IN THE MATTER OF The Resource Management Act 1991
AND
IN THE MATTER OF Manawatu Sectional Plan Review:
Proposed Plan Change 55

SUPPLEMENTARY EVIDENCE OF NIGEL ROBERT LLOYD

Introduction

1. My name is Nigel Robert Lloyd. I am an acoustical consultant with Acousafe Consulting & Engineering Limited, a position I have held for over 30 years.

2. My qualifications and experience are set out in my evidence in chief.

3. I reaffirm that I have ‘Code of Conduct for Expert Witnesses’ contained in the Environment Court Practice Note 2014. My supplementary evidence has been prepared to continue to comply with that Code and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Reverse Sensitivity (General)

Submission S21/014 - Z Energy Ltd, BP Oil NZ Ltd, Mobile Oil NZ Ltd

4. The evidence of Karen Blair (4.4), on behalf of the Oil Companies, recommended that Policy 1.1 be amended as follows:

   To ensure noise level standards protect dwellings and other noise sensitive activities from unreasonable noise levels, including by requiring noise sensitive activities to avoid locating in zones where higher noise levels are anticipated unless they provide adequate noise attenuation.

5. I do not agree with this recommendation because, as an example, this matter is already covered by the Objectives and Policies that have been promulgated by PC46 for the Inner and Outer Business Zone as follows:

   10.3 Objectives and Policies

   Objective 1  To encourage and provide for a range of compatible activities that recognise Feilding’s role as a rural centre and retain the existing amenity values of the town centre.

   …
1.4 To require any dwellings in the Inner Business Zone to be located above ground floor level and have appropriate acoustic insulation.

1.5 To manage any potential reverse sensitivity effects of dwellings in the Inner Business Zone by requiring appropriate privacy, sunlight and acoustic mitigation.

1.6 To ensure that any potential adverse effects from activities in the Business Zones are managed to avoid, remedy or mitigate adverse effects in the Business Zones and on residentially-zoned land adjacent to the Business Zones.

6. I therefore consider that the amendment sought by the Oil Companies is (and will be) superfluous. These matters are being specifically dealt with on a zone by zone basis, rather than generally and this is appropriate given the different expectations and requirements that arise in the various zones.

Noise in the Rural Zone

Submissions S1 & S23

7. The evidence of Federated Farmers (Coralee Matena) and Horticulture New Zealand (Angela Halliday) is that they both seek to provide exemptions for helicopter landing areas and rural airstrips that are used on an intermittent or infrequent basis as part of rural production activities.

8. First of all, and in response to questions from the hearing panel, I confirm that it is my understanding that the RMA (and the District Plan) cannot provide for control of aircraft that are in flight other than just prior to landing or just after take-off from an airport or helicopter landing area. Under the RMA, council is only able to impose controls on aircraft approaching, landing and departing from airports. The scope of jurisdiction available to control aircraft under section 9(5) of the RMA is limited to aircraft taking off or landing. Once lawfully airborne and away from the airfield, aircraft come under the control of the Civil Aviation Act 1990. Thus, aircraft that are involved in the action of top dressing, aerial spraying and frost control cannot be controlled by rules in the District Plan.

9. Secondly, I would point out that the activities in 3C.4.2.d.(iv) are not exempt from the Rules in Table 3C.1, they are simply not controlled by them. The noise from
rural production activities is still controlled by reference to S.16 of the RMA and S.327.

10. While I agree with the sentiment of the submissions of Federated Farmers and Horticulture New Zealand, I do not see how the amendment they seek makes any difference to the provisions of the rules.

11. I also consider that the wording of the rural production activity exception is adequate without providing the need for undue complication.

12. [N.B. In Rule 3C.4.2.d the reference to 3C.4.1.b should read 3C.4.2.b].

13. I am of the opinion that occasional use of rural land by aircraft for rural production activities is covered by 3C.4.2.d(iv) in the same way as terrestrial activities would be.

14. I consider that the amendments sought by Federated Farmers and Horticulture New Zealand do not change anything with respect to the mechanics of 3C.4.2.d read as a whole. They seek to include helicopter landing areas and rural airstrips used for intermittent or infrequent basis as part of rural production activities which are not controlled by Rule 3C.4.2.b. But all landing and take-off aircraft operations are already included in this category by way of 3C.4.2.d(i). Including rural aircraft as an exception again, as sought by these submitters, does not alter anything.

15. The Guidance Notes provide for noise from separate helicopter landing areas and airports to be assessed using the relevant New Zealand Standards. These Standards might be appropriate for airstrips or helicopter landing areas that are inappropriately located and where the activity becomes more frequent. The need then becomes how do we define intermittent or infrequent activities.

16. NZS 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas is intended to apply to helicopter landing areas used for ten or more flight movements in any month. It is unclear to me whether ten flights per month could be used to define “infrequent”.

17. There is no useful definition in NZS 6805:1992 Airport Noise Management and Land Use Planning that could assist with differentiating between intermittent or infrequent use. I therefore see a significant hurdle in being able to define intermittent or infrequent activities.
18. I consider that airfields or helicopter landing areas that are only used for rural production purposes fall under the definition of rural production activities and, as such, would not be controlled by reference to the general noise rules in the 3C.4.2.b. If these facilities are used intermittently and infrequently then they will naturally be assessed in the same way as other rural production activities. However, this does not provide open slather to any rural production activity (including aircraft noise) and the RMA provides for the noise to be assessed as a nuisance if the need arises.

Submission S16/057 – Powerco

19. The evidence of Karen Blair was that Powerco seeks to delete Policy 1.2 of 3F.3 Objectives and Policies and rely on Policy 1.1.

20. The two policies are currently:
   1.1 To restrict the scale, intensity, duration and frequency of temporary activities to manage any adverse effects on the surrounding environment.
   1.2 To ensure temporary activities do not result in adverse amenity effects on noise sensitive activities.

21. Ms Blair is concerned that reference to noise sensitive activities in Policy 1.2 will bias the assessment towards noise sensitivity which, in turn, will inhibit those temporary activities that are noisier than usual.

22. These policies are aimed at temporary activities which are transient in nature. As it stands Policy 1.2 provides a very high level of protection against temporary activities. Given that the temporary activities are likely to be transient in nature then I accept that Policy 1.1 would provide adequate control and that Policy 1.2 can be deleted.

Temporary Military Training Activities (TMTA)

Submission S8/12 - NZDF

23. NZDF seeks to provide for TMTA across the District using a generic noise standard within Chapter 3.

24. Because the intention was always to assess TMTA as part of the Rural Zone (and then within other zones following on). I have not undertaken any analysis with respect to the TMTA rules generally in Section 3. I had understood that the
TMTA provisions had been deliberately set to one side deferred until later stages of the sectional District Plan review.

25. From my perspective the rationale behind deferring consideration of TMTA until the Rural Zone review is that the benign activities described by NZDF (as most likely TMTA to occur) can normally take place in any of the Zones without exceeding the District Plan noise limits. It is only those noisier activities (howitzer firing, battle simulations and explosions) that cannot take place in noise sensitive areas. The most likely place that these particular TMTA would need to take place is in the Rural Zone (if at all). It was for this reason that TMTA were proposed to be considered initially as part of review of the Rural Zone. As I discuss below this rationale has since been supported by the setback provisions proposed by NZDF. The need to provide for TMTA in other zones was then intended to be assessed following on, noting as I have above, the permissive basis of many of the benign TMTA, as well as the extent of the Rural Zone (96%).

26. I consider that it is imperative that a full analysis be undertaken of the changes that NZDF seeks to the District Plan. For example, the TMTA noise rule now proposed is not consistent with rule previously sought by NZDF in their original submission and proposed by NZDF for other Districts e.g. it is different to the Auckland Unitary Plan.

27. This makes it difficult to understand the argument that NZDF seeks to have a generic rule applied across the Nation.

28. The Auckland Unitary Plan has set back distances (Table E40.6.8.1) of:
   i. Live firing 7am-7pm 1500m
   ii. Live firing 7pm-7am 4500m
   iii. Blanks 7am-7pm 750m
   iv. Blanks 7pm-7am 2250m

29. These are different to the set-back distances sought by NZDF in Attachment 2 of Sarah Bevan’s evidence which are:
   i. 0700 to 1900 500m
   ii. 1900 to 0700 1250m

30. These were sought by way of NZDF’s Further Submission dated 28 September 2016.
31. Unlike in the Auckland example provided above, the latest proposed rule now makes no differentiation made between live firing and blanks.

32. I understand, from Mr Hunt’s answer to a question from the Hearings Committee, that the latest set of TMTA standards are an iteration arising from mediation from the Christchurch District Plan Hearings. It is unclear what technical analysis took place as part of that mediation and without this information, it is difficult to confirm how the Christchurch outcome is relevant to the Manawatu District.

33. If the setback distances cannot be met then the proposed NZDF rule provides for alternative daytime and night-time noise limits. These are peak sound limits. Again, the limits now sought are different to those set out in the Auckland Unitary Plan scenario. In any event the work undertaken by Mr Hunt indicates that these activities are extremely loud and infers how they would be disconcerting to the wider population.

34. I do not consider that providing for night-time battle simulations as a permitted activity is a sensible approach to take. Mr Hunt has recommended a night-time noise limit for these but I believe the sound of gunfire and explosions will be disconcerting for the community even if it was quite distant and therefore at a low noise level. NZDF seemed to assert that the noisier activities would not take place, although there was no categorical statement to this effect. If this type of activity is not going to occur in the District then in my view it need not be provided for as a permitted activity, even if it is only part of a generic TMTA noise rule.

