

Ministry for the Environment
PO Box 10362,
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Attn: Sue Rundle



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Dear Sue

**Submission by the New Zealand Telecommunications Forum on the National
Environment Standards Telecommunications Facilities Review**

Introduction

1. This submission is made by the New Zealand Telecommunications Forum (**TCF**).
2. The TCF appreciates the opportunity to comment on the National Environmental Standards Telecommunications Facilities (**NES**) review undertaken by the Ministry for the Environment (**Ministry**).
3. This submission follows the structure of the discussion guide published by the Ministry but, as requested, includes additional discussion of items not included in that guide.

Overall Impact of the NES

4. In the five years since the enactment of the NES, there has been substantial development in the New Zealand telecommunications industry. Some of the principal recent industry changes that utilise the NES include:

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- The successful market entry of a third cellular mobile operator, Two Degrees Mobile Limited.
 - The establishment of Chorus Limited following its demerger from Telecom Corporation of New Zealand Limited.
 - The public private partnerships formed to rollout broadband infrastructure to the majority of New Zealanders. These include the Ultra Fast Broadband (UFB) and Rural Broadband Initiative (RBI).
 - The Vodafone & TelstraClear merger brings together significant line and mobile infrastructure
5. The common element of these major industry developments is that all of them use the NES to enable the implementation of nationwide telecommunications networks.
 6. In addition, the use of telecommunications by consumers continues to undergo dramatic change. The number of voice minutes continues to decline every year, while the average data use has increased exponentially with the rise of smartphones and tablets. Over 50% of New Zealand telecommunications users now owns a smart phone which is used more often for checking the status of social media and watching videos than for traditional calling and texting. Such devices were non-existent five years ago. The deployment of 4G services in the future will further enable this change of usage.
 7. In general, users continue to demand more from their telecommunications services, both in the amount of data they can consume and the speed in which they can consume it. Trends towards increased mobility are likely to continue in the future as traditional fixed line calling continues to decline and UFB will, over time, incrementally raise the expectations of mobile broadband users to the extent that their mobile broadband experience is roughly comparable to their (ultra-fast) fixed experience. This will require network capability, both mobile and fixed, to match the growing expectations of users. The telecommunications sector continues to be in constant change on both sides.

8. The NES has simplified and streamlined many aspects of securing RMA consents for certain types of telecommunications infrastructure. This has resulted in a number of key benefits:
 - RMA related deployment costs and timeframes for infrastructure, such as antenna and cabinets in the road reserve, are now the same across the country and have been reduced. This contributes to far more predictable national deployment.
 - Operators now design parts of their equipment, if possible, to fit the NES equipment performance standards, including size and noise emissions specifications.
 - The standardisation of a single radiofrequency standard across the whole country, has established national certainty on the requirements for demonstrating compliance. This has reduced the workload for processing planners and made preparing applications more efficient.
 - Public communication is enhanced because there is only one national standard. Similarly evidence at planning hearings is now more focussed, reducing hearing timeframes and removing the reliance on expert witnesses.
9. The TCF supports the NES as it has helped promote a more coherent approach to telecommunications infrastructure deployment whilst retaining the appropriate level of community participation through the RMA process and industry initiatives such as the TCF Community Engagement Guidelines.
10. However we believe that there are refinements that could be made to the existing NES that would help realise additional benefits, particularly in terms of the original objectives of the NES

Themes of the NES refinements

11. The current NES equipment standards only apply to specific equipment, in limited situations, being cabinets and antennas on replacement utility poles located within the road reserve. This therefore excludes any telecommunications equipment not within the road reserve such as the majority of mobile cellular sites.
12. Current equipment dimensions may preclude the use of the NES for technology upgrades, such as 4th generation mobile services, especially those that utilise lower frequency spectrum. Multi band antenna overall can reduce the required number of sites that may be needed to cover a given area, but the current antenna and shroud dimensions under the NES are too small for some new emerging multi band technologies.
13. With regard to major nationwide infrastructure deployment, we are of the view that greater national consistency and guidance to local authorities would derive further benefits for New Zealand. Telecommunications infrastructure is widespread and typically has commonality in terms of equipment design and function, which lends itself towards a national and prescriptive approach to RMA rules. This is one of the reasons the existing NES has been effective.
14. However, the lead times for establishing NES have been very slow given the pace of technological change and market demands for development. The TCF would request that changes are made to the RMA to enable the more rapid enactment of variations to existing NES as well as developing new NES. Changes to both new and existing national instruments need to be able to be streamlined to keep up with the rate of modern development.

Has the NES Met its Objectives?

