

Meeting Minutes Environmental Advisory Committee

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| Meeting Date: | April 12, 2017 | Meeting Time: | 1:30 PM |
| Location: | Vancouver International Airport, Link Boardroom | Prepared by: | Catherine Alderson |
| In Attendance: | Marion Town Elaine Fisher Gina Aitchison Kevin Eng Helen Popple Derek Jennejohn June Ryder Stan O'Keeffe Rob Safrata Judy Williams Morgan Guerin | YVR, Environment - Chairperson YVR, Environment Transport Canada City of Richmond City of Vancouver Metro Vancouver Nature Vancouver Citizen Representative, Richmond Citizen Representative, Vancouver Fraser River Coalition Musqueam Indian Band | |
| Guests | Don McLeay Jenny Duncan Brett Patterson Simon Robinson Jennifer Aldcroft Margot Kimmel | National Airlines Council of Canada YVR, Communications YVR, Engineering YVR, Environment YVR, Environment YVR, Environment | |
| Regrets: | Penny Thompson Robert Horner Courtney Albert | Air Canada Citizen Representative, Richmond Canadian Wildlife Services | |
| Secretary | Catherine Alderson | YVR, Environment | |

Next Meeting: Wednesday November 8, 2017. 1:30PM

1. Introductions & Welcome

Marion Town welcomed the committee and there was a round of introductions. Safety instructions for in the event of an emergency were shared.

2. Review Minutes from February 28, 2017

Marion asked the committee if there were any comments or questions on the draft meeting minutes from the February 28, 2017 meeting. There were no comments or questions. The minutes will be accepted as final and posted on the YVR website (www.yvr.ca).

3. Environmental Management Plan: 2016 Results.

Jennifer Aldcroft presented the 2016 Results of the YVR Environmental Management Plan (EMP), a copy of which will be distributed. Results have been provided to our Executive Team and Board, and will be publicly reported via the Annual Sustainability Report and Annual Public Meeting. While noting improvements across the board, Jennifer contextualized our results within the EMP goals. Reductions in emissions are from a milder winter, efficiencies or infrastructure improvements affecting heating, electricity, fleet, and backup power. In terms of reducing our water use, there has been attention toward water conservation across the organization and one innovation in terminal was the switch to foam soap which means people now use up to 20% less water to wash their hands. A low cost approach to improvement of waste diversion has been through education – in terminal and throughout YVR's offices. Organics waste separation has been a game changer. YVR achieved Salmon-Safe certification and several projects have commenced to reduce pesticide use and undertake habitat enhancement.

Jennifer posed questions to the committee asking how their respective organizations tell their story and what communication avenues they have found to be effective. Committee members expressed that it is important to find a balance between too much and not enough communication, determining who the audience is. Give people bite sized bits that only take a minute of their time, and then have the detail available if people are interested. Use of social media has become increasingly important in storytelling and sharing of information.

All committee members are invited to attend the Annual Public Meeting on 11 May. The Annual Sustainability report will be published on www.yvr.ca 26 April.

Action Item: 2016-2017 winter season glycol presentation for next meeting

Attachment 1 – Environmental Management Plan 2016 Result Presentation

4. Aircraft Emission Reduction Strategies: National Airlines Council of Canada (NACC)

Don McLeay presented information on commitments and activities by the National Airlines Council of Canada (NACC) on initiatives to reduce emissions from aircraft Canada and world-wide. NACC is the national association that represents Air Canada, Jazz, WestJet, and Air Transat.

NACC carriers provide a significant impact on national economy by providing air services for passengers and cargos, creating jobs, and benefitting the tourism sector. According to an economic impacts study done by Dr. Fred Lazar, economic impacts of NACC carriers was in the range of \$35 to \$60 billion in GDP (2-3.4% of Canada's GDP) not including potential tourism-induced effects in 2011.

Passenger air travel currently accounts for approximately 2% of all fossil fuel-related emissions worldwide. In 2011, aviation emissions made up 1% of total emissions in Canada.

