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*Richmond, BC V7B 1Y7 CANADA*

# MINUTES OF REGULAR MEETING

| Aeronautical Noise Management Committee (ANMC) |
|---|
| Wednesday 22 February 2017 - 1:30PM<br>Vancouver International Airport, Room B4101.16 |

**Those in attendance were:**

| | | |
|---|---|---|
| **Chairperson:** | Marion Town | Director, Environment, YVRAA |
| **Secretariat:** | Rachel Min | Environmental Analyst, YVRAA |
| **Admin Support:** | Catherine Alderson | Administrative Assistant, YVRAA |
| **Participants:** | Gary Abrams | City of Richmond (citizen representative) |
| | Ihsan Malik | City of Richmond (citizen representative) |
| | Meg Brown | City of Vancouver (citizen representative) |
| | Rick Hedley | Corporation of Delta (citizen representative) |
| | Ron Sorensen | City of Surrey (citizen representative) |
| | Joan Caravan | City of Richmond (staff) |
| | Alena Straka | City of Vancouver (staff) |
| | Paula Kolisnek | Corporation of Delta (staff) |
| | Craig MacFarlane | City of Surrey (staff) |
| | Marlene Keefe | Air Canada Pilots Association |
| | Scott Macpherson | Canadian Business Aviation Association (CBAA) |
| | Terry Hiebert | Float Plane Operators Associate |
| | Don McLeay | National Airlines Council of Canada (NACC) |
| | Geert Bos | Director, Airside Operations, YVRAA |
| | Mark Cheng | Supervisor, Noise Abatement & Air Quality, YVRAA |
| **Guests:** | Brett Patterson | Director, Engineering Projects, YVRAA |
| | Christoph Rufenacht | Director, Capital Facilities Development, YVRAA |
| | Jenny Duncan | Manager, Communications, YVRAA |
| | Jody Armstrong | Communications Specialist, YVRAA |
| | Georgia Tsoromocos | Lucent Quay Consulting Inc |

Next ANMC Meeting: **15 June 2017**

| **Rachel Min** | **13 March 2017** |
|---|---|
| Secretariat Signature | Date |

## 1.0 INTRODUCTIONS AND ADOPTION OF AGENDA

Marion Town welcomed members and reviewed the meeting agenda.

The following two new Committee members were introduced:

- Ihsan Malik – City of Richmond (citizen representative)
- Geert Bos – Director, Airside Operations, Vancouver Airport Authority

Marion advised that the minutes from the Committee meeting on 1 December 2017 were finalized and posted on the YVR website (www.yvr.ca).

## 2.0 YVR MASTER PLAN UPDATE

Christoph Rufenaucht provided an update on the YVR 2037 Master Plan process.

Phase 2 of YVR 2037 Master Plan consultations took place between 5 September and 15 November 2016. During this phase, the YVR 2037 Master Plan team presented information on six key areas and received input and feedback through meetings, workshops, open houses, roadshows, and online materials. The six key areas included: airport terminal; airside and airspace; ground access; community amenities; environment; and land use.

Overall feedback received during phase 2 was positive and supportive of the YVR 2037 Master Plan. Topics that had the most interest were airport terminal, support for environmental initiatives, connectivity and accessibility. The table below summarizes main feedback and comments received regarding each key area:

| Key Areas | Summary |
|---|---|
| Airport Terminal | • Strong support for the centre airport terminal expansion option.<br>• A lot of input on airport terminal amenities, a mobility plan, artwork, and brining the BC outdoors to the indoors. |
| Airside & Airspace | • Support for additional airside infrastructure to reduce delays for airlines and passengers and to improve runways and airside infrastructure in general.<br>• No defined preference on the two future runway options identified in the last master plan. |
| Ground Access | • Connectivity was the main theme for ground transportation.<br>• Recurring themes from the public was the need for better and more efficient public transit services to/from the airport.<br>• Strong support for Templeton extension and Russ Baker Way High Priority Vehicle Lane. |
| Environment | • A number of great suggestions from the public.<br>• Many of the suggestions are initiatives that YVR has already undertaken or is planning. |
| Community Amenities | • Top preferences from the public included natural areas, multi-use pathways, and plane spotting platforms. |
| Land Use | • No major changes anticipated from the land use plan approved for the previous master plan.<br>• Priority is to maintain all suitable land for airside and aviation related uses. |

Christoph reported that phase 2 consultation input also provided YVR with feedback about the growth at YVR and associated noise and air traffic impacts. The majority of input received indicated that it is important to expand airport operations to add more air service and connections to more destinations; however, this needed to be balanced with minimizing impacts to neighbouring communities and reduce emissions.