35. The original recommendations from Mr Hunt\(^1\) are represented by the Auckland Unitary Plan. The daytime set back distances have been plotted by Council on a map of the District which show that there is little remaining space for any of the noisier TMTA to take place. This map is attached as Appendix A to my evidence and only includes the set-backs for blank firing (750 m during the day and 2,250 m during the night). The live firing and battle simulations are 1,500 m during the day and 4,500 m at night which is significantly more onerous.

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36. A second set of set-back distances are attached as Appendix B. These have also been plotted by Council onto maps of the District which represent the 500 metre (day) and 1,250 metres (night) that NZDF now seeks. It can be seen why NZDF seeks the smaller set-backs but what is unclear to me is whether these still provide adequate protection. In any event, I do not see the logic of writing a rule with set-back distances that highly restricts any of the activities that are intended to occur within a Zone (or District) to the extent that they are virtually prevented. If that is the case then, in my opinion, the proper approach is to provide for these (noisier) activities as Restricted Discretionary to allow the Plan to include appropriate assessment criteria. Again, these are matters which were to be evaluated when TMTA came up for consideration, initially as part of topics proposed for the Rural section of the District Plan Review (which were to also include my input).

37. Mr Hunt seemed to be of the opinion that I am opposed to the use of notional boundary to assess TMTA. This is not the case. I agree that the notional boundary is an appropriate tool for short term finite activities (as opposed to its use as a long term planning tool for which I consider it is not appropriate).

38. In summary, I confirm that I have not undertaken an analysis of the rule now sought by NZDF because my understanding was that TMTAs will be covered by future plan changes. Furthermore the set-backs now sought are different from those in the original Hunt Report that NZDF relies upon. This makes it difficult to assess the appropriateness of the latest distances. There is now no differentiation between live firing and blanks. If live firing is not now to take place (which seems to have been indicated by NZDF) then there is no assurance about this. It then seems unreasonable to me to making live firing (as an intrinsic part of TMTA) a permitted activity in the absence of any specific control.

39. Given the mapping undertaken as part of this reply (see Appendix A and B) noisier TMTA activities would appear to only be accommodated in the Rural Zone, for example. I therefore recommend that provision for TMTA is not considered as part of Chapter 3 but that it be considered in each zone section as it is reviewed, commencing with the Rural Zone review. This will allow a proper analysis to be undertaken of the latest NZDF propositions, so that these can be usefully taken forward into the Sectional District Plan reviews.
Conclusions

40. I have considered evidence from various submitters on noise for Chapter 3 of the Proposed District Plan as part of the PC 55 hearing and made recommendations accordingly.

Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX B
TMTA SET-BACKS NOW SOUGHT BY NZDF

Manawatu District Plan

NZ Defence Force - Noise Setback
- Rural dwelling (approx location)
  - Day 500m Setback
  - Night 1250m Setback
  - Rural Zones
  - Urban Zones

Subdivision Nodal Zone
Public Land - Department of Conservation
Local Authority boundary
Manawatu District

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Version 1.3 December 2016
IN THE MATTER OF The Resource Management Act 1991
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IN THE MATTER OF Manawatu Sectional Plan Review:
Proposed Plan Change 55

SUPPLEMENTARY EVIDENCE OF NIGEL ROBERT LLOYD

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Reverse Sensitivity (General)
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1.4 To require any dwellings in the Inner Business Zone to be located above ground floor level and have appropriate acoustic insulation.

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6. I therefore consider that the amendment sought by the Oil Companies is (and will be) superfluous. These matters are being specifically dealt with on a zone by zone basis, rather than generally and this is appropriate given the different expectations and requirements that arise in the various zones.

**Noise in the Rural Zone**

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7. The evidence of Federated Farmers (Coralee Matena) and Horticulture New Zealand (Angela Halliday) is that they both seek to provide exemptions for helicopter landing areas and rural airstrips that are used on an intermittent or infrequent basis as part of rural production activities.

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36. A second set of set-back distances are attached as Appendix B. These have also been plotted by Council onto maps of the District which represent the 500 metre (day) and 1,250 metres (night) that NZDF now seeks. It can be seen why NZDF seeks the smaller set-backs but what is unclear to me is whether these still provide adequate protection. In any event, I do not see the logic of writing a rule with set-back distances that highly restricts any of the activities that are intended to occur within a Zone (or District) to the extent that they are virtually prevented. If that is the case then, in my opinion, the proper approach is to provide for these (noisier) activities as Restricted Discretionary to allow the Plan to include appropriate assessment criteria. Again, these are matters which were to be evaluated when TMTA came up for consideration, initially as part of topics proposed for the Rural section of the District Plan Review (which were to also include my input).

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Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN

Manawatu District Plan

NZ Defence Force - Noise Setback in Rural Zone

- Rural Houses (approx location)  Rural Zone
- Day 750m Setback  Public Land - Dept of Conservation
- Night 2250m Setback  Manawatu District

Source: NZ Defence Force https://data.linz.govt.nz
License: LINZ Open Government Licence v1.1
Version 1.0, 6 December 2016
Manawatu District Plan

NZ Defence Force - Noise Setback

- Rural dwelling (approx location)
- Subdivision Nodal Zone
- Public Land - Department of Conservation
- Local Authority boundary
- Manawatu District

Sourced from the LINZ Data Service http://data.linz.govt.nz
and licensed by LINZ for re-use under the Creative Commons Attribution 3.0 New Zealand license.
Version 1.5 December 2016
APPENDIX B

TMTA SET-BACKS NOW SOUGHT BY NZDF

Manawatu District Plan

NZ Defence Force - Noise Setback
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  Night 1250m Setback
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Version L.3 December 2016
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12. [N.B. In Rule 3C.4.2.d the reference to 3C.4.1.b should read 3C.4.2.b].

13. I am of the opinion that occasional use of rural land by aircraft for rural production activities is covered by 3C.4.2.d.(iv) in the same way as terrestrial activities would be.

14. I consider that the amendments sought by Federated Farmers and Horticulture New Zealand do not change anything with respect to the mechanics of 3C.4.2.d read as a whole. They seek to include helicopter landing areas and rural airstrips used for intermittent or infrequent basis as part of rural production activities which are not controlled by Rule 3C.4.2.b. But all landing and take-off aircraft operations are already included in this category by way of 3C.4.2.d.(i). Including rural aircraft as an exception again, as sought by these submitters, does not alter anything.

15. The Guidance Notes provide for noise from separate helicopter landing areas and airports to be assessed using the relevant New Zealand Standards. These Standards might be appropriate for airstrips or helicopter landing areas that are inappropriately located and where the activity becomes more frequent. The need then becomes how do we define intermittent or infrequent activities.

16. NZS 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas is intended to apply to helicopter landing areas used for ten or more flight movements in any month. It is unclear to me whether ten flights per month could be used to define “infrequent”.

17. There is no useful definition in NZS 6805:1992 Airport Noise Management and Land Use Planning that could assist with differentiating between intermittent or infrequent use. I therefore see a significant hurdle in being able to define intermittent or infrequent activities.
18. I consider that airfields or helicopter landing areas that are only used for rural production purposes fall under the definition of rural production activities and, as such, would not be controlled by reference to the general noise rules in the 3C.4.2.b. If these facilities are used intermittently and infrequently then they will naturally be assessed in the same way as other rural production activities. However, this does not provide open slather to any rural production activity (including aircraft noise) and the RMA provides for the noise to be assessed as a nuisance if the need arises.

Submission S16/057 – Powerco

19. The evidence of Karen Blair was that Powerco seeks to delete Policy 1.2 of 3F.3 Objectives and Policies and rely on Policy 1.1.

20. The two policies are currently:
   1.1 To restrict the scale, intensity, duration and frequency of temporary activities to manage any adverse effects on the surrounding environment.
   1.2 To ensure temporary activities do not result in adverse amenity effects on noise sensitive activities.

21. Ms Blair is concerned that reference to noise sensitive activities in Policy 1.2 will bias the assessment towards noise sensitivity which, in turn, will inhibit those temporary activities that are noisier than usual.

22. These policies are aimed at temporary activities which are transient in nature. As it stands Policy 1.2 provides a very high level of protection against temporary activities. Given that the temporary activities are likely to be transient in nature then I accept that Policy 1.1 would provide adequate control and that Policy 1.2 can be deleted.

Temporary Military Training Activities (TMTA)

Submission S8/12 - NZDF

23. NZDF seeks to provide for TMTA across the District using a generic noise standard within Chapter 3.

24. Because the intention was always to assess TMTA as part of the Rural Zone (and then within other zones following on). I have not undertaken any analysis with respect to the TMTA rules generally in Section 3. I had understood that the
TMTA provisions had been deliberately set to one side deferred until later stages of the sectional District Plan review.

25. From my perspective the rationale behind deferring consideration of TMTA until the Rural Zone review is that the benign activities described by NZDF (as most likely TMTA to occur) can normally take place in any of the Zones without exceeding the District Plan noise limits. It is only those noisier activities (howitzer firing, battle simulations and explosions) that cannot take place in noise sensitive areas. The most likely place that these particular TMTA would need to take place is in the Rural Zone (if at all). It was for this reason that TMTA were proposed to be considered initially as part of review of the Rural Zone. As I discuss below this rationale has since been supported by the setback provisions proposed by NZDF. The need to provide for TMTA in other zones was then intended to be assessed following on, noting as I have above, the permissive basis of many of the benign TMTA, as well as the extent of the Rural Zone (96%).

26. I consider that it is imperative that a full analysis be undertaken of the changes that NZDF seeks to the District Plan. For example, the TMTA noise rule now proposed is not consistent with rule previously sought by NZDF in their original submission and proposed by NZDF for other Districts e.g. it is different to the Auckland Unitary Plan.

