

The EA Codes References

Future Security and Resilience Review of Common Quality Requirements within Part Eight of The Code Submission Presentation.

By 5 pm Tuesday 30th of May

Presentation and **RECCOMENDATIONS**

by William A Harding

1 I William Harding wish that the Electricity Authority acknowledge that my Submission Presentation is based on a very wide Work and Career based experience, consequently at its conclusion, should be used as the catalyst to shorten the submission review time span altogether, for I believe I ultimately have solved all of your 55Page Submission problems within my Professional selectively importantly limited Recommendations.

2 I then thank you for the opportunity to supply some much needed Technical and Operational Advise of which you have identified within the 66 Page Part 8 Common Quality requirements.

3 I shall with the utmost respect to your E.A. Members present a very wide-ranging potential Technical and Operational expose' that will change your attitudes forever, along with the direction of NZ and the Worlds compounded Currently accepted Generation form of which you have identified.

3 As a previous NZ Government employed NZED and Electro-Corporate Power System Diagnostic and Commissioning in Charge Electrical Engineer.

4 I believe as a past Trained North Island Power System Controller Dispatcher I have the needed qualities to assist the present Electricity Authority Team to investigate and evaluate the many options within this 66 Page Submission for the greater good of all NZ Electrical Consumers now and into the Future that they will be faced with.

5 As a foundation Member of the M.A.R.I.A. Protocols, being involved at all Voltage Levels up to 220KV Network Metering, Protection, Load Controls, on Large Geothermal, Hydro Stations, H.V.D.C Overhead and Cook Strait Cabling

Systems ,I then can supply a wide ranging in-Depth Technical Feedback Analysis of the extreme Dynamic problems that the NZ Electricity Authority has identified to be corrected along with (optional) Submissions 54 recommendations as too which is the best option the E.A . needs to follow within their own investigative uptakes.

The Wider National Reasoning “Why” the Electricity Authority has resorted with a Plea for help by initiating this 66 Page Code 8 Quality Submission.

My very wide encompassing experience will be used to give BRUTILISED ANSWERS THAT MAY OR MAY NOT BE TO YOUR LIKING AND SATISFACTION.

BUT NZ AND THE WORLDS ELECTRICAL NETWORKS HAVE BEEN REMODELLED OVER THE LAST 20 YEARS FOR THE SOLE PURPOSE OF CORPORATE PRIVATISATION AND PROFIT, AND IS BEING MANIPULATED TOWARDS AN OBVIOUS FUNCTIONAL DESTRUCTIVE STATE IN THE END.

6 The Electricity Authority was setup along with the Commerce Commission, B.I.E.M., Disputes Authority to carry out certain Functional Electrical Network Functions to maintain the Specialist Operational Efficiencies for the supply to satisfy the needs of every Electrical Consumer in NZ.

7 Those idealised Functions will never be realised as all those mentioned above have become PURPOSELY just become Officially Paid and paralyzed **PAPER TIGERS**, controlled by Corporate Generators within every aspect for them to maximise profit, now for overseas investors living outside NZ.

8 That situation does not have to be allowed to be continued, if the Regulatory Powers that the EA and Commerce Commission actually control is used to a more equitable advantage for the whole of NZ.

9 After initially responding to try and help the E.A. within these Part 8 Code Submission requests by writing 5 Pages I realised that I too have just become another Private Paper Tiger assisting other Government Employed Legal Statured Paper Tigers within this 2010 Generator Participation Regulatory Code of Compliances and their requirements.

10 The Ambiguity and Referenced direction that “this 2010 Code” portrays has many illogical Conclusions Assumptions and Outcomes that defy any Rational Professional Good Electrical Engineering Desires and Outcomes to be Practised On.

11 The Consequence over the last 13 Years of trying to perform within this “Framed Coded Setup” has now quite rightly created massive confusion and frustration to all legitimate Stake holders and the Warranted Government Department Chief Executive Officers that hold the Responsibilities to try and be fair to initiate useful and needed Compliances responses.

