosenblum spoke in support of the Ashokan rail trail.

Please Note: Complete content of the public comment period can be heard on the Ulster County Legislative Website.

**RESOLUTION NOS: 210, 280, 282, 285 - 321; 212, 275, & 281 - POSTPONED;
283 & 284 - DEFEATED; 265, & 279 - NO ACTION TAKEN;
197 – WITHDRAWN**

Resolution No. 212 – Setting A Public Hearing On Proposed Local Law No. 16 Of 2018, A Local Law Regarding Campaign Finance Reform in Ulster County, To Be Held On Tuesday, August 7, 2018 At 6:00 PM
POSTPONED IN COMMITTEE

Resolution No. 275 – Amending The Rules Of Order To Permit Memorializing Resolutions
POSTPONED IN COMMITTEE

Resolution No. 281 – Establishing A Policy To Prohibit The Use Of Public Funds To Place The Likeness Or Name Of Elected Officials On All Promotional And Informational Signage On County Owned Property

POSTPONED IN COMMITTEE

Resolution No. 283 – Adopting Proposed Local Law No. 10 Of 2018, A Local Law Promoting The Use Of Reusable Bags And Regulating The Use Of Plastic Carryout Bags And Recyclable Paper Carryout Bags

DEFEATED IN COMMITTEE

Resolution No. 284 – Adopting Proposed Local Law No. 14 Of 2018, A Local Law Amending Local Law No. 2 Of 2006 (A Local Law Adopting A County Charter Form Of Government For The County Of Ulster, State Of New York) And Amending Local Law No. 10 Of 2008 (A Local Law Adopting An Administrative Code For The County Of Ulster, State Of New York), To Amend The Term Of Office For Members Of The Ulster County Legislature

DEFEATED IN COMMITTEE

Resolution No. 265 – Requesting That The New York State Assembly And New York State Senate Introduce Legislation Amending New York Public Authorities Law Article 8, Title 13 G, Section 2050-t (3) To Include Recycling Material

NO ACTION TAKEN IN COMMITTEE

Resolution No. 279 – Setting A Public Hearing On Proposed Local Law No. 19 Of 2018, A Local Law Amending Local Law 4 Of 2015 (A Local Law Regulating The Use Of Polystyrene Foam Disposable Food Service Ware By Food Service Establishments In Ulster County), To Amend Penalties And Provide Certain Exemptions, To Be Held On Tuesday, August 7, 2018 At 6:05 PM

NO ACTION TAKEN IN COMMITTEE

Resolution No. 197 – Establishing A Policy To Limit Participation In Party Politics By Appointees Of Ulster County Elected Officials

WITHDRAWN BY SPONSER

A motion was made by Majority Leader Maio, seconded by Minority Leader Rodriguez to move Resolution Nos. 296 and 317 out of the Non-Consent Agenda and into the Consent Agenda. All in favor.

Consent

- 280 Authorizing The Chairman Of The Ulster County Legislature To Accept Funding From The New York State Education Department, State Archives Division For The Development Of A Permanent Archival Exhibit - Amending The 2018 Ulster County Budget– County Clerk**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 286 Confirming Appointment Of A Member To The Community Services Board**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 287 Confirming Appointment Of A Member To The Community Services Board's Mental Health Subcommittee**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 288 Reappointing – Commissioner Of Elections**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 289 Reappointing – Commissioner Of Elections**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 290 Approving The Execution Of A Contract In Excess Of \$50,000.00 Entered Into By The County – Drescher & Malecki LLP – Legislature**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 291 Approving The Execution Of A Contract In Excess Of \$50,000.00 Entered Into By The County – L.W. Tree Service Inc – Department Of Public Works**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 292 Approving The Execution Of A Contract Amendment In Excess Of \$50,000.00 Entered Into By The County – Complete Building Solutions Inc – Department Of Public Works**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 293 Approving The Execution Of A Contract Amendment In Excess Of \$50,000.00 Entered Into By The County – Arthur F. Mulligan Inc – Department Of Social Services**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 294 Approving The Execution Of A Contract Amendment In Excess Of \$50,000.00 Entered Into By The County – Rolling V Bus Corp – Department Of Social Services**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 295 Approving The Execution Of A Contract Amendment In Excess Of \$50,000.00 Entered Into By The County – Unlimited Care Inc – Department Of Social Services**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 296 Approving The Execution Of A Contract Amendment In Excess Of \$50,000.00 Entered Into By The County – Rondout Legal Services Inc – Department Of Social Services**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 297 Approving The Execution Of A Contract In Excess Of \$50,000.00 Entered Into By The County – Family Of Woodstock Inc – Department Of Social Services**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 298 Approving The Execution Of A Contract In Excess Of \$50,000.00 Entered Into By The County – Family Of Woodstock Inc – Youth Bureau**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 299 Approving The Execution Of A Contract In Excess Of \$50,000.00 Entered Into By The County – Family Of Woodstock Inc – Youth Bureau**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 300 Approving The Execution Of A Contract Amendment Causing The Aggregate Amendment Amount To Be In Excess Of \$50,000.00 Entered Into By The County – Tyler Technologies, Inc. – Information Services**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 303 Approving The Execution Of A Contract Amendment In Excess Of \$50,000.00 Entered Into By The County – National Business Equipment LLC – Information Services**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 304 Amending The 2018 Ulster County Budget To Accept Funding From The New York State Children's Alliance To Support The Family And Child Advocacy Center – Department Of Social Services**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 305 Authorizing The Chairman Of The Ulster County Legislature To Execute A Contract With The New York State Department Of Health To Continue The Tobacco Enforcement Program – Department Of Health**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 306 Adopting The Inclusion Of Additional Lands In Agricultural Districts Within Ulster County As Recommended By The Ulster County Agricultural And Farmland Protection Board – Department Of Planning**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 309 Authorizing The Chairman Of The Ulster County Legislature To Amend A Lease Agreement With Ulster Savings Bank For Public Defender Office - Department Of Public Works – Buildings And Grounds**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 310 Amending Capital Project No. 488, Installation Of Shoulders Along Route 299, Towns Of New Paltz And Gardiner – Transportation Improvement Project (TIP) Not On The State Highway System – Amending The 2018 – 2023 Capital Improvement Program And Declaration Of Intent To Serve As Lead Agency Under SEQRA - Department Of Public Works (Highways And Bridges)**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 312 Authorizing The Acquisition Of A Temporary Easement Over Certain Real Property For The Purpose Of Replacing The Bailey Bridge On Denning Road Over The East Branch Neversink River– Department Of Public Works**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 313 Amending The 2018 Ulster County Budget- Extreme Winter Recovery Funding Appropriation - Department Of Public Works (Highways And Bridges)**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 314 Amending The 2018 Ulster County Budget- CHIPS Funding Adjustment - Department Of Public Works (Highways And Bridges)**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 315 Approving A Work Order With The Dormitory Authority Of The State Of New York For Design And Procurement Services Related To Capital Project No. 527 – Classroom Renovations - SUNY Ulster**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 316 Authorizing The Chairman Of The Ulster County Legislature To Execute A Payment In Lieu Of Taxes Agreement With Bluestone Solar, LLC For Solar Energy Systems Pursuant To Real Property Tax Law Section 487**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 22 NOES: 0
(1 Abstention: Legislator James Maloney)

- 317 Authorizing The Commissioner Of Finance To Accept Bids For Parcels Of County-Owned Real Property For Private Sale And Authorizing The Chairman Of The Ulster County Legislature To Convey Such Parcel – Department Of Finance**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 318 Authorizing The Conveyance Of County-Owned Property To The Original Owner – Department Of Finance**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 319 Confirming The Appointment Of Edward Jordan As Director Of Purchasing**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

- 320 Adopting Updated Procurement Manual Pursuant To General Municipal Law Section 104-b – Department Of Purchasing**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

Non-Consent

210 Adopting Proposed Local Law No. 9 Of 2018, A Local Law To Adopt Countywide Notification Requirements For The Trapping of Free Roaming, Feral And/Or Stray Cats

Legislator Petit motioned, seconded by Legislator Rodriguez, to accept the version of Proposed Local Law No. 9 as presented, and further amend the Proposed Local Law to be effective six (6) months after its filing in the Office of the Secretary of State.

MOTION ADOPTED BY THE FOLLOWING VOTE:

AYES: 18 NOES: 5

(Noes: Legislators Fabiano, Haynes, Maio, Wawro, and Woltman)

ADOPTED AS AMENDED BY THE FOLLOWING VOTE:

AYES: 13 NOES: 10

(Noes: Legislators Archer, Collins, Delaune, Fabiano, Gerentine, Haynes, Maio, James Maloney, Wawro, and Woltman)

282 Adopting Proposed Local Law No. 5 Of 2018, A Local Law Amending The Ulster County Charter, (Local Law No. 2 Of 2006), And Amending The Administrative Code For the County Of Ulster, (Local Law No. 10 Of 2008), To Clarify Budget Modification After Adoption

ADOPTED BY THE FOLLOWING VOTE:

AYES: 14 NOES: 9

(Noes: Legislators Fabiano, Gerentine, Haynes, Lopez, Maio, James Maloney, Nolan, Wawro, and Woltman)

- 285 Adopting Proposed Local Law No. 15 Of 2018, A Local Law Amending Local Law No. 2 Of 2006 (A Local Law Adopting A County Charter Form Of Government For The County Of Ulster, State Of New York) And Amending Local Law No. 10 Of 2008 (A Local Law Adopting An Administrative Code For The County Of Ulster, State Of New York), To Create Term Limits For Certain Ulster County Elected Officials**

Legislator Rodriguez motioned, seconded by Legislator Heppner, to postpone the Resolution until the September 20, 2018 Session.

MOTION ADOPTED BY THE FOLLOWING VOTE:

AYES: 13 NOES: 10
(Noes: Legislators Fabiano, Gerentine, Haynes, Litts, Lopez, Maio, James Maloney, Roberts, Ronk, and Wawro)

POSTPONED UNTIL SEPTEMBER 20, 2018 LEGISLATIVE SESSION

- 296 Approving The Execution Of A Contract Amendment In Excess Of \$50,000.00 Entered Into By The County – Rondout Legal Services Inc – Department Of Social Services**

MOVED TO CONSENT

- 307 Amending Capital Project No. 459 – Ashokan Rail Trail Project - To Include Costs For Phase 2 Construction And Construction Inspection – Department Of Planning**

Legislator Petit motioned, seconded by Legislator Donaldson, to add an additional RESOLVED to the Resolution to read as follows:

“RESOLVED, that at least 1,000 feet of the former railroad right-of-way between Basin Road and the future West Hurley trailhead be reserved for future railroad reconstruction and be left undisturbed by trail or trailhead construction; and, be it further”

MOTION DEFEATED BY THE FOLLOWING VOTE:

AYES: 7 NOES: 16
(Ayes: Legislators Donaldson, Fabiano, Greene, Litts, Joseph Maloney, Petit, and Wawro)

Legislator Greene motioned, seconded by Legislator Donaldson, to Refer Resolution Nos. 307 and 308 to the Trail Rail Advisory Committee.

MOTION DEFEATED BY THE FOLLOWING VOTE:

AYES: 4 NOES: 19
(Ayes: Legislators Donaldson, Greene, Joseph Maloney, and Petit)

ADOPTED BY THE FOLLOWING VOTE:

AYES: 20 NOES: 3
(Noes: Legislators Donaldson, Greene, and Joseph Maloney)

308 **Authorizing The Financing Of The Construction Of The Ashokan Rail**
BOND **Trail, In And For The County Of Ulster, New York, At A Maximum**
 Estimated Cost Of \$8,250,281.00, And Authorizing The Issuance Of
 \$8,250,281.00 Bonds Of Said County To Pay The Cost Thereof

ADOPTED BY THE FOLLOWING LONG ROLL CALL VOTE:

AYES: 20 NOES: 3
(Noes: Legislators Donaldson, Greene, and Joseph Maloney)

301 **Approving The Execution Of A Contract Amendment In Excess Of**
 \$50,000.00 Entered Into By The County – Barton & Loguidice DPC –
 Department Of Planning

ADOPTED BY THE FOLLOWING VOTE:

AYES: 20 NOES: 3
(Noes: Legislators Donaldson, Greene, and Joseph Maloney)

- 302 Approving The Execution Of A Contract In Excess Of \$50,000.00 Entered Into By The County – A. Servidone, Inc. – Department Of Planning**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 20 NOES: 3
(Noes: Legislators Donaldson, Greene, and Joseph Maloney)

- 311 Authorizing The Issuance Of An Additional \$35,000.00 Bonds Of The
BOND County Of Ulster, New York, To Pay Part Of The Cost Of The Installation Of Shoulders Along Route 299, In And For Said County**

ADOPTED BY THE FOLLOWING LONG ROLL CALL VOTE:

AYES: 23 NOES: 0

- 317 Authorizing The Commissioner Of Finance To Accept Bids For Parcels Of County-Owned Real Property For Private Sale And Authorizing The Chairman Of The Ulster County Legislature To Convey Such Parcel – Department Of Finance**

MOVED TO CONSENT

Late Resolution

- 321 Authorizing The Chairman Of The Ulster County Legislature To Execute A Grant Agreement With The Dormitory Authority Of The State Of New York For The Hudson Valley Rail Trail West: Phase 4 Project**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 22 NOES: 1
(Noes: Legislator Joseph Maloney)

MEETING ADJOURNED IN MEMORY OF: Read by Legislator Kevin Roberts.

Glenn P. Noonan, Gardiner, NY
Eugene A. Olsen, Pine Bush, NY
Harvey E. Kronick, Trinity, FL
William J. Kautz Sr., Ellenville, NY
Paul H. Jordan Jr., Kingston, NY
Heather Closi-Leion, Kingston, NY
Robert A. Knapp, Wallkill, NY
Charlotte Gill, Hurley, NY
Robert J. Strubel, Chandler, AZ.
Charles H. Eggelton III, Wallkill, NY
Harry Van Vliet III, Ulster Park, NY
Norma L. Hughson, Kingston, NY
Patrick J. Colbert, Lake Katrine, NY
Ellen Kirkpatrick, West Shokan, NY
Floyd D. Moon, Saugerties, NY

William A. Bair Jr., Saugerties, NY
Catherine H. Nieffer, Saugerties, NY
Grace Apuzzo Francioli, Plattekill, NY 102yrs.
Lillian Riggins, Wallkill, NY
Francis M. Young, Ruby, NY
Julia A. Ginty, Town of Ulster, NY
Kenneth J. Gottstine, Tillson, NY
Joseph F. Torrisi Jr., Kingston, NY 103yrs.
Sharon Haines, Kingston, NY
Marilyn J. Yantz, Marlboro, NY
Danielle Pecoraro, New Paltz, NY
George O. Knox Sr., Sleightsburgh, NY
Corabelle L. North, Saugerties, NY
Anna E. Brandt, Woodstock, NY
Dennis C. "Jake" Croswell, Hurley, NY

Motion by Legislator Litts, seconded by Legislator Fabiano to adjourn Legislative Session. All in favor.

MEETING ADJOURNED: 9:19 PM

NEXT MEETING:

The next Regular Meeting of the Ulster County Legislature will be held on **August 14, 2018 at 7:00 PM** in the Legislative Chambers, Sixth Floor, Ulster County Office Building, 244 Fair Street, Kingston, New York.

Resolution deadline is **Wednesday, July 25, 2018 at 12 Noon.**

ULSTER COUNTY LEGISLATURE, Clerks and Staff, 071718

FOLDER CONTENTS: The critical issue of wireless WiFi, EMFs and 5G

6a. and 12a. are easily found on the Web. All documents below can be emailed. Print and share freely.

- ✓ 1. Dr. Pall's letter to Gov. Jerry Brown RE extreme 5G (fifth generation wireless) dangers, Sept. '17; 4 pp.
→ Wireless/WiFi/EMFs trigger a known mechanism in the body. Serious trouble.
- ✓ 2. 5G, Seven Points RE 5G (and electronic meters, 'smart grid' and WiFi), context and dangers
- ✓ 3a. Cell phone history, *The Nation*, "How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation, The disinformation campaign—and massive radiation increase—behind the 5G rollout," March 29, 2018, excerpt, opening section
- 3b. Cell phone history, *The Nation*, "How Big Wireless Made Us Think..." excerpt, intimidation of researchers, the public experiment, 2 pp.
- ✓ 3c. History, Russia, Longterm 0 to 3 GHz radiation exposure effects, *Brochure 6*, Hecht, 2016, excerpts, 2 pp.
- 4a. Warnings and bans around the world, 3 pp.
- ✓ 4b. Technical and Legislative Goals – in development
- ✓ 5a. Handout – RE Autism, key talks by Dr. Pall, short to-do list, detectors to use, 5G bills pending. (lg/sm)
- 5b. SUMMARY-INDEX (by KRH) for the talks by Dr. Pall, 5 pp.
- 6a. Dr. Martin Pall's master research summary document of March 2018, *5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them*; 53 pp. – Web
- 6aa. Dr. Pall's statement of credentials, 2009; 4 pp.
- 6b. INDEX (by KRH) for the 5G: *Great Risk* document, 7 pp.
- ✓ 6c. Dr. Pall – the extreme risk of 5G radiation – the details, from doc 6a. (Ch. 6); 4 pp.
- ✓ 6d. Dr. Pall – cumulative, irreversible neuropsychiatric and cardiac effects, from doc 6a. (Ch. 3); 4 pp.
- ✓ 6e. Dr. Pall – cumulative, irreversible infertility, DNA damage, impacts on the young, from doc 6a. (Ch. 3); 2 pp.
- ✓ 6f. Dr. Pall – cumulative, irreversible Alzheimer's and dementia effects, from doc 6a. (Ch. 3); 2 pp.
- ✓ 6g. Dr. Pall – how research is falsified, made to appear inconsistent, from doc 6a. (Ch. 5); 4 pp.
- 6h. Dr. Pall – how the awesome VGCC regulatory mechanism works, why it matters, from doc 6a. (Ch. 2); 5 pp.
- 7. Dr. Pall's testimony on electronic utility meter documented effects, June 2017, transcript
- ✓ 8a. Chart: the EMF Spectrum of Frequencies
- ✓ 8b. Graphic: the Midnight Effect and the quieting response of bees, ½ page
- ✓ 8c. Graphic: Seed death and damage to brain – two types of WiFi/EMF = two types of effects, ½ page
- ✓ 8d. Graphic: Why the VGCCs matter: multiple types of EMFs, multiple pathways = myriad effects, ½ page
- ✓ 8e. Graphic: WiFi/EMF energy waste, heating and swamping of earth's EMF with artificial EMFs, ½ page
- 10a. Comment to Ulster County Legis., 3/20/18, 7 Points on 5G, meters / 'smart' grid, wireless – see 2.
- 10b. Comment to Ulster County Legis., 4/17/18 heart arrhythmias, cordless phones, pacemaker cell VGCCs
- 10c. Comment to Ulster County Legis. midnight effect, the earth's field in 1987, earth and bees rested
- ✓ 11a. Comment to the PSC, 6/21/18, electronic meters, VGCCs, irreversible harms, SCENIHR falsity; 3 pp.
- 12a. *Bees, Birds and Mankind, Destroying Nature By Electrosmog*, by Ulrich Warnke, 2007/2009, 47 pp. – Web

Folder Pocket-panel Quotes and Folder Contents List

Kate Reese Hurd High Falls NY kreehu@gmail.com

The Electromagnetic Spectrum

The Electromagnetic Spectrum, as this chart shows, takes in the span of frequencies from normal household AC current to X-rays and Gamma rays. The greater the number of cycles per second, the higher the frequency is of the electromagnetic signal, and this frequency of cycles is referred to in numbers of "Hertz."

The frequencies involved in electrical currents generate electromagnetic fields – EMFs. Household AC at 50 or 60 Hertz is referred to as producing Extremely Low Frequency EMF fields, or ELF fields. As the frequency increases, the terms used change (see the chart):

Extremely Low Frequency, ELF

– indicated in Hertz, Hz

Very Low Frequency, VLF

– indicated in Hertz, Hz

Radio Wave Frequency, RF

– indicated in millions of Hertz,

MegaHertz, MHz

(HF, VHF and UHF are below 1 GHz)

Microwave Frequency, MW

– indicated in billions of Hertz,

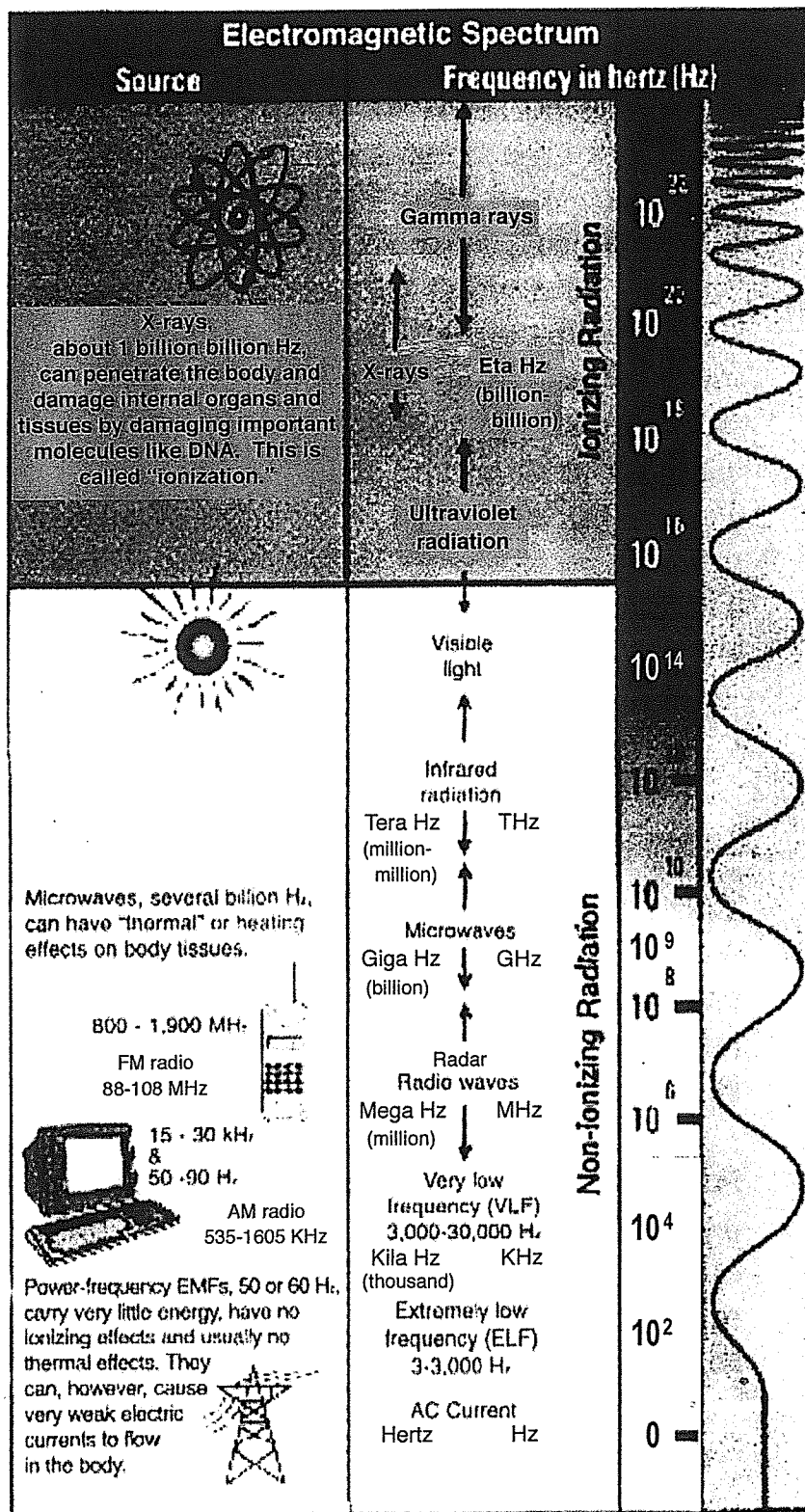
GigaHertz, GHz

This should help demystify the Hertz designations given on wireless devices.