27. This makes it difficult to understand the argument that NZDF seeks to have a generic rule applied across the Nation.

28. The Auckland Unitary Plan has set back distances (Table E40.6.8.1) of:
   i. Live firing  7am-7pm  1500m
   ii. Live firing  7pm-7am  4500m
   iii. Blanks  7am-7pm  750m
   iv. Blanks  7pm-7am  2250m

29. These are different to the set-back distances sought by NZDF in Attachment 2 of Sarah Bevan’s evidence which are:
   i. 0700 to 1900  500m
   ii. 1900 to 0700  1250m

30. These were sought by way of NZDF’s Further Submission dated 28 September 2016.
31. Unlike in the Auckland example provided above, the latest proposed rule now makes no differentiation made between live firing and blanks.

32. I understand, from Mr Hunt’s answer to a question from the Hearings Committee, that the latest set of TMTA standards are an iteration arising from mediation from the Christchurch District Plan Hearings. It is unclear what technical analysis took place as part of that mediation and without this information, it is difficult to confirm how the Christchurch outcome is relevant to the Manawatu District.

33. If the setback distances cannot be met then the proposed NZDF rule provides for alternative daytime and night-time noise limits. These are peak sound limits. Again, the limits now sought are different to those set out in the Auckland Unitary Plan scenario. In any event the work undertaken by Mr Hunt indicates that these activities are extremely loud and infers how they would be disconcerting to the wider population.

34. I do not consider that providing for night-time battle simulations as a permitted activity is a sensible approach to take. Mr Hunt has recommended a night-time noise limit for these but I believe the sound of gunfire and explosions will be disconcerting for the community even if it was quite distant and therefore at a low noise level. NZDF seemed to assert that the noisier activities would not take place, although there was no categorical statement to this effect. If this type of activity is not going to occur in the District then in my view it need not be provided for as a permitted activity, even if it is only part of a generic TMTA noise rule.

35. The original recommendations from Mr Hunt are represented by the Auckland Unitary Plan. The daytime set back distances have been plotted by Council on a map of the District which show that there is little remaining space for any of the noisier TMTA to take place. This map is attached as Appendix A to my evidence and only includes the set-backs for blank firing (750 m during the day and 2,250 m during the night). The live firing and battle simulations are 1,500 m during the day and 4,500 m at night which is significantly more onerous.

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36. A second set of set-back distances are attached as Appendix B. These have also been plotted by Council onto maps of the District which represent the 500 metre (day) and 1,250 metres (night) that NZDF now seeks. It can be seen why NZDF seeks the smaller set-backs but what is unclear to me is whether these still provide adequate protection. In any event, I do not see the logic of writing a rule with set-back distances that highly restricts any of the activities that are intended to occur within a Zone (or District) to the extent that they are virtually prevented. If that is the case then, in my opinion, the proper approach is to provide for these (noisier) activities as Restricted Discretionary to allow the Plan to include appropriate assessment criteria. Again, these are matters which were to be evaluated when TMTA came up for consideration, initially as part of topics proposed for the Rural section of the District Plan Review (which were to also include my input).

37. Mr Hunt seemed to be of the opinion that I am opposed to the use of notional boundary to assess TMTA. This is not the case. I agree that the notional boundary is an appropriate tool for short term finite activities (as opposed to its use as a long term planning tool for which I consider it is not appropriate).

38. In summary, I confirm that I have not undertaken an analysis of the rule now sought by NZDF because my understanding was that TMTAs will be covered by future plan changes. Furthermore the set-backs now sought are different from those in the original Hunt Report that NZDF relies upon. This makes it difficult to assess the appropriateness of the latest distances. There is now no differentiation between live firing and blanks. If live firing is not now to take place (which seems to have been indicated by NZDF) then there is no assurance about this. It then seems unreasonable to me to making live firing (as an intrinsic part of TMTA) a permitted activity in the absence of any specific control.

39. Given the mapping undertaken as part of this reply (see Appendix A and B) noisier TMTA activities would appear to only be accommodated in the Rural Zone, for example. I therefore recommend that provision for TMTA is not considered as part of Chapter 3 but that it be considered in each zone section as it is reviewed, commencing with the Rural Zone review. This will allow a proper analysis to be undertaken of the latest NZDF propositions, so that these can be usefully taken forward into the Sectional District Plan reviews.
Conclusions

40. I have considered evidence from various submitters on noise for Chapter 3 of the Proposed District Plan as part of the PC 55 hearing and made recommendations accordingly.

Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN

Manawatu District Plan

NZ Defence Force - Noise Setback in Rural Zone
- Rural Houses (approx location) - Rural Zone
  - Day 750m Setback
  - Public Land - Dept of Conservation
  - Night 2250m Setback
  - Manawatu District

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Version 1, 16 December 2019
APPENDIX B
TMTA SET-BACKS NOW SOUGHT BY NZDF
INTHE MATTER OF The Resource Management Act 1991
AND
INTHE MATTER OF Manawatu Sectional Plan Review:
Proposed Plan Change 55

SUPPLEMENTARY EVIDENCE OF NIGEL ROBERT LLOYD

Introduction

1. My name is Nigel Robert Lloyd. I am an acoustical consultant with Acousafe Consulting & Engineering Limited, a position I have held for over 30 years.

2. My qualifications and experience are set out in my evidence in chief.

3. I reaffirm that I have ‘Code of Conduct for Expert Witnesses’ contained in the Environment Court Practice Note 2014. My supplementary evidence has been prepared to continue to comply with that Code and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Reverse Sensitivity (General)

Submission S21/014 - Z Energy Ltd, BP Oil NZ Ltd, Mobile Oil NZ Ltd

4. The evidence of Karen Blair (4.4), on behalf of the Oil Companies, recommended that Policy 1.1 be amended as follows:

   To ensure noise level standards protect dwellings and other noise sensitive activities from unreasonable noise levels, including by requiring noise sensitive activities to avoid locating in zones where higher noise levels are anticipated unless they provide adequate noise attenuation.

5. I do not agree with this recommendation because, as an example, this matter is already covered by the Objectives and Policies that have been promulgated by PC46 for the Inner and Outer Business Zone as follows:

   10.3 Objectives and Policies

   Objective 1 To encourage and provide for a range of compatible activities that recognise Feilding’s role as a rural centre and retain the existing amenity values of the town centre.

   ...
To require any dwellings in the Inner Business Zone to be located above ground floor level and have appropriate acoustic insulation.

To manage any potential reverse sensitivity effects of dwellings in the Inner Business Zone by requiring appropriate privacy, sunlight and acoustic mitigation.

To ensure that any potential adverse effects from activities in the Business Zones are managed to avoid, remedy or mitigate adverse effects in the Business Zones and on residentially-zoned land adjacent to the Business Zones.

I therefore consider that the amendment sought by the Oil Companies is (and will be) superfluous. These matters are being specifically dealt with on a zone by zone basis, rather than generally and this is appropriate given the different expectations and requirements that arise in the various zones.

**Noise in the Rural Zone**

**Submissions S1 & S23**

7. The evidence of Federated Farmers (Coralee Matena) and Horticulture New Zealand (Angela Halliday) is that they both seek to provide exemptions for helicopter landing areas and rural airstrips that are used on an intermittent or infrequent basis as part of rural production activities.

8. First of all, and in response to questions from the hearing panel, I confirm that it is my understanding that the RMA (and the District Plan) cannot provide for control of aircraft that are in flight other than just prior to landing or just after take-off from an airport or helicopter landing area. Under the RMA, council is only able to impose controls on aircraft approaching, landing and departing from airports. The scope of jurisdiction available to control aircraft under section 9(5) of the RMA is limited to aircraft taking off or landing. Once lawfully airborne and away from the airfield, aircraft come under the control of the Civil Aviation Act 1990. Thus, aircraft that are involved in the action of top dressing, aerial spraying and frost control cannot be controlled by rules in the District Plan.

9. Secondly, I would point out that the activities in 3C.4.2.d.(iv) are not exempt from the Rules in Table 3C.1, they are simply not controlled by them. The noise from
rural production activities is still controlled by reference to S.16 of the RMA and S.327.

10. While I agree with the sentiment of the submissions of Federated Farmers and Horticulture New Zealand, I do not see how the amendment they seek makes any difference to the provisions of the rules.

11. I also consider that the wording of the rural production activity exception is adequate without providing the need for undue complication.

12. [N.B. In Rule 3C.4.2.d the reference to 3C.4.1.b should read 3C.4.2.b].

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20. The two policies are currently:
   1.1 To restrict the scale, intensity, duration and frequency of temporary activities to manage any adverse effects on the surrounding environment.
   1.2 To ensure temporary activities do not result in adverse amenity effects on noise sensitive activities.

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22. These policies are aimed at temporary activities which are transient in nature. As it stands Policy 1.2 provides a very high level of protection against temporary activities. Given that the temporary activities are likely to be transient in nature then I accept that Policy 1.1 would provide adequate control and that Policy 1.2 can be deleted.

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Submission S8/12 - NZDF

23. NZDF seeks to provide for TMTA across the District using a generic noise standard within Chapter 3.

24. Because the intention was always to assess TMTA as part of the Rural Zone (and then within other zones following on). I have not undertaken any analysis with respect to the TMTA rules generally in Section 3. I had understood that the
TMTA provisions had been deliberately set to one side deferred until later stages of the sectional District Plan review.

25. From my perspective the rationale behind deferring consideration of TMTA until the Rural Zone review is that the benign activities described by NZDF (as most likely TMTA to occur) can normally take place in any of the Zones without exceeding the District Plan noise limits. It is only those noisier activities (howitzer firing, battle simulations and explosions) that cannot take place in noise sensitive areas. The most likely place that these particular TMTA would need to take place is in the Rural Zone (if at all). It was for this reason that TMTA were proposed to be considered initially as part of review of the Rural Zone. As I discuss below this rationale has since been supported by the setback provisions proposed by NZDF. The need to provide for TMTA in other zones was then intended to be assessed following on, noting as I have above, the permissive basis of many of the benign TMTA, as well as the extent of the Rural Zone (96%).