A detailed report summarizing Phase 2 consultations can be found at www.yvr2037.ca.

Phase 3 of YVR 2037 Master Plan consultations was launched on 18 January 2017 and will continue until 7 March 2017. This phase is focused around the draft YVR 2037 Master Plan. Materials supporting this phase were emailed previously to Committee members, who were encouraged to review and participate in the online survey to provide their input and feedback.

Mark Cheng provided the following updates on noise related work undertaken to support the YVR 2037 Master Plan process.

**Assessing the Long Term Noise Exposure Forecast (NEF) Planning Contours**

The NEF is the official metric prescribed by Transport Canada for airport noise assessment in Canada and is used to assist with compatible land use planning by defining high aircraft noise areas in the vicinity of the airport. The current long term planning NEF contours for YVR was created in 1994 with the forecasted traffic projections for the year 2015.

Mark advised that work to assess the continued use of the 2015 NEF Contour for compatible land use planning was undertaken as part of work on YVR Master Plan. Further updates on this work will be provided at the next Committee meeting.

**N70 and Flight Path Maps**

While the NEF is the official metric for airport noise assessment as it assists in land use planning, it may not be the most effective tool to communicate the exposure to aircraft noise or flight activity to residents or communities. To help communicate the possible changes to noise exposure and aircraft activity associated with future traffic growth, the following supplementary materials were developed:

- N70 maps which illustrate the number of events above 70 dBA (N70) over a given 24-hour period; and
- Flight Path Maps which illustrate generalized flight routes over the Metro Vancouver area and the expected air traffic volume using each route over a given 24-hour period.

To compare the possible changes between current and future operations, and to account for the fact that runway direction has a direct effect on air traffic patterns, the following four scenarios were used to create the N70 and Flight Path Maps:

- Actual traffic during a typical busy day in 2015, Runway 08 flow;
- Forecasted traffic during a peak planning day in 2037, Runway 08 flow;
- Actual traffic during a typical busy day in 2015, Runway 26 flow; and,
- Forecasted traffic during a peak planning day in 2037, Runway 26 flow.

The concept of developing these materials was raised at the ANMC Committee meeting on 1 December 2016. At that meeting, the challenges and risks associated with presenting materials that predicted future scenarios was identified by members, as there are many influencing factors that could be misinterpreted or misused.

Mapping was prepared in the interest of providing the public with a general idea on how future growth at the airport may impact the noise and aircraft distribution over communities compared to current operations. While the maps representing the future scenarios were created using best information available and assumptions, the benefit of providing this information to respond to feedback received in earlier phases of the YVR 2037 Master Plan consultations was recognized.

Further information on N70 and Flight Track Maps can be found on www.yvr2037.ca/noise.

Paula Kolisnek expressed concern that the Phase 3 Highlights brochure did not provide detail on airspace in the Airside and Airspace key focus area. As the staff representative for the Corporation of Delta, her concern was related to the increase in projected 2037 flights over Delta. Paula acknowledged that she has been in discussions with the YVR 2037 Master Plan team for further information.

## 3.0 NORTH AIRFIELD RUNWAY END SAFETY AREA PROJECT

Brett Patterson provided information on the anticipated north airfield Runway End Safety Areas (RESA) project.

As background, RESAs are specialized areas at the end of a runway that protect aircraft, passengers and crew in the unlikely event of a runway overrun or undershoot. While Transport Canada is in the process of adopting RESA standard for airports in Canada, in 2014 the Airport Authority decided to proceed with the construction of RESAs to meet international recommendations and exceed the anticipated Canadian standard. This work has advanced in two phases.