As can be seen, at 1 billion billion Hz, X-rays penetrate the tissues of the body and cause damage through heating and the ionization of DNA. Hence these frequencies are called ionizing radiations.

Radiation in frequencies below visible light down to ELF do not cause damage to bodily tissues through overt heating and ionization. Therefore, these frequencies are called "non-thermal" and "non-ionizing" radiation. For a long time it was put forth that these radiations simply do not and cannot damage tissues or interfere with bodily functions, though quite the contrary was already known. Decades ago, in 1971, the U.S. Office of Naval Medical Research issued a report documenting over 100 medical effects as consequences of these radiations, many of them serious – such as reproductive problems and DNA damage, cognitive, emotional and psychological disorders. It is now known that these non-ionizing frequencies trigger the Voltage-Gated Calcium Channels in the cell membrane. These frequency-sensitive VGCCs are key regulatory mechanisms in bodily systems, such as for the heartbeat and for the production and regulation of many hormones and all of the neurotransmitters. To begin learning about this, just search for the short YouTube, "Wireless Radiation Causes Health Effects Via VGCC: Dr. Martin Pall PhD." Dr. Pall brings together the research results from over 20,000 studies.

Canaries in the Mine



Credit is gratefully given to CellSensor™ for the help of this chart, which has been improved with important frequency identifications for use here along with a detailed text to accompany it. The CellSensor™ is a rudimentary and inexpensive hand-held EMF/WiFi detector.

Be Wise: Downsize Your EMFs and WiFi



Martin L. Pall, Ph.D.
 Professor Emeritus
 Biochemistry & Basic Medical Sciences
 Washington State University
 638 NE 41st Avenue Portland,
 Oregon 97232
martin_pall@wsu.edu

September 20, 2017

Governor Jerry Brown
 State Capitol Suite 1173
 Sacramento, CA 95814

Re: **Please VETO SB 649***

Dear Governor Brown:

I am Dr. Martin Pall, Professor Emeritus of Biochemistry and Basic Medical Sciences at Washington State University. I am a published and widely cited scientist on the biological effects of electromagnetic fields (EMFs) and speak internationally on this topic. I am particularly expert in how wireless radiation impacts the electrical systems in our bodies. I have published 7 studies showing there exists exquisite sensitivity to electromagnetic fields (EMFs) in the voltage sensors in each cell, such that the force impacting our cells at the voltage sensor has massive impact on the biology in the cells of our bodies [1-7]. These papers are discussed in over 360,000 web sites, which can be easily found by Googling (Martin Pall electromagnetic). I received my PhD at Caltech, one of the top scientific institutions in the world.

I am writing to recommend you veto SB.649.

EMFs act by activating channels in the membrane that surrounds each of our cells, called voltage-gated calcium channels (VGCCs). The EMFs put forces on the voltage sensor that controls the VGCCs of about 7.2 million times greater than the forces on other charged groups in our cells [4,6,7]. This is why weak EMFs have such large biological effects on the cells of our bodies. EMFs work this way not only on human and diverse animal cells [1-7] but also in plant cells [7] so that this is a universal or near universal mechanism of action.

Thousands of published studies show biological and health effects from electromagnetic fields. We now know the mechanism that can explain these effects. The mechanism is a function of the electromagnetics of each cell—not solely about heating effects from the radiation (on which present FCC guidelines are based).

This new understanding [1-7] means we can debunk the claims of the wireless industry that there cannot be a mechanism for effects produced by these weak EMFs. The 20 years plus of industry propaganda claims are false. Rather the thousands of studies showing diverse health impacts of these EMFs can be explained. We now have a mechanism, one that is supported by both the biology and the physics, both of which are pointing in exactly the same direction. I am sending as a separate document a list of 142 reviews, each of which provides from 12 to over a thousand individual citations showing health impacts of low intensity EMFs, EMFs that the telecommunications industry claims cannot have such effects. These 142 reviews and thousands of primary scientific papers they cite show that the industry propaganda has no scientific support whatsoever.

[*SB 649 is Michigan State Senate Bill 649: "Wireless Telecommunications Facilities"]

The consensus among independent scientists on this is further confirmed by the 2015 (and later) appeal made to the United Nations and member states, stating that the current EMF safety guidelines are inadequate because they do not take into consideration non-thermal effects. This was signed by 225 scientists from 41 countries, each of whom had published peer reviewed studies on EMF health effects – a total of 2,000 papers published in this area by the signers, a substantial fraction of the total publications in this area.

According to industry, the forces electromagnetic fields place on electrically-charged groups in the cell are too weak to produce biological effects. However, the unique structural properties of the voltage-gated calcium channel (VGCC) protein can, it turns out, explain why the force on a cell's voltage sensor from low-intensity EMFs are millions of times stronger than are the forces on singly-charged groups elsewhere in the cell.

It would be a disaster for the health of Californians to be exposed to the antennas envisioned in SB 649. The State of California would be making a grave mistake to proceed with supporting the commercial interests of the wireless industry with this legislation. You would best veto this bill, Governor Brown, and pause to understand the gravity of the biological effects, and the ramifications for physical and mental health, as well as consequences from continual damage to human DNA, and learn the facts from scientists who are independent of the wireless industry, not from the industry lobbyists who have a gigantic conflict of interest.

VGCC activation in cells produced by low intensity EMFs can explain long-reported findings that electromagnetic fields cause a wide range of biological changes and health effects. The first 6 of these (see below) were well documented 46 years ago in the U.S. Office of Naval Medical Research report, published in 1971 [8]. The others that follow have been extensively documented subsequently in the peer-reviewed scientific literature:

1) Various neurological/neuropsychiatric effects, including changes in brain structure and function, changes in various types of psychological responses and changes in behavior. 2) At least eight different endocrine (hormonal) effects. 3) Cardiac effects influencing the electrical control of the heart, including changes in ECGs, producing arrhythmias, changes that can be life threatening. 4) Chromosome breaks and other changes in chromosome structure. 5) Histological changes in the testes. 6) Cell death (what is now called apoptosis, a process important in neurodegenerative diseases).

Since 1971 many other effects of such EMFs must be added to that list: 7) Lowered male fertility including lowered sperm quality and function and also lowered female fertility (less studied). 8) Oxidative stress. 9) Changes in calcium fluxes and calcium signaling. 10) Cellular DNA damage including single strand breaks and double strand breaks in cellular DNA and also 8-OHdG in cellular DNA. 11) Cancer which is likely to involve these DNA changes but also increased rates of tumor promotion-like events. 12) Therapeutic effects including stimulation of bone growth. 13) Cataract formation (previously thought to be thermal, now known not to be). 14) Breakdown of the blood-brain barrier. 15) Melatonin depletion and sleep disruption.

They may be low intensity but with regard to the VGCCs, electromagnetic fields can have a tremendously powerful impact on the cells of our bodies. Furthermore, published studies showing that calcium channel blocker drugs block or greatly lower biological effects from electromagnetic fields confirm there is a VGCC activation mechanism that is causing various effects. Higher frequency electromagnetic fields from 5G technologies on the horizon pose even greater biological concern than those to which we are exposed today. We should be moving, instead, to wired technologies at every opportunity, based on what we know in science today, not expanding and supporting the proliferation of wireless.

I want to make several additional points very clear:

The Physics and the Biology are both pointing in the same direction. Both show that EMFs act primarily via activating the VGCCs in the cells of our bodies.

DNA damage known to be produced by these EMFs occur in human sperm and may also occur in human eggs, leading to large increases in mutation in any children born. It is thought that an increase in mutation frequency of 2.5 to 3-fold will lead to extinction because of accumulation of large numbers of damaging mutations. We may already be over this level, and if so, simply continuing our current exposures will lead to eventual extinction. Further increases in exposures will be more rapidly self-destructive.

Pulsed EMFs are, in most cases, more biologically active and therefore more dangerous than are non-pulsed (continuous wave) EMFs. All cordless communication devices communicate via pulsations, because it is the pulsations that carry the information communicated. All the industry claims of safety are based on a theory (only thermal effects) that was known to be wrong back in 1971 [8] – and that was before many thousands of additional studies were published providing massive confirmation that industry claims are false.

The industry is trying to move to much higher frequencies with 5G because these much higher frequencies allow much higher pulsations and therefore much faster transmission of information. However, these higher pulsation rates make these ultra-high devices vastly more dangerous. This is part of the reason why it is so important to vote down SB 649.

None of our wireless communication devices are ever tested biologically for safety – not cell phone towers, not cell phones, not Wi-Fi, not cordless phones, not smart meters and certainly not 5G phones, or radar units in cars – before they are put out to irradiate an unsuspecting public.

The telecommunications industry has corrupted the agencies that are supposed to be regulating them. The best example of this is that the FCC which regulates EMFs in the U.S. is a “captured agency”, captured by the industry it is supposed to regulate, according to an 8-chapter document published by the Edmond J. Safra Center for Ethics at Harvard University [9]. Is it any wonder, therefore, that the industry keeps touting that their devices are within the safety guidelines set by the FCC?

We know how the EMFs work in the body and that the industry propaganda has no science behind it. But what can we say about the 5G EMFs and what effects it will have on our bodies? 5G will be much more active in activating the VGCCs and producing health impacts because of its rapid absorption by materials in the body, because of its very rapid pulsations and because of the huge number antennae they are planning to put up, at least 200 times the number of antennae from all current cell phone towers. What this means is that the impacts on the outer one to two inches of our bodies will be massive. Because of this we can expect humans to suffer from:

1. Very large increases in blindness from each of the four major causes of blindness: cataracts, macular degeneration, glaucoma and retinal detachment. Each of these involves excessive calcium levels in different parts of the eye and 3 of them also involve excessive voltage-gated calcium activity. I conclude that each of them is likely to be massively elevated by 5G.
2. Large increases in hearing loss and tinnitus, leading in many cases to deafness.
3. Very large increases in male infertility, as well as universal drops in sperm count.
4. Very substantial numbers of melanoma skin cancer and leukemia and possibly other types of cancer. EMFs appear to be particularly active in causing cancer in children and consequently children are at special risk from 5G.
5. Impacts on the peripheral nervous system leading to near universal neuropathic pain and peripheral neuropathy.
6. Large increases in thyroid dysfunction, because of the location of the thyroid gland near the surface of the body.
7. Impacts on the immune system cells, possibly leading to autoimmune diseases and other deficiencies.

8. Impacts on the erythrocytes (red blood cells), leading to stacking of the erythrocytes into rouleaux (long chains) and also cell lysis, leading to very low oxygen in the tissues and lowered nutrients transport to the tissues.

Because plants and animals are affected much as we are, but they have much larger parts of them are highly exposed to the 5G radiation, *the impacts on insects (including bees and other pollinators), birds, small mammals and almost all plants will be much more severe than the effects of humans.* Even large trees have their leaves and reproductive organs highly exposed to 5G radiation. It is quite possible that the attempts by industry to put 5G in rural areas of California will have tremendous impact on California's unique agriculture. It is hard to imagine the chaos that will be generated on thousands of different species. To put 5G out with no biological safety testing is, in my view, a travesty.

I urge you to do the right thing on behalf of the health of Californians and future generations: **Please VETO SB 649.** Please let me know if I can provide further information, or if you'd like to meet in person to learn more, feel free to contact me at (503) 232-3883.

Respectfully,

/s/ Martin Pall

Martin Pall, PhD

Citations:

1. Pall ML. 2013 Electromagnetic fields act via activation of voltage-gated calcium channels to produce beneficial or adverse effects. J Cell Mol Med 17:958-965.
2. Pall ML. 2014 Electromagnetic field activation of voltage-gated calcium channels: role in therapeutic effects. Electromagn Biol Med. 2014 Apr 8.
3. Pall ML. 2015 Scientific evidence contradicts findings and assumptions of Canadian Safety Panel 6: microwaves act through voltage-gated calcium channel activation to induce biological impacts at non-thermal levels, supporting a paradigm shift for microwave/lower frequency electromagnetic field action. Rev Environ Health 30:99-116.
4. Pall ML. 2015 Elektromagnetische Felder wirken über die Aktivierung spannungsabhängiger Calciumkanäle, um günstige oder ungünstige Wirkungen zu erzeugen. Umwelt-Medizin-. Gesellschaft 28: 22-31.
5. Pall ML. 2015 How to approach the challenge of minimizing non-thermal health effects of microwave radiation from electrical devices. International Journal of Innovative Research in Engineering & Management (IJIREM) ISSN: 2350-0557, Volume-2, Issue -5, September 2015; 71-76.
6. Pall ML. 2016 Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression. J Chem Neuroanat 75(Pt B):43- 51. doi: 10.1016/j.jchemneu.2015.08.001. Epub 2015 Aug 21.
7. Pall ML. 2016 Electromagnetic fields act similarly in plants as in animals: Probable activation of calcium channels via their voltage sensor. Curr Chem Biol 10: 74-82.
8. Naval Medical Research Institute Research Report, June 1971. Bibliography of Reported Biological Phenomena ("Effects") and Clinical Manifestations, Revised, ZR Glaser.
9. Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates, by Norm Alster. Published by Edmond J. Safra Center for Ethics, Harvard University. An e-book under the Creative Commons 4.0 License: <https://creativecommons.org/licenses/by/4>.

[Direct access to this letter: [Pall, Martin Ltr to Gov Brown 092317 - Electromagnetic Health](#). Also see Dr. Pall's key research summary document, posted in March 2018, 53 pages: **"5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them."** And also see the special investigative report, "How Big Wireless Made Us Think the Cell Phones Are Safe," The Nation, March 29, 2018.]

Seven key points regarding the context and dangers of 5G

March 2018 comment to the Ulster County Legislature (revised)

1. **5G and wireless/EMFs in general are now known to be destructive to DNA, to the human genome, and to a great deal more in our bodies.** Please see the handout texts, *The Biohazards of EMFs and Wifi* – the talks which lay out the biological mechanism that is triggered by these radiations – and *Think About Autism and 5G Wireless*. In connection with wireless radiation, we must think also about **infertility, Alzheimer's, and cancers**. Please will you help by becoming thoroughly conversant in these existential, **Life-or-Death matters**. For everyone's sake, will you please bring these facts to the attention of your family, friends, colleagues and your political representatives. *Besides the extreme suffering brought about by these impacts, they will bankrupt us in both medical costs and in loss of human capacity.*

2. **Those of us who've already developed Microwave Sickness (MWS)** – which was identified in the 1970s as being caused by microwave radio-frequency EMF radiation – are quickly being joined by others. *The legal terms of devices warn against our typical, intended use of them on or near the body; and stockholders are warned of risks, because insurance companies refuse to underwrite these devices for health damages.* They must be redesigned so that they don't infringe on living systems; and corporations must be held to account.

3. **Focussed 5G bombardment 24/7 is a violation of our right to be safe and whole in our own homes, workplaces, schools and elsewhere.** It – like 'smart' meter radiation – violates the Americans with Disabilities Act for those of us who've already acquired Microwave Sickness, whose very existence in the body depends upon freedom from toxic wireless radiation, including from 5G and from digital meters.

Note: All seven of these points apply to the 'smart' meter grid, also. Digital meters continuously emit **spiking jabs of radiation four or more times per minute, 24/7, even though** they are read for energy consumption at most four times per year. They **dump huge amounts of Dirty Electricity frequencies onto indoor circuits and the downstream supply**, and they have **no electrical safety features** to protect structures and their wiring in case of meter fault. *Neither 5G nor digital meter radiation can be turned off.*

4. **The value of properties closest to these installations, and/or upon which it is actually installed, will plummet.** *(The word is that technical personnel don't want to go up the poles to service 5G. They're right.)*

5. **5G lacks cybersecurity.** We've just learned that **Russia** has hacked our power plants as intimidation, to say: "See what we can do while you keep sleepwalking." (They were the first to use wireless radiation as a weapon several decades ago. They know a great deal.)

If we allow 5G wireless broadband to roll out, their hacking will be slick as butter. We will rue the day we naively traded our **national security away** for convenience, speed and excitement. **Connecting everything and everyone 24/7 is a terrible cyber threat invitation.**

6. The publicly-stated intent of the industries involved in 5G – and 'smart' meters – is to collect private data from every one of us, warehouse it and profit from it. **This is a toxic transgression of personal freedom.**

7. **Bees and birds struggle to navigate, and bees struggle to tell each other where food supplies are, because we are supercharging the biosphere with an extreme, chaotic miasma of wireless radiation.** Their activities require clear contact with the natural background EMFs of our living earth. **When 5G obstructs even further their selfless services to us as pollinators and pest controllers, what then?**

We have never saturated our biosphere with radiation like this before. At this juncture, we have to consider that this astronomical load of chaotic manmade radiations could well be one of the factors propelling **climate havoc**, too: better to be wise in action now than sorry later. *This is another PCB, asbestos, DDT, lead paint, PFOA / PFOS disaster in the making, but far worse. Why do that again?*

Any one of these seven points would be enough to justify halting 5G – and 'smart' meters – without hesitation. We **MUST** have a strong say on the local level, and at every juncture we must raise our voices to say so. **Municipal resolutions against 5G need to be filed, regardless of what we believe the existing laws to be.** What-ever laws limit municipal and citizen control in this matter need to be opposed and changed.

BILLS: Prevent U.S Senate bill S-19 ("Mobile Now"), S-88 (the "Digit" Act) and House bill HR 4986 (its Title VII promotes S-19) from being enacted into law. The 1996 Telecom Act set false standards protocols – demand repeal. Oppose NY Senate/Assembly S2042/A7489, S6090/A10620 (no Home Rule) and S7635/A8848 (prepares for 5G implementation). 070518

Canaries in the Mine

¹ 'Smart' meters come in families of *electronic* meters. Even when they do not emit Wifi overtly, they *all* generate health-hazardous EMFs.

THE LONGTERM EFFECTS OF 0 Hz to 3 GHz WIRELESS/WIFI/EMF RADIATION IN THE PUBLIC ARENA

— A TREASURE OF FACTS FROM IGNORED SCIENTIFIC ARCHIVES, 1960 to 1999 —

excerpts from the Introduction, Chapter 3 and Chapter 9 of

Brochure 6: Health Implications of Longterm Exposure to Electrosmog

by Karl Hecht, 2016 <http://kompetenzinitiative.net/KIT/KIT/english-brochures/>

[See prepared document 6d. for a list of the six brochures, and see 3a., 3b., and 6g. for more on disappeared research.]

[Note: bold, italic or arrows to highlight key topics and statements are added.]

From the INTRODUCTION, pages 7-8:

“... Forty years ago, physicians and scientists pressured the U.S. government to issue a report on the effects of electromagnetic fields [Brodeur 1977]. In **December 1971**, this report was released under the title Program for Control of Electromagnetic Pollution of the Environment. **The report was written by experts appointed by the U.S. Office of Telecommunications Policy (OTP) in 1968. This expert report revealed the extent of an environmental risk associated with the increasing use of microwaves in technical communication technologies and in the industry that has hardly been known before.** A few quotes from the report will speak for themselves:

‘The electromagnetic radiation emanating from radar, television, communications systems, microwave ovens, industrial heat-treatment systems, medical diathermy units, and many other sources permeate the modern environment, both civilian and military. [...] **This type of man-made radiation exposure has no counterpart in man’s evolutionary background; it was relatively negligible prior to World War II.**’

‘... Power levels in and around American cities, airports, military installations and tracking centers, ships and pleasure craft, industry and homes may already be biologically significant. [...] **Unless adequate monitoring and control based on a fundamental understanding of biological effects are instituted in the near future, in the decades ahead, man may enter an era of energy pollution of the environment comparable to the chemical pollution of today. [...] The consequences of undervaluing or misjudging the biological effects of long-term, low level exposure could become a critical problem for the public health, especially if genetic effects are involved.**’ [Based on quotes in Brodeur 1977, p.14]”

Page 8: “... The review of the Russian research reports and papers on the long-term effects of electromagnetic fields summarized here [in Chapter 3] had been commissioned by the German Federal Agency of Telecommunications (today the Federal Network Agency). **The review results prove that radiation is a cause of multimorbid clinical findings and non-specific regulatory disorders.** That these findings were not welcome by commercial interests is probably responsible for the fact that the 120-page research report immediately disappeared into the archives of the selfsame agency that had commissioned the report in the first place. Likewise, the federal minister of environment was not interested anymore either.

Both of these reactions, we find, are not compatible with public health. Anybody who finds the strength to accept the necessary responsibility will also have to be willing to depart from the dogma that [wrongly] says that harmful biological effects are only possible through thermal interactions. This would be a breakthrough for a research approach that is becoming more aware of the autonomy of life and the modern life sciences.”

Page 13, beginning of CHAPTER 3, “Results of a Russian Scientific Literature Review on the Long-Term Exposure Effects of Radio-Frequency and Microwave Radiation in Humans Between 1960 and 1996”:

“In 1996/1997, Hecht and Balzer [1997] from the I.S.F Institut für Stressforschung GmbH [Institute for Stress Research], 10115 Berlin, conducted a review of the Russian scientific literature between 1960 and 1997, which had been commissioned by the [German] Federal Agency of Telecommunications (later the regulatory agency, today the Federal Network Agency) with the contract number 4231/630402 from 14/11/1996. Topic: Biologische Wirkungen elektromagnetischer Felder im Frequenzbereich 0 bis 3 GHz auf den Menschen [**Biological Effects of Electromagnetic Fields in the Frequency Range of 0 to 3 GHz in Humans**]. Out of more than 1500 scientific publications, we included 878 in our review report of approximately 120 pages. **In particular, the findings of long-term effects in humans during occupational EMF exposure over several years were considered.**

After submission, this review report immediately disappeared into the archives of the regulatory agency. Furthermore, this review report was not forwarded to the federal minister of the environment or made public, as had been indicated before. It rather suffered the same fate as the above-mentioned report of the U.S. government from 1971. Only through our own publication efforts have these findings been made known; in the future, they will also be available in Spanish and Italian. **Fortunately, there had been no clause included in our government contract that would prohibit any such publication on our own.**

In 1999, when we presented parts of our literature review at the 10th International Congress of Stress in Montreux (Switzerland), which was partly dedicated to biomagnetism, we caused quite a shock wave among the scientists from the United States, as they were quick to admit. Why?