12 As has Historically now been analysed all these new Official 2010 Code requirements and initiatives systematically being adhered to, have left the Total NZ Power Network very much Weaker and more Unstable and is rapidly heading towards a Third World Status, when compared that in 1996 NZ was rated as THE BEST QUALITY AND MOST STABLE POWER SYSTEM IN THEWORLD.

13 Within the New Corporate World Order of Generators, purposely, created and promoted that EVERY COUNTRIES WHOS “LAWS THAT FAVOURED ONLY THE 120 YEAR OLD ECONOMIC SYNCHRONOUS FORMS OF GENERATION” had to be removed completely, so that the new renewable form of ASYNCHRONOUS GENERATION could be Legally accommodated and be BLINDLY accepted within a new frame of Laws called the 2010 GENERATION PARTICIPATION REQUIREMENTS AND then the subsequent complete removal of the old 1953 Generation Supply Acts.

14 It has now become normal for every World Network to accept Asynchronous forms of Generators by utilising the capabilities of turning the Rotors of Standardised Conceptualised Adapted Modified Three Phase Motors by Technically and Operationally reverting their original Primary Mechanical Role to change and Modify to become just simple High Energy Frequency Convertors.

15 Within the change of being once a pure Mechanical device, these Converted Actively Mechanically Forcibly Turned Motor Rotors, is now Functionally and Electrically changing and modifying the Worlds Structured Electrical Designed and desirable Sinusoidally Stabilised 50 and (60 Hertz) (cycles per second) Power Systems which repeats a Pure 20 Millisecond Duration Sine Wave.

16 PLEASE NOTE NZ has adopted for all Appliances and Electrical Machinery to Legally operate Efficiently and specifically at only THE DESIGNED 50 HZ Sine Waves nothing more and nothing less.

17 On and Off Shore Windfarms, Geothermal Binary Plants and Selected Hydro Stations are all used as Mediums to operate as Asynchronous Forms by

forcibly modifying the “make up” of all Network Electrical Generation around the World .

18 “They” now become the newly accepted Composite producers of delivering a completely Uncontrollable Mixture of Multiplexed Derived Capacitive Harmonic Unbalanced Frequencies of Unsymmetrical Positive Negative and Zero Sequence Currents at various Levels of System Dependent Impedance and Reactive Network Orientated Values distributed to all Exit Node Points within the Connected System long with a very High Percentage of Total Harmonic Distortion Currents at different Earthing Ohmic Impedance Levels into the surrounding Mass of Earth or Sea Floor Beds.

19 These Multiple Multiplexed Derived Completely Uncontrolled Frequencies on the Single 50 Hertz System peak at 2,500 Hertz whilst the Single 60 Hertz System peaks at 3,600 Hertz

Below is Showing how all Three Phase Induction Motors on Wind Farms convert their Wind Energy to then become an Asynchronised used power System Frequency Changer that becomes Capacitively Inter-Modulated and Multiplexed with other Field Network Supplied Asynchronous systems.

Modern Wind Turbines Generate Dangerously "Dirty" Electricity

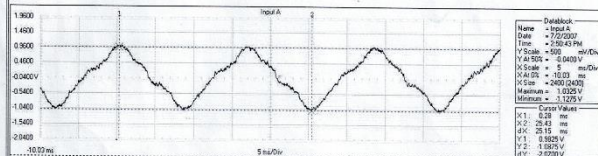
By Catherine Kleiber

Waveforms and picture courtesy of David Colling

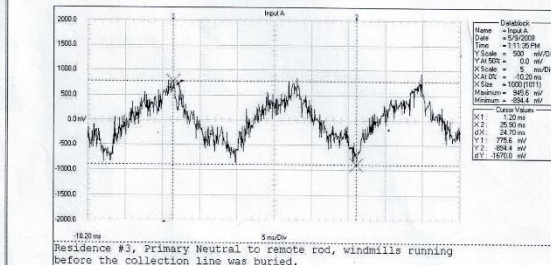
Wind turbines are causing serious health problems. These health problems are often associated, by the people having them, with the flicker and the noise from the wind turbines. This often leads to reports being discounted.