Phase I included the design and construction of 300-metre RESAs on the south and crosswind runways which began in 2015, and is anticipated to be completed in 2017.

Phase II includes the design and construction of 300-metre RESAs on the north runway. The Airport Authority is currently in the initial planning stages for this project and is evaluating three design options. The three options are described in the table below and each will have different impact on runway performance measures, such as the Take-off Run Available [TORA][1] and the Landing Distance Available [LDA][2].

| Option | West End (08L) | East End (26R) | Runway Performance Measure |
|---|---|---|---|
| # 1 | • 150m displaced threshold<br>• 150m strengthened soils | • 300m strengthened soil | • 08L TORA: Unchanged<br>• 08L LDA: Reduced 150m<br>• 26R TORA: Reduced 150m<br>• 26R LDA: Reduced 150m |
| #2 | • 150m displaced threshold<br>• 150m strengthened soils | • 150m pavement<br>• 300m strengthened soils | • 08L TORA: Unchanged<br>• 08L LDA: Unchanged<br>• 26R TORA: Unchanged<br>• 26R LDA: Reduced 150m |
| # 3 | • 150m displaced threshold<br>• 150m strengthened soils | • 450m pavement | • 08L TORA: Unchanged<br>• 08L LDA: Unchanged<br>• 26R TORA: Increased 300m<br>• 26R LDA: Reduced 150m |

[1] TORA (Take-off Run Available) = length of runway available for the ground run of an airplane taking off.

[2] LDA (Landing Distance Available) = length of runway available for the ground run of an airplane landing.

The project will follow the timeline provided below:

- A Sustainability Case Document (SCD) is currently being prepared and will be presented to YVR Board of Directors in June 2017. It will include a summary of consultations and a recommended option.
- A Project Definition Report will be finalized in September 2017.
- Detailed design will occur between October 2017 and March 2018.
- Construction will occur during the summer months starting in 2018, with an anticipated completion in 2020.

Jenny Duncan provided an overview of the consultation timeline that will occur prior to the delivery of the SCD to the Board in June 2017. Pre-consultation with specific stakeholder groups including YVR Noise Management Committee, YVR Environmental Advisory Committee, and aviation stakeholders is scheduled to occur between February and April 2017. Public consultation will take place between April and May 2017.

Since the next YVR Noise Management Committee meeting is scheduled after the conclusion of the public consultation period, Committee members that were interested in the project are encouraged to participate in one of the upcoming public consultation forums to provide their comments and feedback.

## 4.0 2017 SUMMER AIRFIELD PROEJCTS AND RUNWAY OPERATIONS

Brett provided updates on the planned 2017 summer airfield projects and associated changes to the runway operations.

There are a number of airfield projects planned for this year including: repairs to various taxiways; completion of RESAs on the south and crosswind runways; and a full length overlay of the south runway. To accommodate these projects, the anticipated runway use between 27 March and 14 October is as follows:

- Between 27 March – 26 May: some aircraft may depart on the north runway during Runway 26 operations, 24 hours a day.
- Between 29 May – 16 September: the south runway will be closed 6 nights a week (Sunday-Friday) between 10 PM and 7 AM to accommodate project and maintenance work on the south runway. No work is planned for Saturday nights and stat holidays when the south runway will be available for operations.
- Between 16 September – 14 October: some aircraft may depart on the north runway between 7 AM and 10 PM, during Runway 26 operations.

The bi-weekly south runway maintenance will also be carried out as scheduled between March and November. These schedules are posted on www.yvr.ca and updated as necessary.

## 5.0 PORTABLE NOISE MONITORING – MUSEUM OF VANCOUVER

Rachel Min presented a summary of results from temporary noise monitoring completed at the Museum of Vancouver.

The Airport Authority deployed its portable noise monitoring terminal (NMT) at the Museum of Vancouver in 2016. Noise monitoring in this area was recommended by the Committee based on discussions related to the introduction of the new Required Navigation Performance (RNP) arrival procedure for Runway 08L to assess possible changes in the noise environment caused by the new procedure. Further information on these discussions can be found in the minutes of the Committee meeting on 22 July 2015.