First: **The exposure limits in Russia and in other former Eastern bloc countries are lower by three orders of magnitude compared to the United States and other European countries.**

Second: When these lower exposure levels were met and initially healthy subjects were exposed, **pathological findings were only detected after three to five years of exposure or even after longer exposure durations.** [→] The scientists from the United States confirmed that the term of a research project would last at the most two years, usually shorter. Naturally, adverse effects could not be shown in research projects of this kind. Sometimes even positive effects were found. Soon we will see why [see brochure].

Third: **The U.S. scientists did not know anything about the preventive studies of the then USSR, which had been carried out within the framework of the occupational health and industrial hygiene management.** [Note: See the brochure for Hecht's description of the excellent state-of-the-art, genuine in situ occupational exposure conditions under which the studies were carried out long-term. They began with healthy subjects and were designed to be rigorously scientific and detailed, especially as regards the questions of durations and reversibility of effects (or not), and what roles other factors play, e.g., chemicals, caffeine.]

Page 15, CHAPTER 3, 3.2.1: "As described in the [Russian] papers, [→] the *type of EMF as well as the exposure limits* did not seem to play a dominant role for the causation of chronic health symptoms, but the *exposure duration in years if the exposure occurs daily for several hours (2 – 8 hours)*. Short-term EMF exposures—up to 20 minutes daily—had no essential effects on living processes, even if repeated frequently." The noted the slow stages of stress, from initially stimulating to symptomatic to debilitating.

→ Note RE electronic meters: This means that boiling down continuously-repeated quick wireless exposures over the 24/7 timeframe – such as the spikes of wireless radiation four or more times per minute from electronic meters – to a total number of seconds or minutes per day, as though the exposure were all at once, falsifies the continuous long-term nature of the exposures and the actual biological impact. Exposure to the Dirty Electricity EMFs that are generated by all electronic meters is also long-term.

Page 16, CHAPTER 3, 3.2.2: "Important findings after long-term EMF and EF exposure (summary)"

"Objective findings"

- Neurasthenia, neurotic symptoms
- EEG changes (breakdown of alpha rhythm into theta and occasional delta rhythm)
- Sleep disorders
- Deformation of the hierarchy of biological rhythm
- Disorders of the hypothalamic-pituitary-adrenal axis
- Arterial hypotension, more rarely arterial hypertension, bradycardia, or tachycardia
- Vagotonic shift in cardiovascular function [disruptions leading to bradycardia and faintness, for instance]
- Hyperactivity of thyroid
- Erectile dysfunction • Digestive disorders
- Slowing down sensorimotor system
- Resting tremor of fingers
- Hair loss • Tinnitus
- Increased susceptibility to infection

[Drogitchina et al. 1966; Drogitchina and Sadchikova 1968, 1965, 1964; Gordon 1966; Ginsburg and Sadchikova 1964; Kapitanenko 1964]

Subjective symptoms

- Fatigue, lack of energy
 - Day time redness
 - Getting red quickly under stress
 - Impairment of physical and mental performance
 - Reduced concentration and memory
 - Lack of concentration • Headaches
 - Head dizziness • Attacks of sweating
 - Spontaneously occurring excitability due to hypotensive responses, especially under stress
 - Cardiac pain, racing heart
- [Rubzova 1983; Raki n 1977; Drogitchina et al. 1966; Gordon 1966; Drogitchina and Sadchikova 1965, 1964; Piskunova and Abramowitsch-Poljakov 1961]"

Page 21, CHAPTER 4, 4.3, Table, "**Decline in health status increasingly amplifies EMF effects,**" leading to **Electromagnetic Hypersensitivity (EHS) and precipitating further declines.** "Younger persons show a greater sensitivity to electromagnetic fields than adults."

Page 52, CHAPTER 9, "An Appeal to Those in Political Power: Health — A Basic Human Right":

"On 10 December 1948, the General Assembly of the United Nations issued the Universal Declaration of Human Rights. In Article 25 of this Human Rights Charta, the right of health is defined as a basic human right. It says in this Charta: 'Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services.' The regulations and policies regarding wireless telecommunication technologies in their current form are against this right to health, as has been revealed by the facts and shown in this brochure. They do so by maintaining exposure limits that represent a pseudoscientific anachronism compared to the evidence currently available in life sciences and thereby put the public at risk. And they do so, in particular, where they deprive persons with electromagnetic hypersensitivity and the microwave syndrome but also the groups of radar victims of the Federal Armed Forces and NVA of this right to health.

In my own name [author Karl Hecht], but also in the name of all scientists and health care professionals who have joined forces in the Competence Initiative for the Protection of Humanity, the Environment and Democracy e.V., I hereby appeal to those in political power:

- **Support independent research that protects public health and is not subject to commercial interests.**
- **Establish exposure limits that are scientifically up to date and politically responsible for a sustainable future.**
- **Promote a telecommunications policy that respects the human right to health.**

With this appeal, we especially call on all members of the German parliament as well as the representatives of the German federal government, with Chancellor Dr. Angela Merkel and her ministers leading the way. Furthermore, we refer to the wording of the official oath that leading politicians must swear upon taking office: 'I swear that I will dedicate my efforts to the well-being of the German people, promote their welfare, protect them from harm, uphold and defend the Basic Law and the laws of the Federation, perform my duties conscientiously, and do justice to all.'"

How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation

The disinformation campaign—and massive radiation increase—behind the 5G rollout.

by Mark Hertsgaard and Mark Dowie

The Nation, MARCH 29, 2018

<https://www.thenation.com/article/how-big-wireless-made-us-think-that-cell-phones-are-safe-a-special-investigation/>

[The opening section of this long piece, with added bold:]

Things didn't end well between George Carlo and Tom Wheeler; the last time the two met face-to-face, Wheeler had security guards escort Carlo off the premises. As president of the Cellular Telecommunications and Internet Association (CTIA), Wheeler was the wireless industry's point man in Washington. Carlo was the scientist handpicked by Wheeler to defuse a public-relations crisis that threatened to strangle his infant industry in its crib. This was back in 1993, when there were only six cell-phone subscriptions for every 100 adults in the United States. But industry executives were looking forward to a booming future.

Remarkably, cell phones had been allowed onto the US consumer market a decade earlier without any government safety testing. Now, some customers and industry workers were being diagnosed with cancer. In January 1993, David Reynard sued the NEC America Company, claiming that his wife's NEC phone caused her lethal brain tumor. After Reynard appeared on national TV, the story went viral. A congressional subcommittee announced an investigation; investors began dumping their cell-phone stocks; and Wheeler and the CTIA swung into action.

A week later, Wheeler announced that his industry would pay for a comprehensive research program. Cell phones were already safe, Wheeler told reporters; the new research would simply "re-validate the findings of the existing studies."

George Carlo seemed like a good bet to fulfill Wheeler's mission. He was an epidemiologist who also had a law degree, and he'd conducted studies for other controversial industries. After a study funded by Dow Corning, Carlo had declared that breast implants posed only minimal health risks. With chemical-industry funding, he had concluded that low levels of dioxin, the chemical behind the Agent Orange scandal, were not dangerous. In 1995, Carlo began directing the industry-financed Wireless Technology Research project (WTR), whose eventual budget of \$28.5 million made it the best-funded investigation of cell-phone safety to date.

Outside critics soon came to suspect that Carlo would be the front man for an industry whitewash. They cited his dispute with Henry Lai, a professor of biochemistry at the University of Washington, over a study that Lai had conducted examining whether cell-phone radiation could damage DNA. In 1999, Carlo and the WTR's general counsel sent a letter to the university's president urging that Lai be fired for his alleged violation of research protocols. Lai accused the WTR of tampering with his experiment's results. Both Carlo and Lai deny the other's accusations.

Critics also attacked what they regarded as the slow pace of WTR research. The WTR was merely "a confidence game" designed to placate the public but stall real research,

according to Louis Slesin, editor of the trade publication *Microwave News*. "By dangling a huge amount of money in front of the cash-starved [scientific] community," Slesin argued, "Carlo guaranteed silent obedience. Anyone who dared complain risked being cut off from his millions." Carlo denies the allegation.

Whatever Carlo's motives might have been, the documented fact is that he and Wheeler would eventually clash bitterly over the WTR's findings, which Carlo presented to wireless-industry leaders on February 9, 1999. **By that date, the WTR had commissioned more than 50 original studies and reviewed many more. Those studies raised "serious questions" about cell-phone safety,** Carlo told a closed-door meeting of the CTIA's board of directors, whose members included the CEOs or top officials of the industry's 32 leading companies, including Apple, AT&T, and Motorola.

Carlo sent letters to each of the industry's chieftains on October 7, 1999, reiterating that the WTR's research had found the following: **"The risk of rare neuro-epithelial tumors on the outside of the brain was more than doubled...in cell phone users";** there was an apparent "correlation between brain tumors occurring on the right side of the head and the use of the phone on the right side of the head"; and **"the ability of radiation from a phone's antenna to cause functional genetic damage [was] definitely positive...."**

Carlo urged the CEOs to do the right thing: give consumers "the information they need to make an informed judgment about how much of this unknown risk they wish to assume," especially since some in the industry had "repeatedly and falsely claimed that wireless phones are safe for all consumers including children."

The very next day, a livid Tom Wheeler began publicly trashing Carlo to the media. In a letter he shared with the CEOs, Wheeler told Carlo that the CTIA was "certain that you have never provided CTIA with the studies you mention"—an apparent effort to shield the industry from liability in the lawsuits that had led to Carlo's hiring in the first place. Wheeler charged further that the studies had not been published in peer-reviewed journals, casting doubt on their validity.

Wheeler's tactics succeeded in dousing the controversy. Although Carlo had in fact repeatedly briefed Wheeler and other senior industry officials on the studies, which had indeed undergone peer review and would soon be published, reporters on the technology beat accepted Wheeler's discrediting of Carlo and the WTR's findings. (Wheeler would go on to chair the Federal Communications Commission, which regulates the wireless industry.)

[Article continues RE the unrelenting and systemic intimidation of researchers and corruption of results.]

4a.

GOVERNMENTS AND ORGANIZATIONS THAT BAN OR WARN AGAINST WIRELESS TECHNOLOGY [This list is up to 2018 but probably isn't inclusive.]

from: <http://www.cellphonetaskforce.org/governments-and-organizations-that-ban-or-warn-against-wireless-technology/> or http://www.cellphonetaskforce.org/?page_id=128 or search: <cell phone task force wifi bans>.

→ The factual grounds for the warnings and bans listed here have been massively confirmed by over 20,000 studies of the biological impacts of wireless radiation and electromagnetic fields in general. The results of these studies have been brought together by Dr. Martin Pall. See his presentations on YouTube, beginning with "Wireless Radiation Causes Health Effects Via VGCC: Dr. Martin Pall PhD," <https://www.youtube.com/watch?v=CFBYRfmqS8Q>, 15 min.

Also listen to Michigan State Senator Patrick Colbeck's plea to his colleagues, March 15, 2018: "Colbeck cites health as reason to slow 5G rush," <https://www.youtube.com/watch?v=hkDDQqDVsbk>.

1993: Environmental Protection Agency (EPA): The FCC's exposure standards are "seriously flawed." Official comments to the FCC on guidelines for evaluation of electromagnetic effects of radio frequency radiation, FCC Docket ET 93-62, November 9, 1993.

1993: Food and Drug Administration (FDA): "FCC rules do not address the issue of long-term, chronic exposure to RF fields." Comments of the FDA to the FCC, November 10, 1993.

1993: National Institute for Occupational Safety and Health (NIOSH): The FCC's standard is inadequate because it "is based on only one dominant mechanism—adverse health effects caused by body heating." Comments of NIOSH to the FCC, January 11, 1994.

1994: Amateur Radio Relay League Bio-Effects Committee: "The FCC's standard does not protect against non-thermal effects." Comments of the ARRL Bio-Effects Committee to the FCC, January 7, 1994.

2000: UK Department of Education: Children under 16 should not use cell phones except in an emergency. http://www.cellular.co.za/news_2000/news-08052000_uk_schools_warned_over_radiation.htm

2002: Interdisciplinary Society for Environmental Medicine (3000 physicians in Germany) recommends banning cell phone use by children and banning cell phones and cordless phones in preschools, schools, hospitals, nursing homes, events halls, public buildings and vehicles. http://www.powerwatch.org.uk/pdfs/20021019_englisch.pdf

2003: American Bird Conservancy and Forest Conservation Council: Brought a lawsuit against the FCC because millions of migratory birds were being disoriented by microwave radiation and crashing into cell towers. http://www.ewire.com/display.cfm/Wire_ID/1498

2004: International Association of Fire Fighters opposes communication antennas on fire stations. <http://www.iaff.org/HS/Facts/CellTowerFinal.asp>

2005: Salzburg, Austria's Public Health Department bans WLAN and DECT phones in public schools. <http://www.safeinschool.org/2011/01/wi-fi-is-removed-from-schools-and.html>

August 2005: Austrian Medical Association: Warns against Wi-Fi, cordless phones, and cell phone use by children. http://www.thepeoplesinitiative.org/Wifi_and_Schools.html

August 2005: Vienna Medical Association warns against Wi-Fi, and cell phone use by children up to age 16. <http://freiburger-appell-2012.info/media/EMF%20Guideline%20OAK-AG%20%202012%2003%2003.pdf>

2006: Frankfurt, Germany's government states it will not install Wi-Fi in its schools until it has been shown to be harmless. http://www.icems.eu/docs/deutscher_bundestag.pdf

2006: UK schools remove their wireless networks: Prebandal Preparatory School, Chichester, West Sussex; Ysgol Pantycelyn School in Carmarthenshire, Wales; and Stowe School, in Buckinghamshire, England. London Times, November 20, 2006. http://www.timesonline.co.uk/tol/life_and_style/education/article642575.ece

2007: Ballinderry Primary School, Ireland: Removed Wi-Fi to protect young children. <http://www.safeinschool.org/2011/01/wi-fi-is-removed-from-schools-and.html>

2007 Bavaria, Germany's Parliament recommends against Wi-Fi in schools. http://www.icems.eu/docs/deutscher_bundestag.pdf

2007 Australian Democrats: The "explosion in wireless communications technology" is causing widespread illness. http://www.democrats.org.au/docs/2007/Joining_the_Dots_ExecSummary.pdf

2007: European Environmental Agency, Europe's top environmental watchdog, calls for immediate action to reduce exposure to radiation from Wi-Fi, mobile phones and their masts. http://www.nzherald.co.nz/world/news/article.cfm?c_id=2&objectid=10463870

- 2008: International Commission on Electromagnetic Safety** (comprised of scientists from 16 nations): Recommends limiting cell phone use by children, teenagers, pregnant women and the elderly. <http://www.icems.eu/resolution.htm>
- 2007: Therold, Ontario** closes down its citywide Wi-Fi pilot scheme. <http://www.glastonburynaturalhealth.co.uk/WhyWi-Fi.html>
- 2008: Lakehead University, Ontario** bans Wi-Fi on campus. <http://www.cbc.ca/news/canada/toronto/story/2010/08/15/ontario-wifi.html>
- 2008: Madhya Pradesh, India:** Bans cell phones in schools by both students and teachers. http://www.indiaedunews.net/Madhya_Pradesh/Teachers_students_unhappy_with_mobile_phone_ban_in_schools_5241/
- 2008: National Library of France:** Removes Wi-Fi because of health concerns and limits installation to cable connections. <http://www.next-up.org/pdf/FranceNationalLibraryGivesUpWiFi07042008.pdf>
- 2008: Paris, France** removes Wi-Fi from four public libraries because of health concerns. http://www.accessmylibrary.com/coms2/summary_0286-35451555_ITM
- 2008 Sainte-Geneviève University, Paris:** Removes Wi-Fi from its library because of health concerns. <http://www.next-up.org/pdf/AnalysisWiFiHotSpotsDeactivationSainteGenevieveLibraryParis24052008.pdf>
- 2008: Progressive Librarians Guild** recommends against wireless technology in libraries. <http://libr.org/plg/wifiresolution.php>
- 2008: Russian National Committee for Non-Ionizing Radiation Protection** warns that cell phones are unsafe even for short conversations. Children under 16, pregnant women, epileptics, and people with memory loss, sleep disorders and neurological diseases should never use cell phones. http://www.radiationresearch.org/pdfs/rncnirp_children.pdf
- 2008 Sebastopol, California:** Reneges on its contract to install citywide Wi-Fi. <http://www.boingboing.net/2008/03/24/town-of-sebastopol-c.html>
- 2008: University of Pittsburgh Cancer Institute:** Children should never use a cell phone except in an emergency. <http://www.post-gazette.com/pg/08205/898803-114.stm>
- 2008: Voice (UK Teachers Union)** calls for a ban on Wi-Fi in schools. http://www.voicetheunion.org.uk/index.cfm/page/_sections.content.cfm/cid/1326/navid/434/parentid/330
- 2009: Hérouville Saint-Clair, France:** Bans Wi-Fi in public schools. <http://www.wifiinschools.org.uk/4.html>
- 2009: Irish Doctors Environmental Association:** Warns that current safety guidelines are "not appropriate." <http://www.ideaireland.org/>
- 2009: Karnataka State, India:** Bans cell phones in all schools and pre-university colleges. <http://www.hindu.com/2009/09/14/stories/2009091454460500.htm>
- May 2009: U.S. Fish and Wildlife Service** urges Congress to focus on the potential connection between electromagnetic fields and "Bee Colony Collapse". <http://electromagnetichealth.org/electromagnetic-health-blog/emf-and-warne-report-on-bees-birds-and-mankind/>
- December, 2010: French Parliament** passes a law prohibiting advertising cell phones to children under 14; prohibits children up to age 14 from using cell phones in pre-schools and public schools; requires cell phones to be labeled with SAR values and a recommendation to use headsets. <http://www.enviroblog.org/2010/12/french-cell-phone-radiation-disclosure-at-point-of-sale.html>
- May 27, 2011: Council of Europe** passes a resolution recommending wired Internet connections in schools, and the creation of radiation-free zones to protect electrosensitive people. <http://assembly.coe.int/Documents/AdoptedText/ta11/eRES1815.htm>
- August 30, 2011: The Israeli Ministry of Education** publishes guidelines strictly limiting the use of mobile phones on all school grounds, citing children's and youths' increased risk of malignant tumors and the "passive exposure" experienced by children who do not use phones. <http://norad4u.blogspot.com/2011/09/israeli-ministry-of-education-is-going.html>
- September 8, 2011: Pretty River Academy in Collingwood, Ontario** removes WiFi from campus as a precaution, joining Roots and Wings Montessori school in Surrey, British Columbia. http://www.safeschool.ca/uploads/CTV_School_cuts_WiFi.pdf; http://www.safeschool.ca/School_Bans_WiFi.html
- Feb 13, 2012: Citing safety concerns, the Ontario English Catholic Teacher's Association** representing 45,000 teachers, is calling for a ban on new Wi-Fi installations in the province's 1,400-plus Catholic schools and advocating that computers in all new schools should be hardwired as well. <http://www.cbc.ca/news/canada/toronto/story/2012/02/13/toronto-oecta-wifi.html>

- March, 2012: the Austrian Medical Association (ÖAK)** releases guidelines for the diagnosis and treatment of health problems caused by exposure to electromagnetic fields. <http://www.aerztekammer.at/documents/10618/976981/EMF-Guideline.pdf>
- June 19, 2012: The Russian National Committee on Non-Ionizing Radiation Protection** has officially recommended that WiFi not be used in schools. <http://youtu.be/5CemiJ-yIA4>.
- 25 Aug 2012: Israeli Minister of Health Rabi Yaakov Litzman** states that he supports calls to action for a ban on Wi-Fi in schools. <http://www.mast-victims.org/index.php?content=news&action=view&type=newsitem&id=5723>
- 5 July 2013: Supreme Court of India** upholds a decision of the High Court of the State of Rajasthan to remove all cell towers from the vicinity of schools, colleges, hospitals and playgrounds because of radiation "hazardous to life." The over 200-page November 27, 2012 Rajasthan decision reviews worldwide evidence that cell towers are harming human beings and wildlife. <http://www.google.com/url?sa=t&rct=j&q=israni%20%22union%20of%20india%22%20%22high%20court%22%20rajasthan&source=web&cd=5&ved=0CD4QFjAE&url=http%3A%2F%2Fwww.rtiindia.org%2Fforum%2Fattachments%2Fchit-chat%2F8595d1358495483-no-mobile-towers-near-schools-hospitals-directs-rajasthan-hc-no-mobile-towers-near-schools-hospitals-directs-rajasthan-high-court.pdf&ei=80MeUq7ONMnkyQGJmYGwDA&usq=AFOjCNFCfNEmAnTRaTYhfxag1UQdZohJkg>
- 15 Aug 2013: Elementary Teachers Federation of Ontario**, representing 76,000 teachers, recommends that cell phones be turned off in classrooms, and that all WiFi transmitters be labeled as part of a hazard control program. <http://annualmeeting.ca/wp-content/uploads/2013/07/Session-71.pdf>
- 16 Sept 2013: City of Mumbai, India** adopts a policy prohibiting cell towers on schools, colleges, hospitals, orphanages, and juvenile correction homes; prohibiting nearby antennas from being directed toward such buildings; and requiring that antennas on such buildings be removed. The policy also requires the approval of 70% of the residents of an apartment or condominium building, and the approval of 100% of the residents of the top floor, before antennas are installed on the roof. <http://www.mcgm.gov.in/irj/go/km/docs/documents/MCGM%20Department%20List/Public%20Relation%20Officer/Press%20Release/Public%20Notice%20for%20Chief%20Engineer%20Development%20Plan%20Department%20eng.pdf>
- 4 Jan 2014: High Court of West Bengal, India** ordered a cell tower removed because "The radiation of the said tower is dangerous to the life of human beings and also flora and fauna causing severe imbalance to the wholesome environment which is emancipated as one of the basic fundamental rights included with right to life as enshrined in Article 21 of the Constitution of India."
- 20 April 2016: City of Haifa, Israel bans WiFi in schools.** WiFi is ordered immediately removed from all kindergartens and schools in the city to protect the children from radiation. A wired internet system is being installed in all schools.
- September 2018: Cell phones to be banned in primary and middle schools in France.** As of the beginning of the 2018 school year, cell phones will be banned not only in classrooms but at breaks, lunch times and between lessons "as a matter of public health."

