



To: General Purposes Committee

Date: November 1, 2013

From: Victor Wei, P.Eng.
Director, Transportation

File: 01-0153-04-01/2013-Vol 01

Re: **DRAFT 2014-2018 YVR NOISE MANAGEMENT PLAN – CITY OF RICHMOND
COMMENTS**

Staff Recommendation

1. That the Vancouver Airport Authority (VAA) be advised that the City supports the draft *2014-2018 YVR Noise Management Plan* (Plan) on the condition that the following changes be incorporated into final Plan, prior to VAA Board approval:
 - (a) indicate how the previous 2009-2013 YVR Noise Management Plan has been implemented and any outstanding initiatives;
 - (b) clarify the purpose, rationale, expected benefits, priority and timing of each proposed Plan initiative over the coming five-year period; and
 - (c) identify the air travel growth scenario used to prepare the proposed Plan;
2. That this report be forwarded to the Vancouver Airport Authority for its consideration in the finalization of the 2014-2018 YVR Noise Management Plan.

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Att. 2

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER	
REVIEWED BY STAFF REPORT AGENDA REVIEW SUBCOMMITTEE	INITIALS: DW
APPROVED BY CAO	

Staff Report

Origin

As per its ground lease with the federal government, the Vancouver Airport Authority (VAA) is responsible for noise management for up to 10 nautical miles from the airport and the YVR Board must have an approved five-year noise management plan signed by the Federal Minister of Transport to guide it in its noise management practices. The current five-year YVR Noise Management Plan (NMP) is now in its fifth and final year and a new five-year 2014-2018 YVR Noise Management Plan (Plan) is being prepared by the Vancouver Airport Authority (VAA) for delivery to Transport Canada for approval by December 1, 2013.

The first draft of the Plan was distributed to the YVR Aeronautical Noise Management Committee (YVR ANMC) for review and comment on September 10, 2013. Following a meeting between City and VAA staff, a revised version was provided to staff on October 16, 2013. This report provides comments on the revised version.

Analysis

1. Preparation of 2014-2018 Noise Management Plan

Each NMP is a five-year action plan created through consultation with YVR ANMC members and other industry stakeholders, a review of best practices, plus analyses of YVR public web survey feedback regarding aeronautical noise concerns and aircraft noise-related complaints. The City has both City staff and citizen representation on the YVR ANMC.

The proposed initiatives of the 2014-2018 NMP (see **Attachment 1**) set broad objectives and deliverables. Actions and results will be subject to further work and assessments to ensure decisions can be made with all available input, information and data. Structuring initiatives over a five-year period assists the VAA in preparing annual work and business plans.

2. City Input into 2014-2018 Noise Management Plan

Through the YVR ANMC and separate meetings with VAA staff, City staff and its YVR ANMC citizen representatives suggested the following initiatives which are included in the proposed Plan. City and VAA staff jointly crafted the following planning Initiatives 1.1 and 1.2:

- *1.1 - Existing 2015 Aircraft Noise Exposure Frequency Map*: this map shows where noise exposure occurs and, as it was established in 1994, requires review to assess its continued applicability given that airport and aircraft operations have changed since that time. Following this joint map review, relevant related documents (e.g., brochures, policies, bylaws, covenants, noise mitigation standards) would also be reviewed to determine the need for any updates.
- *1.2 - Review of existing YVR Aeronautical Zoning Regulations*: the heights of buildings and obstacles in close vicinity to the airport are governed by Transport Canada's YVR Aeronautical Zoning Regulations (formally called Vancouver International Airport Regulations), which set maximum building heights to ensure safe aircraft operations. The

Airport Authority will conduct a review of the federal Zoning Regulations to seek protection for runway options identified in the YVR 2027 Master Plan (Federally approved June 19, 2008) and to protect existing runways given increased zoning requirements. As part of this review, the Airport Authority will also consult with the City of Richmond and other stakeholders to explore possibly increasing building height around City Hall to improve City Centre sustainability, social, economic and environmental benefits. This YVR led review is welcomed, as the City has wanted to explore increasing building height for some time. City staff will work closely with YVR staff during the review.