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Conclusions

40. I have considered evidence from various submitters on noise for Chapter 3 of the Proposed District Plan as part of the PC 55 hearing and made recommendations accordingly.

Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN

Manawatu District Plan

NZ Defence Force - Noise Setback in Rural Zone

- Rural Houses (approx location)
- Rural Zone
- Day 750m Setback
- Public Land - Dept of Conservation
- Night 2250m Setback
- Manawatu District

Source: NZ Data Service http://data.linz.govt.nz
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Version 1.6 December 2019
APPENDIX B
TMTA SET-BACKS NOW SOUGHT BY NZDF

Manawatu District Plan

NZ Defence Force - Noise Setback
- Rural dwelling (approx location)
  - Day 500m Setback
  - Night 1250m Setback
- Light Zones
- Urban Zones

Sourced from the LINZ Data Service http://data.linz.govt.nz and licensed by LINZ for re-use under the Creative Commons Attribution 3.0 New Zealand license.
Version 1.3 December 2016
IN THE MATTER OF The Resource Management Act 1991
A N D
IN THE MATTER OF Manawatu Sectional Plan Review:
Proposed Plan Change 55

SUPPLEMENTARY EVIDENCE OF NIGEL ROBERT LLOYD

Introduction
1. My name is Nigel Robert Lloyd. I am an acoustical consultant with Acousafe Consulting & Engineering Limited, a position I have held for over 30 years.
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3. I reaffirm that I have ‘Code of Conduct for Expert Witnesses’ contained in the Environment Court Practice Note 2014. My supplementary evidence has been prepared to continue to comply with that Code and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

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...
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1.5 To manage any potential reverse sensitivity effects of dwellings in the Inner Business Zone by requiring appropriate privacy, sunlight and acoustic mitigation.

1.6 To ensure that any potential adverse effects from activities in the Business Zones are managed to avoid, remedy or mitigate adverse effects in the Business Zones and on residentially-zoned land adjacent to the Business Zones.

6. I therefore consider that the amendment sought by the Oil Companies is (and will be) superfluous. These matters are being specifically dealt with on a zone by zone basis, rather than generally and this is appropriate given the different expectations and requirements that arise in the various zones.

Noise in the Rural Zone

Submissions S1 & S23

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rural production activities is still controlled by reference to S.16 of the RMA and S.327.

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1.1 To restrict the scale, intensity, duration and frequency of temporary activities to manage any adverse effects on the surrounding environment.

1.2 To ensure temporary activities do not result in adverse amenity effects on noise sensitive activities.

21. Ms Blair is concerned that reference to noise sensitive activities in Policy 1.2 will bias the assessment towards noise sensitivity which, in turn, will inhibit those temporary activities that are noisier than usual.

22. These policies are aimed at temporary activities which are transient in nature. As it stands Policy 1.2 provides a very high level of protection against temporary activities. Given that the temporary activities are likely to be transient in nature then I accept that Policy 1.1 would provide adequate control and that Policy 1.2 can be deleted.

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TMTA provisions had been deliberately set to one side deferred until later stages of the sectional District Plan review.

25. From my perspective the rationale behind deferring consideration of TMTA until the Rural Zone review is that the benign activities described by NZDF (as most likely TMTA to occur) can normally take place in any of the Zones without exceeding the District Plan noise limits. It is only those noisier activities (howitzer firing, battle simulations and explosions) that cannot take place in noise sensitive areas. The most likely place that these particular TMTA would need to take place is in the Rural Zone (if at all). It was for this reason that TMTA were proposed to be considered initially as part of review of the Rural Zone. As I discuss below this rationale has since been supported by the setback provisions proposed by NZDF. The need to provide for TMTA in other zones was then intended to be assessed following on, noting as I have above, the permissive basis of many of the benign TMTA, as well as the extent of the Rural Zone (96%).

26. I consider that it is imperative that a full analysis be undertaken of the changes that NZDF seeks to the District Plan. For example, the TMTA noise rule now proposed is not consistent with rule previously sought by NZDF in their original submission and proposed by NZDF for other Districts e.g. it is different to the Auckland Unitary Plan.

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   ii. Live firing  7pm-7am  4500m
   iii. Blanks    7am-7pm  750m
   iv. Blanks    7pm-7am  2250m

29. These are different to the set-back distances sought by NZDF in Attachment 2 of Sarah Bevan’s evidence which are:

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30. These were sought by way of NZDF’s Further Submission dated 28 September 2016.
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33. If the setback distances cannot be met then the proposed NZDF rule provides for alternative daytime and night-time noise limits. These are peak sound limits. Again, the limits now sought are different to those set out in the Auckland Unitary Plan scenario. In any event the work undertaken by Mr Hunt indicates that these activities are extremely loud and infers how they would be disconcerting to the wider population.

34. I do not consider that providing for night-time battle simulations as a permitted activity is a sensible approach to take. Mr Hunt has recommended a night-time noise limit for these but I believe the sound of gunfire and explosions will be disconcerting for the community even if it was quite distant and therefore at a low noise level. NZDF seemed to assert that the noisier activities would not take place, although there was no categorical statement to this effect. If this type of activity is not going to occur in the District then in my view it need not be provided for as a permitted activity, even if it is only part of a generic TMTA noise rule.

35. The original recommendations from Mr Hunt\(^1\) are represented by the Auckland Unitary Plan. The daytime set back distances have been plotted by Council on a map of the District which show that there is little remaining space for any of the noisier TMTA to take place. This map is attached as Appendix A to my evidence and only includes the set-backs for blank firing (750 m during the day and 2,250 m during the night). The live firing and battle simulations are 1,500 m during the day and 4,500 m at night which is significantly more onerous.

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36. A second set of set-back distances are attached as Appendix B. These have also been plotted by Council onto maps of the District which represent the 500 metre (day) and 1,250 metres (night) that NZDF now seeks. It can be seen why NZDF seeks the smaller set-backs but what is unclear to me is whether these still provide adequate protection. In any event, I do not see the logic of writing a rule with set-back distances that highly restrict any of the activities that are intended to occur within a Zone (or District) to the extent that they are virtually prevented. If that is the case then, in my opinion, the proper approach is to provide for these (noisier) activities as Restricted Discretionary to allow the Plan to include appropriate assessment criteria. Again, these are matters which were to be evaluated when TMTA came up for consideration, initially as part of topics proposed for the Rural section of the District Plan Review (which were to also include my input).

37. Mr Hunt seemed to be of the opinion that I am opposed to the use of notional boundary to assess TMTA. This is not the case. I agree that the notional boundary is an appropriate tool for short term finite activities (as opposed to its use as a long term planning tool for which I consider it is not appropriate).

38. In summary, I confirm that I have not undertaken an analysis of the rule now sought by NZDF because my understanding was that TMTAs will be covered by future plan changes. Furthermore the set-backs now sought are different from those in the original Hunt Report that NZDF relies upon. This makes it difficult to assess the appropriateness of the latest distances. There is now no differentiation between live firing and blanks. If live firing is not now to take place (which seems to have been indicated by NZDF) then there is no assurance about this. It then seems unreasonable to me to making live firing (as an intrinsic part of TMTA) a permitted activity in the absence of any specific control.

39. Given the mapping undertaken as part of this reply (see Appendix A and B) noisier TMTA activities would appear to only be accommodated in the Rural Zone, for example. I therefore recommend that provision for TMTA is not considered as part of Chapter 3 but that it be considered in each zone section as it is reviewed, commencing with the Rural Zone review. This will allow a proper analysis to be undertaken of the latest NZDF propositions, so that these can be usefully taken forward into the Sectional District Plan reviews.
Conclusions

40. I have considered evidence from various submitters on noise for Chapter 3 of the Proposed District Plan as part of the PC 55 hearing and made recommendations accordingly.

Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN

Manawatu District Plan

NZ Defence Force - Noise Setback in Rural Zone

- Rural Houses (approx location)
- Rural Zone
- Day 750m Setback
- Public Land - Dept of Conservation
- Night 2250m Setback
- Manawatu District

Source: LINZ Data Service http://data.linz.govt.nz
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Version 1.1 December 2016
Manawatu District Plan

NZ Defence Force - Noise Setback

- Rural dwelling (approx location)
- Rural zones
- Night 2250m Setback
- Night 2250m Setback
- Urban zones

Source: Ministry of Defence NZ

Sourced from the LINZ Data Service http://data.linz.govt.nz
and licensed by LINZ for re-use under the Creative Commons Attribution 3.0 New Zealand license.
Version 1.5 December 2016
APPENDIX B
TMTA SET-BACKS NOW SOUGHT BY NZDF
IN THE MATTER OF The Resource Management Act 1991  
A N D  
IN THE MATTER OF Manawatu Sectional Plan Review:  
Proposed Plan Change 55

SUPPLEMENTARY EVIDENCE OF NIGEL ROBERT LLOYD

Introduction

1. My name is Nigel Robert Lloyd. I am an acoustical consultant with Acousafe Consulting & Engineering Limited, a position I have held for over 30 years.

2. My qualifications and experience are set out in my evidence in chief.

3. I reaffirm that I have ‘Code of Conduct for Expert Witnesses’ contained in the Environment Court Practice Note 2014. My supplementary evidence has been prepared to continue to comply with that Code and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Reverse Sensitivity (General)

Submission S21/014 - Z Energy Ltd, BP Oil NZ Ltd, Mobile Oil NZ Ltd

4. The evidence of Karen Blair (4.4), on behalf of the Oil Companies, recommended that Policy 1.1 be amended as follows:

   To ensure noise level standards protect dwellings and other noise sensitive activities from unreasonable noise levels, including by requiring noise sensitive activities to avoid locating in zones where higher noise levels are anticipated unless they provide adequate noise attenuation.