Residents of the area around the Ripley Wind Farm in Ontario where Enercon E82 wind turbines are installed feel that the turbines are making them ill. Residents suffer from ringing in the ears, headaches, sleeplessness, dangerously elevated blood pressure (requiring medication), heart palpitations, itching in the ears, eye watering, earaches, and pressure on the chest causing them to fight to breathe. The symptoms disappear when the residents leave the area. Four residents were forced to move out of their homes, the symptoms were so bad. Residents also complain of poor radio, TV and satellite dish reception. There is no radio reception under or near the power lines from the wind turbines because there is too much interference. Local farmers have found that they get headaches driving along near those power lines.

The waveforms below were taken at one of the residences in the area. The first waveform was taken before the wind farm started operation. (As you can see, a ground current problem existed even before the wind farm started.) The frequency profile of the neutral to earth voltage changed dramatically after the wind farm became operational (second waveform). There are far more high and very high frequencies present, indicated by the increased spikiness of the waveform.



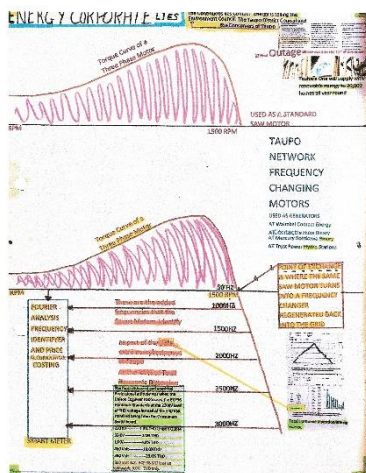
Residence #3, Primary Neutral to remote ground rod, before windmills were installed and running.



Residence #3, Primary Neutral to remote rod, windmills running before the collection line was buried.

As demonstrated by these waveforms, wind turbines are extremely electrically polluting. Studies and anecdotal reports associate electrical pollution with a similar set of symptoms to those experienced by the residents of the area (1, 2, 3). The symptoms associated with electrical pollution are caused by overexposure to high frequencies and are known as radio wave sickness (4). Technical papers discuss the fact that it requires only very small amounts of high frequency signals (either from transients or communications) on wiring to induce significant electrical currents in the human body. They support findings of human health problems caused by exposure to even small amounts of high frequencies (5, 6). The specific symptoms experienced depend on both the frequencies present and the body type and height of the person being exposed. Increased risk of cancer is associated with exposure to both "dirty" power on wires and electrical ground currents (7, 8). Animals also experience health problems related to electrical pollution exposures. Dairy cow's milk production and health suffers as exposure to high frequency transients increases (9, 10).

Suncor and Aconia have tried to some degree to correct the problem at the Ripley Wind Farm. They buried the collector line from the turbine near some of the most badly affected homes and gave the homes a separate distribution line. They also put an insulator between the



20 This accepted Mode of Multiple generated Synchronous electromagnetically coupled with Asynchronous Frequencies now creates a High Level of Government Input of a Major Concept of Regulatory and Legal Proportions of change to how the format of any system is to be successfully operated in the future.

21 Technically and Operationally within Professional Good Practise Theories and Management Functional Capabilities there can be no appreciative practical way of ever solving the acceptance of Accommodating Controlled Synchronous levels of Energy in Partnership with Uncontrolled Asynchronous Levels of Energy on any one single Functionally Operating Network Transmission Line.

22 The Writer as being a Commissioning Diagnostic Electrical Test Engineer has carried out experimental Tests that have clearly identify Critical Stability Ratio Levels of Points on Lines up to 50 KV, between Stabilised Synchronous

and Un-stabilised Prominent Asynchronous Forms of Energy Generation as being only between 5% to 8%.