Staff also provided input into Initiatives 2.1-2.4 (**Attachment 1**) that identify opportunities to better inform the community about aeronautical noise and measures to mitigate noise impacts. In addition, the City's citizen representatives suggested the following initiatives in the draft NMP:

- 3.5 – YVR Fly Quiet Awards: raise the profile of these annual VAA awards, to create more incentive for operators to reduce their noise impacts on the community through greater participation of and recognition by municipalities that are members of the YVR ANMC. The number of categories could be expanded to include float plane operators, pilots and fleet renewal.
- 6.1 - Pre-Flight Checks: as engine tests that are part of pre-flight check procedures do not occur within the ground run-up enclosure, establish preferred headings for aircraft to minimize noise impacts to residents living south of Sea Island.
- 7.1-7.4 - Flight Procedures: encourage a shift to optimized departure and arrival profiles through the adoption and use of new technology (i.e., performance-based navigation). The use of advanced navigation techniques has the potential to more accurately define arrival and departure procedures at an airport, thus narrowing flight corridors and reducing noise exposure by avoiding more densely populated residential areas.

3. Staff Comments on 2014-2018 Noise Management Plan

Overall, while the draft 2014-2018 NMP is responsive, staff concluded that the document could be improved by:

- 2009-2013 Noise Management Plan: clarifying the degree to which the previous NMP was implemented (e.g., status of initiatives, how stakeholders contributed to their progress) along with a discussion of any outstanding initiatives, if they have been carried over to the proposed NMP and if not, why not; and
- Initiatives & Actions: clarifying the intent, rationale and expected benefits of the proposed NMP initiatives, as well as their priority and timing over the five-year period.

Staff also offer the following additional specific comments:

- Future Growth & Development at YVR: the document states that VAA has “considered a range of possible air travel scenarios” based on low, medium and high forecast growth rates in global, national and local air travel as shown in **Attachment 2**. The VAA should clarify which scenario is used in preparing the 2014-2018 Noise Management Plan, to balance meeting air traffic demand and minimizing aircraft noise impacts on adjacent communities.

- *Roles & Responsibilities in Aviation:* in addition to identifying the role of each agency, their past contributions towards the implementation of the past 2009-2013 NMP should also be outlined. For example, the City has developed noise covenants and communications material that is used by developers at residential sales offices.

Financial Impact

None.

Conclusion

The Vancouver Airport Authority must update its noise management plan every five years, as a requirement of its land lease agreement with the Government of Canada. As part of this current update, staff recommend that the VAA be advised that the City's support for the proposed 2014 – 2018 ANM Plan is conditional upon the incorporation of several key revisions and additions into the final Plan, prior to VAA Board approval.



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Summary of Proposed Initiatives and Action in the Draft 2014 – 2018 YVR Noise Management Plan					
#	Issue	Objective	Draft Initiative/Action		
1	Land Use Planning	Build on existing collaborative partnership and work with local municipalities on land use planning to minimize the level of aircraft noise, nuisances and disturbances for those living in the vicinity of the airport.	<p>Review the 2015 YVR Noise Exposure Forecast Contours The 2015 Noise Exposure Forecast planning contours, created in 1994, were meant to provide guidance to municipalities on land use planning efforts. To account for future growth in air traffic and changes in aircraft fleet mix, the Airport Authority will review the existing 2015 Noise Exposure Forecast contour to assess future noise exposure and provide information to municipalities to help with long term land use planning decisions. Following this review, relevant noise mitigation measures and documents (e.g., brochures, policies, bylaws covenants, noise mitigation standards) will be updated as required.</p>		
			<p>Review Existing YVR Aeronautical Zoning Regulations The heights of buildings and obstacles in close vicinity to the airport are governed by the YVR Aeronautical Zoning Regulations, which set maximum building heights to ensure safe aircraft operations. The Airport Authority will conduct a review of the Zoning Regulations to seek protection for runway options identified in the YVR Master Plan and to protect existing runways given increased zoning requirements. As part of this review, the Airport Authority will also consult with the City of Richmond and other stakeholders to explore possibly increasing building height around City Hall to improve City Centre sustainability, social, economic and environmental benefits.</p>		
		Engage with aviation stakeholders to improve noise management activities and discussions about aircraft noise management.	2.1	2.1	Improve online media tools to enhance communication with the public of noise management information and program efforts.
			2.2	2.2	Explore and implement better methods of communicating with the public regarding aircraft noise and over-flight impacts, such as respite charts, N70 (number of events over 70 dBA) Contours, and flight path density maps.
2	Awareness - Community	Engage with aviation stakeholders to improve noise management activities and discussions about aircraft noise management.	2.3	2.3	Track, report, and profile progress and trends towards the use of quieter aircraft at YVR and provide this information in the annual noise report.
			2.4	2.4	Provide better information to the public, on airport operations and aircraft noise management efforts (e.g., brochures, maps) to help educate new homebuyers and provide existing homeowners with suggestions on how to sound insulate older homes.
		Engage with aviation stakeholders to improve noise management activities and discussions about aircraft noise management.	3.1	3.1	Develop a training module on noise management for flight schools to raise awareness of noise issues within the aviation community.
			3.2	3.2	Host regular meetings with Transport Canada to discuss roles and responsibilities, and exchange information on noise management opportunities.
3	Awareness - Industry	Engage with aviation stakeholders to improve noise management activities and discussions about aircraft noise management.	3.3	3.3	Host regular meetings with NAV CANADA to dialogue and exchange information on noise management opportunities.
			3.4	3.4	Host regular meetings with other major airports in Canada to dialogue and exchange information on