5. I do not agree with this recommendation because, as an example, this matter is already covered by the Objectives and Policies that have been promulgated by PC46 for the Inner and Outer Business Zone as follows:

   10.3 Objectives and Policies

   Objective 1 To encourage and provide for a range of compatible activities that recognise Feilding’s role as a rural centre and retain the existing amenity values of the town centre.

   ...
1.4 To require any dwellings in the Inner Business Zone to be located above ground floor level and have appropriate acoustic insulation.

1.5 To manage any potential reverse sensitivity effects of dwellings in the Inner Business Zone by requiring appropriate privacy, sunlight and acoustic mitigation.

1.6 To ensure that any potential adverse effects from activities in the Business Zones are managed to avoid, remedy or mitigate adverse effects in the Business Zones and on residentially-zoned land adjacent to the Business Zones.

6. I therefore consider that the amendment sought by the Oil Companies is (and will be) superfluous. These matters are being specifically dealt with on a zone by zone basis, rather than generally and this is appropriate given the different expectations and requirements that arise in the various zones.

**Noise in the Rural Zone**

**Submissions S1 & S23**

7. The evidence of Federated Farmers (Coralee Matena) and Horticulture New Zealand (Angela Halliday) is that they both seek to provide exemptions for helicopter landing areas and rural airstrips that are used on an intermittent or infrequent basis as part of rural production activities.

8. First of all, and in response to questions from the hearing panel, I confirm that it is my understanding that the RMA (and the District Plan) cannot provide for control of aircraft that are in flight other than just prior to landing or just after take-off from an airport or helicopter landing area. Under the RMA, council is only able to impose controls on aircraft approaching, landing and departing from airports. The scope of jurisdiction available to control aircraft under section 9(5) of the RMA is limited to aircraft taking off or landing. Once lawfully airborne and away from the airfield, aircraft come under the control of the Civil Aviation Act 1990. Thus, aircraft that are involved in the action of top dressing, aerial spraying and frost control cannot be controlled by rules in the District Plan.

9. Secondly, I would point out that the activities in 3C.4.2.d.(iv) are not exempt from the Rules in Table 3C.1, they are simply not controlled by them. The noise from
While I agree with the sentiment of the submissions of Federated Farmers and Horticulture New Zealand, I do not see how the amendment they seek makes any difference to the provisions of the rules.

I also consider that the wording of the rural production activity exception is adequate without providing the need for undue complication.

[N.B. In Rule 3C.4.2.d the reference to 3C.4.1.b should read 3C.4.2.b].

I am of the opinion that occasional use of rural land by aircraft for rural production activities is covered by 3C.4.2.d.(iv) in the same way as terrestrial activities would be.

I consider that the amendments sought by Federated Farmers and Horticulture New Zealand do not change anything with respect to the mechanics of 3C.4.2.d read as a whole. They seek to include helicopter landing areas and rural airstrips used for intermittent or infrequent basis as part of rural production activities which are not controlled by Rule 3C.4.2.b. But all landing and take-off aircraft operations are already included in this category by way of 3C.4.2.d.(i). Including rural aircraft as an exception again, as sought by these submitters, does not alter anything.

The Guidance Notes provide for noise from separate helicopter landing areas and airports to be assessed using the relevant New Zealand Standards. These Standards might be appropriate for airstrips or helicopter landing areas that are inappropriately located and where the activity becomes more frequent. The need then becomes how do we define intermittent or infrequent activities.

NZS 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas is intended to apply to helicopter landing areas used for ten or more flight movements in any month. It is unclear to me whether ten flights per month could be used to define “infrequent”.

There is no useful definition in NZS 6805:1992 Airport Noise Management and Land Use Planning that could assist with differentiating between intermittent or infrequent use. I therefore see a significant hurdle in being able to define intermittent or infrequent activities.
18. I consider that airfields or helicopter landing areas that are only used for rural production purposes fall under the definition of rural production activities and, as such, would not be controlled by reference to the general noise rules in the 3C.4.2.b. If these facilities are used intermittently and infrequently then they will naturally be assessed in the same way as other rural production activities. However, this does not provide open slather to any rural production activity (including aircraft noise) and the RMA provides for the noise to be assessed as a nuisance if the need arises.

Submission S16/057 – Powerco

19. The evidence of Karen Blair was that Powerco seeks to delete Policy 1.2 of 3F.3 Objectives and Policies and rely on Policy 1.1.

20. The two policies are currently:
   1.1 To restrict the scale, intensity, duration and frequency of temporary activities to manage any adverse effects on the surrounding environment.
   1.2 To ensure temporary activities do not result in adverse amenity effects on noise sensitive activities.

21. Ms Blair is concerned that reference to noise sensitive activities in Policy 1.2 will bias the assessment towards noise sensitivity which, in turn, will inhibit those temporary activities that are noisier than usual.

22. These policies are aimed at temporary activities which are transient in nature. As it stands Policy 1.2 provides a very high level of protection against temporary activities. Given that the temporary activities are likely to be transient in nature then I accept that Policy 1.1 would provide adequate control and that Policy 1.2 can be deleted.

Temporary Military Training Activities (TMTA)

Submission S8/12 - NZDF

23. NZDF seeks to provide for TMTA across the District using a generic noise standard within Chapter 3.

24. Because the intention was always to assess TMTA as part of the Rural Zone (and then within other zones following on). I have not undertaken any analysis with respect to the TMTA rules generally in Section 3. I had understood that the
TMTA provisions had been deliberately set to one side deferred until later stages of the sectional District Plan review.

25. From my perspective the rationale behind deferring consideration of TMTA until the Rural Zone review is that the benign activities described by NZDF (as most likely TMTA to occur) can normally take place in any of the Zones without exceeding the District Plan noise limits. It is only those noisier activities (howitzer firing, battle simulations and explosions) that cannot take place in noise sensitive areas. The most likely place that these particular TMTA would need to take place is in the Rural Zone (if at all). It was for this reason that TMTA were proposed to be considered initially as part of review of the Rural Zone. As I discuss below this rationale has since been supported by the setback provisions proposed by NZDF. The need to provide for TMTA in other zones was then intended to be assessed following on, noting as I have above, the permissive basis of many of the benign TMTA, as well as the extent of the Rural Zone (96%).

26. I consider that it is imperative that a full analysis be undertaken of the changes that NZDF seeks to the District Plan. For example, the TMTA noise rule now proposed is not consistent with rule previously sought by NZDF in their original submission and proposed by NZDF for other Districts e.g. it is different to the Auckland Unitary Plan.

27. This makes it difficult to understand the argument that NZDF seeks to have a generic rule applied across the Nation.

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29. These are different to the set-back distances sought by NZDF in Attachment 2 of Sarah Bevan’s evidence which are:
   i. 0700 to 1900  500m
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36. A second set of set-back distances are attached as Appendix B. These have also been plotted by Council onto maps of the District which represent the 500 metre (day) and 1,250 metres (night) that NZDF now seeks. It can be seen why NZDF seeks the smaller set-backs but what is unclear to me is whether these still provide adequate protection. In any event, I do not see the logic of writing a rule with set-back distances that highly restricts any of the activities that are intended to occur within a Zone (or District) to the extent that they are virtually prevented. If that is the case then, in my opinion, the proper approach is to provide for these (noisier) activities as Restricted Discretionary to allow the Plan to include appropriate assessment criteria. Again, these are matters which were to be evaluated when TMTA came up for consideration, initially as part of topics proposed for the Rural section of the District Plan Review (which were to also include my input).

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Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN

Manawatu District Plan

NZ Defence Force - Noise Setback in Rural Zone

- Rural Houses (approx location)
- Rural Zone
- Day 750m Setback
- Public Land - Dept of Conservation
- Night 2250m Setback
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Version 1.6 December 2016
APPENDIX B
TMTA SET-BACKS NOW SOUGHT BY NZDF

Manawatu District Plan

NZ Defence Force - Noise Setback
- Rural dwelling (approx. location)
- Day 500m Setback
- Night 1250m Setback
- Rural Zones
- Urban Zones

Sourced from the LINZ Data Service http://data.linz.govt.nz and licensed by LINZ for re-use under the Creative Commons Attribution 3.0 New Zealand License. Version 1.1 December 2016
IN THE MATTER OF The Resource Management Act 1991
A N D
IN THE MATTER OF Manawatu Sectional Plan Review:
Proposed Plan Change 55

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**Submissions S1 & S23**

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11. I also consider that the wording of the rural production activity exception is adequate without providing the need for undue complication.

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33. If the setback distances cannot be met then the proposed NZDF rule provides for alternative daytime and night-time noise limits. These are peak sound limits. Again, the limits now sought are different to those set out in the Auckland Unitary Plan scenario. In any event the work undertaken by Mr Hunt indicates that these activities are extremely loud and infers how they would be disconcerting to the wider population.

34. I do not consider that providing for night-time battle simulations as a permitted activity is a sensible approach to take. Mr Hunt has recommended a night-time noise limit for these but I believe the sound of gunfire and explosions will be disconcerting for the community even if it was quite distant and therefore at a low noise level. NZDF seemed to assert that the noisier activities would not take place, although there was no categorical statement to this effect. If this type of activity is not going to occur in the District then in my view it need not be provided for as a permitted activity, even if it is only part of a generic TMTA noise rule.

35. The original recommendations from Mr Hunt are represented by the Auckland Unitary Plan. The daytime set back distances have been plotted by Council on a map of the District which show that there is little remaining space for any of the noisier TMTA to take place. This map is attached as Appendix A to my evidence and only includes the set-backs for blank firing (750 m during the day and 2,250 m during the night). The live firing and battle simulations are 1,500 m during the day and 4,500 m at night which is significantly more onerous.