23 Operationally, within Theory the higher Percentage Asynchronous Version creates a Larger uncontrolled Capacitive Current Flowing between the Lines with also having to cater for the Various uncontrolled Changes of natural Air Capacitance that decreases the Stability Ratios to cause Nationwide Tripping Outages if Fire or Lightning is prevalent at any part of the System becomes SENSED causing Momentary Blips.

24 Operationally, these will create a Momentary Voltage Dip that is immediately sensed by any Asynchronous Generator to as an Instantaneous Automatic Tripping, which may or may not create a Total Power Outage.

25 As being Asynchronous removes the first principal of any Protective Outcomes by not being able to supply any current for supporting Drive-through-Faults as they cannot supply or maintain any Voltage support.

**26 It is with Reference to the Executive Summary
Section 26 through to 43 with the expectation that the E.A.
are requesting and wanting some answers within the next
Quoted 5-10 Years that I feel is very important to now
address.**

27 My expectation is that there will be Political opposition, from Trans Power NZ Ltd , Greens, NZ Wind Energy Association Members whom are the leading Asynchronous Generation Promoters, will be opposed to what I have to RECOMMEND AS MENTIONED ABOVE TO YOU within the Heading.

28 They will attack me on many fronts, Legally, Commercially, Operationally and Technically, but it is my Knowledge and Experience that has caused a Cabal of them to throw Court Fines and Trespass Orders on an 85 Year old Retired Engineer even for Three Years in Both Islands that all these Chief Executive Officers of every Major Power Company will have tried to keep tied down and Suppressed from making obvious Truthful Statements.

29 By them along with the News Media not wanting to upset these Corporate Power Companies by their action is Publicly admitting they are on very and Complicit and shaky grounds to mount any defence against me.

30 I also are now taking the risk of Probabilities that the Management of E.A. and Commerce Commission will not carry out any of my Guidance principals that we as a Country need to get back on a stable track again.

31 My only thought on that aspect is that I hopefully live long enough to see my rewards come into fruition.

32 Assessing the size of the problem and the Concerns of Invertor-based resources is a undeniable general theme of many concern running throughout the Submission 66 Pages, of which the Management is Requesting some guidance to base future recommendations on.

33 I Herewith provide by standing or falling to recommend, on behalf of myself and yourself as a Citizen, for the greater good for all of us.

1 That all Forms of Asynchronous Generation be completely Shut down.

2 That is any On and Off Shore Wind Farms.

3 That all operate as Geothermal Binary Plants.

4 That some selective Three Phase Motorised Hydro Stations.

5 That all proposed large Networked Connected Solar PV Farms.

34 As added proviso to Solar Cells with a strong recommendation to have every house roof fitted with a Solar Cell and wired directly to a 12 Volt Designed Water Heating Element installed within all and every Hot water System in New Zealand.

6 To have every Smart Meter removed and Reinstalled at no cost to the Consumer (by being paid by their Contracted Energy Supplier) after being physically hard wired being fitted with a Compatible fitted and Sealed 50 HZ Band Pass Only Filter, and then Tested by an Independent Meter Laboratory, prior to being Reinstalled at the same Consumers Switchboard. At the moment having Smart Meters with no Filters is adding an extra 30% Revenue Costing on every Produced Invoice, and Collectively is the basic cause of our