15. *Sourcing infrastructure and engineering practices:* In the context of cabinets and antenna within the road reserve, local operators do design their equipment where possible to comply with the NES equipment standards. Given the relatively small size of the New Zealand market when compared to the global nature of telecommunications equipment suppliers, the NES does not directly influence international technology development. This further

reinforces our point in paragraph 14 whereby the NES should be more adaptable to changes in global standards rather than constrain their adoption. However, local operators are guided by the NES when undertaking vendor equipment selection. NES equipment performance standards are supplied to overseas vendors and are used as assessment criteria in making the overall supplier decision. Where possible, local design inputs use the NES when designing items such as outdoor cabinets. This is particularly the case for performance criteria such as noise output and cabinet size.

16. *Shortening timeframes and lowering compliance costs:* There have been definite reductions in RMA processing timeframes and attendant lower compliance costs. As a reasonably high proportion of cabinets and antenna located within the road reserve are now permitted activities, these have contributed to reduced processing timeframes. Previously many applications were of a controlled or discretionary activity status, which is inherently more complex and expensive to process than to issue a Certificate of Compliance (COC). Operators now have the option of not seeking a COC, especially when a proposal is clearly a permitted activity. In general, mobile operators will seek a COC for a new facility, but are less likely to do so for matters such as minor upgrades. Generally, the lines companies e.g. for UFB cabinets, will not apply for COCs. Compliance assessments are undertaken for each cabinet with the results being communicated to Council via an information pack. Recently Auckland Council advised that they no longer wished to receive cabinet information. Although soon after the introduction of the NES some councils were reluctant to issue a COC, this is no longer an issue.
17. The NES, along with recent RMA phase one reforms, means the majority of straightforward telecommunications and, in particular, NES applications, are processed within the common 20 working day statutory period. As permitted activities cannot have conditions imposed, there are rarely ongoing compliance costs for equipment within the road reserve. For example, the standardisation of noise performance standards for cabinets located in roads has greatly reduced the need for individual acoustic reports to support RMA applications and also post construction compliance testing. The NES has standardised noise

levels and the point of measurement in all regions. It is worth noting that, in general, the UFB cabinets have no noise generating equipment. The radio frequency provisions of the NES apply to all wireless telecommunications facilities, regardless of where they are located. Regulation 4 of the NES requires radio frequency reports demonstrating compliance with NZS 2772 to be provided to councils prior to new or upgraded wireless telecommunications facilities becoming operative. This is now a straightforward and nationally consistent process, which has removed local variations. Previously some district plans required compliance with an outdated standard, as well as the new standard, and/or with a local bylaw. A nationally consistent approach has reduced the workload for processing planners and made preparing applications more efficient. Public communication on radio frequency matters is enhanced because there is only one national standard. Similarly, evidence at planning hearings is now more focussed, reducing hearing timeframes and removing the reliance on expert witnesses. The NES has however caused some ongoing radio frequency compliance costs, predominantly triggered by the existing 25% monitoring threshold. If a facility is predicted to exceed 25% of NZS 2772 in an area the public might reasonably access, then the facility must be tested within 3 months of becoming operational. In areas such as CBD rooftops, this can potentially lead to quite considerable costs and practical issues in conducting testing. Mobile technology trends are generally towards multi frequency utilisation of existing facilities, which is likely in urban areas to lead to increasing compliance costs.

18. *Reducing timeframes and lowering costs for the availability of new services to consumers:* The NES has enhanced overall network program planning, because there is now greater certainty of the likely timeframes for obtaining consents for equipment within the road reserve in particular. At a site level, timeframes are generally reduced. The overall impact of the NES over a large scale mobile network rollout is difficult to estimate, but probably more modest in effect. This is due in part to the sites and equipment which do not fall within the NES as they are not located in the road, but make up a large proportion of a nationwide network. In a mobile cellular network, typically only a minority (approximately 15%) of the sites are located in roads, but these are important

sites. Typically the mobile network sites that utilise the NES are predominantly in suburban and residential fringe areas, traditionally difficult areas in which to previously establish telecommunications facilities in order to provide service. The NES is greatly valued in terms of getting suitable low impact solutions to provide enhanced services in suburban areas. The initial mobile networks of Telecom and Vodafone were substantially established before the advent of the NES, as well as the later introduction of 3G services. The NES has helped to facilitate the initial establishment of the 2 Degrees network in some key areas, due to the correlation in timing to the NES of the majority of the 2 Degrees network rollout. All mobile networks with facilities in the road have the potential to utilise the NES for the introduction of 4G technology, with the initial deployments having recently occurred. However for a fixed network, such as the UFB deployment, a very large proportion of the cabinets used to provide broadband services are located within the road reserve, deriving greater benefits. The earlier Telecom Fibre to the Node (FTTN) deployment was also completed under the NES. FTTN cabinets continue to be deployed in growth areas. This provided enhanced broadband services with reduced rollout costs and assisted with delivery of the programme on time. The RBI & UFB projects benefit in similar ways from the NES in that there is clarity of cabinets rules and location in the road enabling straight forward assessments of compliance to be undertaken. The option to apply for a COC provides the opportunity to obtain certainty when necessary. Local government is slowly gaining confidence with network operators and their compliance with the NES.