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36. A second set of set-back distances are attached as Appendix B. These have also been plotted by Council onto maps of the District which represent the 500 metre (day) and 1,250 metres (night) that NZDF now seeks. It can be seen why NZDF seeks the smaller set-backs but what is unclear to me is whether these still provide adequate protection. In any event, I do not see the logic of writing a rule with set-back distances that highly restricts any of the activities that are intended to occur within a Zone (or District) to the extent that they are virtually prevented. If that is the case then, in my opinion, the proper approach is to provide for these (noisier) activities as Restricted Discretionary to allow the Plan to include appropriate assessment criteria. Again, these are matters which were to be evaluated when TMTA came up for consideration, initially as part of topics proposed for the Rural section of the District Plan Review (which were to also include my input).

37. Mr Hunt seemed to be of the opinion that I am opposed to the use of notional boundary to assess TMTA. This is not the case. I agree that the notional boundary is an appropriate tool for short term finite activities (as opposed to its use as a long term planning tool for which I consider it is not appropriate).

38. In summary, I confirm that I have not undertaken an analysis of the rule now sought by NZDF because my understanding was that TMTAs will be covered by future plan changes. Furthermore the set-backs now sought are different from those in the original Hunt Report that NZDF relies upon. This makes it difficult to assess the appropriateness of the latest distances. There is now no differentiation between live firing and blanks. If live firing is not now to take place (which seems to have been indicated by NZDF) then there is no assurance about this. It then seems unreasonable to me to making live firing (as an intrinsic part of TMTA) a permitted activity in the absence of any specific control.

39. Given the mapping undertaken as part of this reply (see Appendix A and B) noisier TMTA activities would appear to only be accommodated in the Rural Zone, for example. I therefore recommend that provision for TMTA is not considered as part of Chapter 3 but that it be considered in each zone section as it is reviewed, commencing with the Rural Zone review. This will allow a proper analysis to be undertaken of the latest NZDF propositions, so that these can be usefully taken forward into the Sectional District Plan reviews.
Conclusions

40. I have considered evidence from various submitters on noise for Chapter 3 of the Proposed District Plan as part of the PC 55 hearing and made recommendations accordingly.

Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN
APPENDIX B
TMTA SET-BACKS NOW SOUGHT BY NZDF

Manawatu District Plan

NZ Defence Force - Noise Setback
- Rural dwelling (approx location)
- Day 500m Setback
- Night 1250m Setback
- Rural Zones
- Urban Zones

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Version 1.1, 5 December 2016
INTRODUCTION

My name is Nigel Robert Lloyd. I am an acoustical consultant with Acousafe Consulting & Engineering Limited, a position I have held for over 30 years.

My qualifications and experience are set out in my evidence in chief.

I reaffirm that I have ‘Code of Conduct for Expert Witnesses’ contained in the Environment Court Practice Note 2014. My supplementary evidence has been prepared to continue to comply with that Code and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Reverse Sensitivity (General)

Submission S21/014 - Z Energy Ltd, BP Oil NZ Ltd, Mobile Oil NZ Ltd

4. The evidence of Karen Blair (4.4), on behalf of the Oil Companies, recommended that Policy 1.1 be amended as follows:

   To ensure noise level standards protect dwellings and other noise sensitive activities from unreasonable noise levels, including by requiring noise sensitive activities to avoid locating in zones where higher noise levels are anticipated unless they provide adequate noise attenuation.

5. I do not agree with this recommendation because, as an example, this matter is already covered by the Objectives and Policies that have been promulgated by PC46 for the Inner and Outer Business Zone as follows:

   Objective 1 To encourage and provide for a range of compatible activities that recognise Feilding’s role as a rural centre and retain the existing amenity values of the town centre.

   ...
1.4 To require any dwellings in the Inner Business Zone to be located above ground floor level and have appropriate acoustic insulation.

1.5 To manage any potential reverse sensitivity effects of dwellings in the Inner Business Zone by requiring appropriate privacy, sunlight and acoustic mitigation.

1.6 To ensure that any potential adverse effects from activities in the Business Zones are managed to avoid, remedy or mitigate adverse effects in the Business Zones and on residentially-zoned land adjacent to the Business Zones.

6. I therefore consider that the amendment sought by the Oil Companies is (and will be) superfluous. These matters are being specifically dealt with on a zone by zone basis, rather than generally and this is appropriate given the different expectations and requirements that arise in the various zones.

Noise in the Rural Zone

Submissions S1 & S23

7. The evidence of Federated Farmers (Coralee Matena) and Horticulture New Zealand (Angela Halliday) is that they both seek to provide exemptions for helicopter landing areas and rural airstrips that are used on an intermittent or infrequent basis as part of rural production activities.

8. First of all, and in response to questions from the hearing panel, I confirm that it is my understanding that the RMA (and the District Plan) cannot provide for control of aircraft that are in flight other than just prior to landing or just after take-off from an airport or helicopter landing area. Under the RMA, council is only able to impose controls on aircraft approaching, landing and departing from airports. The scope of jurisdiction available to control aircraft under section 9(5) of the RMA is limited to aircraft taking off or landing. Once lawfully airborne and away from the airfield, aircraft come under the control of the Civil Aviation Act 1990. Thus, aircraft that are involved in the action of top dressing, aerial spraying and frost control cannot be controlled by rules in the District Plan.

9. Secondly, I would point out that the activities in 3C.4.2.d.(iv) are not exempt from the Rules in Table 3C.1, they are simply not controlled by them. The noise from
rural production activities is still controlled by reference to S.16 of the RMA and S.327.

10. While I agree with the sentiment of the submissions of Federated Farmers and Horticulture New Zealand, I do not see how the amendment they seek makes any difference to the provisions of the rules.

11. I also consider that the wording of the rural production activity exception is adequate without providing the need for undue complication.

12. [N.B. In Rule 3C.4.2.d the reference to 3C.4.1.b should read 3C.4.2.b].

13. I am of the opinion that occasional use of rural land by aircraft for rural production activities is covered by 3C.4.2.d.(iv) in the same way as terrestrial activities would be.

14. I consider that the amendments sought by Federated Farmers and Horticulture New Zealand do not change anything with respect to the mechanics of 3C.4.2.d read as a whole. They seek to include *helicopter landing areas and rural airstrips used for intermittent or infrequent basis* as part of rural production activities which are not controlled by Rule 3C.4.2.b. But all landing and take-off aircraft operations are already included in this category by way of 3C.4.2.d.(i). Including rural aircraft as an exception again, as sought by these submitters, does not alter anything.

15. The Guidance Notes provide for noise from separate helicopter landing areas and airports to be assessed using the relevant New Zealand Standards. These Standards might be appropriate for airstrips or helicopter landing areas that are inappropriately located and where the activity becomes more frequent. The need then becomes how do we define intermittent or infrequent activities.

16. NZS 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas is intended to apply to helicopter landing areas used for ten or more flight movements in any month. It is unclear to me whether ten flights per month could be used to define “infrequent”.

17. There is no useful definition in NZS 6805:1992 *Airport Noise Management and Land Use Planning* that could assist with differentiating between intermittent or infrequent use. I therefore see a significant hurdle in being able to define *intermittent or infrequent* activities.
18. I consider that airfields or helicopter landing areas that are only used for rural production purposes fall under the definition of rural production activities and, as such, would not be controlled by reference to the general noise rules in the 3C.4.2.b. If these facilities are used intermittently and infrequently then they will naturally be assessed in the same way as other rural production activities. However, this does not provide open slather to any rural production activity (including aircraft noise) and the RMA provides for the noise to be assessed as a nuisance if the need arises.

Submission S16/057 – Powerco

19. The evidence of Karen Blair was that Powerco seeks to delete Policy 1.2 of 3F.3 Objectives and Policies and rely on Policy 1.1.

20. The two policies are currently:

1.1 To restrict the scale, intensity, duration and frequency of temporary activities to manage any adverse effects on the surrounding environment.

1.2 To ensure temporary activities do not result in adverse amenity effects on noise sensitive activities.

21. Ms Blair is concerned that reference to noise sensitive activities in Policy 1.2 will bias the assessment towards noise sensitivity which, in turn, will inhibit those temporary activities that are noisier than usual.

22. These policies are aimed at temporary activities which are transient in nature. As it stands Policy 1.2 provides a very high level of protection against temporary activities. Given that the temporary activities are likely to be transient in nature then I accept that Policy 1.1 would provide adequate control and that Policy 1.2 can be deleted.

Temporary Military Training Activities (TMTA)

Submission S8/12 - NZDF

23. NZDF seeks to provide for TMTA across the District using a generic noise standard within Chapter 3.

24. Because the intention was always to assess TMTA as part of the Rural Zone (and then within other zones following on). I have not undertaken any analysis with respect to the TMTA rules generally in Section 3. I had understood that the
TMTA provisions had been deliberately set to one side deferred until later stages of the sectional District Plan review.

25. From my perspective the rationale behind deferring consideration of TMTA until the Rural Zone review is that the benign activities described by NZDF (as most likely TMTA to occur) can normally take place in any of the Zones without exceeding the District Plan noise limits. It is only those noisier activities (howitzer firing, battle simulations and explosions) that cannot take place in noise sensitive areas. The most likely place that these particular TMTA would need to take place is in the Rural Zone (if at all). It was for this reason that TMTA were proposed to be considered initially as part of review of the Rural Zone. As I discuss below this rationale has since been supported by the setback provisions proposed by NZDF. The need to provide for TMTA in other zones was then intended to be assessed following on, noting as I have above, the permissive basis of many of the benign TMTA, as well as the extent of the Rural Zone (96%).

26. I consider that it is imperative that a full analysis be undertaken of the changes that NZDF seeks to the District Plan. For example, the TMTA noise rule now proposed is not consistent with rule previously sought by NZDF in their original submission and proposed by NZDF for other Districts e.g. it is different to the Auckland Unitary Plan.