Input (Operating)		
Nominal Voltage:	115/220/440 VRMS or 28 Vdc	Tem
Nominal Frequency:	50/60/400 Hz \pm 20%	O
Voltage Transients:	MIL-STD-704, Limits 1, 2, 3	S
Input (Sense)		Vibr
Voltage Operation Band:	115, 220 Vrms \pm 20% wye	Acce
Frequency Operation Band:	50/60/400 Hz \pm 20%	
Set Point Accuracy	\pm 1%	Shoc
Time Delay:	As Required*	
Output Contacts		Hum
Configuration:	SPDT up to 4PDT	Altit
Contact Rating @ 28 VDC		
Resistive:	2 A 5A 10 A 25A	
Inductive:	.75 A 3A 6 A 12A	Encl
Contact Life:	50,000 operations, minimum	
Contact Resistance, Initial:	.075 ohms, maximum	Contr
Dielectric Strength:	1000 VRMS @ 60 Hz	
Insulation Resistance	100 meagohms @ 500 Vdc	Finis

within their Basic

Specifications include all the Load Frequencies up to 400 HZ, and as shown in Sec.19 includes the extra Harmonic frequencies being produced by all Forms of Asynchronous Generators.

35 This Selective option, should be a Mandatory Law full Requirement and undertaking by the Sitting Government.

36 Based on the pretext that Sec,1 to 6 Recommendations of removing Asynchronous Generation is not re-enacted, then the Consumer has a more Limited legal Revenue Protection, than they have now with the exposure of the subsequent situation now being supplied with Un limited ranges of Total Harmonic Distorted Currents at Levels of 93% THD throughout both islands.

37 Which under the ECP36 Harmonic Limitation Acts should never be in excess of a 5% Margin, which if over constitutes a Fraudulent Act and can be Prosecuted.

38 Here in Lays one of the Many Breaches of the Law that the Engineers and Managers of Transpower NZ is still facing every Second of the day as being directly Complicit within the Sabotage and Crimes Acts of NZ by never testing the Outputs Dynamics of any Wind Farm since their first inception as a Major Dereliction of their Compliance Duties.

39 The Main Two very simple tests that any Government Regulatory Body can apply if they are not happy with my above removal Recommendations, is to request the Wind Machine owner to supply any evidence that by dropping an isolated cable down from any Windfarm Connection box that is Connected

to an Electric Water Filled Jug and at the Moments request of the System Operator to have it Boiled.

40 This example features two impractical point of Non Compliance of installing any Wind operated Unit under the requirements and Auspice of implication within these 66 Page Submissions

41 Therefore I strongly recommend that the E.A. Management Team direct the Minister of Energy Hon. Megan Woods to initiate an Order in Council for the Complete removal of the Generation Participation Code 2010 as not being Fit for Purpose under the Consumers Guarantees Act, Fair Trading Act, and ECP 36 Harmonics Limitation Acts.

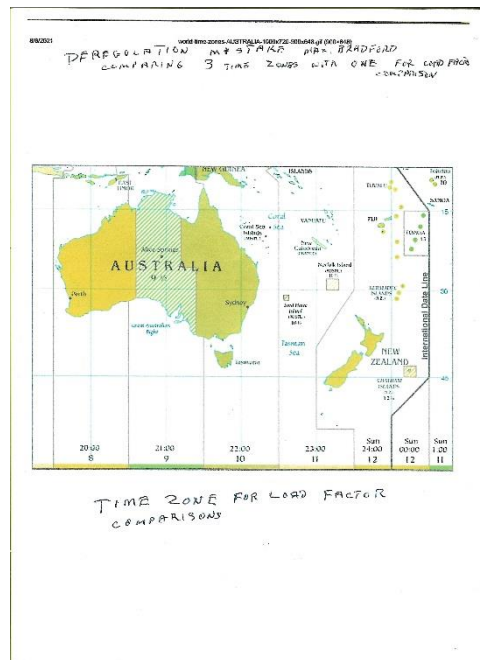
43 Efforts to re-ignite the 1992 Electricity Act to enhance the Operational Requirements of re-establishing that only SYNCHRONOUS FORMS OF GENERATION AS BEING THE ONLY PREFERRED OPTION AT THIS STAGE OF N.Z. ELECTRICAL DEVELOPMENT UNTIL A MORE FRIENDLY AND INCLUSIVE OPTION BECOMES AVAILABLE in the Future

42 In Conclusion

I would like to add there are many other areas that concerns me of how “The Systems” day to day Operations and Commercial Forward Contractual proposals actually dictate if there is enough spinning reserve being made available or even produced within any given day.