DOCTORS AND SCIENTISTS CALLING FOR STRICTER REGULATION AND/OR A MORATORIUM ON WIRELESS TECHNOLOGY

<http://international-emf-alliance.org/index.php/appeals>, <http://www.ralf-woelfle.de/elektrosmog/redir.htm?http://www.ralf-woelfle.de/elektrosmog/allgemein/appelle.htm>, <http://www.avaate.org/IMG/doc/Alcalaci.doc>

Vienna Resolution 1998
Salzburg Resolution 2000
Declaration of Alcalá 2002
Catania Resolution 2002
Freiburger Appeal 2002
Bamberger Appeal 2004
Maintaler Appeal 2004
Coburger Appeal 2005
Oberammergau Appeal 2005
Haibacher Appeal 2005
Pfarrkirchener Appeal 2005
Freienbacher Appeal 2005
Lichtenfelser Appeal 2005
Hofer Appeal 2005
Helsinki Appeal 2005
Parish Kirchner Appeal 2005
Saarlander Appeal 2005

Stockacher Appeal 2005
Benevento Resolution 2006
Allgäuer Appeal 2006
WiMax Appeal 2006
Schlüchterner appeal
Brussels Appeal 2007
Venice Resolution 2008
Berlin Appeal 2008
Paris Appeal 2009
London Resolution 2009
Porto Alegre Resolution 2009
European Parliament
EMF Resolution 2009
Dutch Appeal 2009
Int'l Appeal of Würzburg 2010
Copenhagen Resolution 2010

Seletun Consensus Statement 2010
Potenza Picena Resolution 2013
[Doctors' Appeal to Health Canada 2014](#)
[Scientists' Declaration to Health Canada 2014](#)
[International Scientists Appeal 2015](#)
[Brussels Declaration 2015](#)
[Paris Appeal 2016](#)
[Reykjavik Appeal 2017](#)
[International Scientists Appeal for a 5G Moratorium 2017](#)
[Nicosia Declaration 2017](#)
[Madrid Declaration 2017](#)

SOME TECHNICAL AND LEGISLATIVE GOALS – a work in progress 071618

Land phones (wired): *Must remain installable and useable regardless of the provider or source of the signal.*

DECT/cordless phones: Must shut off radiation between calls. Must regulate the strength of WiFi signal according to the distance to the handset. Must have greatly-reduced radiation from the handset into the head. *No use by children and teens.*

Cellphones: Must have an easy-access *complete shut off* function. The user must be clearly informed that the phone emits wireless radiation while on standby and in airplane mode. Airtube headsets must be provided at point of purchase and warnings given against holding the phone to the head and carrying it on the body: no pocket or bra storage. Warnings must be given against using it in areas containing lots of metal, such as furnishings (e.g., filing cabinets) or in the structure (e.g., vehicles, planes). *No marketing and sales to and no use by children and teens.*

WiFi-emitting baby monitors: Warnings must be unambiguous; better yet, remove these from the market.

Baby ipads and wireless-emitting toys: *Remove these from the market.*

Computers: Must have ethernet ports or ethernet-friendly adapters to permit internet connection via *wired* ethernet ground cables (*or by non-wireless fiber optics*). To protect ovaries and testes, clear warnings must be given against using laptops on the lap, and advice given on using a *wired* external keyboard, *wired* mouse and screen zooming to get distance from the computer and its antennas. Warnings must be given at point of purchase of **WiFi wearables**.

Modem/Routers: Must have 4-8 ports for ethernet ground cable connection to computers. Must have a WiFi on/off switch right on the router to permit the use of the internet signal with ground cables only.

Printers and TVs: Must have a WiFi on/off switch right on the unit as well as a switch to shut the power completely. So long as it's plugged in, it's on electrical standby and continues to create an EMF field.

Chargers, adapters, cords: Must automatically cut power draw *completely* when done charging or not in use.

Microwave ovens: Must be fitted with complete power cutoff switches, as for printers, etc. Microwave/RF leakage during use must be completely prevented, or (better) this technology should be removed from the market.

Smart chips: Must be labeled, accessible and removable or disconnect-able – we must have choice in using them.

All electronic equipment, including solar arrays, heat exchangers, etc: Must be designed so that needless electromagnetic fields are cancelled out as much as possible. Must be fitted with Dirty Electricity (DE) filtering to prevent aberrant frequencies from being loaded onto the downstream currents. DE pollution shortens the life of electrical equipment powered by it and impacts human and animal health via EMF fields.

Lighting: Don't use compact fluorescents or LED lights: they emit both bio-hazardous light frequencies and EMFs. Use incandescent bulbs and *shut off* by hand to save energy – they do not create toxic light and EMFs. Note: the more computerized-automation is built into our devices, the more electromagnetically toxic they are.

Power Lines: Power at the end of the line must in fact be routed back to the source, not into the ground where it becomes dangerous wildlife and humans – the law against this must be enforced. Out-going and in-coming lines must be sufficient in size and orientation to cancel out hazardous EMFs as much as possible.

Broadband delivery to rural areas: Just like for electric power line delivery, the internet can and must be delivered through safe, *non-wireless* means. These means need to be researched and evaluated strictly: the means chosen must not facilitate the same vulnerabilities to cyber attacks via the toxic trespass of privacy through data collection, warehousing, selling and abuse as is facilitated by our current communications systems. The cost of providing *safe, grounded* broadband service to everyone must be ensured and shared by all of us. This is the true mandate of our government and its agencies.

→ Get WiFi/wireless, radiation out of schools, public places and homes for the elderly, and reduce EMFs in them as soon as possible. Children, teens and the elderly are especially vulnerable. Replace DECT/cordless phones with land phones and restrict or eliminate cellphone use on premises. Charge student computers (the batteries) ahead of time. Install *wired* cable internet (*or non-wireless fiber optics*) in schools. *Until this is done, download material onto class computers ahead of time and shut the routers off, and establish set limited hours for use of router WiFi for in-time internet student activities.* Install *non-wireless* infrastructure strategically for convenient connectivity in colleges, libraries and all public places. Take Dirty Electricity (DE) readings and install DE filters to reduce the aberrant EMFs it creates. Redesign devices to be bio-friendly. → With ingenuity, a great deal can be done.

→ **Do not rollout a 5G mini-cell tower infrastructure do not rollout a wireless-metered power grid. Prevent 5G-promoting bills from passing into law** – see the back of 5a. for a list of these bills. Invest in safe fiber optics.

→ *Fund public outreach, warnings and education on WiFi dangers. Make the impact on the VGCCs widely known.*

→ *Fund the research and redesign of WiFi devices and all electronics. Promote remediation strategies and products.*

→ *Fund public education on the increasingly-suspected role of 24/7 wireless radiation in severe climate events.*

Make the wise use and downsizing of WiFi and EMFs an integral part of all climate action initiatives being funded.

June 21, 2018
P.O. Box 331
High Falls, NY 12440

Kathleen H. Burgess, Secretary
Public Service Commission

Comment to the NYS Public Service Commission RE electronic meters:

1. no fee; 2. we require mechanical-analog meters; 3. unhealthy reliance of state and federal agencies on SCENIHR; 4. falsification of science and results – Dr. Pall's examination of the 2015 report; 5. cell phone history; 6. experimentation done on the public – citizens' reports must be gathered, respected; 7. the dangers of all wireless radiation – Pall-Brown letter, 5G; 8. WiFi/EMF radiation triggers a key biological mechanism, mountain of evidence; 9. cumulative and irreversible damage.

(Summary box and document number added after posting)

RE: Matter Master 14-01027 / 14-M-0196 Title: Tariff filing by Central Hudson Gas & Electric Corporation to establish fees for residential customers who choose to opt out of using Automated Meter Reading devices.

RE: The burden of clear and compelling up-to-date evidence of harm to health from wireless radio-frequency microwave emissions and electromagnetic fields (EMFs) generated and emitted by electronic devices and equipment, including every kind of electronic metering device.

RE: Why this burden of evidence of harm to health is being ignored and how to correct this error.

Dear Secretary Burgess,

I am writing in support of all those who are petitioning the PSC for a "Reconsideration of using analog meters as an opt-out choice." I also support others who request a total rehearing of the case *to the degree that* they request immediate relief from the assault of EMF radiation from electronic meters of any kind.

1. I agree with the PSC's decision to deny the tariff which Central Hudson sought to impose on residential customers who opt out of the 'standard' electronic meters.

2. However, I do not agree with the PSC's decision to refuse the right of customers to keep or regain **mechanical-analog meters**, which are in fact cheap, available, reliable and certifiable. I have no problem with having 'minor' manufacturers provide the safe, unhackable, and nearly unbreakable technology that I need.

I strongly disagree with the PSC's October 19, 2017 statement concerning the electronic opt-out non-communicating, solid-state meters, where it was said that "based on available research, [these] do not pose a credible threat to the health and safety of Central Hudson's customers." This statement is in error.

3. However, I understand why the PSC has repeatedly come to this conclusion despite everything which we, the informed and suffering public, point out to you. I realize that all of our U.S. agencies – the PSC, the PCC, the FDA, and also the National Cancer Institute – base their assessments of public health risk upon the assessments of the international body, the **Scientific Committee on Emerging and Newly Identified Health Risks, the SCENIHR** (along with the International Commission on Non-Ionizing Radiation Protection, ICNIRP). *Therefore, when the SCENIHR (and/or the ICNIRP) are flawed and false in their assessments, our agencies will base their judgments upon flawed and false foundations.*

→ Please, for our collective welfare, will you reconsider this unhealthy dependency, look beyond the SCENIHR and base your judgments directly on the facts. Please tell the SCENIHR, et al., *that they are wrong.*

4. The SCENIHR's January 20, 2015 *Opinion on Potential health effects of exposure to electromagnetic fields (EMF)* is grievously flawed and propagates and propels serious falsehoods. We, the public (which also includes each of you in your civilian lives) are in grave and quickly-escalating danger because of our dependence upon these falsehoods; and they need to be uncovered and rooted out.

This is what the seasoned and internationally-honored scientist, Dr. Martin Pall, has recently done for us *Please will you give your full attention to this critically-important revelation: In March 2018, he came out with as intensive up-to-date research summary document on the health effects of wireless/WiFi/EMF radiation.* The title of his 53-page document points to the public health crisis that is about to overtake us if we permit the rollout of 5G, fifth generation wireless radiation infrastructure; **but the bulk of it addresses the cumulative and irreversible health impacts that attend ALL forms of human-generated wireless radiation.** TITLE: *5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them.*

I am attaching this document along with a 2-page excerpt from Dr. Pall's Chapter 5, "The Importance of the SCENIHR 2015 Document and the Many Omissions, Flaws and Falsehoods in That Document."

5. It is important to understand that wireless technology was introduced, beginning with cell-phones, *without* being tested *and cleared* for public health safety. On March 29, 2018, *The Nation* published a special investigative report (attached) on the unfortunate and alarming history of the adoption of cell-phones – from the reports of brain cancer associated with them within the first decade, to the 28.5 million dollar study that came back showing that indeed there *was* trouble, and then the ‘campaign of doubt’ that has been waged against the facts through misinforming the public and through intimidation of researchers and corruption of the results.

Please help us by understanding what is going on here. Please do not keep all of us on this same disastrous path by ignoring the facts that I and so many others are sending you now. Please will you take **our** part in this.

6. And like all electronic devices, electronic meters were also introduced without *genuine*, in situ testing and clearing for public health safety. Therefore, what we have is a large-scale research experiment involving wireless/EMF-generating devices, *conducted in the public arena rather than the laboratory by non-industry funded or intimidated researchers*. And since this is the case, the reports of the public must be gathered, respected and acted on. Our reports must matter. *When people testify to you that they have had health-damaging encounters with wireless/EMF radiation – either with other devices or with electronic meters – and have been sensitized such that even the ‘non-communicating’ meters (and the Dirty Electricity EMFs they generate) make their symptoms worse and even more life-impairing, please will you listen and please will you take their part.*

Please will you receive and respond to their service to us all as canaries in the mine, warning all of us.

7. In addition to his *5G: Great Risk* research summary document, in September 2017, Dr. Pall gave a condensed account of the up-to-date research results in his letter to California Governor Jerry Brown. The urgency of the letter concerns the 5G issue, but like his summary document, the bulk of his letter addresses the health impacts of ALL forms of wireless/EMF radiation *on humans, animals and plants*. These impacts necessarily include impacts from all electronic meters. In June 2017, he also testified to widespread neuro-psychiatric and serious cardiac effects from exposures to meters. (Both documents attached.)

8. Dr. Pall makes it clear that along with decades of epidemiological evidence of biological harm from human-generated wireless/EMF radiations, we now have clear knowledge of the biological regulatory mechanisms that these radiations trigger. Not only does the random triggering of these mechanisms account for the wide gamut of epidemiological health impacts and impacts personally-observed and reported by so many people now; it also explains our escalating modern epidemics: Alzheimer’s, early dementias, cancers, arrhythmias and sudden cardiac death, insomnia, infertility, mutations and autism. For decades the industries have casted doubt by saying, “but there’s no known mechanism.” The mechanism is known. There is no doubt.

Please will you grasp the importance of this: All of these phenomena are now understood as being generated *and/or made more potent* by EMF radiations. And depending upon the parameters (frequency, pulsing, wave polarization, cell type, exposure windows) and the particular chemical downstream path that is triggered, these radiations can also be causal to opposite effects.

We used to think pesticides only harmed us in undiluted doses. We were wrong. Likewise, we have been wrong to think that only ionizing X-ray radiation is harmful.

9. Please, please will you at the PSC step up and grapple with this clear and undeniable knowledge.

Upon your receipt of these attached documents you need to understand yourselves to be on notice that you are in fact in possession of the facts no matter what other bodies or agencies nationally or internationally tell you. These documents that I attach are the factual documents that suffering citizens should be sent by you now, that explains their plights. And with this body of research, and this knowledge that you have available and now possess, electronic metering needs to end. It is the only moral and compassionate thing to do. Safe, trusted, reliable-as-always, mechanical-analog metering needs to be restored *as soon as possible*.

10. I am also attaching a portion of Dr. Pall’s chapter 3 on the cumulative, irreversible harm that wireless/EMF radiation does to humans, in regard to neuropsychiatric and cardiac effects, since these effects are reported as impacts from electronic metering.

Thank you for your thoughtful attention and your willingness to understand and take action on our behalf.
Sincerely,

Kate Reese Hurd

(See next page for the attachments list and four important quotes.)

Nine Attachments:

Dr. Pall, *5G: Great Risk*, March 2018 master research summary document

Index for *5G: Great Risk*

Dr. Pall's letter to Gov. Jerry Brown, September 2017

Dr. Pall's June 2017 testimony on health effects from electronic meters – widespread neuropsychiatric effects, cardiac effects and electrohypersensitivity

Dr. Pall, *5G: Great Risk*, Ch. 5 excerpt, SCENIHR report examined, flaws and seven-fold falsification of research results

SCENIHR 2015 *Opinion* [deeply flawed]

Dr. Pall, *5G: Great Risk*, Ch. 3 excerpt, cumulative and irreversible neuropsychiatric and cardiac effects

The Nation, special report on cell-phone history, excerpt

Chart, The Electromagnetic Spectrum of frequencies (for reference – all frequencies can be bioactive to humans, animals and plants)

* * * * *

Two Quotes from Dr. Martin Pall's master research summary document of March 2018, *5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them*:

“The primary literature studies demonstrating roles of pulsation, frequency, polarization, cell type and intensity windows in determining biological effects are entirely dependent on having genuine effects to study. None of these studies could have been done without an effect to study. Consequently, the claims that there are no well-documented EMF effects are nonsense, based not only on the eight extremely well-documented effects summarized above [in this *5G Risk* document], but also on the entire literature demonstrating the role of pulsation, frequency, polarization, cell type and intensity windows.” – page 4

“Lastly, before going on to 5G, there is one other thing I want to state here. In 2005, Dr. Jared Diamond published a book [citation 111] entitled *Collapse: How Societies Choose to Fail or Succeed*. In it he documents how **each society that ‘chooses to fail,’ chooses paths that had some short term gains but also had much more severe longer-term consequences. This is exactly what we have been doing with the EMFs, except that the consequences are much more severe than the collapse of one society – here all of the advanced technology societies on earth are at great risk.**” – Dr. Pall, *5G: Great Risk*, page 45

“If I had only known, I would have been a locksmith.”

– Albert Einstein, upon hearing of the nuclear bombing of Hiroshima, a result of his work in physics.

The Nation, 3/29/18, “How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation. The disinformation campaign—and massive radiation increase—behind the 5G rollout”:

“Like their tobacco and fossil-fuel brethren, wireless executives have chosen not to publicize what their own scientists have said about the risks of their products. On the contrary, the industry ... has spent untold millions of dollars in the past 25 years proclaiming that science is on its side, that the critics are quacks, and that consumers have nothing to fear. This, even as **the industry has worked behind the scenes ... to deliberately addict its customers.** Just as cigarette companies added nicotine to hook smokers, so have wireless companies designed cell phones to deliver a jolt of dopamine with each swipe of the screen.

This *Nation* investigation reveals that **the wireless industry ... also borrowed from the same public-relations playbook those industries pioneered ... that an industry doesn't have to win the scientific argument about safety; it only has to keep the argument going ... because the apparent lack of certainty helps to reassure customers, even as it fends off government regulations and lawsuits that might pinch profits.**”

“THE GREAT RISKS OF 5G:*

WHAT WE KNOW AND WHAT WE DON'T KNOW”

Excerpt from Chapter 6 of:

5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them *[5G is a ‘fifth generation’ of wireless radiation frequencies.]

Written and Compiled by Martin L. Pall, PhD, Professor Emeritus of Biochemistry and Basic Medical Sciences
Washington State University, Address: 638 NE 41st Ave., Portland OR 97233 USA, martin_pall@wsu.edu

Preface [Page 1] [The Preface explains the origin of this document as a response to unsubstantiated positions of leading organizations and their spokespeople. Dr. Pall made this response at the request of a large number of international scientists who have great concern about the supposed safety of 5G radiation. Edits for clarity appear in brackets; bold, underline and arrows in text draw attention to certain material. The master document is readily found and downloaded from the Web.]

The document that follows was, in its original form, sent to many of the **authorities of the European Union**, in conjunction with other documents sent to the same people by a group of European scientists. It was in response to two documents that were, in turn, written by Mr. Ryan and Dr. Vinciūnas responding to a large group of European and other international scientists expressing great concern about the safety of 5G. **I was asked by the leaders of the group of scientists to write my own response to those two documents.** Mr. Ryan made the statement that “There is consistent evidence presented by national and international bodies (**International Commission on Non Ionising Radiation Protection – ICNIRP, Scientific Committee on Emerging and Newly Identified Health Risks – SCENIHR**) that exposure to electromagnetic fields does not represent a health risk, if it remains below the limits set by **Council Recommendation 1999/519/EC**.” In fact, that is not either the ICNIRP or SCENIHR position – their position, and similar positions [that] have been taken by the **U.S. FCC, FDA and the National Cancer Institute**, is that the evidence is inconsistent or conflicting and therefore, in their view, no conclusions can be drawn. Some of these organization[s] have also stated that there is no known mechanism by which effects can be produced. **What is shown below is that there is a vast amount of evidence in the independent scientific literature that conflicts with both the conclusion about lack of demonstrated effects and the conclusion [of the named organisations and agencies] about lack of mechanism..**

[→] The European Commission, according to the Ryan and Vinciūnas documents, and the U.S. National Cancer Institute, according to their web site, are both depending on the SCENIHR 2015 document to make judgments about EMF effects. Consequently, the reliability of SCENIHR 2015 is an essential element in determining the reliability of both of their assessments.

The document that is presented below, differs from the document that was emailed to EU authorities in three different ways: 1. The original document was sent as an email with multiple attachments. In this document attachments are simply provided as citations. The current document is a stand-alone document. 2. Some material is inserted to discuss positions taken by the **U.S. FCC, FDA and National Cancer Institute**, so as to be particularly relevant to the U.S. situation. 3. Substantial additional evidence is also provided.

The revised document contains six chapters followed by a citation list for the entire document:

Chapter 1: Eight Extremely Well-Documented Effects of Non-Thermal EMF Exposures: Role of Pulsations, Other Factors that Influence EMF Effects

Chapter 2: How Each Such EMF Effect Is Directly Produced via Voltage-Gated Calcium Channel Activation: Role of the Voltage Sensor in Producing the Extraordinary Sensitivity to EMF Effects

Chapter 3. Strong Evidence for Cumulative and Irreversible EMF Effects

Chapter 4. EMFs Including Wi-Fi May Be Particularly Damaging to Young People

Chapter 5: The Importance of the SCENIHR 2015 Document and the Many Omissions, Flaws and Falsehoods in That Document

Chapter 6: The Great Risks of 5G: What We Know and What We Don't Know

[Page 45] Lastly, before going on to 5G, there is one other thing I want to state here. In 2005, Dr. Jared Diamond published a book [citation 111] entitled *Collapse: How Societies Choose to Fail or Succeed*. In it he documents how each society that “chooses to fail,” chooses paths that had some short term gains but also had much more severe longer-term consequences. This is exactly what we have been doing with the EMFs, except that the consequences are much more severe than the collapse of one society – here all of the advanced technology societies on earth are at great risk.

Chapter 6: The Great Risks of 5G: What We Know and What We Don't Know

We have already discussed two issues that are essential to understanding 5G. One is that **pulsed EMFs are, in most cases, much more biologically active than are non-pulsed (often called continuous wave) EMFs**. A second is that the EMFs act by putting forces on the voltage sensor of the VGCCs [Voltage-Gated Calcium Channels in the cell membranes of the body's systems and brain], opening these calcium channels and allowing excessive calcium ions to flow into the cell. The voltage sensor is extraordinarily sensitive to those electrical forces, such that the safety guidelines are allowing us to be exposed to EMFs that are something like 7.2 million times too high.

The reason that the industry has decided to go to the extremely high frequencies of 5G is that with such extremely high frequencies, it is possible to carry much more information via much more pulsation than it is possible to carry with lower frequencies even in the microwave range. We can be assured, therefore, that 5G will involve vastly more pulsation than do EMFs that we are currently exposed to. It follows from that, that any biological safety test of 5G must use the very rapid pulsations including whatever very short term spikes may be present, that are to be present in genuine 5G. There is an additional process that is planned to be used in 5G: phased arrays (https://en.wikipedia.org/wiki/Phased_array). Here multiple antenna elements act together to produce highly pulsed fields which are designed for 5G, to produce increased penetration. 5G will entail particularly powerful pulsations to be used, which may, therefore, be particularly hazardous.

[Page 46] **The only data we have, to my knowledge, used non-pulsed EMFs in the frequency range of 5G, not genuine 5G. Any such data tells us almost nothing useful about 5G. I take it from their statements, that both Mr. Ryan and Dr. Vincius are ready to put out 10s of millions of 5G antennae to afflict every single person in the EU with 5G radiation without even a single biological test of safety of genuine 5G.** (Note: the FCC has taken an identical position in parts of the U.S. 5G antennae are already being installed). In a world where shocking behavior has become less and less shocking, I consider their views to be genuinely shocking. The U.S. situation is mass insanity. I would have hoped that the Europeans, who think of themselves as being much more thoughtful than Americans, would have been genuinely more thoughtful.