19. *Providing an appropriate balance between community participation in planning and telecommunications infrastructure investment:* It is important to note that the NES provides for local exclusions in areas of particular sensitivity. These include conditions which protect trees, heritage values, visual amenity and coastal marine areas. In those sorts of areas the NES may not apply, and instead an application for consent is made pursuant to the local district plan rules. The district plan rules are the result of community participation. The local rules will specify how the non NES compliant application will be handled, enabling local planners the discretion to involve the community. In addition

there have been industry initiatives to facilitate community participation. A set of Community Engagement Guidelines have been developed by the TCF to help wireless network operators standardise their approach to engaging with communities, and assist with addressing potential concerns through the timely provision of information regarding the location of wireless facilities. At a recent TCF review of the guidelines which were originally established in 2009, Vodafone and Telecom reported a reduction in escalated public issues, and that the guidelines were working well. For fixed telecommunications the Community Engagement Guidelines are utilised and have proved effective for engagement. A specific community engagement program has been developed for UFB and includes:

- Brochures and information
- Advertisements for local papers
- Information packages on cabinets for potentially affected residents
- Community events – “Shed the Light”
- Council & other stockholder briefings – on-going

Working with the NES

20. *The users’ guide:* In general the user guide is helpful, and it is used to assist in matters of interpretation. On occasion it is discussed with councils to aid clarification. In the early days of the NES it was used more commonly, although it was not available for around a year after the NES was gazetted in 2008. Now councils and operators are far more experienced in the practical application of the NES. There could be further clarification warranted in areas including measurement points for sound reports, the definition of a “site “and aspects of ongoing compliance of radio frequency.
21. *Householder brochure:* The householders’ brochure was introduced, around 18 months after the introduction of the NES, when queries about the NES were more common. Operators do not have clear visibility as to how extensively householders refer to the brochure, although occasionally through community engagement practices this will be provided to residents. In general the volume

of questions about the NES directed to operators is low. There is no evidence available to the TCF members that further householder communication is required

Working with Councils

22. In general the roles and responsibilities between council and industry are reasonably clear. On some occasions councils will merge RMA/NES matters with aspects that are governed by other statutes, such as the Telecommunications Act 2001. However, the National Code of Practice for Utility Operators' Access to Transport Corridors 2011, has assisted in clarifying the distinction in jurisdiction.
23. An area that needs to be monitored is the potential use of the NES amenity provisions by some Councils to create wholesale exclusion areas. Some recent proposed district plan reviews have suggested large suburban areas of amenity value, which would mean telecommunications facilities are assessed under local rules, not the NES. It would be unfortunate if the national consistency of the NES was eroded substantially by local measures, especially in areas that do not have unique or high amenity values. At this point this is not a major issue, and it remains to be seen if this will emerge as an ongoing concern.

Monitoring and Compliance

24. Operators have various post implementation quality control measures in place. As noted above, some wireless facilities require radio frequency levels to be tested within 3 months of becoming operative. This is most common in dense urban rooftop scenarios. In addition to the NES compliance monitoring, operators such as Vodafone have an ongoing independent radio frequency monitoring program in place. In this case, over 200 Vodafone sites have been tested and the results made publically available by the National Radiation Laboratory (NRL/ESR).

Radiofrequency

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25. Operators that utilise the TCF Community Engagement Guidelines have reported a reduced level of concern and a higher level of acceptance of technology if a community is informed in a timely manner about developments. Concerns about radio frequency raised with operators generally comprise a small minority of most major rollouts. For example, Vodafone recently sent out more than 600 letters to residents in Auckland who were near sites being upgraded to 4G. The upgrade increased radio frequency levels at each site but less than 10 enquiries were received as a result of the letter and not all of the enquiries were regarding radio frequency fields. In general a proposal for a new telecommunications facility is more likely to generate concerns than an upgrade to an existing facility, however the rate of total inquiries regarding radio frequency matters remains very low.