43 All this so called Management Plan is being activated by ignoring the fact that the System Efficiencies relies on using the Dynamics and features of the Near/Days to create a reliable Power and Stable Power System.

Another simple case in point is the Commercial Development arm trying to develop any Competition between Sellers offering “Financial plums” when NZ lays in a Geographical North South Alignment



inside one Time Zone, as all Electrical Energy is being produced commonly at exactly the same time.

So our very limited Load Factor cannot supply any Diversity Energy Factors such as Australia can offer with their 3.5 Zone Time Factors.

This is a based on National False Advertising and should be discouraged.

44 Equally which will shock many New Zealanders and maybe the E.A. Team Members themselves that your Claim as being the Kaitiaki of NZ Electricity is only Half Truths.

First Fidelity International Bank - 'U-57' on 12/12/03

On: Friday, 12/12/03, at 4:55pm ET · Accession #: 1193125-3-93675 · File #: 73-99072

Previous 'U-57': 'U-57' on 1/10/01 · Latest 'U-57': This Filing

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As Of	Filer	Filing	For-On-As	Docs:Size	Issuer	Agent
12/12/03	First Fidelity International Bank	U-57		1:13K		RR Donnelly/PA

Notice of Foreign Utility Company Status — Form U-57
Filing Table of Contents

Document/Exhibit	Description	Pages	Size
1: U-57	Notice of Foreign Utility Company Status	HTML	13K

This is an HTML Document rendered as filed. [Alternative Formats]

Form U-57

SECURITIES AND EXCHANGE COMMISSION
Washington, DC

FORM U-57

Referenced Herein and Documents Incorporated by Reference

This 'U-57' Filing Date Other Filings
Filed on: 12/12/03 None on these Dates
12/11/03

List all Filings

Submission

For

1125-03-093675 — Alternative Formats (Word / Rich Text, HTML)

NOTIFICATION OF FOREIGN UTILITY COMPANY STATUS

Filed under Section 33 (a) of the
Public Utility Holding Company Act of 1935, as amended

WILMINGTON TRUST COMPANY,
not in its individual capacity,
but solely as Owner Trustee

by

FIRST FIDELITY INTERNATIONAL BANK

Head of Documentation
c/o Wachovia Securities Commercial Leasing Group
Mail Code NC0738
One Wachovia Center
Charlotte, North Carolina 28288

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Privacy - Redactions - Help — Sun., Apr. 14, 10:00:39.0pm ET

ITEM 1

Name and Business Address of the Entire Claiming Foreign Utility Company Status

Wilmington Trust Company, as Owner Trustee
Rodney Square North
1100 North Market Street

Delaware 19890-0001

Attention: Corporate Trust Administration

Description of the Facilities Used for the Generation, Transmission or Distribution of Electric Energy for Sale

Wilmington Trust Company, in its capacity as owner trustee of TP 2003 - A1 Owner Trust ("TP 2003 Trust") will act as the lessor of a high voltage, AC electricity transmission network comprising 220kV, 110kV, and 50/66 kV substations, overhead transmission lines and supporting structures, the ancillary system comprising relays, meters and panel equipment that protect or monitor the electricity transmission system and certain real estate relating thereto (the "Network") located on the South Island of New Zealand.

The TP 2003 will lease the interest in the Network to NZ Power Cayman 2003 - 1 Limited ("Lessee"), a company incorporated in the Cayman Islands whose obligations under the lease are fully guaranteed by Transpower New Zealand Limited ("Transpower"), a limited liability company organized under New Zealand law. Lessee will sublease the interest in the Network to Halfway Bush Finance Limited, a subsidiary of Transpower, which will then lease its interests in the Network to Transpower. Transpower will be the operator of the Network.