Why does 5G need such high numbers of antennae? It is because the 5G radiation is much more absorbed as it enters various materials. The approach is to use many more antennae with one found every few houses, such that 5G can sufficiently penetrate local walls. Such absorption usually involves the interaction with electrically charged groups [in the body], such that such absorption is likely to involve placing forces on electrically charged groups. Because such forces are the way in which EMFs activate the VGCCs,¹ it seems highly likely, therefore, that 5G radiation will be particularly active in VGCC activation.

In summary, then, 5G is predicted to be particularly dangerous for each of four different reasons: 1. The extraordinarily high numbers of antennae that are planned. 2. The very high energy outputs which will be used to ensure penetration. 3. The extraordinarily high pulsation levels. 4. The apparent high level interactions of the 5G frequency on charged groups presumably including the voltage sensor charged groups.²

Now **what the telecommunications industry argues** is that 5G radiation will be mostly absorbed in the outer 1 or 2 mm of the body, such that they claim that we don't have to worry about the effects. There is some truth to that, but there are also some caveats that make any conclusions made from that, much more suspect. In any case, these surface effects of 5G will have especially strongly impact **organisms with much higher surface to volume ratios**. Consequently, I predict that many organisms will be much more impacted than we will. This includes insects and other arthropods, birds and small mammals and amphibia. It includes plants and even large trees, because trees have leaves and reproductive organs that are highly exposed. I predict there will be major ecological disasters as a consequence of 5G. **This will include vast conflagrations because EMF exposures make plants much more flammable.**

But let's get back to **humans**. The industry has also made claims that more conventional microwave frequency EMFs are limited in effect to the outer 1 cm of the body. **We know that is not true**, however because of the effects deep in the human **brain**, on the **heart** and on **hormone systems**. Perhaps the most important two studies demonstrating effects deep within the body are the studies of Professor Hässig and his colleagues in Switzerland on **cataract formation** in calves [112,113]. These two studies clearly show that when pregnant cows are grazing near mobile phone base stations (sometimes called cell phone towers), the calves are born with very greatly increased incidences of cataracts. It follows from these findings that even though the developing fetuses are very deep in the body of the mother and should be highly protected from the EMF exposures, they are not so protected. And because the EMF safety guidelines in Switzerland are 100 times more stringent than are the safety guidelines in most of the rest of Europe, the more general safety guidelines allow greatly excessive exposures. The claims of industry that microwave frequency EMFs only act in the outer centimeter of the body are clearly false.

How then can both conventional microwave frequency EMFs and 5G radiation act deeply within the body? You may correctly observe that the electrical effects of the EMFs activate the voltage sensor [of the VGCCs] and that the direct electrical forces are rapidly attenuated in the body. **So how can we get deep effects? I think the answer is that the magnetic parts of the EMFs have been known for decades to penetrate much more deeply than do the electrical parts.** The magnetic fields put forces on mobile electrically charged groups dissolved in the aqueous phases of the body and small individual movements of the charged groups can regenerate electric fields that are essentially identical to the electric fields of the original EMFs, carrying the same frequency and same pulsation pattern, although with lower intensity. An example of this is given in the Lu and Ueno [citation 114] study. **Because the voltage sensor is so stunningly sensitive to electrical forces and part of the reason for that is the very high level of amplification of the electrical field across the plasma membrane, we have an almost perfect way in which to produce EMF effects deeply within our bodies.**

[Page 47] This brings us back to the earlier point. **The only way to do 5G safety testing is to do genuine 5G biological safety testing. I have published on how this can be done relatively easily at relatively low costs in any comparison with the gigantic risks that will be taken if we fail to do those tests. Those tests must be done by organizations completely independent of industry** and that leaves out both ICNIRP [International Commission on Non-Ionizing Radiation Protection] and SCENIHR [Scientific Committee on Emerging and Newly-Identified Health Risks] and a lot of other organizations.

Dr. Vincius' last full paragraph reads as follows: "The recourse to the EU's precautionary principle to stop distribution of 5G products appears too drastic a measure. We need first to see how this technology will be applied and how the scientific evidence will evolve. Please be assured that the Commission will keep abreast of the scientific evidence in view of safeguarding the health of European citizens at the highest level possible and in line with its mandate."

Article 191 defines the **Precautionary Principle** as follows: [Bold here is by Dr. Pall's here.]

"According to the European Commission the precautionary principle may be invoked when a phenomenon, **product or process may have a dangerous effect**, identified by a **scientific and objective evaluation**, if **this evaluation does not allow the risk to be determined with sufficient certainty**.

Recourse to the principle belongs in the general framework of **risk analysis** (which, besides risk evaluation, includes risk management and risk communication), and more particularly in the context of **risk management** which corresponds to the decision-making phase.

The Commission stresses that the precautionary principle may only be invoked in the event of a potential risk and that it can never justify arbitrary decisions.

The precautionary principle may only be invoked when the **three preliminary conditions** are met:

- identification of potentially adverse effects;
- evaluation of the scientific data available;
- the extent of scientific uncertainty."

We know that there is a massive literature, providing a high level of scientific certainty, for each of these pathophysiological effects caused by non-thermal EMF exposures. This is shown in from 11 to 35 reviews on

[for/of] **each** specific effect, with each review listed in Chapter 1 [here], providing an extremely large body of evidence on the existence of each effect. [Also see Dr. Pall's letter to California Governor Jerry Brown, Sept. 20, 2017.]

1. Attack our **nervous systems** including our brains leading to widespread neuropsychiatric effects and possibly many other effects. This nervous system attack is of great concern.
2. Attack our **endocrine** (that is hormonal) systems. In this context, the main things that make us functionally different from single celled creatures are our nervous system and our endocrine systems – even a simple planaria worm needs both of these. Thus the consequences of the disruption of these two regulatory systems is immense, such that it is a travesty to ignore these findings.
3. Produce **oxidative stress and free radical damage**, which have central roles in ... chronic diseases.
4. Attack the **DNA of our cells, producing single strand and double strand breaks** in cellular DNA and oxidized bases in our cellular DNA. These in turn produce cancer and also mutations in germ line cells which produce mutations in future generations.
5. Produce elevated levels of **apoptosis (programmed cell death)**, events especially important in causing both neurodegenerative diseases and infertility.
6. **Lowers male and female fertility**, lowers sex hormones, lowers libido and increases levels of spontaneous abortion and, as already stated, attacks on the DNA in sperm cells.
7. Produces **excessive intracellular calcium [Ca²⁺]_i and increased calcium signaling**. [See endnote 2 below]
8. Attacks the cells of our bodies to cause **cancer**. Such attacks are thought to act via 15 different mechanisms during cancer causation.

[Page 48] Of course, the Commission has done nothing to protect European citizens from any of these very serious health hazards and the U.S. FCC, FDA, EPA and National Cancer Institute have done nothing to protect American citizens.

The question now is what about 5G? Here we have strong suspicions of **similar or more severe risk** than those listed immediately above but we have no biological safety testing of genuine 5G radiation.

Therefore, **we have no risk analysis or risk management because we have no risk assessment whatsoever on 5G**. So here we have Dr. Vinciūnas arguing that the request for precautionary principle application is premature. But it is not the request for the use of the precautionary principle that is premature, it is the Commission's claim that it has done the required risk analysis and risk assessment. This is the bizarre world that we live in.

Let me close, as follows. There have been certain points in our history where people have stood up to strong destructive forces against what often appeared to be insurmountable odds. Those people are THE most honored people in our history. The people who failed to do so are among the most despised people in our history. I am not at all sure we will have historians to record us 100 years from now or even 30 years from now, given the direction in which we are heading. But if we do, rest assured that these are the standards by which you will be judged. [Citations follow]

Thank you for your consideration.

Martin L. Pall, Professor Emeritus (US) 503-232-3883 ; martin_pall@wsu.edu

¹[An explanation of calcium signaling is given at <https://www.sciencedirect.com/science/article/pii/S0960982208008841>, "Timing in Cellular Ca²⁺ Signaling," by MJ Boulware. "Crudely, the business of Ca²⁺ signaling is one of information delivery. How do biological systems interpret environmental cues to choreograph the generation of Ca²⁺ signals and thereby execute appropriate physiological responses? Understanding how inputs are processed and relayed via changes in cytoplasmic Ca²⁺ concentration ('encoding') to impact the activity of only a desired subset of Ca²⁺-sensitive targets ('decoding') has proved to be a durable and mechanistically intriguing field of research, as well as one of **increasing pathological pertinence**." Also see document 6h.]

²[To these four must be added the fact that **the 5G radiation is to be continuous, 24/7**: there will be no respite and no possibility for individuals within the population to control it or shut it off. Reporting on the intensive Russian study of long-term EMF exposure effects, Karl Hecht wrote the following: "As described in the [Russian] papers, the **type of EMF** as well as the **exposure limits** did *not* seem to play a dominant role for the causation of chronic health symptoms, but the **exposure duration in years if the exposure occurs daily for several hours (2 – 8 hours)** [did]. Short-term EMF exposures—up to 20 minutes daily—had no essential effects on living processes, even if repeated frequently." p. 15, Ch. 3). In other words, it is the **duration** during each day and for a number of years (3 or more – long-term), that results in **adverse and irreversible health impacts**. *We can expect exactly these impacts following a 5G rollout*. See document 3c.] 071218

NEUROLOGICAL/NEUROPSYCHIATRIC AND CARDIAC EFFECTS FROM WIRELESS WIFI AND EMF RADIATION EXPOSURES — CUMULATIVE AND IRREVERSIBLE —

Excerpts from Chapter 3 and Chapter 1 of:

5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them

Written and Compiled by Martin L. Pall, PhD, Professor Emeritus of Biochemistry and Basic Medical Sciences
Washington State University, Address: 638 NE 41st Ave., Portland OR 97233 USA, martin_pall@wsu.edu

[This 53-page **MARCH 2018** document is readily found on the internet – find complete citations there. Edits for clarity and notes appear in smaller font in brackets. **Bold** and underline added to text (not titles) draw attention to key material.]

Chapter 3: Strong Evidence for Cumulative and Irreversible EMF Effects [begins on page 17]

Two questions that must be raised about the effects of these low-intensity EMFs producing biological effects is are they cumulative and are they reversible? I am aware of several different types of evidence for cumulative effects and also for irreversible effects.

Three of the human occupational exposure studies from the 1970's reviewed in the Raines, National Aeronautics and Space Administration (NASA) study [26], showed that effects increased substantially with increasing time of exposure to a particular type and intensity of EMF. While these three studies each show cumulative effects ~~but~~ they provide no data on possible irreversibility of these neurological/neuropsychiatric effects. However the largest review of such occupational exposures (Hecht [28]) does provide substantial evidence on the cumulative nature and irreversibility of these neurological/neuropsychiatric effects.

Hecht [28] reviewed **60** different studies of occupational exposures that were done between **1960** and **1990** in the Soviet union and East Germany. These were occupational exposure studies of over 3500 people, who were exposed to microwave frequency EMFs at intensities of less than $1/1000^{\text{th}}$ of our safety guidelines. These studies [28] found that these EMFs produced neuropsychiatric effects similar to those found in my much more recent study [3], listed in Chapter 1 [see in the online document], as well as ~~[on]~~ cardiac effects. Neither the neuropsychiatric findings nor the cardiac findings were unique however. Similar neuropsychiatric effects have been found to be caused by low intensity EMF exposures [27,29-34]. Cardiac effects have also been found in humans [26,29,30,32,34,35] similar to those found by Hecht [28].

Hecht [28] reports that exposures at those **very low intensities for up to 3 years** produced increased **sympathetic nervous system activity**, apparently in response to the EMF stress, following the classic stress sequence described by Hans Selye in 1953. No other effects were apparent during this circa 3 year period. However **longer exposure** produced observable neurological/neuropsychiatric and cardiac effects as well as other effects which were initially modest. Exposures of **3 to 5 years** typically produced effects that could be largely reversed after 2 to 3 years in a no-EMF exposure environment. Hecht states that "if detected early, effective therapy is possible." However, longer than 4 to 5 years exposures produced more severe effects which did not reverse when the persons were subsequently put into a no-EMF exposure environment. These and other effects continued to worsen with **10 years of exposure or longer**. This cumulative nature of such EMF exposures was noted in two earlier reviews cited by Hecht et al [36,37]. These studies, then, provide **very large amounts of evidence** both for the cumulative nature of these neuropsychiatric effects, as well as the apparent irreversibility of these effects as they become more severe. Hecht also notes that "**decline in health status increasingly amplifies EMF effects.**" This ~~[a]~~ pattern of increasing apparent sensitivity] produced by previous exposure is similar to that described in the Western literature on electromagnetic hypersensitivity (EHS), something that Hecht recognizes [28]. EHS [is] something that is discussed very briefly below in this section. [NOTE 1 on p. 4 here has more on the Hecht study.]

There are strong similarities between the Hecht [28] findings on microwave frequency EMFs in humans and the impacts of such EMFs on cellular and organ histology in rodents, as were reviewed in Tolgskaya and Gordon [38] and discussed in Pall [3]. In rodents, initially non-thermal exposures over periods of 1 to 2 months produced modest changes in structure of the brain and of the neurons. When such exposures ceased, most of the structural changes disappeared – that is the changes were largely reversible when the animals were place[d] back into a no-EMF environment. **However more months of exposure produced much more severe impacts on brain and neuronal structure and these were irreversible** [38, 3]. More recent, Western country and other country studies cited in [3], provide much further support for brain impacts similar to those found in Soviet and also other country brain studies reviewed by Tolgskaya and [begin p. 18] Gordon[38]. Tolgskaya and Gordon [38,3] also reported findings that in histological studies, **the nervous system was the most sensitive organ in the body, followed closely by effects on the heart and the testis**, although many other organs were also impacted. Thus, the Tolgskaya and Gordon review [38,3] provides very important support for the findings of neurological/neuropsychiatric effects, the cardiac effects, discussed immediately above and below, and the reproductive effects discussed in Chapter 1. **By comparing the animal studies with the human studies, one can see the striking similarities, with the major difference being that the effects in rodents are much more rapid than the effects on humans.** Given the much higher metabolic rates in rodents and much lower life spans in rodents, the timing difference is not surprising. **With regard to the issues of cumulative nature and irreversibility, both rodent and human studies provide strong support for both neurological and neuropsychiatric effects showing both cumulative nature and irreversibility and show a similar pattern of cumulative effects with the cardiac effects.**

What are the **cardiac** effects discussed briefly above, that are produced by non-thermal microwave frequency EMF exposures? The effects include **tachycardia** (rapid heartbeat) where some people with apparent EHS, on blinded exposure to cordless phone radiation have instantaneous tachycardia, an effect that is also essentially instantaneously reversible on cessation of exposure [28,35,36]. So tachycardia can be an almost instantaneous response to EMFs and it is sometimes also found with **arrhythmia**. **Prolonged exposures produce both arrhythmias and bradycardia** (slow heart beat) [26-30,32]. Similar EMF cardiac effects were seen in animal studies, with the earliest of these going back to the late 1960s. **Arrhythmias, especially when they are accompanied by bradycardia, are often associated with sudden cardiac death.** We are having an epidemic of young, apparently healthy athletes dying in the middle of an athletic competition of apparent sudden cardiac death, which may, therefore be possibly caused by EMF exposures [39]. Some of these individuals have been saved from death [39] and subsequently found to be suffering from bradycardia and arrhythmias. Another type of cardiac effect is that when apparent EHS people are exposed to Wi-Fi, cell phone, cell phone tower or smart meter radiation, they are reported to suffer from **heart palpitations**. **Each of these four types of cardiac effects, tachycardia, arrhythmias, bradycardia and heart palpitations involve aberrations in the electrical control of the heartbeat.** How can these be produced?

The heartbeat is controlled by pacemaker cells in what is called the sino-atrial node of the heart. Those pacemaker cells have been shown to have very high densities of the T-type VGCCs which may make these cells particularly susceptible to direct effects of the EMFs (recall that EMFs act via VGCC activation). The T-type and the L-type types of VGCCs have essential roles in controlling the heartbeat. It follows that EMF exposures, **acting directly on the pacemaker cells of the heart**, can produce tachycardia responses. Furthermore, gene mutations in a VGCC gene that produce increased VGCC activity can produce both tachycardia and arrhythmia in young babies carrying those mutations; these young children die of sudden cardiac death at a very young age [See talk 1. on 5a.]. How then do we get bradycardia? Bradycardia is produced when heart failure impacts the sino-atrial node, such that the dysfunction involved in heart failure, which is very complex, produces dysfunction of the pacemaker cells of the heart, producing bradycardia [40]. It follows from this that EMF-produced bradycardia and chronic arrhythmias are likely to be caused by **heart-failure-like changes** that particularly impact the sino-atrial node of the heart, including the **tissue remodeling** found in heart failure. This model has been confirmed by the findings of Liu et al [41], who found that pulsed microwave frequency EMF produced tissue remodeling that specifically impacted the sino-atrial node of the heart with remodeling changes similar to those found in heart failure [40]. **Because heart failure develops in a cumulative fashion and is based on current medicine at least, an irreversible process involving tissue remodeling and a large number of other biochemical and physiological changes [41], it seems likely, therefore, that the EMF effects on the heart are both cumulative and irreversible.** [Next are the cumulative, irreversible reproductive and DNA effects.]

Chapter 1: Eight Extremely Well-Documented Effects of Non-Thermal EMF Exposures: Role of Pulsations, Other Factors that Influence EMF Effects [Begins on page 2]

Both the earlier Ryan document [see Preface] and the more recent Arūnas document each fail to pay any attention to the extensive scientific literature that has been accumulated on non-thermal electromagnetic field (EMF) effects. The scientific consensus of independent scientists based on information accumulated over the last 7 decades is just the opposite of what each of them states. I am copying into this document, at the end of Chapter 1, a series of 8 extremely well-documented effects of such EMF exposure, together with a list of review articles, most of them being peer reviewed articles published in well respected journals in the PubMed database, *that have each reviewed a body of evidence demonstrating the existence of each such effect.*

What are the effects produced by non-thermal exposures to microwave frequency EMFs, where we have an extensive scientific literature? Each of the following effects has been documented in from 11 to 35 reviews [for each effect], listed at the end of Chapter 1.

1. **Three types of cellular DNA attacks....** [see document 6e and 6g.]
2. A wide variety of changes leading to **lowered male fertility, lowered female fertility**, increased spontaneous abortion, lowered levels of estrogen, progesterone and testosterone, lowered libido.... [see document 6e.]
3. **Neurological/neuropsychiatric effects** (23 reviews). My own paper on this [3] and two earlier reviews cited in it found that there are whole series of repeatedly found EMF effects which have also become extremely widespread complaints in our technologically advanced societies, namely: sleep disturbance/insomnia; fatigue/tiredness; headache; depression/depressive symptoms;* lack of concentration/attention/cognitive dysfunction; dizziness/vertigo; memory changes; restlessness/tension/anxiety/stress/agitation; irritability. These findings are not just based [begin p. 3] on epidemiological findings but are also based on profound impacts of EMFs, at levels well within our safety guidelines, on brain structure and function and also on the mechanism of non-thermal EMF action discussed below. When we have these neuro-psychiatric effects becoming more and more common in technologically advanced societies all over the world, and *we know each of these is caused EMF exposures*, shouldn't we take note of this relationship? * [On page 32, Dr. Pall also reported findings of **increased suicide**. And on p. 42, he reported: "... there are a total of 6 studies showing that EMFs, including cell phone, Wi-Fi and cordless phone EMFs can cause ADHD-like effects in mice and two human epidemiological studies suggesting a similar mechanism in humans."]
4. **Apoptosis/cell death....**
5. **Oxidative stress/free radical damage....**
6. Widespread **endocrine** (that is hormonal) effects....
7. Increases in **intracellular calcium ([Ca²⁺]_i) levels** following EMF exposure.... [See NOTE 2 at the end here – calcium signaling is the primary means of cellular information transfer.]
8. **Cancer causation** (35 reviews). Brain cancer, salivary cancer, acoustic neuromas and two other types of cancer go up with cell phone use. People living near cell phone towers have increased cancer rates. Other types of EMFs are also implicated....

Neurological/neuropsychiatric effects: [citations, pp. 6-7]

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[NOTE 1: The Hecht citation [28] is the same as number 18. in the list above. In the folder of documents (from Kate Reese Hurd), see 3c., concerning the History of Long-Term Effects, for excerpts from this scientific Brochure 6.

The six Brochures are:

BROCHURE 1: **Bees, Birds and Mankind Destroying Nature by Electrosmog**, by Dr. Ulrich Warnke; German original, Kempten 2007, 2. ed. 2008 English translation as an online publication 2008; French translation 2010; Spanish translation 2011.

BROCHURE 2: **Die Gefährdung und Schädigung von Kindern durch Mobilfunk [Our Children's Health Is at Risk]**; Ärztliche Beobachtung - wissenschaftliche Erkenntnis - gesellschaftliche Erfahrung. With contributions by Heike-Solweig Bleuel, Markus Kern, Karl Richter, Cindy Sage, Cornelia Waldmann-Selsam, Ulrich Warnke and Guido Zimmer. St. Ingbert 2008. Italian translation 2009.

BROCHURE 3: **How Susceptible Are Genes to Mobile Phone Radiation?** State of the Research—Endorsement of Safety and Controversies—Self-help Recommendations; With articles by Franz Adlkofer, Igor Y. Belyaev, Karl Richter und Vladislav M. Shiroff. St. Ingbert 2008. English translation as an online publication 2008.

BROCHURE 4: **Warum Grenzwerte schädigen, nicht schützen, aber aufrechterhalten werden: Beweise eines wissenschaftlichen und politischen Skandals [Why Exposure Limits Are Harmful, Not Safe: Evidence of a Scientific and Political Scandal]**; With articles by Franz Adlkofer, Karl Hecht, Lebrecht von Klitzing, Klaus Kniep, Wilhelm Mosgoeller, Karl Richter, Hans-Christoph Scheiner, Ulrich Warnke.

BROCHURE 5: **Radiation Protection [i.e., standards] in Conflict with Science**. A Documentation, by Franz Adlkofer and Karl Richter.

BROCHURE 6: **Brochure 6: Health Implications of Longterm Exposure to Electrosmog**, by Karl Hecht (as in citation 18. above).]

[NOTE 2: An explanation of calcium signaling is given at <https://www.sciencedirect.com/science/article/pii/S0960982208008841>, "Timing in Cellular Ca²⁺ Signaling," by MJ Boulware. "Crudely, the business of Ca²⁺ signaling is one of information delivery. How do biological systems interpret environmental cues to choreograph the generation of Ca²⁺ signals and thereby execute appropriate physiological responses? Understanding how inputs are processed and relayed via changes in cytoplasmic Ca²⁺ concentration ('encoding') to impact the activity of only a desired subset of Ca²⁺-sensitive targets ('decoding') has proved to be a durable and mechanistically intriguing field of research, as well as one of increasing pathological pertinence."]

