

6 December 2024

Airways Corporation of New Zealand Ltd

By email

Dear Airways,

Auckland Air Traffic Control Tower Replacement Consultation 2024

1. The New Zealand Air Line Pilots' Association (NZALPA) appreciates the opportunity to make submissions on Airways Corporation of New Zealand Ltd's (Airways') proposal to replace Auckland Air Traffic Control Tower.
2. NZALPA values our relationship with Airways New Zealand as the Air Navigation Service Provider for New Zealand.

Executive Summary

3. NZALPA presents three fundamental positions supporting our submission that a conventional 70m tower would be the option best suited to replace the existing Air Traffic Control Tower at Auckland Airport servicing the current runway along with the any future north runway:

Safety

Safety should be the primary consideration in all aspects of infrastructure development within the aviation environment, even more so with Auckland International Airport and the pivotal position it occupies within New Zealand's aviation network. While digital technologies provide a useful secondary control, they do not provide the level of safety that a 70m tower would.

Serviceability

Our second consideration is the ability to resource the operation of a second Control Tower whether Physical, Digital or Hybrid. Airways have historically provided inadequate ATC resource within Auckland Tower for current operations. Extra resources will be required to operate a second control tower as proposed for the north runway in the future, whatever its design. Maintaining a single tower for operations would enable more roster flexibility in the future and maximisation of resources in a single location.

Sustainability

The construction and maintenance of a single 70m high control tower should result in a significantly smaller environmental, financial and workforce impact both through additional construction and operations costs of two towers.

Introduction

4. As per our submission in 2022, NZALPA holds the position that the best solution for Auckland and New Zealand would be the one that is the safest, has the lowest risk, complies with regulations, and assures service delivery. We agree that the proposal that best meets these requirements is that of a conventional 70m tower.
5. NZALPA appreciates Airways have accepted a conventional tower replacement is the favourable option and that NZALPA is recognised by Airways as a key stakeholder, a champion of Safety with extensive technical expertise and experience to offer the New Zealand aviation industry. We are committed to collaborating for safer skies.
6. We note that Airways response to our submissions in 2022 noted that a conventional (70m) tower would require the tower to be significantly further back from the current runway to provide sufficient visibility for the future northern runway.
7. We understand that there are cost constraints on delivery of a 70m conventional tower and would require additional engagement with AIL regarding appropriate location. However, in our view, the importance of ensuring a safe and a reliable Air Traffic Control Service that is fit for purpose now and in the future is of such that safety should never be the cost of economy.

Q1 – Feedback on the Preferred Option

8. As the consultation document recalls, NZALPA supports a 70 conventional tower over a 45m tower.
9. However, we would agree that a physical tower is the correct option. Significant time pressures increase the risk of introducing new and currently untried and unregulated technology in New Zealand. The new tower should be capable of including future technology and suites to accommodate additional staff to control the additional runway.

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10. In discussing Airway's preferred option the consultation document states that a conventional tower provides a proven, resilient option to maintain high safety standards and support the wellbeing of air traffic controllers, ensuring minimal risk and reliable service delivery. NZALPA agrees.
 11. As noted above, we have three separate positions that support this view.

Safety

12. Airways Manual of Air Traffic Services notes that air traffic controllers must maintain a continuous watch on all flight operations in the vicinity of an aerodrome.

Aerodrome controllers shall maintain a continuous watch on all flight operations on and in the vicinity of an aerodrome as well as vehicles and personnel on the manoeuvring area. Watch shall be maintained by visual observation, augmented by the approved use of an ATS surveillance system when available.

The objective of Air Traffic Control is to provide a safe, orderly and expeditious flow of air traffic.

An Air Traffic Control Service shall:

- Prevent collisions between Aircraft and
- Prevent collisions between Aircraft and obstructions on any manoeuvring area
- Expedite and maintain a safe and efficient flow of traffic.

Manual of Air Traffic Services (MATS) RAC 1-7

13. We note that under the MATS, Airways delegates responsibility for the monitoring of flight operations to aerodrome controllers. In our view, therefore, NZALPA (in its capacity as the representative of the controllers at Auckland Tower) presents a uniquely valuable input for this consultation.
14. To that extent, we have consulted directly with controllers at Auckland Tower and have received a range of responses. One response provided a particularly succinct summary of the views of controllers at Auckland Tower,

A 70m Control Tower would undoubtedly provide better visibility over all operations on the manoeuvring area with the least blind spots therefore less support technology.
15. The responses of Auckland Tower controllers reflect a common theme that a 70m control tower is their preferred option because it provides confidence that they will be able to conduct their duties in the safety possible manner.