The objective of noise monitoring at the Museum of Vancouver was to understand and collect baseline information on the current aircraft exposure in the area. This baseline data could then be used to compare with future follow-up noise monitoring results when the RNP 08L procedure is in full use. As with all other noise monitoring performed by the Airport Authority, the results are meant to educate and inform on noise levels in the area and are not meant to initiate changes to aircraft operations over the area or to monitor noise compliance.

The portable NMT was set up on the roof of the Museum of Vancouver and collected data between 5 March and 24 April 2016. An initial calibration was done at the time of equipment set-up, and the equipment also performed auto calibrations on a nightly basis.

Rachel explained that the equipment was set to capture noise events, which occur when the measured noise level exceeds predefined thresholds. For the monitoring period, the event capture thresholds were set at the following:

| Hours | Sound Level Threshold | Time Duration Threshold |
|---|---|---|
| 7AM-10PM | ≥ 65 dBA | ≥ 6 seconds |
| 10PM-7AM | ≥ 55 dBA | ≥ 6 seconds |

As noise events can be caused by a number of different sources, the system uses the radar data supplied by NAV CANADA to match (or correlate) those events associated with aircraft. Uncorrelated events are those associated with non-aircraft sources in the community.

Summary results of the noise monitoring at the Museum of Vancouver are as follows:

- Over the 51-day monitoring period, a total of 2,476 noise events were captured. Of these events, 75% (n=1,998) were associated with community noise sources, 25% (n=767) were associated with aircraft.
- Of 676 aircraft noise events, 84% (n=568) were related to non-YVR aircraft activities and the remaining 16% (n=108) were related to YVR aircraft.
- The majority of aircraft related noise events had a maximum sound level (Lmax) between 65 and 70 dBA.
- The daily community Leq (Equivalent Sound Level) values were higher than daily aircraft Leq values each day during the monitoring period.
- The average community Leq was determined to be 54.0 dBA, and the average aircraft Leq was deteremind to be 44.3 dBA over the entire monitoring period.

Overall, the noise monitoring study at the Museum of Vancouver concluded that community sources have a greater contribution to the overall noise environment than aircraft in the area. Aircraft events were small in number and duration compared to community events. In particular, the number and duration of events correlated to YVR aircraft was very low during the monitoring period. A detailed summary report can be found on www.yvr.ca.

This data and analysis will provide a useful comparison against future follow-up measurements when the RNP 08L procedure achieves higher utilization.

Mark advised that since the RNP 08L procedure was introduced in fall 2015, its use has been minimal. However, in discussions with NAV CANADA, it is anticipated the use will increase.

The Airport Authority will plan to deploy the portable NMT at the Museum of Vancouver when the RNP 08L procedure achieves higher utilization. In the meantime, the portable NMT would be available for deployment in the summer months, and Committee members were asked to contact Mark or Rachel if there was interest.

## 6.0 Q1 – 2017 REPORT

Rachel reviewed the Q1 report. Between 1 January and 18 February, the Airport Authority received 207 concerns from 28 individuals. This is a 26% decrease in the number of complaints and a 33% decrease in the number of complainants compared to the same period in 2016. One individual in South Surrey continues to register the majority of concerns.

## 7.0 OTHER BUSINESS

### CAC Noise and Communications Working Group Meeting

Mark advised that Airport Authority staff attended the Canadian Airports Council (CAC) Noise and Communications Working Group meeting hosted in Montreal on 31 January 2017. Staff from Calgary, Toronto and Montreal Airports also attended. Topics discussed included: general updates by each airport; the Transport Canada NEF software and contours; organizational changes in the CAC and participating on the Transport Canada Aircraft Noise and Emissions Committee (ANEC).

### Summer North Runway Departures – Delay Reduction

Mark advised the Committee that the north runway is expected to be used for departures in the summer months to reduce delays and accommodate high traffic volumes during peak periods. Further details and updates on anticipated runway operations for delay reduction will be provided once plans are finalized.

### Annual Public Meeting

Marion advised the Committee that the annual public meeting is scheduled for 11 May 2017. Invitations will be sent to Committee members closer to this date.

## MEETING ADJOURMENT

Marion thanked members for their attendance and contribution and adjourned the meeting at 4:00 PM.