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INFERTILITY, DNA DAMAGE, MUTATIONS AND IMPACTS ON THE YOUNG FROM WIRELESS WIFI AND EMF RADIATION EXPOSURES

— CUMULATIVE AND IRREVERSIBLE —

Excerpt from Chapter 3 plus all of Chapter 4 from

5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them

Written and Compiled by Martin L. Pall, PhD, Professor Emeritus of Biochemistry and Basic Medical Sciences
Washington State University, Address: 638 NE 41st Ave., Portland OR 97233 USA, martin_pall@wsu.edu

[This 53-page **MARCH 2018** document is readily found on the internet – find citations there. Edits for clarity and notes appear in smaller font in brackets. **Bold** and underline added to text (not titles) draw attention to topics and key material.]

Chapter 3: Strong Evidence for Cumulative and Irreversible EMF Effects [begins on page 17]

Two questions that must be raised about the effects of these low-intensity EMFs producing biological effects is are they cumulative and are they reversible? I am aware of several different types of evidence for cumulative effects and also for irreversible effects.

Three of the human occupational exposure studies from the 1970's reviewed in the Raines, National Aeronautics and Space Administration (NASA) study [26], showed that effects increased substantially with increasing time of exposure to a particular type and intensity of EMF. While these three studies each show cumulative effects ~~but~~ they provide no data on possible irreversibility of these neurological/neuropsychiatric effects. However the largest review of such occupational exposures (Hecht [28]) does provide substantial evidence on the cumulative nature and irreversibility of these neurological/neuropsychiatric effects.

Hecht [28] reviewed 60 different studies of occupational exposures that were done between 1960 and 1990 in the Soviet union and East Germany. These were occupational exposure studies of over 3500 people, who were exposed to microwave frequency EMFs at intensities of less than 1/1000th of our safety guidelines. These studies [28] found that these EMFs produced neuropsychiatric effects similar to those found in my much more recent study [3], listed in Chapter 1 [see in the online document], as well as [on] cardiac effects. Neither the neuropsychiatric findings nor the cardiac findings were unique however. Similar neuropsychiatric effects have been found to be caused by low intensity EMF exposures [27,29-34]. Cardiac effects have also been found in humans [26,29,30,32,34,35] similar to those found by Hecht [28].

[→ Skip to page 18 bottom, past the neuropsychiatric and cardiac paragraphs – see 6c. fro these.] You will recall, from the discussion at the beginning of Chapter 1, that **there are 16 reviews documenting that EMF produces lowered fertility and that these act via diverse mechanisms. These include tissue remodeling changes in the testis, lowered sperm count and sperm quality, lowered female fertility including ovary remodeling and oocyte apoptosis, lowered estrogen, progesterone and testosterone levels (that is sex hormone levels), increased spontaneous abortion incidence, and lowered libido. We already have sperm count drops to below 50% of normal in every technologically advanced country on earth. We also have fertility drops to well below replacement levels in every technologically advanced country on earth, with one exception. Clinical observations argue that while there are sometimes technical fixes that allow some reproduction, infertility appears to be inherently irreversible.** The Magras and Xenos [2] in mice, also discussed in Chapter 1 shows that radio-frequency radiation exposures well below our safety guidelines, produce immediate drops in mouse reproduction in the first litter. Further exposures to the same EMF levels produced a crash in reproduction essentially to zero, a crash that appeared to be essentially irreversible.

We don't know that humans will behave similarly to mice,* although we do know that the EMFs produce the diverse effects on human reproduction listed in the previous paragraph. My prediction is that **even if exposures**

level off where they are now, we will start seeing crashes in reproduction within about 5 years. If we go ahead with 5G, that crash may be almost instantaneous. *[However, Dr. Pall had just pointed out, top of p. 18: “**By comparing the animal studies with the human studies, one can see the striking similarities, with the major difference being that the effects in rodents are much more rapid than the effects on humans.** Given the much higher metabolic rates in rodents and much lower life spans in rodents, the timing difference is not surprising. With regard to the issues of cumulative nature and irreversibility, **both rodent and human studies provide strong support for both neurological and neuropsychiatric effects showing both cumulative nature and irreversibility and show a similar pattern of cumulative effects with the cardiac effects.**”]

Mutation accumulation produced by cellular DNA damage* is likely to be both cumulative and irreversible, as well, because later mutations are highly unlikely to reverse previously occurring mutations. It has been estimated that all we need to have is an increase in germ line mutation of 2 1/2 to 3-fold, to become over time, extinct from the very high levels of mutations in each newborn. From the high levels of DNA damage produced in human sperm from common EMF exposures, we may be already well above that level. *[Dr. Pall also reported on p. 21: **The very low intensity exposure used in the Schwarz et al [75] study produced large numbers of DNA breaks, larger than that produced by 1600 chest X-rays.**]

It follows from this that we already face four existential threats produced by microwave frequency EMF exposures to the survival of every technologically advanced society on earth:

1. **Cumulative and irreversible neurological/neuropsychiatric effects.**
2. **Cumulative and irreversible reproductive effects.**
3. **Cumulative and irreversible cardiac effects, leading to sudden cardiac death.**
4. **DNA effects in germ line, including sperm cells, leading to major impacts on our gene pool and high mutation frequencies.**

Any one of these can destroy us on its own and with the ever increasing exposures and especially the vast increases in exposure that the 5G rollout will inevitably produce, that destruction is likely to be imminent. These don't even take into consideration the **cancer** effects, the **hormonal** effects or other effects produced by increased **oxidative stress** or **increased apoptotic cell death**. There is extraordinary evidence for each of these effects of EMF exposure which I have documented in 8 of these effects with the massive numbers of reviews documenting each of them. [→ Skip the section on Alzheimer's Disease and dementias – see 6f. for that material.]

Chapter 4: EMFs Including Wi-Fi May Be Particularly Damaging to Young People

Most arguments that have been made that microwave frequency EMFs may be much more damaging to young children have centered on the **much smaller skulls and [lesser] skull thickness** in young children, increasing the exposure of their brains to EMFs [60, 61]. **However there are other arguments to be made. EMFs have been shown to be particularly active in producing effects on embryonic stem cells [62-71].** Because such stem cells occur at much higher cell densities in children, with **stem cell densities the highest in the fetus and decreasing with increasing age [62, 63]**, impacts on young children are likely to be much higher than in adults. **The decreased DNA repair and increased DNA damage following EMF exposure, in conjunction with the increased cell division in young children, strongly suggest that young children may be increasingly susceptible to cancer following such exposures [62-64, 71].** Two reviews discussed in the next chapter provide further evidence on higher cancer susceptibility of children. **EMF action on stem cells may also cause young children to be particularly susceptible to disruption of brain development [66,71], something that may be relevant to autism causation.** It is my belief that the role of **[Ca2+]i*** in synapse development is also relevant to the possible EMF causation of autism. The Hecht review of Soviet occupational exposure studies [28] reports that “**younger persons show a greater sensitivity to electromagnetic fields than adults.**” These are all very problematic issues and we cannot rule out the possibility that there are other problematic issues as well. Redmayne and Johansson [72] reviewed the literature showing that there are **age-related effects**, such that young people are more sensitive to EMF effects. **It follows from these various findings that the placement of Wi-Fi into schools around the country and the not uncommon placing of cell phone towers on schools may well both be a high level threats to the health of our children as well being a threat to teachers and any very sensitive fetuses teachers may be carrying, as well.** Mr. Barrie Trower, a retired military intelligence expert from the U.K. has been going around the world, at his expense, speaking against Wi-Fi in schools. His knowledge on this is based in part on classified information which he is unable to discuss, but has given him great concern. *[See document 6h., about the VGCC mechanism. It is the primary means of information transfer between cel**071218**

ALZHEIMER'S DISEASE, DEMENTIAS AND WIRELESS WIFI AND EMF RADIATION EXPOSURES — CUMULATIVE AND IRREVERSIBLE —

Excerpt from Chapter 3 of

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[→ Skip to page 19, past the neuropsychiatric, cardiac, reproduction and DNA paragraphs – see 6c. and 6f. for these.]

The following information is derived from an abstract that I used for a talk at the **Neuroscience 2016** meeting in Los Angeles, a meeting that was focused on **Alzheimer's disease and similar dementias**. The discussion here raises the question of whether Alzheimer's and other dementias may be still another set of irreversible diseases where cumulative effects of microwave frequency EMFs may have important causal roles. Dementias and other types of neurological deaths have had unexplained rapid recent increases [42-44]. The parallel between these increases and the increases in cell phone and other EMF exposures suggested that such exposures may cause dementia increases [45]. Reports show people circa age 30 developing Alzheimer's or other very early onset dementias and even younger people are reported to develop digital dementias, dementias caused by heavy use of digital devices [46-48]. One of the questions being raised here, is whether digital dementias are caused, at least in part, by the EMF exposures produced by these digital devices and the Wi-Fi fields involved in their usage, rather than solely by such things as screen time, as is often assumed. As you have seen in Chapter 2, microwave and lower frequency EMFs act via activation of the VGCCs, leading to increases in intracellular calcium ([Ca²⁺]_i) and downstream effects including increased Ca²⁺ signaling, ¹NO, superoxide, peroxynitrite, free radicals, oxidative stress, NF-kappaB and mitochondrial dysfunction. Each of these downstream effects have been shown to have

important roles in causing Alzheimer's disease and other neurodegenerative diseases [49-51]. These all suggest plausible mechanisms for action for EMFs causing Alzheimer's disease. Furthermore the amyloid-beta protein (A β) which has a specific causal role in AD is produced in increasing amounts by elevated [Ca $^{2+}$]_i and small A β aggregates form Ca $^{2+}$ ion channels in the plasma membrane and aggregates also raise [Ca $^{2+}$]_i via increased VGCC and RYRr activity [RYRr, ryanodine receptor, responsible for the rapid release of [Ca $^{2+}$]_i], suggesting a vicious cycle between A β and [Ca $^{2+}$]_i in Alzheimer's disease. This argues that increased intracellular calcium levels, produced by the EMFs increases A β and increased A β increases intracellular calcium, quite possibly the central mechanism in causing Alzheimer's disease.

[begin page 19] Five rodent studies support an EMF role in Alzheimer's disease.² A series of short pulses of EMFs in young rats, produced the following in the equivalent of middle aged rats [i.e., when these rats had matured]: elevated brain A β and oxidative stress; lowered cognition and memory [52,53]. 900 MHz exposures produces oxidative stress, increased A β and lowered miR-107, all found in AD brains [52-55]. There are many animal studies showing roles for [Ca $^{2+}$]_i through both VGCCs and RYRs in causing Alzheimer's disease in rodent models; these include studies with calcium channel blockers and studies of transgenic mice with varying VGCC and RYR expression. Very low EMF exposures can produce, however, protective responses [56,57]; this is not surprising because EMF therapy is thought to act via NO signaling and protein kinase G (see Fig.1, Chapter 2) and this pathway is reported to protect from Alzheimer's disease.³ Epidemiological studies have shown that exposure of humans [to] of 50/60 Hz EMFs [the frequency range of our basic household current], which also act via VGCC activation, can cause elevated AD incidence [58,59]. However we have no similar studies for exposures to microwave/radiofrequency EMFs. In conclusion,⁴ a wide range of studies support the view that low intensity microwave frequency exposures acting via VGCC activation and [Ca $^{2+}$]_i, can produce increases in A β and other causal factors of Alzheimer's disease in humans and in animals and EMFs have been shown to produce Alzheimer's effects in rats.

These various findings on EMFs and Alzheimer's disease, the increasingly early onset of dementias and the occurrence of digital dementias, all suggest we may have another very high level threat caused by EMF exposures, possibly involving **cumulative** EMF effects and leading to severe, **irreversible** brain damage.

¹[An explanation of calcium signaling is given at <https://www.sciencedirect.com/science/article/pii/S0960982208008841>, "Timing in Cellular Ca $^{2+}$ Signaling," by MJ Boulware. "Crudely, the business of Ca $^{2+}$ signaling is one of information delivery. How do biological systems interpret environmental cues to choreograph the generation of Ca $^{2+}$ signals and thereby execute appropriate physiological responses? Understanding how inputs are processed and relayed via changes in cytoplasmic Ca $^{2+}$ concentration ('encoding') to impact the activity of only a desired subset of Ca $^{2+}$ -sensitive targets ('decoding') has proved to be a durable and mechanistically intriguing field of research, as well as one of increasing pathological pertinence."]

²[About rodent studies in relation to humans, Dr. Pall had just pointed out, top of p. 18: "By comparing the animal studies with the human studies, one can see the striking similarities, with the major difference being that the effects in rodents are much more rapid than the effects on humans. Given the much higher metabolic rates in rodents and much lower life spans in rodents, the timing difference is not surprising. With regard to the issues of cumulative nature and irreversibility, both rodent and human studies provide strong support for both neurological and neuropsychiatric effects showing both cumulative nature and irreversibility and show a similar pattern of cumulative effects with the cardiac effects."]

³[Note: Dr. Pall explained to Dr. Joseph Mercola that differing or opposite effects (such as high and low blood pressure) can result depending upon which chemical pathways of the VGCC mechanism are activated during wireless/EMF exposures. The chemistries of nitric oxide (NO) and peroxynitrite (ONOO), for instance, serve different purposes and are continually adjusted and rebalanced. Hence, the interference of chaotic, erratic EMF radiation exposures destabilizes the regulation of body functions. Dr. Mercola Interviews Martin Pall on EMFs, August 20, 2017.]

⁴[Also in conclusion: at about 1 hour:10 min. into his talk in Stockholm, Sweden, March 10, 2016 ("Cell Phones and WIFI are very dangerous," <https://www.youtube.com/watch?v=Rylxal-rMNs>), Dr. Pall described the escalating incidence of Alzheimer's and other premature dementias as "Worst Case Scenario 5. "... We are seeing an unexplained epidemic of Alzheimer's and other early onset dementias ... We know that." He references the rat studies out of China showing Alzheimer's and memory impairment in middle-aged rats. 1hr:12 min, → Alzheimer's has a 20-30 year latency period; therefore, "it may well be that we're looking at the effects of EMFs that occurred 25 years ago, not the effects of EMFs now, which of course are vastly, vastly higher. If that's true, and I don't know that it's true – I hope the hell it's not true – we may be seeing [that] if we stopped all exposures tomorrow, we may be seeing an epidemic that may be coming on from these earlier exposures over the next 25 years that may ... produce an absolutely gigantic increase in early onset dementias. ... We're seeing dementias come in now – they're still rare – in people aged 30! → Absolutely unheard of before." 1hr:13 min. "... you get some idea of the fact that we're just ignoring things of absolutely horrendous proportions, all through, through very plausible mechanisms." 071218

**QUESTION: HOW EXACTLY ARE WIRELESS RADIATION STUDIES
FALSIFIED AND MADE TO APPEAR INCONSISTENT AND INCONCLUSIVE?**

Excerpt from Chapter 5 of

**5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight
Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures
and the Mechanism that Causes Them**

Written and Compiled by Martin L. Pall, PhD, Professor Emeritus of Biochemistry and Basic Medical Sciences
Washington State University, Address: 638 NE 41st Ave., Portland OR 97233 USA, martin_pall@wsu.edu

[This 53-page **MARCH 2018** document is readily found on the internet – find citations there. Edits for clarity and notes appear in smaller font in brackets. **Bold** and underline added to text (not titles) draw attention to topics and key material.]

Chapter 5: The Importance of the SCENIHR 2015 Document and the Many Omissions, Flaws and Falsehoods in That Document [begins bottom p. 20]

[NOTE: the SCENIHR, whose conduct and 2015 report is discussed here, is the **Scientific Committee on Emerging and Newly Identified Health Risks** – a committee whose function is of *extreme* international importance for us all because many agencies and regulatory bodies in the European Union and the U.S. (e.g., the FCC, the FDA and the **National Cancer Institute**) depend upon it.]

One thing that I think we can all agree upon, is that the SCENIHR 2015 [73] document is an important document. The reason for its importance is that previous industry-friendly documents [–] and there have been many of them [–] have only reviewed very limited amounts of the literature on EMF effects. Consequently all of these other documents are open to the criticism that they have cherry picked what little data they have chosen to discuss. SCENIHR 2015 [73] has a reference list of almost 48 pages in length, going from page 233 to 280. So it appears that SCENIHR 2015 may have done a much more thorough and defensible [begin p. 21] review of the literature. **Our assessment of SCENIHR 2015 [73] is important because of the confidence expressed in this document both by Mr. Ryan and Dr. Vinciūnas* and also by the U.S. National Cancer Institute. The question that is being raised here is whether SCENIHR 2015 is thorough and defensible or not.** *[→ Preface material, p. 4 here.]

The Speit/Schwarz Controversy: How SCENIHR Has Put Out Seven Falsehoods in Support of the Industry Propaganda Position

I am going to start by discussing a single particularly important issue. **At the end of Table 5 [in the SCENIHR report] there is a claim that a 2013 study by Speit et al [74] was unable to replicate the findings of a 2008 study published by Schwarz et al [75].** In [this] Table 5 **they state further** that Speit et al found “No effect on DNA integrity (MN) and DNA migration (comet); Repetition study of Schwarz et al, 2008.” What is called loss of DNA integrity here, [is] measured by formation of micronuclei (MN) and is caused by the formation of double strand breaks in cellular DNA. The **comet assay** [research technique] measures single strand breaks in cellular DNA [when exposed to wireless radiation]. Schwarz et al [75] found strong evidence that there were large increases in both single strand and double strand breaks in cellular DNA following **very low intensity exposures to a cell phone-like pulsed radiation**, but SCENIHR **claims** that Speit et al [74] were unable to repeat the earlier study. Elsewhere (p.89, bottom) SCENIHR **states** that “By using the same exposure system and the same experimental protocols as the authors of the original study, they failed to confirm the results. They [Speit et al] did not find any explanation for these conflicting results.” **A careful examination of both [74] and [75] finds the following [differences]:** 1. Speit et al [74] used a **lymphocytic cell line, HL-60**; Schwarz et al [75] studied **human fibroblasts**. This is a big difference because, as we have already said, different cell types behave differently. 2. Speit used **1800 MHz** radiation; Schwarz used **1950 MHz** radiation (the frequency of UMTS, also called 3G). Again we have a potentially important difference because effects are influenced by the frequency used. 3. Speit used a **continuous wave EMF**; Schwarz used a **highly pulsed EMF**, with high levels of both KHz and MHz pulsations to mimic the pulsation pattern of 3G cell phones. This is expected to produce very large differences between the two studies. 4. Speit used a **reverberation exposure chamber**; Schwarz **did not** use any exposure chamber. This could be another very large difference between the two studies, a difference that will be discussed toward the end of this

chapter. **5.** So where did the [SCENIHR's] **claim** come from that Speit was trying to repeat the Schwarz study? Speit says in their paper that they were trying to repeat another study (not [by] Schwarz) that was described in a report that was never published. **6. Speit does not even cite the Schwarz et al [75] paper**, so obviously they did not intend to repeat Schwarz. We have then SCENIHR 2015 stating **three multifaceted falsehoods**[:] that Speit et al [74] tried to repeat the earlier studies of Schwarz et al [75], that they were unable to repeat those Schwarz studies and that they used identical methodology to that used by Schwarz et al [75]. In addition to those three are **four underlying falsehoods** – namely that [i.e., because] the two studies used very different methodologies: notably differing in the cell type studied, differing in the frequency used, differing widely in the in pulsations used and differing in the use [or absence] of an exposure chamber. Each of these [seven] falsehoods [in the SCENIHR report] are SCENIHR's not Speit's; *each of them can be easily seen to be false by even a superficial reading of these two papers.*

As you might guess, there is a major story behind all of this. **The very low intensity exposure used in the Schwarz et al [75] study produced large numbers of DNA breaks, larger than that produced by 1600 chest X-rays.** This conclusion can be made by comparing the results of Schwarz et al [75] with the earlier study [in 2007] of **Lutz and Adlkofer [76]** . From this comparison, it seems clear that non-ionizing [i.e., non-X-ray, non-thermal] radiation similar to 3G radiation **can be much more dangerous to the DNA of our cells** than is similar energy of ionizing [i.e., X-ray] radiation. When this was found, the industry went into attack mode, attacking the two Professors who collaborated in [75], Prof. Franz Adlkofer in Germany and Prof. Hugo Rüdinger in Austria. The first couple of years of these attacks* have been described in some detail on pp. 117-131 in Dr. Devra Davis' book *Disconnect* [77]. Before the SCENIHR 2015 document was drafted, it was clear that the publishers who had published Adlkofer's and Rüdinger's work, not just the Schwarz et al [75] study but other papers by the same research group, had long since rejected the industry propaganda claims. In addition, Adlkofer had won a lawsuit in the German courts against his main accuser. He has subsequently since won a second such lawsuit. The last paragraph on p.89 in SCENIHR 2015 is word for word industry propaganda. What is clear is that SCENIHR is wittingly or unwittingly serving as a propagandist for the industry in and that process, SCENIHR has no difficulty in putting forth seven obvious, individually important falsehoods. *[For further examples of the unremitting intimidation of researchers, see the March 29, 2018 Special Investigative Report on the history of cell phone un-safety in *The Nation*.]

[begin p. 22] One question that needs to be raised is **how is it possible for microwave frequency EMFs to produce much more cellular DNA damage than a comparable energy level of ionizing [X-ray] radiation?** Both ionizing radiation and microwave/lower frequency EMFs act via free radicals to attack the DNA. If you examine Fig. 2 [correction: Fig. 1], Chapter 2 [here], you will see how low intensity microwave frequency EMFs can act (circa p. 14). The free radicals that attack the DNA are breakdown products peroxynitrite. The sequence of events leading to those free radicals starts, of course with the extraordinarily high sensitivity of the VGCC voltage sensor to the electrical forces of the EMFs that open the VGCC calcium channels. **Following that there are three steps** in the process leading to peroxynitrite elevation *each of which have high levels of amplification.* **The first of these** is that when the VGCC channels are open, they allow the influx of about a million calcium ion per second into the cell. **The second amplification** is that elevated intracellular calcium [Ca²⁺]_i activates the synthesis of both nitric oxide (NO) and superoxide. **The third amplification** is that the formation of peroxynitrite is proportional to the product of nitric oxide concentration *times* the superoxide concentration. **When you have three sequential amplification mechanisms, you can get a very large response, in this case free radical attack on cellular DNA, from a very small initial signal.** That is where much of the existential crises are coming are from, with EMFs threatening the survival of every technologically advanced country on earth.

Going back to falsehoods perpetrated by SCENIHR regarding Speit/Schwarz, here are **two possible interpretations for those seven falsehoods.** One is that SCENIHR is simply an industry propaganda organ. The second is that we have a group of scientists SCENIHR who are largely incompetent and that it is just coincidence that these seven falsehoods serve the industry propaganda case. **Either of these interpretations completely destroy the claims of confidence in SCENIHR that Mr. Ryan and Dr. Vinciūnas made in the documents they wrote that were referred to in the Preface of this document** [i.e., Dr. Pall's].