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16. We note that a manoeuvring area is defined as that part of an aerodrome to be used for the take-off and landing of aircraft and for the surface movement of aircraft associated with take-off and landing.
 17. Within the manoeuvring area and in the vicinity of the aerodrome, in general, the MATS mandates that air traffic controllers prevent collisions between aircraft, prevent collisions between aircraft and obstructions on any manoeuvring area, and expedite and maintain a safe and efficient flow of traffic. These mandates must be considered in turn.
 18. **Prevention of Collisions between Aircraft:** Aerodrome controllers are required to maintain a continuous visual watch over all aircraft on and in the vicinity of an aerodrome. Cranes associated with airfield construct projects along with hotels i.e. the Novotel and Pullman, and various airport buildings and infrastructure provide physical obstructions and barriers to visual watch. The only feasible way in which this hazard could be eliminated would be the erection of a 70m tower.
 19. **Prevention of Collisions between Aircraft and Obstructions:** Whilst advanced surface movement and guidance control systems can mitigate some of the risks on the manoeuvring area, New Zealand is yet to utilise this technology. The use of this technology is an important secondary control to the primary measure of visual sighting. Current visibility is inadequate and will be worsened with the resurrection of pier A1. Whilst visibility will improve with the proposed 45m tower it would require substantially more significant technical enhancements to obtain the required visibility standards than a 70m tower.
 20. **Expedition and Maintenance of an Orderly Traffic Flow:** Generally, a higher tower will broaden the visual repertoire of the controllers in the tower enabling a safer, more orderly and efficient traffic flow.
 21. Both a 45m tower and a 70m tower would require enhancement from an Advanced Surface Movement Guidance and Control System, runway incursion monitoring, drone/FOD detection, collaborative decision making (CDM), flow control, arrivals/departures management and scheduling, advanced electronic flight progress boards (ATRICs) and such. However, a 70m tower would require less support than a much lower 45m tower, whilst not removing the ability to add such safety enhancements.
 22. Further, we are concerned that a consultation/submission window of less than a month is an inadequate consultation period for the provision of submissions that would be able to address the above safety issues in sufficient depth.

Serviceability

23. Given the expressed intentions of the airport to develop a second runway, the ability to service and resource two towers must be addressed. Historic staffing levels and the reality of actual staffing levels verses workforce predictions indicates that there are likely to be serviceability challenges. Auckland Tower is currently understaffed for day-to-day operations and will be for some time to come. Surplus operational staff are required to be included in all stages of the project with involvement increasing as implementation approaches. If it cannot be successfully and effectively

staffed at present, then the question must be asked whether workforce planning can resource two towers in the future, and the associated development project(s).

24. One 70m tower would enable flexible rostering, a reduced workforce in both technical and maintenance fields.

Sustainability

25. NZALPA considers sustainability as a wide concept including both environmental, financial and social sustainability. The concept involves notions of resilience, responsible stewardship, and kaitiakitanga not only of the environment but also of financial resources and relationships between stakeholders. Using this lens we make the following observations.
26. Whilst the construction of a 70m tower would incur significantly more cost than the erection of a 45m tower plus a future second, the cost savings for future should be a consideration as construction costs will only increase with time. We are not aware of any forecast for the cost of constructing a second tower (or other necessary air traffic service infrastructure) to provide for a future north runway. The reason for the absence of such costings is likely to be the uncertainty regarding when such a runway will be constructed. On the other hand, AIAL continues to indicate to media that the construction of a north runway is a question of when not if. In our view it is likely financially more responsible for Airways to invest in a 70m tower now – although we acknowledge the uncertainty that arises from the lack of information available from AIAL.
27. Also from a sustainability perspective, we consider there are likely to be advantages in the construction of one building footprint over having two such footprints. The problem of duplication arises not only in regard to the impact on the physical environment but will also contribute to the duplication of maintenance, staffing resource and carbon footprint.
28. A single tower would also provide greater resilience in relation to the testing and introduction of emerging technology. This is because having a single 70m tower in place would provide redundancy to enable the trial of digital technologies on the north runway. This would mean the requirement to remain relevant and current with developing technology could be met in a more cost effective manner.

Q1 - Conclusion

29. From our reading of the consultation documents, Airways agree that a 70m tower would have the ability to control both runways in the future. However, Airways cite the risk associated with this option as being that the construction of a northern runway has no firm date or requirements. In NZALPA's submission the construction of a northern runway is a certainty – it will need to occur.
30. What is uncertain is only when it will occur. To that extent, describing the uncertainty around its construction as a risk factor is not appropriate. The actual risk that is being identified is failure to conduct coherent infrastructure planning. That failure has already manifested itself in the lack of information shared by AIAL with Airways.