In an effort to reduce emissions from aviation, the Canadian aviation industry and Transport Canada signed a Memorandum of Understanding (MOU) in 2005. This was a voluntary agreement based on the template and guidance materials on voluntary measures issued by the International Civil Aviation Organization (ICAO) to address greenhouse gas emissions.

With the success of the MOU, the aviation industry and Transport Canada created Canada's Action Plan to Reduce Green House Gas Emissions from Aviation (referred to as the "Action Plan") in 2012. The Action Plan set an aspirational goal to achieve an average annual improvement in fuel efficiency of at least 2% per year until 2020 from a 2005 baseline, measured in litres of fuel per RTK (Revenue Tonne Kilometre). Three key areas to meeting this goal were identified as: fleet renewal and upgrades; more efficient air operations; and improved capabilities in air traffic management.

NACC carriers have achieved a 1.32% average annual improvement in fuel efficiency and achieved a reduction of 11.22 mega tonnes of CO₂-equivalent (CO₂e) between 2005 and 2015. A review of the Action Plan in 2015 determined that the aspirational goal of 2% per year improvement would be difficult to achieve.

However, industry remains committed to reducing emissions ICAO adopted ambitious targets in 2016:

- An annual average of 1.5% improvement in fuel efficiency from 2009 to 2020;
- Carbon-neutral growth from 2020; and
- Reduction of net aviation emissions by 50% by 2050 compared to 2005 baseline.

NACC believes that the next "great leap" in emission reduction will be through the use of alternate fuels, and have been actively supporting advancement in the use of renewable aviation fuels in Canada since 2012 through work with a various research institutions and universities.

Committee asked if USA attitude toward climate change would impact these goals. Don responded that they are very concerned as an industry. Especially in regard to alternate fuel manufactures, as there is a lot of money that goes towards research that has been pulled back. There is also concern that if there was a carbon tax on aviation in Canada, that passengers would cross the border for cheaper fares in USA.

Marion reminded the committee that the activities of our aviation partners serve to inform what is happening at the airport. The industry context is important to understand when hearing about YVR's own targets.

Attachment 2 – Aircraft Emission Reduction Strategies Presentation

5. Overview of Engineering Projects related to Emissions Reduction goal

Lesel Radage provided an update on capital projects that are underway for 2017. The 2017 capital program involves over 110 projects, with 15% of those having Environmental Sustainability as a key driver. All projects at YVR take into consideration Sustainable Design Guidelines, Stormwater management, Salmon-Safe, Environmental Management and construction waste recycling.

The planned Sustainable Energy System project will replace the aging mechanical plant at the Domestic Terminal building, providing a significant system upgrade. This system will include a new utilities building to be located in the east portion of the existing Value Lot parking area and most importantly, a GeoExchange system, one of the largest in Canada, will be introduced in order to minimize YVR's reliance on fossil fuels for heating. This system along with new high efficiency boilers and chillers will be a key contributor to the work to reach YVR's emissions reduction target.

The feasibility of Rainwater Capture is being studied as part of a new parkade structure, proposed to be built just east of the existing parkade. The conceptual design has the rainwater being stored in storage tanks until it is ready to be used, possibly by car rental companies to wash returned rental vehicles. The system will also provide emergency water supply.

In order to keep pace with projected passenger growth, we are already starting on some terminal expansions explored by the Master Plan team. This includes the Pier D expansion (International), East concourse expansion (US), and upgrades to the existing domestic terminal building. Teams are striving to improve the energy efficiency and sustainability of the expansions and also to make improvements to existing buildings during upgrades including: Envelope design for roofs, windows, exterior; Lighting design and controls; Rainwater collection and water conservation; and Efficient equipment design to minimize the GHG impact of these installations.

Airside Electrification is underway with the goal of having 50% of the independent ground handling operator equipment electrified by 2020. By the end of 2017, there will be 36 charging stations for ground support equipment installed. We are also installing pre-conditioned air and ground power units on all gates, by the end of the year 84% of our

gates will be complete. As our passenger traffic continues to grow, we anticipate that in the peak summer months we will need to operate remote gate stands with a bussing operation to bring passengers to the terminal. We recently purchased an electric bus for use in this service and are in the process of installing charging infrastructure to accommodate its use. We anticipate even more traffic demand and additional buses with associated charging stations for next year.