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Summary of Proposed Initiatives and Action in the Draft 2014 – 2018 YVR Noise Management Plan			
#	Issue	Objective	Draft Initiative/Action
			noise management opportunities, and to coordinate responses and positions to national issues. Review the YVR Fly Quiet Award and explore possible opportunities for further recognition and engagement of the aviation community.
			3.5
4	Night-time Operation	Monitor and report on the number of night operations.	4.1 Ongoing review of approval guidelines for night-time operations. 4.2 Report annually on the number of night operations by aircraft noise certification. 4.3 Review and create a summary report on the nature of marginally compliant Chapter 3 aircraft operations at YVR.
5	YVR ANMC	Ensure that the YVR ANMC remains relevant and functional.	5.1 Update the Terms of Reference for the YVR ANMC and review membership, expectations, scope, objectives, etc.
6	Run-ups	Further manage noise from engine run-ups.	6.1 Review existing engine run-ups procedures and directives with a focus on optimizing noise reduction opportunities at all non-GRE run-up locations.
CNCL 7 - 140	Performance Based Navigation (PBN) Procedures	Better understand the potential impacts associated with PBN procedures, and ensure that noise, emissions and capacity impacts of PBN are considered during implementation.	7.1 Support and participate in national discussions on PBN arrival and departure procedures through the Canadian Airports Council.
			7.2 Provide assistance with the evaluation of noise associated with PBN procedures, and assist with the review of altitudes when turns can be commenced, degree of turns, aircraft destination, RNAV departure routes or vectors, aircraft altitude over residential communities, etc.
			7.3 Undertake a study to determine and better understand potential flight routings associated with PBN arrival and departure procedures.
			7.4 Ensure community is advised before any changes to flight paths are implemented.
8	YVR Float Plane Operations	Further manage noise impacts from YVR float plane operations.	8.1 Continue ongoing dialogue and work with YVR float plane operators to assess ways to further manage noise. 8.2 Review current float plane operating procedures and routes and identify opportunities if any to mitigate noise.
9	Noise Abatement Procedures	Ensure procedures to manage noise remain relevant and current.	9.1 Undertake annual review of published Noise Abatement Procedures for YVR with the aim of ensuring clarity and continual improvement. 9.2 Undertake a gap analysis of the YVR Aeronautical Noise Management Program by comparing to other airports of similar size to identify opportunities for improvement in core program elements.
10	Managing Runway Demand	Ensure runway system at YVR is used effectively to reduce delays while managing noise impacts on the community.	10.1 Quantify current level of delays at YVR and associated costs.
			10.2 Assess airside capacity and determine optimal use of runway system.

2005 – 2027 Possible YVR Air Travel Low, Medium and High Growth Scenarios

Forecasts from governments, companies and agencies suggest that the global, national and local demand for air travel will grow between 2007 and 2027.

To ensure that YVR can meet future passenger and cargo needs, the Airport Authority has considered a range of possible air travel scenarios out to 2027 and developed low-, medium- and high-growth scenarios (see table below).

As with all projections, there are risks and uncertainties associated with these forecasts and they will require frequent review, discussion and adjustment.

Given the projected future growth of air traffic, and the emergence of Asian economies, it is imperative that YVR is positioned to capitalize on opportunities to support and contribute to the economy of British Columbia.

TABLE 1: 2027 FORECASTS – Low, Medium, High Growth Scenarios*				
SECTOR	2005 ACTUAL	2027 (LOW) 2027	(MEDIUM) 2027	2027 (HIGH)
Passengers (millions)	16.4	26.9	33.4	40.5
Runway (landings and takeoffs)	275,000	383,000	484,000	581,000
Cargo (tonnes)	223,700	400,000	500,000	600,000

* These forecasts were created in 2006 and will be updated as part of the upcoming update to the YVR Master Plan.

Source: Except from 2014-2018 YVR NOISE Management Plan -Vancouver International Airport
 Prepared by Vancouver Airport Authority Environment Department, August 2013.