27. This makes it difficult to understand the argument that NZDF seeks to have a generic rule applied across the Nation.

28. The Auckland Unitary Plan has set back distances (Table E40.6.8.1) of:
   
   i. Live firing 7am-7pm 1500m
   ii. Live firing 7pm-7am 4500m
   iii. Blanks 7am-7pm 750m
   iv. Blanks 7pm-7am 2250m

29. These are different to the set-back distances sought by NZDF in Attachment 2 of Sarah Bevan’s evidence which are:
   
   i. 0700 to 1900 500m
   ii. 1900 to 0700 1250m

30. These were sought by way of NZDF’s Further Submission dated 28 September 2016.
31. Unlike in the Auckland example provided above, the latest proposed rule now makes no differentiation made between live firing and blanks.

32. I understand, from Mr Hunt’s answer to a question from the Hearings Committee, that the latest set of TMTA standards are an iteration arising from mediation from the Christchurch District Plan Hearings. It is unclear what technical analysis took place as part of that mediation and without this information, it is difficult to confirm how the Christchurch outcome is relevant to the Manawatu District.

33. If the setback distances cannot be met then the proposed NZDF rule provides for alternative daytime and night-time noise limits. These are peak sound limits. Again, the limits now sought are different to those set out in the Auckland Unitary Plan scenario. In any event the work undertaken by Mr Hunt indicates that these activities are extremely loud and infers how they would be disconcerting to the wider population.

34. I do not consider that providing for night-time battle simulations as a permitted activity is a sensible approach to take. Mr Hunt has recommended a night-time noise limit for these but I believe the sound of gunfire and explosions will be disconcerting for the community even if it was quite distant and therefore at a low noise level. NZDF seemed to assert that the noisier activities would not take place, although there was no categorical statement to this effect. If this type of activity is not going to occur in the District then in my view it need not be provided for as a permitted activity, even if it is only part of a generic TMTA noise rule.

35. The original recommendations from Mr Hunt\(^1\) are represented by the Auckland Unitary Plan. The daytime set back distances have been plotted by Council on a map of the District which show that there is little remaining space for any of the noisier TMTA to take place. This map is attached as Appendix A to my evidence and only includes the set-backs for blank firing (750 m during the day and 2,250 m during the night). The live firing and battle simulations are 1,500 m during the day and 4,500 m at night which is significantly more onerous.

36. A second set of set-back distances are attached as Appendix B. These have also been plotted by Council onto maps of the District which represent the 500 metre (day) and 1,250 metres (night) that NZDF now seeks. It can be seen why NZDF seeks the smaller set-backs but what is unclear to me is whether these still provide adequate protection. In any event, I do not see the logic of writing a rule with set-back distances that highly restricts any of the activities that are intended to occur within a Zone (or District) to the extent that they are virtually prevented. If that is the case then, in my opinion, the proper approach is to provide for these (noisier) activities as Restricted Discretionary to allow the Plan to include appropriate assessment criteria. Again, these are matters which were to be evaluated when TMTA came up for consideration, initially as part of topics proposed for the Rural section of the District Plan Review (which were to also include my input).

37. Mr Hunt seemed to be of the opinion that I am opposed to the use of notional boundary to assess TMTA. This is not the case. I agree that the notional boundary is an appropriate tool for short term finite activities (as opposed to its use as a long term planning tool for which I consider it is not appropriate).

38. In summary, I confirm that I have not undertaken an analysis of the rule now sought by NZDF because my understanding was that TMTAs will be covered by future plan changes. Furthermore the set-backs now sought are different from those in the original Hunt Report that NZDF relies upon. This makes it difficult to assess the appropriateness of the latest distances. There is now no differentiation between live firing and blanks. If live firing is not now to take place (which seems to have been indicated by NZDF) then there is no assurance about this. It then seems unreasonable to me to making live firing (as an intrinsic part of TMTA) a permitted activity in the absence of any specific control.

39. Given the mapping undertaken as part of this reply (see Appendix A and B) noisier TMTA activities would appear to only be accommodated in the Rural Zone, for example. I therefore recommend that provision for TMTA is not considered as part of Chapter 3 but that it be considered in each zone section as it is reviewed, commencing with the Rural Zone review. This will allow a proper analysis to be undertaken of the latest NZDF propositions, so that these can be usefully taken forward into the Sectional District Plan reviews.
Conclusions

40. I have considered evidence from various submitters on noise for Chapter 3 of the Proposed District Plan as part of the PC 55 hearing and made recommendations accordingly.

Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN

Manawatu District Plan

NZ Defence Force - Noise Setback in Rural Zone

- Rural Houses (approx location)
- Rural Zone
- Day 750m Setback
- Public Land – Dept of Conservation
- Night 2250m Setback
- Manawatu District

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Version 1, 6 December 2019]
APPENDIX B
TMTA SET-BACKS NOW SOUGHT BY NZDF
INTRODUCTION

1. My name is Nigel Robert Lloyd. I am an acoustical consultant with Acousafe Consulting & Engineering Limited, a position I have held for over 30 years.

2. My qualifications and experience are set out in my evidence in chief.

3. I reaffirm that I have ‘Code of Conduct for Expert Witnesses’ contained in the Environment Court Practice Note 2014. My supplementary evidence has been prepared to continue to comply with that Code and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

REVERSE SENSITIVITY (GENERAL)

Submission S21/014 - Z Energy Ltd, BP Oil NZ Ltd, Mobile Oil NZ Ltd

4. The evidence of Karen Blair (4.4), on behalf of the Oil Companies, recommended that Policy 1.1 be amended as follows:

   To ensure noise level standards protect dwellings and other noise sensitive activities from unreasonable noise levels, including by requiring noise sensitive activities to avoid locating in zones where higher noise levels are anticipated unless they provide adequate noise attenuation.

5. I do not agree with this recommendation because, as an example, this matter is already covered by the Objectives and Policies that have been promulgated by PC46 for the Inner and Outer Business Zone as follows:

   10.3 Objectives and Policies

   Objective 1 To encourage and provide for a range of compatible activities that recognise Feilding’s role as a rural centre and retain the existing amenity values of the town centre.

   …
1.4 To require any dwellings in the Inner Business Zone to be located above ground floor level and have appropriate acoustic insulation.

1.5 To manage any potential reverse sensitivity effects of dwellings in the Inner Business Zone by requiring appropriate privacy, sunlight and acoustic mitigation.

1.6 To ensure that any potential adverse effects from activities in the Business Zones are managed to avoid, remedy or mitigate adverse effects in the Business Zones and on residentially-zoned land adjacent to the Business Zones.

6. I therefore consider that the amendment sought by the Oil Companies is (and will be) superfluous. These matters are being specifically dealt with on a zone by zone basis, rather than generally and this is appropriate given the different expectations and requirements that arise in the various zones.

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1.1 To restrict the scale, intensity, duration and frequency of temporary activities to manage any adverse effects on the surrounding environment.

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29. These are different to the set-back distances sought by NZDF in Attachment 2 of Sarah Bevan’s evidence which are:
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31. Unlike in the Auckland example provided above, the latest proposed rule now makes no differentiation made between live firing and blanks.

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Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN

Manawatu District Plan

NZ Defence Force - Noise Setback in Rural Zone

- Rural Houses (approx location)
- Rural Zone
- Day 750m Setback
- Public Land - Dept of Conservation
- Night 2250m Setback
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Version 1. 6 December 2019
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To ensure noise level standards protect dwellings and other noise sensitive activities from unreasonable noise levels, including by requiring noise sensitive activities to avoid locating in zones where higher noise levels are anticipated unless they provide adequate noise attenuation.

I do not agree with this recommendation because, as an example, this matter is already covered by the Objectives and Policies that have been promulgated by PC46 for the Inner and Outer Business Zone as follows:

10.3 Objectives and Policies
Objective 1 To encourage and provide for a range of compatible activities that recognise Feilding’s role as a rural centre and retain the existing amenity values of the town centre.

...
1.4 To require any dwellings in the Inner Business Zone to be located above ground floor level and have appropriate acoustic insulation.

1.5 To manage any potential reverse sensitivity effects of dwellings in the Inner Business Zone by requiring appropriate privacy, sunlight and acoustic mitigation.

1.6 To ensure that any potential adverse effects from activities in the Business Zones are managed to avoid, remedy or mitigate adverse effects in the Business Zones and on residentially-zoned land adjacent to the Business Zones.

6. I therefore consider that the amendment sought by the Oil Companies is (and will be) superfluous. These matters are being specifically dealt with on a zone by zone basis, rather than generally and this is appropriate given the different expectations and requirements that arise in the various zones.

**Noise in the Rural Zone**

**Submissions S1 & S23**

7. The evidence of Federated Farmers (Coralee Matena) and Horticulture New Zealand (Angela Halliday) is that they both seek to provide exemptions for helicopter landing areas and rural airstrips that are used on an intermittent or infrequent basis as part of rural production activities.

8. First of all, and in response to questions from the hearing panel, I confirm that it is my understanding that the RMA (and the District Plan) cannot provide for control of aircraft that are in flight other than just prior to landing or just after take-off from an airport or helicopter landing area. Under the RMA, council is only able to impose controls on aircraft approaching, landing and departing from airports. The scope of jurisdiction available to control aircraft under section 9(5) of the RMA is limited to aircraft taking off or landing. Once lawfully airborne and away from the airfield, aircraft come under the control of the Civil Aviation Act 1990. Thus, aircraft that are involved in the action of top dressing, aerial spraying and frost control cannot be controlled by rules in the District Plan.

9. Secondly, I would point out that the activities in 3C.4.2.d.(iv) are not exempt from the Rules in Table 3C.1, they are simply not controlled by them. The noise from
rural production activities is still controlled by reference to S.16 of the RMA and S.327.