Q2 – Other Feedback

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31. As mentioned above, NZALPA has consulted with Auckland Tower staff regarding this submission. With NZALPA support the staff request Airways engage them in this decision. Staff are suffering from information fatigue regarding the Tower Replacement project, and they feel unheard and uninvested. Many note that the last engagement was in 2022. If Airways were to poll staff, we are confident that the overwhelming majority would prefer a 70m tower for the reasons stated in this submission.
 32. A recent report has deemed the existing tower environment and air quality below acceptable health standards. These results have caused significant concern to both staff and NZALPA however this had been long suspected prior to the report of 13th November by AIRLAB.
 33. The AIRLAB report provided the following findings,
 - a. Average TVOC concentrations exceeded health guidelines in the Control Tower Office.
 - b. Maximum concentrations exceeded health guidelines at all locations.
 - c. The volume of outdoor air supplied to the Control Tower Cab does not meet the minimum requirements of AS 1668.2-2012.
 34. It appears Airways' major concern is the time available to construct the new solution; the rapidly decaying existing Tower; and the cost of remedial work to increase its longevity.
 35. In this context, we would like to reiterate the need for long-term systems thinking and coordinated infrastructure planning. Delay and cost are not a reason to compromise workplace or system safety.
 36. There are many other airports that have parallel runways with average daily aircraft movements similar to the number that could be expected at a future Auckland International Airport.
 37. The following examples demonstrate the benefit of a higher tower compared to a tower of similar height to the one proposed:
 - a. Singapore parallel runways 1650m apart, one Tower 81m high approx. 1000 movements per day A-SMGCS plus CCTV – few blind spots. source: Changi Tower Controller.
 - b. Jakarta parallel runways 2402m apart, one Tower 78m high approx. 1000 movements per day. No blind spots A-SMGCS – source: Jakarta International Tower Controller
 - c. Sydney parallel runways 1037m apart, one tower 41m high, significant blind spots A-SMGCS – source: Civil Air Australia and Approach Controller in Sydney.
 38. If Airways vision is to provide a truly safe and sustainable service then a 70m tower provides for fewer blind spots and contributes to a more sustainable sector and a more serviceable operation.

Contingency

39. NZALPA agree the current contingency plan for AA TWR is less than ideal. The consultation document suggests a digital contingency to allow normal operations under all of the proposed options. Money would be better spent on ensuring a safer conventional contingency tower.

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40. We support the development of the current conventional contingency tower through enhancement with digital technologies. However, we do not support a digital contingency tower at Auckland Airport since the cost of such is likely to impact the ability to provide the most appropriate primary tower as described in this submission.

Collaboration

41. The IFATCA policy paper on Unmanned Traffic Management (11 December 2020) states that “operational controllers shall be involved in the design, development and implementation of new ATM systems.”
42. The organisation also recognises that separation standards and procedures need to be developed or adapted and implemented based on a robust safety case and the demonstrated capabilities of the system.
43. It is important to ensure that a high degree of collaborative identification and mitigation of risk is achieved amongst stakeholders. Enabling this to occur will ensure that high quality information is available for the purposes of safety risk management planning.
44. Key indicators of performance must be agreed to amongst all stakeholders, implementation performance tracked against these key indicators, and ongoing systems performance transparent and available to all users.

Conclusion

45. NZALPA’s preferred outcome is that a 70m tower be constructed to enable, in our assessment, the:
- a. maximal ability of controllers to prevent collisions and expedite and maintain a safe and efficient traffic flow;
 - b. serviceability of the control tower within current and future manpower trends; and
 - c. provision of air traffic services in a manner that is sustainable, resilient and responsible.
46. Airports are a significant infrastructure investment. Planning for their development needs to be based on a strong evidence base, be situated within a reasonable and sustainable long-term plan for the area they serve, and be effectively communicated to all stakeholders (eg. Airways). In the absence of such coordinated planning stakeholders are left making decisions based on inadequate and incomplete information. In such cases, stakeholders should take a precautionary approach based not on the minimal information available to them but on the best forecasts for long-term developments.
47. For the reasons set out above, NZALPA does not support the development of a 45m tower at Auckland International Airport. We propose, instead, a 70m tower.
48. Please feel free to reach out if you require further clarification of the above position.

Yours sincerely

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