TP 2003 Trust is a non-business trust established pursuant to the Owner Trust Agreement (TP 2003 - A1) dated as of December 11, 2002 between Wilmington Trust Company, a Delaware banking corporation, and First Fidelity International Bank, an Edge Act corporation organized under the laws of the United States ("First Fidelity") which is an indirect, wholly owned subsidiary of Wachovia Corporation. The sole beneficial owner of the trust is First Fidelity.

ITEM 2

Domestic associate public-utility company and holding company

Other than Qualifying Facilities under the Public Utility Regulatory Policies Act and Exempt Wholesale Generators under Section 32 of the Public Utility Holding Company Act, Wilmington Trust Company has no ownership interest in, and does not operate, any facilities located within the United States used for the generation, transmission, or distribution of electric energy for sale or the distribution or retain of natural or manufactured gas for heat, light or power.

Furthermore, no domestic public-utility company is an associate company of Wilmington Trust Company, and no domestic public-utility company will become an associate company of Wilmington Trust Company by virtue of the lease arrangement described in this filing.

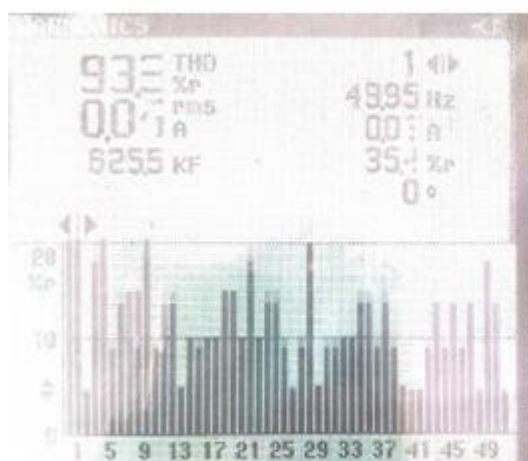
Exhibit A

The undersigned company has duly caused this statement to be signed on its behalf by the undersigned thereto duly authorized

As the whole of the South Island High Voltage network has been leased for the last Twenty

years from Wilmington Trustees Securities in the USA when Prime Minister Helen Clarke sold it on the 12th of December 2003 with a review coming up in 2050.

45 It is now Essential to stop Supplying 13,00% Subsidised 1.1 Cent/Unit very Clean Synchronous Energies to the Tiwai Smelter that have gone on for just on 50 Years whilst the rest of NZ including Southland and Invercargill by suffering the indignity of paying an Average 27 Cents / Unit for Asynchronous Dirty Made Energy at 93% THD Levels Typically as being the Norm in Both Islands.



Which under the ECP 36 Regulations should never be more than 5%.

46 It should now become quite obvious to the E.A Team that all the Universities and Government Political Party responses by promoting Renewable Wind as the 100% Route for NZ to be supplied with by 2030, is a very Dangerous precedence, and clearly do not know what they are talking about if they really knew how a modern SYNCHRONIZED stable System should work.

47 I bring to your attention that only President Obrado of Mexico, who suffered 18 Countrywide Blackouts due to Stability issues over a two year Time period, has closed and shutdown all his 923 Wind Turbines, at terrible cost to 17 Farmers lives on the day after his Directive was initiated. As shown whereby the local Mayor and Towns

<http://www.stroction.org/posts/1437-of-cost-15-lead-in-surface-cracks-and-form-fail-hilltop>

52 I lastly present and show my own level of Costly Commitment

I once again thank the Electricity Authority on behalf of all NZ Consumers sake for trying to do a good job to untangle the inherited mess of ensuring the Quality of Energy is being Preserved for the

Future, but unless you carry out my Recommendations you all will still be running around in circles getting no where in another 20 Years. Within the Issues Papers you have left a door open and are available to meet interested parties, which I feel would be a meeting that would be beneficial to Clarify some grey issues that I would be happy to attend to at your discretion if you felt it would be important enough.

Yours Sincerely

Bill Harding

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]