Changes to the NES

26. Though the TCF supports the NES, it is always possible to make improvements. The following have been identified as amendments that could be made to the existing NES to improve their use and/or efficiency.

- Sub clause 8 (2) and 8 (4) place restrictions on cabinets placed on the same site or on different sites but within 30 metres of another cabinet. A site is interpreted in the NES guidelines as essentially a property, which can vary greatly in size. For example an extensive university campus could be a site. Similarly a 30 metre exclusion zone is a large distance to sterilise in an urban setting. These can be quite restrictive in modern road settings, and have potentially limited environmental benefit. The definition of Site and the 30 metre exclusion distance in non residential areas could be reinterpreted in the NES guidelines, and or amended in the NES itself.
- Clarification through changes to the guidelines or the NES regarding lightning rods and minor ancillary antenna such as GPS.
- Changes to clauses 7 (4) to permit upgrades of new larger antenna, especially to existing facilities. Multi band antenna is inherently larger than single band, but will reduce the number of sites that may otherwise

be required to cover a given area. To assist to establish new technologies and reduce the number of sites increases in size of antenna and shrouds would be beneficial. It is also incongruous that antenna sizes are currently limited to 2m in length, yet may be concealed within a shroud of 3m in length. There are no environmental effects of antenna that cannot be seen.

- Adjustment of the 25% monitoring trigger threshold in clause 4 (5). Especially in urban areas, technology developments, particularly multi band antenna will lead to a greater proportion of radio frequency monitoring. Allied to this could be improved clarification through the NES guidelines of what comprise publically accessible areas. The benefit of these proposals would be a reduction in compliance costs.
- Given the prescriptive nature of the NES rules, a 10 day processing period for NES COC's would assist to facilitate timely rollout of new services.
- Greater clarity is required for the district plan rules that need to be assessed with a non NES compliant proposal. Currently a facility may not comply with the NES for a minor technical infringement (such as another cabinet 30 meters away) and then there is uncertainty as to which rules in the plan are relevant. We submit that the assessment criteria should be limited to the nature of the non compliance with the NES rules.
- Clarification on whether a replacement structure can be in a slightly different location to the original pole (up to 3m for example) – to allow for the larger foundation of the replacement pole and existing services beneath the site etc. The current situation is something of a grey area, as there are different interpretations.
- In terms of Regulation 4 (RF), further define telecommunications facility to exclude small scale solutions such as metro sites and femto-cells which generate miniscule levels of radio frequency, so that in the absence of an understanding with Council this doesn't create work notifying Council of the NES RF compliance.

- Addition of new provisions that provide national rules for deploying aerial telecommunications cabling in the road where existing utility networks are already deployed aerially.
 - The installation and operation of equipment inside existing exchanges as a permitted activity. Currently designated exchanges do not specifically provide for third party equipment as part of the designation, while other exchanges are not designated and operate under existing use rights and would not be permitted due to their existing floor area or building envelope. It would be useful to have a national provision that explicitly allows for equipment inside existing exchanges as a permitted activity
27. In addition to the above, the TCF has compiled a selection of other wishlist items, that would require new or substantially altered NES, but which could provide benefit to New Zealand's telecommunications:
- New or expanded scope NES to cover upgrades of existing sites in all areas, to facilitate technology developments.
 - New or expanded NES to cover new standalone sites on private land in low sensitivity environmental areas, such as industrial, commercial and rural land, with appropriate exclusions for heritage, high amenity overlays.
 - National provisions which support co-location and co-siting, recognising that rules that increase the efficiency and ability to share existing locations reduces the need to create new standalone locations.
 - Nationally consistent provisions as a permitted activity for undertaking works by a utility operator within the dripline of protected trees, including all scheduled or Council controlled i.e. on road berms in accordance with a Council approval tree management plan.

Conclusion and Follow Up

28. The existing NES has provided many benefits to the telecommunications industry, but there is room for improvement. Making the existing NES easier to update so that it stays in touch with the ever changing world of

telecommunications and clarifying some points would improve the current usage.

29. The TCF working party for the NES would like to meet with appropriate Ministry officials to discuss the matters raised in this submission and provide any clarity or detail. The working party members would also value any feedback from the Ministry on the matters raised and discuss what they can do to help make some of these suggestions a reality. The working party members would be happy to meet at the earliest, mutually acceptable time.

We look forward to hearing from you shortly regarding a meeting. We look forward to assisting you further with this matter.

Yours sincerely

A handwritten signature in black ink, appearing to read 'DS', with a large, stylized flourish that loops back to the start of the signature.

David Stone
Chief Executive Officer
New Zealand Telecommunications Forum Inc.