[Dr. Pall then presents 20 more pages that lay out and describe the tip-of-the iceberg research out of the large body of critically-important research and results that document wide-ranging health effects from wireless WiFi radiation exposures, the lion's share of which SCENIHR 2015 neither cited nor discussed.]

Additional Material from 5G: Great Risk [Bold added.]

Page 4: “The primary literature studies demonstrating roles of pulsation, frequency, polarization, cell type and intensity windows in determining biological effects are entirely dependent on having genuine effects to study. None of these studies [in this 5G: Great Risk document] could have been done without an effect to study. Consequently, the claims that there are no well-documented EMF effects are nonsense, based not only on the eight extremely well-documented effects summarized above, but also on the entire literature demonstrating the role of pulsation, frequency, polarization, cell type and intensity windows.”

Another source of baseless doubt that is nevertheless argued is the false idea that outcomes in animal studies have little relevance to human disease incidence. This is not true, and Dr. Pall explained as follows:

Bottom of p. 17 to top of p. 18: “There are strong similarities between the Hecht [28]* findings on microwave frequency EMFs in humans and the impacts of such EMFs on cellular and organ histology in rodents, as were reviewed in Tolgskaya and Gordon [38] and discussed in Pall [3]. In rodents, initially non-thermal exposures over periods of 1 to 2 months [how do rodent months compare to human years?] produced modest changes in structure of the brain and of the neurons. When such exposures ceased, most of the structural changes disappeared – that is the changes were largely reversible when the animals were place[d] back into a no-EMF environment. However more months of exposure produced much more severe impacts on brain and neuronal structure and these were irreversible [38, 3]. More recent Western country and other country studies, cited in [3], provide much further support for brain impacts similar to those found in Soviet and also other country brain studies reviewed by Tolgskaya and Gordon[38]. Tolgskaya and Gordon [38.3] also reported findings that in histological studies, the nervous system was the most sensitive organ in the body, followed closely by effects on the heart and the testis, although many other organs were also impacted. Thus, the Tolgskaya and Gordon review [38.3] provides very important support for the findings of neurological/neuropsychiatric effects, the cardiac effects, discussed immediately above and below, and the reproductive effects discussed in Chapter 1. By comparing the animal studies with the human studies, one can see the striking similarities, with the major difference being that the effects in rodents are much more rapid than the effects on humans. Given the much higher metabolic rates in rodents and much lower life spans in rodents, the timing difference is not surprising. With regard to the issues of cumulative nature and irreversibility, both rodent and human studies provide strong support for both neurological and neuropsychiatric effects showing both cumulative nature and irreversibility and show a similar pattern of cumulative effects with the cardiac effects.” *[For more on Hecht’s work, see 3c. and 6d.]

Top of p. 42 : “In this study [#15 on p. 39] control (unexposed) rats were compared with rats exposed to cell phone radiation for: less than 15 minutes per day, 15 to 30 minutes per day, 31 to 45 minutes per day or 45 to 60 minutes per day. Rats exposed to over 15 minutes per day of cell phone radiation showed type 2 diabetes onset-like effects, with higher fasting glucose levels and higher serum insulin levels. This appears to be, therefore a study showing important hormone dysfunction. It should be noted that the same research group has found similar changes in people living near cell phone towers [101]. Consequently, this is still another situation where findings in experimental animal studies appear to be directly applicable to humans. “

Bottom of p. 42 : “Given the current situation where there are a total of 6 studies showing that EMFs, including cell phone, Wi-Fi and cordless phone EMFs can cause ADHD-like effects in mice and two human epidemiological studies suggesting a similar mechanism in humans and the parallel between the huge increase in ADHD and the huge increase in microwave frequency EMF exposures, is there any other type of evidence that supports a causal role for EMFs? It turns out there is. EMFs, of course, act primarily via VGCC activation and genetic polymorphism studies show that elevated VGCC activity has a role in causing ADHD [109], acting to a substantial extent prenatally. This is the way real science works. It is not the way that SCENIHR works.”

And please see p. 4, over, for Dr. Pall’s description of what led him to write this necessary 5G: Great Risk document.

“Preface: [page 1]

The document that follows was, in its original form, sent to many of the **authorities of the European Union**, in conjunction with other documents sent to the same people by a group of European scientists. It was in response to two documents that were, in turn, written by Mr. Ryan and Dr. Vinciūnas responding to a large group of European and other international scientists expressing great concern about the safety of 5G. **I was asked by the leaders of the group of scientists to write my own response to those two documents.** Mr. Ryan made the statement that “There is consistent evidence presented by national and international bodies (**International Commission on Non Ionising Radiation Protection – ICNIRP, Scientific Committee on Emerging and Newly Identified Health Risks – SCENIHR**) that exposure to electromagnetic fields does not represent a health risk, if it remains below the limits set by **Council Recommendation 1999/519/EC1.**” In fact, that is not either the ICNIRP or SCENIHR position – their position, and similar positions [that] have been taken by the **U.S. FCC, FDA and the National Cancer Institute**, is that the evidence is inconsistent or conflicting and therefore, in their view, no conclusions can be drawn. Some of these organization[s] have also stated that there is no known mechanism by which effects can be produced. **What is shown below is that there is a vast amount of evidence in the independent scientific literature that conflicts with both the conclusion about lack of demonstrated effects and the conclusion [of the named organisations and agencies] about lack of mechanism.**

[→] The European Commission, according to the Ryan and Vinciūnas documents, and the U.S. National Cancer Institute, according to their web site, are both depending on the SCENIHR 2015 document to make judgments about EMF effects. Consequently, the reliability of SCENIHR 2015 is an essential element in determining the reliability of both of their assessments.

[For more on the falsification and disappearance of research, see 3a. - 3c.]

071118

SMART¹ METER EFFECTS

Dr. Martin Pall, Professor Emeritus in Biochemistry and Molecular and Cell Biology, quickly addressed **three significant documented health effects from electronic meters**.

“Dr. Martin Pall Testimony: Health Effects of Wireless Massachusetts Statehouse 2017” June, 20, 2017, <https://www.youtube.com/watch?v=9qfJyzD4j7c>, 2:43 min. This is testimony given during a hearing on Massachusetts Senate Bill 1864: No Fee Opt Out for Smart Meters. (Hear all of the testimonies at Environmental Health Trust, <https://www.youtube.com/watch?v=-c-20ymHhXM>. Dr. Pall is second.)

“I’m Martin Pall, I’m Professor Emeritus at Washington State University. I live in Portland Oregon. I’ve been giving talks on EMF effects, one just recently in New Haven [Connecticut] and I’ll be giving two talks shortly in Spain. So, I’ve published six papers on how electromagnetic fields impact the cells of our bodies. So ... my comments are going to be focussed specifically on smart meters. There’re many different health effects that have been extensively documented as being caused by EMFs. Most of them have never been looked at with smart meters, but three of them *have* been, and they’ve all been reported to be occurring at very substantial levels in response to smart meters. And those are: that there’re widespread neuropsychiatric effects; there are cardiac effects on the electrical control of the heart – those are life-threatening because the arrhythmias that occur can be, are often associated with sudden cardiac death; and then finally, there’s electromagnetic hypersensitivity [EHS]³, which has just been referred to. Those three have all been reported to occur in response to smart meters.

Now the smart meters were put out, as are *all* wireless communication devices, without any biological testing whatsoever, safety testing whatsoever. The guarantees of safety that the industry has put forth is based on an assumption that only thermal, that is, only heating effects can occur. And there’s been data from thousands of studies, going all the way back to the 1950s that *that’s not true*, OK, that there are *many* non-thermal* effects, including the three that I just talked about. So, I think there should be no question that smart meters *have* biological effects. *[non-thermal = non-x-ray, non-ionizing, non-heating.]

Now there’re some other issues here that are important. One is that *pulsed* fields – fields that pulse up and down – are much more biologically active *in most cases* than non-pulsed fields, or continuous wave fields. *Smart meters are highly pulsed*, and therefore they are problematic for that reason, as well.

And, so, and let me just say, everything I say here will be denied by industry, I guarantee it.

This is what the *science* says. Thank you.”

¹ [The generic term, ‘smart meter,’ takes in the range of electronic utility meters that are designed to be able to collect usage data and communicate it via *wireless WiFi*. In his comment, Dr. Pall is referring to electronic communicating/transmitting meters that emit overt pulsed spikes of wireless WiFi frequencies four or more times per minute 24/7 continuously (even though readings for billing purposes are typically taken only once every other month at most). If you do an internet search with the model number of an electronic meter, you will find it identified as a member of the given manufacturer’s line or family of ‘smart’ meters.

As regards the health impacts of electronic meters, controversy over nomenclature is of no importance. Even if they don’t emit overt pulsed wireless radiation *they still constitute both short and long-term health hazards*. This is because *all* electronic meters generate and dump aberrant ‘noise’ frequencies – known in industry as Dirty Electricity (DE) – onto the indoor circuits and the downstream power supply. These frequencies create electromagnetic fields (EMFs) that are hazardous to humans, animals and plants, and also shorten the life of appliances and electronic equipment. And, though hard to believe, electronic meters are *not* UL-approved and do *not* have surge arrestors or circuit breakers in them to protect circuits, equipment and structures in the event of a incident involving the electronic meter or the utility wires. Our reliable and trusted *non-electronic*, mechanical-analog meters *do* have surge arrestors and *do not need* circuit breakers. Fires caused by electronic meters are being reported – something which is unheard of with mechanical-analog meters. And it appears that homeowners insurance doesn’t necessarily cover fires caused by electronic meters. Also, our trusty mechanical-analog meters rarely need replacement, unlike electronic meters. Certified and certifiable mechanical-analog meters are cheap and readily available without reliance on ‘major’ manufacturers.]

² [Overt EHS marks the beginning of an **accelerated downward spiral in health status**, especially when exposures to wireless/WiFi/EMFs continue. Symptoms are often not obvious in the first several years. As the Russian research showed – see 3c. here, p. 2. col. 2 – “**Decline in health status increasingly amplifies EMF effects**,” leading to Electromagnetic Hypersensitivity (EHS) and precipitating further declines. “**Younger persons show a greater sensitivity to electromagnetic fields than adults.**”] 071618

See p. 10 of Dr. Pall’s research summary document, *5G: Great Risk*, for further info on **pulsed vs. non-pulsed EMF radiation** and the list of studies on it that follows.

“If I had only known, I would have been a locksmith.”

– Albert Einstein, upon hearing of the nuclear bombing of Hiroshima, a result of his work in physics.

The Nation, 3/29/18, “How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation. The disinformation campaign—and massive radiation increase—behind the 5G rollout”:

“Like their tobacco and fossil-fuel brethren, wireless executives have chosen not to publicize what their own scientists have said about the risks of their products. On the contrary, the industry ... has spent untold millions of dollars in the past 25 years proclaiming that science is on its side, that the critics are quacks, and that consumers have nothing to fear. This, even as the industry has worked behind the scenes ... to deliberately addict its customers. Just as cigarette companies added nicotine to hook smokers, so have wireless companies designed cell phones to deliver a jolt of dopamine with each swipe of the screen. // This *Nation* investigation reveals that the wireless industry ... also borrowed from the same public-relations playbook those industries pioneered ... that an industry doesn’t have to win the scientific argument about safety; it only has to keep the argument going ... because the apparent lack of certainty helps to reassure customers, even as it fends off government regulations and lawsuits that might pinch profits.”

Two Quotes from Dr. Martin Pall’s master research summary document of March 2018, *5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them*:

“The primary literature studies demonstrating roles of pulsation, frequency, polarization, cell type and intensity windows in determining biological effects are entirely dependent on having genuine effects to study. None of these studies could have been done without an effect to study. Consequently, the claims that there are no well-documented EMF effects are nonsense, based not only on the eight extremely well-documented effects summarized above [in this *5G Risk* document], but also on the entire literature demonstrating the role of pulsation, frequency, polarization, cell type and intensity windows.” – page 4

“Lastly, before going on to 5G, there is one other thing I want to state here. In 2005, Dr. Jared Diamond published a book [citation 111] entitled *Collapse: How Societies Choose to Fail or Succeed*. In it he documents how each society that ‘chooses to fail,’ chooses paths that had some short term gains but also had much more severe longer-term consequences. This is exactly what we have been doing with the EMFs, except that the consequences are much more severe than the collapse of one society – here all of the advanced technology societies on earth are at great risk.” – Dr. Pall, *5G: Great Risk*, page 45

ADDRESSES, March 2018:

Assemblyman Kevin Cahill (Kingston, NPz), Legislative Office Bldg, Rm 716, Albany 12448
Assemblyman Kieran Lalor (east/south of Po'keepsie), LOB, Room 531, Albany NY 12448
Assemblyman Frank Skartados (Po'keepsie, Nbrgh), LOB, Room 435, Albany NY 12448
Senator Sue Serino, (Poughkeepsie area), LOB, Room 812, Albany NY 12247
Senator John Bonacic (New Paltz area), LOB, Room 503, Albany NY 12447
Senator George A. Amedore, Jr., (Kingston area) LOB Room 802, Albany NY 12447
Senator John Larkin, (Highland, Newburgh, south), LOB Room 502, Albany NY 12447
NYS Governor Cuomo, NYS Capitol Bldg, Albany NY 12224

Federal: → Also see: "Birds, Bees and Manking, Destroying Nature by Electrosmog"

Congressman John Faso, 19th, 1616 Longworth House Office Bldg, Washington DC 20515
Congressman Sean Maloney, 18th, 1027 Longworth House Office Bldg, Wash. DC 20515
Congressman Paul Tonko, 20th, 2463 Rayburn House Office Bldg, Washington, DC 20515
NY Senator Kirsten Gillebrand, 478 Russell Senate Office Bldg, Washington D.C. 20510
NY Senator Chuck Schumer, 322 Hart Senate Office Bldg, Washington D.C. 20510

→ **There are no inconsistencies in the research, only differences in the roles played by: frequencies, pulsing, cell type, wave polarization and intensity windows.** Chaotic combinations of these serve as precise keys that open biological locks in humans, animals and plants. Our epidemic woes will not abate unless we come to our senses and downsize our emissions.

→ **BILLS OF CONCERN: Demand that wired broadband be promoted in U.S. Senate bill S-1682. Oppose these bills that promote 5G: U.S. Senate bill S-19 ("Mobile Now"), S-88 (the "Digit" Act), S-3157, House HR-4986 (its Title VII promotes S-19), and also New York's S2042/A7489 and S6096/A10620 (all four gut Home Rule) and S7635/A8848 (these prepare for 5G). Repeal the false standards protocols in the 1996 Telecom Act.**

→ **5G wireless radiation is dangerous.** Please educate yourself and elected officials on the biohazards of wireless radiation. Please pass the word: our *lives* depend upon it.

NUMBERS, March 2018:

Assemblyman Lalor, east/south of Pok., 845-221-2202, 518-455-5725
Assemblyman Skartados, Pok., Newburgh, 845-562-0888, 518-455-5762
Assemblyman Cahill, Kingston, New Paltz, 845-338-9610, 518-455-4436
Senator Serino, Poughkeepsie area, 229-0106, 518-455-2945
Senator Bonacic, New Paltz area, 845-331-3311, 518-455-3181
Senator Amedore, Kingston, New Paltz, 845-331-3810, 518-455-2350
Senator Larkin, Highland, Newburgh, south 845-587-1270, 518-455-2770
NYS Governor Andrew M. Cuomo, 518-474-8390

Canaries in the Mine

→ **History on cellphones:**

Federal: thenation.com...how-big-wireless-made-us-think-that-cell-phones-are-safe
Congressman Sean Maloney, 18th, 202-225-5441, 845-561-1259

Congressman John Faso, 19th, 202-225-5614, 845-524-2322, 581-610-8133

Congressman Paul Tonko, 20th, 202-225-5076, 518-465-0700, 588-374-4547

Senator Kirsten Gillebrand, 202-224-4451, 518-431-0120, 212-688-6262

Senator Chuck Schumer, 202-224-6542, 518-431-4070, 212-466-4430

To email:
enter the name
plus 'contact'

→ No longer do we need to proceed in the dark. We now know how wireless/EMFs cause the wide range of debilitating biological harms being reported.

→ **Detectors** We can't normally perceive these EMF/WiFi radiations. To find out what devices, equipment and appliances are emitting, use: 1. A small Cornet "Electrosmog" meter detects microwave/radio frequency MW/RF 100MHz - 8GHz and low frequency LF 50Hz-10KHz. It has numerical readings, a screen showing ongoing readings and warning lights. 2. A Dirty Electricity detector (such as from Stetzer or Greenwave) plugs into house-hold sockets to read the hazardous frequencies loaded on the current by devices/equipment. 3. A transistor radio set to AM just below the lowest station. If no harmful EMF fields are active you'll hear only the standard between-station static. If fields are active, you'll hear them.

5a.

Think About Autism and 5G Wireless → Blood Brain Barrier damage, also.

The wireless industries and utilities have always argued symptoms away by saying there's no known biological mechanism through which wireless emissions could cause the range of symptoms people report, through exposure to wireless devices. But present day reports merely repeat the findings of the U.S. Office of Naval Medical Research. Its 1971 report cited over 100 biological effects. It is crucial to understand, right now, that the mechanism behind all of these effects is in fact known and understood.

Internationally-honored scientist, Dr. Martin Pall, explains this mechanism in his clear, concise presentations on the body's Voltage-Gated Calcium Channels, VGCCs (see the 14 min. YouTube first). Channel-blocker drugs attempt to control these channels. Each bodily system's intensely-sensitive VGCCs respond to specific frequencies; e.g., the VGCCs of my pacemaker cells have their own set. This explains exactly why and how wireless WiFi interferes with so many bodily functions to generate **autism, arrhythmias, Alzheimer's, cancer, infertility, insomnia, damage to DNA – the human genome – and more.** Here is the 'smoking gun.' (See: YouTube...=CFBYRfmqS8Q; AutismOne, YT...=yydZZanRJ50.)

5G, fifth generation wireless mini-towers on poles, stop lights, in parks, in steeples will direct a new, focussed assault of higher intensity wireless radiation directly into homes, workplaces and schools, including rural areas. This toxic rollout is being prepared or beginning everywhere. **Genuine 5G has not been tested and cleared for public health safety.** The 5G 'internet-of-things' infrastructure, intended to connect everything and everyone 24/7 with **no off switch**, is also cyber insecure, laying us wide open to system-wide cyber threats. The technology involved in 5G frequencies originated in their usefulness as a weapon. Please contact your local, state and federal representatives and governor to oppose bills, resolutions and bill-or-budget-add-ins that promote 5G (see in separate section over). And please pass the word: our *lives* depend upon it.

The Biohazards of EMFs & WiFi – Dr. Martin Pall's excellent talks

1. 15 min, at Oregon State's House of Rep's, posted March 2014 – Very good overview – "Wireless Radiation Causes Health Effects Via VGCC: Dr. Martin Pall PhD," <https://www.youtube.com/watch?v=CFBYRfmqS8Q>. (Or search using 'Pall' plus title.) **20,000 studies.**
2. 30 min, Santa Clara County, Oct. 10, 2015. "Part 2 Martin Pall, PhD-How Wireless Devices Cause Cell Harm," YT...=J0zBoc0cL71. Canaries in the Mine
3. 1hour:17, Stockholm, Sweden, March 10, 2016, "Cell Phones and WIFI are Very Dangerous," <https://www.youtube.com/watch?v=RyIxaI-rMNs>. This appears to be Part 3 of "Cell phones and WIFI causes illness." RE 'smart' meters see: YT...=9qfJyzD4j7c, 2:44 min.
4. 1hour:5, at AutismOne in Chicago, posted June 10, 2015, "The Autism Epidemic Is Caused by EMFs, Acting via Calcium Channels and Chemicals Acting via NMDA-Rs." Technical, but essential. YT...=yydZZanRJ50. parentsforsafetechnology.org; scientists4wiredtech.com.
5. Pall's research summary document, 53 pp., "5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them." See: lessemf.com.
6. Pall's letter RE California's wireless Bill SB 649: Pall, Martin Ltr to Gov Brown 092317.

Short to-do list 1. Cellphone: see your phone's legal warnings; don't carry it on your body; use speaker phone or airtube headset; totally power off when not in use (not just airplane mode). 2. Internet: install ethernet ground cables or other ground connections to all device work stations; turn off your router WiFi (at your account webpage if the unit has no switch). 3. Cordless / DECT phones: install land phones (or use *only* the corded handset with *only* the line to the telephone jack – unplug the power adapter that fuels the wireless). 4. Electronic devices: most produce big EMFs even on standby and even while powered off; plug them into power strips or into individual on/off switches at the outlet; cut the power when not in use (cut global warming, too); shut off the WiFi. 5. Use incandescent bulbs; shut off when not using. 6. Change dimmer switches to on/off switches. 7. Keep or get back your analog utility meter(s). 8. Reduce Dirty Electricity: install filters for this.

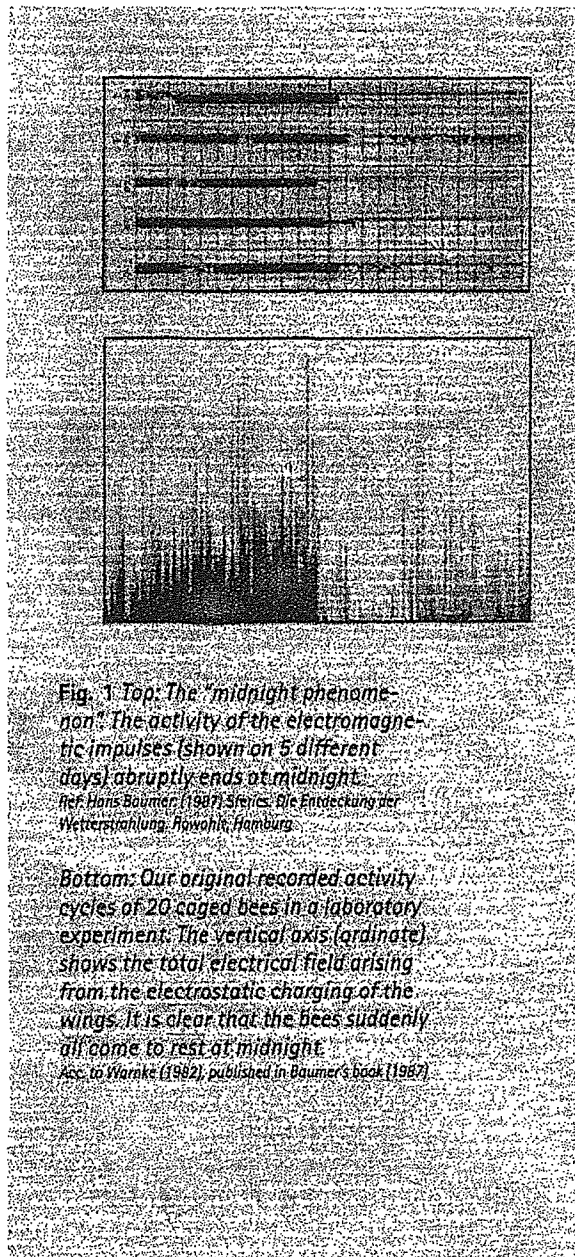
BE WISE → DOWNSIZE YOUR EMFs & WIFI

BE WISE → DOWNSIZE YOUR EMFs & WIFI

8b.