In 2016 we completed the installation of LED lighting on our main Apron VI Gates. The project was extremely successful – not only significantly reducing energy consumption, but also minimizing lifecycle costs and impact of light pollution on our neighbors. In 2017, the Apron V lights will be upgraded to LED fixtures. A committee member asked about plans for future electrification of groundside shuttle buses. Jennifer responded that it is a consideration for fleet renewal, but when the last batch of YVR buses was purchased in 2016, a diesel-hybrid was selected because the technology for buses just was not there yet.

A committee member queried about the issue of encountering asbestos during terminal upgrades. Lesel responded that YVR has become quite adept at handling the issue, and takes safe removal as a top consideration when it is encountered.

Marion reminded the committee that all of these innovative green capital infrastructure projects are possible because YVR is a community based not for profit organization, and as such are able to reinvest all profits back into the organization to reflect the community we operate in.

Attachment 3 – Capital Update Presentation

6. Runway End Safety Areas Update

Brett Patterson and Jenny Duncan provided a short update on the Runway End Safety Areas (RESA) to date and the where things are in the consultation process. The RESA options have been narrowed down to two, repurposing the runway into RESA at west end and strengthening soils on east end, reducing the take-off run or repurposing the runway into RESA at west end, shifting runway on east end in addition to strengthening the soils for the RESA. The second option is currently the preferred option as it maintains the take-off capabilities of the north runway as it is today.

There will be a public open house on 24 April as well as the annual public meeting on 11 May. Online feedback is welcomed throughout at

<https://interceptum.com/s/en/NorthRESAFeedbackForm>

Committee members cautioned to be sure archaeological considerations are taken during the project and consultation. Simon responded that a previous assessment had been done, but would be updated. Musqueam's input is also being sought to assist YVR in finding a new archaeologist to help with assessments.

Attachment 4 – RESA Presentation

7. Vancouver Airport Fuel Facilities Corporation (VAFFC) update

Simon Robinson provided an update on behalf of FSM's Adrian Pollard. VAFFC have received the Oil and Gas Commission permit. They continue to work with the City of Richmond on the development permit. An Airport Authority development permit is close to sign off. Work continues on ground improvement at receiving facility down the south arm of the river. A reminder that since the EAC's next meeting is not until 8 November, it is expected VAFFC will be well into installation by then.

8. Construction Update

Simon Robinson provided an update on current construction projects. South terminal water main replacement and south airfield RESA construction is ongoing. The RESA construction is into its third year. Monitoring continues. New projects include an upgrade to a parking lot at the McArthurGlen Designer Outlet Centre, which will act as parking during the new parkade and sustainable energy system construction. This parking lot is one way of highlighting stormwater management on Sea Island via Salmon-Safe. The Designer Outlet Centre has submitted a permit for an additional phase of construction.

Attachment 5 – Construction Update

9. EAC Member survey results

Marion noted that continuous improvement is important to the airport, and this committee. It is important to reflect the community in which we are positioned. Results of the Member Survey indicated several places where we could improve efficiency of meetings, and administrative tasks. Opportunities to involve other organizations (i.e. encourage Environment Canada back to the table), as well as reach out to new organizations (i.e. Province of BC as a result of changes in responsibility for crown lands). There may also be an opportunity to build stronger connections with Translink and Fraser Basin Council.

10. Summer Tour: Dates and Tour Stops.

The date of June 12th, July 14th and July 18th were front runners in the recently completed member survey. The final date will be decided shortly and communicated to the members.

11. New Business

Marion invited all committee members to attend YVR's annual public meeting on 11 May.

Action:

1. *2016-2017 winter season glycol presentation for next meeting*

Attachments:

1. *Environmental Management Plan 2016 Result Presentation*
2. *Aircraft Emission Reduction Strategies Presentation*
3. *Capital Update Presentation*
4. *RESA Presentation*

2017 Meeting Schedule:

- Summer Tour TBD
- Wednesday November 8, 2017. 1:30PM-4:30PM