10. While I agree with the sentiment of the submissions of Federated Farmers and Horticulture New Zealand, I do not see how the amendment they seek makes any difference to the provisions of the rules.

11. I also consider that the wording of the rural production activity exception is adequate without providing the need for undue complication.

12. [N.B. In Rule 3C.4.2.d the reference to 3C.4.1.b should read 3C.4.2.b].

13. I am of the opinion that occasional use of rural land by aircraft for rural production activities is covered by 3C.4.2.d.(iv) in the same way as terrestrial activities would be.

14. I consider that the amendments sought by Federated Farmers and Horticulture New Zealand do not change anything with respect to the mechanics of 3C.4.2.d read as a whole. They seek to include helicopter landing areas and rural airstrips used for intermittent or infrequent basis as part of rural production activities which are not controlled by Rule 3C.4.2.b. But all landing and take-off aircraft operations are already included in this category by way of 3C.4.2.d.(i). Including rural aircraft as an exception again, as sought by these submitters, does not alter anything.

15. The Guidance Notes provide for noise from separate helicopter landing areas and airports to be assessed using the relevant New Zealand Standards. These Standards might be appropriate for airstrips or helicopter landing areas that are inappropriately located and where the activity becomes more frequent. The need then becomes how do we define intermittent or infrequent activities.

16. NZS 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas is intended to apply to helicopter landing areas used for ten or more flight movements in any month. It is unclear to me whether ten flights per month could be used to define “infrequent”.

17. There is no useful definition in NZS 6805:1992 Airport Noise Management and Land Use Planning that could assist with differentiating between intermittent or infrequent use. I therefore see a significant hurdle in being able to define intermittent or infrequent activities.
18. I consider that airfields or helicopter landing areas that are only used for rural production purposes fall under the definition of rural production activities and, as such, would not be controlled by reference to the general noise rules in the 3C.4.2.b. If these facilities are used intermittently and infrequently then they will naturally be assessed in the same way as other rural production activities. However, this does not provide open slather to any rural production activity (including aircraft noise) and the RMA provides for the noise to be assessed as a nuisance if the need arises.

Submission S16/057 – Powerco

19. The evidence of Karen Blair was that Powerco seeks to delete Policy 1.2 of 3F.3 Objectives and Policies and rely on Policy 1.1.

20. The two policies are currently:

1.1 To restrict the scale, intensity, duration and frequency of temporary activities to manage any adverse effects on the surrounding environment.

1.2 To ensure temporary activities do not result in adverse amenity effects on noise sensitive activities.

21. Ms Blair is concerned that reference to noise sensitive activities in Policy 1.2 will bias the assessment towards noise sensitivity which, in turn, will inhibit those temporary activities that are noisier than usual.

22. These policies are aimed at temporary activities which are transient in nature. As it stands Policy 1.2 provides a very high level of protection against temporary activities. Given that the temporary activities are likely to be transient in nature then I accept that Policy 1.1 would provide adequate control and that Policy 1.2 can be deleted.

Temporary Military Training Activities (TMTA)

Submission S8/12 - NZDF

23. NZDF seeks to provide for TMTA across the District using a generic noise standard within Chapter 3.

24. Because the intention was always to assess TMTA as part of the Rural Zone (and then within other zones following on). I have not undertaken any analysis with respect to the TMTA rules generally in Section 3. I had understood that the
TMTA provisions had been deliberately set to one side deferred until later stages of the sectional District Plan review.

25. From my perspective the rationale behind deferring consideration of TMTA until the Rural Zone review is that the benign activities described by NZDF (as most likely TMTA to occur) can normally take place in any of the Zones without exceeding the District Plan noise limits. It is only those noisier activities (howitzer firing, battle simulations and explosions) that cannot take place in noise sensitive areas. The most likely place that these particular TMTA would need to take place is in the Rural Zone (if at all). It was for this reason that TMTA were proposed to be considered initially as part of review of the Rural Zone. As I discuss below this rationale has since been supported by the setback provisions proposed by NZDF. The need to provide for TMTA in other zones was then intended to be assessed following on, noting as I have above, the permissive basis of many of the benign TMTA, as well as the extent of the Rural Zone (96%).

26. I consider that it is imperative that a full analysis be undertaken of the changes that NZDF seeks to the District Plan. For example, the TMTA noise rule now proposed is not consistent with rule previously sought by NZDF in their original submission and proposed by NZDF for other Districts e.g. it is different to the Auckland Unitary Plan.

27. This makes it difficult to understand the argument that NZDF seeks to have a generic rule applied across the Nation.

28. The Auckland Unitary Plan has set back distances (Table E40.6.8.1) of:
   i. Live firing 7am-7pm 1500m
   ii. Live firing 7pm-7am 4500m
   iii. Blanks 7am-7pm 750m
   iv. Blanks 7pm-7am 2250m

29. These are different to the set-back distances sought by NZDF in Attachment 2 of Sarah Bevan’s evidence which are:
   i. 0700 to 1900 500m
   ii. 1900 to 0700 1250m

30. These were sought by way of NZDF’s Further Submission dated 28 September 2016.
31. Unlike in the Auckland example provided above, the latest proposed rule now makes no differentiation made between live firing and blanks.

32. I understand, from Mr Hunt’s answer to a question from the Hearings Committee, that the latest set of TMTA standards are an iteration arising from mediation from the Christchurch District Plan Hearings. It is unclear what technical analysis took place as part of that mediation and without this information, it is difficult to confirm how the Christchurch outcome is relevant to the Manawatu District.

33. If the setback distances cannot be met then the proposed NZDF rule provides for alternative daytime and night-time noise limits. These are peak sound limits. Again, the limits now sought are different to those set out in the Auckland Unitary Plan scenario. In any event the work undertaken by Mr Hunt indicates that these activities are extremely loud and infers how they would be disconcerting to the wider population.

34. I do not consider that providing for night-time battle simulations as a permitted activity is a sensible approach to take. Mr Hunt has recommended a night-time noise limit for these but I believe the sound of gunfire and explosions will be disconcerting for the community even if it was quite distant and therefore at a low noise level. NZDF seemed to assert that the noisier activities would not take place, although there was no categorical statement to this effect. If this type of activity is not going to occur in the District then in my view it need not be provided for as a permitted activity, even if it is only part of a generic TMTA noise rule.

35. The original recommendations from Mr Hunt\(^1\) are represented by the Auckland Unitary Plan. The daytime set back distances have been plotted by Council on a map of the District which show that there is little remaining space for any of the noisier TMTA to take place. This map is attached as Appendix A to my evidence and only includes the set-backs for blank firing (750 m during the day and 2,250 m during the night). The live firing and battle simulations are 1,500 m during the day and 4,500 m at night which is significantly more onerous.

36. A second set of set-back distances are attached as Appendix B. These have also been plotted by Council onto maps of the District which represent the 500 metre (day) and 1,250 metres (night) that NZDF now seeks. It can be seen why NZDF seeks the smaller set-backs but what is unclear to me is whether these still provide adequate protection. In any event, I do not see the logic of writing a rule with set-back distances that highly restricts any of the activities that are intended to occur within a Zone (or District) to the extent that they are virtually prevented. If that is the case then, in my opinion, the proper approach is to provide for these (noisier) activities as Restricted Discretionary to allow the Plan to include appropriate assessment criteria. Again, these are matters which were to be evaluated when TMTA came up for consideration, initially as part of topics proposed for the Rural section of the District Plan Review (which were to also include my input).

37. Mr Hunt seemed to be of the opinion that I am opposed to the use of notional boundary to assess TMTA. This is not the case. I agree that the notional boundary is an appropriate tool for short term finite activities (as opposed to its use as a long term planning tool for which I consider it is not appropriate).

38. In summary, I confirm that I have not undertaken an analysis of the rule now sought by NZDF because my understanding was that TMTAs will be covered by future plan changes. Furthermore the set-backs now sought are different from those in the original Hunt Report that NZDF relies upon. This makes it difficult to assess the appropriateness of the latest distances. There is now no differentiation between live firing and blanks. If live firing is not now to take place (which seems to have been indicated by NZDF) then there is no assurance about this. It then seems unreasonable to me to making live firing (as an intrinsic part of TMTA) a permitted activity in the absence of any specific control.

39. Given the mapping undertaken as part of this reply (see Appendix A and B) noisier TMTA activities would appear to only be accommodated in the Rural Zone, for example. I therefore recommend that provision for TMTA is not considered as part of Chapter 3 but that it be considered in each zone section as it is reviewed, commencing with the Rural Zone review. This will allow a proper analysis to be undertaken of the latest NZDF propositions, so that these can be usefully taken forward into the Sectional District Plan reviews.
Conclusions

40. I have considered evidence from various submitters on noise for Chapter 3 of the Proposed District Plan as part of the PC 55 hearing and made recommendations accordingly.

Nigel Lloyd
Acousafe Consulting & Engineering Limited
15 December 2016
APPENDIX A
TMTA SET-BACKS CONSISTENT WITH THE AUCKLAND UNITARY PLAN

Manawatu District Plan

NZ Defence Force - Noise Setback in Rural Zone

- Rural Houses (approx location) - Rural Zone
- Day 750m Setback
- Public Land - Dept of Conservation
- Night 2250m Setback
- Manawatu District

PAUP Approach for 750m & 2250m

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Version 1.1 December 2016
APPENDIX B
TMTA SET-BACKS NOW SOUGHT BY NZDF

Manawatu District Plan

NZ Defence Force - Noise Setback

- Rural dwelling (approx location)
  - Day 500m Setback
  - Night 1250m Setback
  - Rural Zones
  - Urban Zones

Subdivision Nodal Zone
Public Land - Department of Conservation
Local Authority boundary
Manawatu District

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