Quiet at Midnight – a pair of charts from 1987

from *Bees, Birds and Mankind: Destroying Nature by 'Electrosmog,'*
by Ulrich Warnke, <http://kompetenzinitiative.net/KIT/KIT/english-brochures/>



In 1987
the electromagnetic
fields of the earth,
fueled by solar radiation,
quieted at midnight
and the bees
likewise rested.
Nature could rest.
We all could rest.

In 2018
we load our earth's
biosphere with wireless,
electromagnetic
radiation 24/7.
There is no longer
normal rest.

Bees, Birds and Mankind,
2009, is Brochure 1 of
*Effects of Wireless
Communication Technologies,*
A Brochure Series by the
Competence Initiative for
the Protection of Humanity,
Environment and
Democracy

Canaries in the Mine

8d. Why Do the VGCC Voltage-Gated Calcium Channel Regulatory Mechanisms in Our Cells Matter?

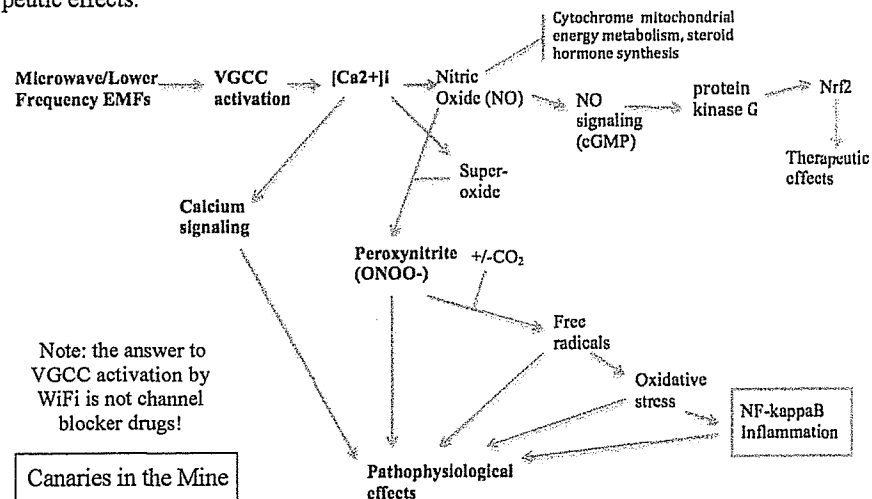
A Flow-Chart from Chapter 2 of

5G: Great Risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them

by Dr. Martin Pall, March 2018

Exquisitely sensitive, the VGCCs in the cell membrane regulate crucial systems, such as heartbeat and the production and dynamic balance of ALL neurotransmitters and many of the hormones. *We now know that the wireless/WiFi/EMF radiation we are generating 24/7 interferes with these VGCC activities.* For the layperson, the important things to note in the chart below are: 1. **the multiple pathways** that lead to nitric oxide (NO) and to calcium signaling,¹ super-oxide and peroxynitrite (ONOO⁻); and 2. **the multiple outcomes of free radicals, oxidative stress, NF-kappaB inflammation and pathophysiological effects**, all of which can result from the erratic activation of these VGCCs by our EMF radiations.

"The Pall, 2013 study showed that in 24 different studies (... now a total of 26), effects of low-intensity EMFs, both microwave frequency and also lower frequency EMFs, could be blocked by calcium channel blockers, drugs that are specific for blocking voltage-gated calcium channels (VGCCs). There were 5 different types of calcium channel blockers used ... each thought to be highly specific, each structurally distinct and each binding to a different site on the VGCCs. *In studies where multiple effects were studied, all studied effects were blocked or greatly lowered by calcium channel blockers.* These studies show that EMFs produce diverse non-thermal effects via VGCC activation in many human and animal cells and even in plant cells where some similar calcium channels are involved. Furthermore, many different effects² can each be produced by downstream effects of VGCC activation, via increased intracellular calcium [Ca²⁺]_i... // Various EMFs act.... These include microwave frequency EMFs, nanosecond pulse EMFs, intermediate frequency EMFs, extremely low frequency EMFs and even static electrical fields and static magnetic fields." ¹See document 6h.: "the business of Ca²⁺ signaling is one of information delivery." ²DNA damage and infertility, neurological/neuropsychiatric and hormone effects, cancer, cell death, oxidative stress, and certain therapeutic effects.



*The Swamping of Earth's Electromagnetic Field EMF
and Biosphere with Human-Generated EMFs*

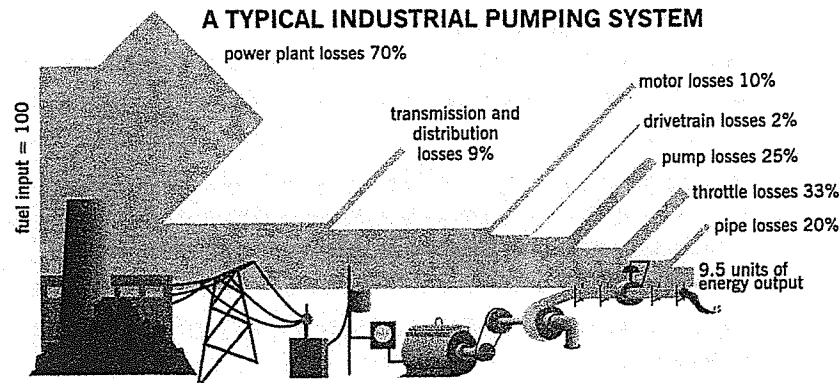
A graphic from *Natural Capitalism: Creating the Next Industrial Revolution*,
by Paul Hawken, Amory Lovins, L. Hunter Lovins, Earthscan, 2010.

IN LIGHT OF all of the issues surrounding global warming and escalating climate havoc, one factor that needs to be looked at is the unprecedented introduction of wireless transmissions into the workings of the earth's electromagnetic field system. To review, this natural EMF system depends upon: the earth's magnetic field, the sun's solar wind radiation, the fields of the ionosphere and the Van Allen belt, the day/night pattern of the sun and moon, the moon's gravitational action, and, the ever-changing atmospheric phenomena (the sferics) that generate electromagnetic radiation.¹

We now consider it normal to keep devices and electronics churning out WiFi and EMFs 24/7. Our charging cords, adapters and other equipment also generate electromagnetic fields even when not in use and when technically off, just to save us a few moments of start up time. Cellphones emit WiFi as intermediary cell-towers for other users when we think we've shut them off. And every routine ping to a cell-tower or repeater triggers needless radiation into the environs. We even recharge wirelessly now.

But what must be the cost of our artificial creation of electromagnetic radiation, as WiFi and as EMFs, beyond the cost of the impacts of these radiations on our health? The chart below shows that for every unit of electrical energy consumed at the end point, up to 90% of the source energy *will be wasted*, depending on the source, application and degree of efficiency at all points along the way. In terms of electrical power supplied by burning fossil fuels and by all other energy sources (none of which are so very clean *all* things considered – solar panels create large amounts of hazardous Dirty Electricity EMFs), **the collective waste is huge**. Then we can see that both *directly* (via human-made artificial EMF radiation) and *indirectly* (via the waste of energy), the disruption of the earth's normal electromagnetic and atmospheric systems is well-nigh guaranteed.

We would be wise to downsize and shut off all WiFi/EMF sources as much as possible, design devices and electronics to permit easy, complete power-down. And remember: *wireless is not the only way to transmit data!*¹ (See *Bees, Birds and Mankind: Destroying Nature* by 'Electrosmog,' Ch. 1, by Ulrich Warnke, <http://kompetenzinitiative.net/KIT/KIT/english-brochures/>.)



From the *Drivepower Technology Atlas*. Courtesy of E. Source, www.source.com.

Canaries in the Mine

This WiFi experiment should be done in all schools

See at: http://www.dr.dk/Nyheder/Andre_sprog/English/2013/05/17/130946.htm.
Researchers from the United Kingdom, the Netherlands and Sweden have shown great interest in the five girls' biology experiment. 17. maj 2013 13.17 English

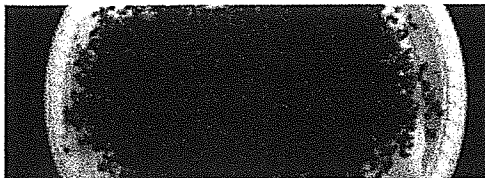
"European acclaim for grade 9 experiment"

"Take 400 cress seeds and divide them into 12 trays. Then place the trays in two rooms at the same temperature, six in each room. Give the trays the same amount of water and sunlight over 12 days, but expose six of the trays to mobile phone radiation.

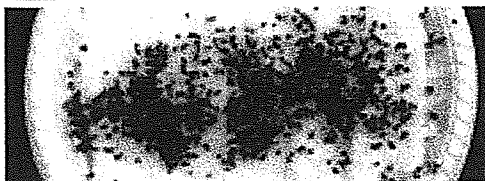
This is the recipe for a biology experiment so ingenious that it has attracted international attention from leading biologists and radiation experts. The experiment is the brainchild of five girls from class 9.b at Hjallerup School in North Jutland, and it all started when the girls were finding it difficult to concentrate in their lessons.

'We all thought we experienced concentration problems in school if we slept with our mobile phones at the bedside, and sometimes we also found it difficult sleeping,' explained Lea Nielsen, one of the five budding researchers. [The five are: Lea Nielsen, Mathilde Nielsen, Signe Nielsen, Sisse Coltau and Rikke Holm.]

The "healthy" cress, which was not exposed to radiation from the routers.



The "sick" cress, which was exposed to radiation from the routers.



"... The results spoke for themselves: the cress seeds alongside the routers did not grow at all, and some even mutated or died. ... 'It's really frightening that there was such a big effect, and we were really struck by the results,' said Nielsen. ... 'None of us sleep with our mobile phones at our bedside any more. Either we keep them at a distance or in another room. And we always turn off the computer,' she said."

→ Download to ipads, shut router WiFi off AMAP. Install wired or fiber optic connections.

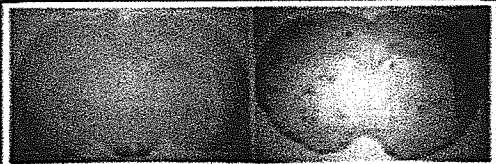
Brain Tissue Damage in Teen-Aged Rats after two hours of exposure to cell phone radiation

Reported by Dr. Karl Maret in his talk, "Smart Meters: Should you be Concerned?" which begins ~23 min. into "The Truth About Smart Meters" CTVsantacruz, Freedom Forum, September 15, 2010, Youtube...=p-nmaYU6kek&list=PL63B0143B3C354D88. The image below is at 1hour:15 min. Note the lesions on the brain tissues of the exposed rat. Other studies have found the same lesions (e.g. 'Nitty increased blood-brain barrier permeability'). Blood albumin is seen *inside* the brain and 50 days later damage to neurons in the brain and further leakage are detected: the blood brain barrier, the BBB, has been damaged. *Yet the exposure is 800 times lower than U.S. safety designations.* The BBB is one of many tissue barriers, so it's likely all of the barriers are being breached, leaving the heart, testes, fetus, eyes, intestines unprotected.

When research on the health effects of wireless WiFi/EMF exposures appears to yield inconsistent results, the fact is that there are no inconsistencies, only differences in the roles played by several key factors: *frequencies, pulsing, cell type, wave polarization and intensity windows.* If any of these factors are changed, so are the effects. Chaotic combinations of these factors in WiFi/EMF exposures act like keys in locks, turning all manner of biological processes on and off haphazardly, doing unseen harm to humans, animals and plants that is cumulative and in due time irreversible.

→ Keep cell and cordless phones away from the head and body. Use an *airtube* headset.

Low Level Microwave Exposure
Brain Changes at 0.125% Safe Levels



Normal Rat Brain

Low Level Exposure of SAR + 2 mW/kg Whole Body for 2 hours only
(In USA, Accepted Safe Levels are 1600 mW/kg)

Rats sacrificed after 50 days without further irradiation

Used 12-26 week old rats comparable to cell-phone addicted teenagers

GOOD EVENING COUNTY REGISTARS WHO REPRESENT ~~US~~ TAXPAYERS OF ULSTER

I am Bruce Blos, a taxpayer.

My Points to be made

1. This ~~entire~~ ^{trail} project, which basically started with first denying the fact that a "Rail-with-Trail" solution was the best idea, should have been made into a resolution to be voted on by all of the taxpayers of Ulster County, the people this project would impact the most. It wasn't! Your one "public meeting", with the majority of pro-trail promoters in attendance, was orchestrated to sway the public towards your side.
2. The first phase of removal of the rails for a trail, should have been done carefully and with full disclosure. It wasn't. It was hastily and secretly done without public awareness and was purposely continued when a stop-order was imposed.
3. The end result now is that, according to the thousands of petitions signed by people who live here, it can be positively assumed that the majority of the people of this county would prefer, hands down, a Rail with a Trail. If this had been a resolution for a vote, ~~it should have been~~, it would have shown that Ulster County taxpayers would want this, rather than one single Rail Trail, as the county is determined to push through. Now, it won't come before the public for a vote! Because, as before, it is done behind closed doors through Trac Committee hearings and agreed on previously, before it comes, too late, to a public meeting of the Legislature without full disclosure to the public!

Shame on those of you who got behind this ~~trail~~ ^{orchestrated} maneuver to push through this expensive project without full public approval by voter referendum and which still doesn't guarantee a large return on the money invested, as an ~~an~~ ^{fully} operating railroad would have done. As a taxpayer who will end up paying for this single trail, I am appalled at this entire scenario!

ALL taxpayers

ALL OF YOU REPRESENT US, THE CITIZENS OF THIS COUNTY, NOT JUST THEM!

July 16, 2018

To: Ulster County Legislators

From: Ralph C. Mitchell, 845-594-9487 cell, ralphm1050@aol.com

DON'T FUND TRAIL

Attached are 2 sheets.

- 1) A fact sheet on the STB ruling and the dangers the ruling presents to Ulster County Government and Ulster County Taxpayers. In particular, since the STB ruled that the U & D railroad is "abandoned", Ulster County is no longer eligible for Federal Funding for the trail construction. The taxpayers will have to fund the trail construction. This is a big change from what the legislators presented to the public.
- 2) A plea from me and other taxpayers to reject Resolutions No. 307 and 301, which fund Trail construction with borrowing and therefore with taxpayers money, which we cannot afford.

THIS POST CONTAINS CRITICAL INFORMATION FOR THE TAXPAYERS OF ULSTER COUNTY.

U&D RAILWAY REVITALIZATION CORP · THURSDAY, JULY 12, 2018

UC Executive Hein is trying to float an \$8.9 million dollar bond without public input. In my opinion it should be put up for vote via a referendum . He is putting it up to legislative vote only. There are a few other related items that may require tax payers to pay the bill.

FACT SHEET ON THE STB RULING ON THE CATSKILL RAIL CORRIDOR

The Surface Transportation Board has ruled that the Catskill Rail Corridor:

- 1) Is abandoned – it is not considered an active part of the national rail network.
 - 2) The corridor is NOT eligible for federal money under the National Trails Act
- Ulster County is claiming this means there are no more legal issues and that they can now start trail construction.

They are wrong. Here's why:

- 1) The STB ruling ends federal action for now. The STB ruling has cleared the way for legal action on the rail corridor at the state level. This is far from over.
- 2) The abandonment in 1977 means that property owners along the corridor may now have their land back – if the railroad is abandoned, their easements may have reverted and the county does NOT own their land.
- 3) Ulster County is claiming they own the corridor in fee simple title – which effectively means they have taken land from property owners along the corridor without compensation. This claim has not been tested in court. It should be considered a bluff until proven otherwise.
- 4) Ulster County will get NO MONEY for the trail from the federal government. It is not eligible because it was abandoned in 1977, before the National Trails act. This includes the Kingston Linear Park as well as the Ashokan Trail.

5) If the National Trails Act had covered the rail corridor, the federal government would cover the cost of settling easement claims – which can run into millions of dollars. Ulster County taxpayers will now have to cover any claims, above and beyond trail construction costs.

6) Ulster county taxpayers are now being asked to come up with the millions of dollars needed to replace the lost federal money. The cost of the trail has just gone up – and is likely to go much higher. What's more, Ulster County was warned this would happen, and told no one ahead of the ruling.

WHAT TO DO:

If you live in Ulster County, contact your county legislator and tell them to VOTE NO on any resolution to fund the trail until the legal questions are settled. Millions of dollars are at stake. If you own property along the corridor, do NOT sign any agreements with the County or the City of Kingston without getting independent legal advice first. It is highly likely there will be attempts to mislead people into signing away their rights – there is a lot at stake and a lot of misinformation being spread.

Support the U&D Railway Revitalization Corporation. We petitioned the STB to rule on the corridor because Ulster County had not done so. We were well aware abandonment was a possibility. Failing to confirm it and the consequences from it constitute negligence on the part of the county. We are holding Ulster County accountable for its actions when no one else will. Help us help you!

Please address all inquiries to:

Larry Roth

Media Relations

U&D Railway Revitalization Corporation

P.O. Box 503

Phoenicia, NY 12464

udrrcorp.com

udrrc.media@gmail.com

518-965-5246

Chat (28)

IMPORTANT NOTICE FOR ALL ULSTER COUNTY TAXPAYERS!

You are about to be asked to foot the bill for a **\$17.7 million** resolution to fund a walking trail through the corridor of the former Ulster & Delaware Railroad. Original plans by the county to fund this path included monies that will no longer be available for use by the county due to recent ruling by the STB - Surface Transportation Board- that the corridor was legally abandoned in 1977. Original estimates from the county to construct the Ashokan trail were approximately \$8 million to \$9 million.

Now the county is proposing multiple resolutions to approve at least \$17.7 million, if not more!! These funds will be used to move onto phase 2 of this project- construction. The costs will be passed onto the Ulster County Taxpayers.

Resolution No. 307 calls for an additional \$16,500,562.
Resolution No. 301 calls for an amount of \$1,266,900.

There will be other resolutions to follow as monies the county was planning on have dried up following the ruling of the Federal STB. Do **NOT** hand the county a blank check! **\$17,767,462** to build a trail for people to walk on for free that you all will have paid for is absurdity!! And that amount could rise with the stroke of a pen.

CALL YOUR DISTRICT LEGISLATOR VOICE YOUR OUTRAGE!

**Attend the legislature meeting at the Ulster County
Office Building on July 17, 2018 at 7 pm.**

This important Taxpayer message sponsored by: The U&D Railway Revitalization Corp.

— PAID ADVERTISEMENT —

Local residents
Surrounding area residents
Persons concerned with animal welfare

July 6, 2016

Town of Wawarsing
Town Supervisor Leonard Distel
Town Board Members

Dear Town Supervisor Leonard Distel and Town Board Members

Let this letter serve as formal notice that the residents and taxpayers of this community are publicly requesting an official investigation on the organization known to you as 'Project Cat'. As you are aware, we suspect hundreds of cats including family pets have been trapped by this organization. With your investigation we respectfully ask you to request from Gail Mihocko answers to the following questions

1. Does she have a record of actual number of the cats/kittens she has euthanized?
2. Did she keep record, documentation or photos of the town/area of the cats/kittens she trapped? (family pets are still missing)
3. Why does she not take the calls of concerned residents when they frantically call looking for their pet when they return from work and find she was trapping in their neighborhood that day?
4. Did she check all of the trapped cats/kittens for micro chipping?
5. What veterinarian is she using to euthanize these animals? If a vet was not used, we the residents request to know the method used to euthanize and was it a humane manner?
6. What number of cats were actually trapped by her organization and what number were spared and entered into her facility as adoptable?
7. Did she use the funds afforded to her by the Town of Wawarsing to help any families with spaying, neutering and vaccinating their cats/kittens?
8. Where did Project Cat dispose of the remains of these cats/kittens?
9. Were the remains of these animals sold to any agency, organization or school for animal testing or dissecting?

We the residents and taxpayers of the Town of Wawarsing petition answers to the above imperative questions.

In addition to the above, we also request from the Town of Wawarsing Supervisor and Board Members to address the following:

1. When the funds were granted to "Project Cat" located in Accord NY, what was the intent or contract with Project Cat?
2. Were the funds to be used in the manner in which they were used, which was euthanizing all cats/kittens that were feral, abandoned and free roaming?
3. Or, were the funds available for residents for spaying, neutering and vaccinated?

In addition to the above, we the residents of the Town of Wawarsing request the Town Supervisor Leonard Distel and the Board Members to file a written request to the Ulster County SPCA for an investigation on 'Project Cat' and its owner Gail Mihocko. This investigation is to include the above stated inquiries. Your prompt request to the Ulster County SPCA is of the utmost importance to swiftly discover evidence to the above stated questions 1-9.

We the residents feel this organization has mishandled the funds afforded to Gail Milhocko. We feel Gail Milhocko has a personal vendetta against cats, which she has stated to many residents. We also feel there are many methods of dealing with the issue of feral, abandoned and free roaming cats and kittens in our community.

We recognize that the Town of Wawarsing Board Members may not be fully informed or knowledgeable about feral colonies, abandoned cats or free roaming cats. Because of the direct statements Gail Milhocko made to you at the last workshop, we fear you have been misinformed. We invite you to organize any questions or concerns you may have to address so we may educate you how our efforts in TNR (trap neuter release) can be a positive result for strays and feral colonies.

The community would be greatly interested in an open dialog regarding this significant issue and are optimistic that local organizations and rescues can all work together to find a suitable solution rather than euthanize every cat and kittens in these communities. Many rescues and individuals locally have been offering services to these colonies and residents and their pets for many years.

Sincerely,

Name

Phone

There are persons ~~and~~ & organizations
here tonight that oppose the trapping
notification ~~law~~

Why? Because the care for the cats?

NO Because they don't want you to
know they are coming into your neighborhood
taking your cats.

Let that sink in for a second.

They also oppose euthanasia by a licensed
professional.

Let that sink in too.

Now ASK yourselves - What exactly are they
doing with the cats. they take? Don't

We have a right to know ~~because~~ ^{who}
who is taking our pets and ~~where~~ ^{they are}
I can ^{go} to ^{to} bring it back home.

Is you are pondering your ~~voter~~ position.

Please be aware the very same organizations
that oppose this law have

lost their sponsorship with ASPCA
and more importantly another has been
investigated by several regulatory departments
and due to illegal & unsanitary behavior
the DEA facility registration & certificate

Dept of Health Cert of Euthanasia has

been Revoked Let that sink in!

Please - This is a common sense law that

helps Keep cats in their homes LOCAL
~~vote YES!~~ PLEASE SUPPORT LAW.

