



# Corporate Report

NO: R046

COUNCIL DATE: March 31, 2008

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## REGULAR COUNCIL

TO: Mayor & Council DATE: March 26, 2008  
FROM: City Solicitor FILE: 0220-07  
SUBJECT: Nav Canada Airspace Procedure Changes and Direct Approach  
Consulting Inc. (the "Consultant") Report and Recommendations

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## RECOMMENDATION

Legal Services recommends that Council:

1. Receive this report as information;
2. Authorize staff to forward a copy of the Consultant's report and recommendations attached as Appendix "A" (the "Report") to this report to Nav Canada and to the YVR Noise Committee;
3. Request that the Consultant meet with Nav Canada, Air Canada and other interested stakeholders to discuss implementation of the recommendations contained in the Report;
4. Approve of the BKL Consultants Ltd., the City's noise consultant, to select noise monitoring devices/locations in Surrey in cooperation with YVR technical staff to measure and record aircraft noise, and
5. Authorize staff to forward to the federal Minister of Transport and area Members of Parliament the proposed legislative amendments described in Appendix "B" to this report, which if approved would require an environmental assessment and public notification of flight path changes prior to the implementation of such changes.

## BACKGROUND

The City has retained the Consultant to undertake a review of Nav Canada's May 10, 2007 flight path changes that were implemented to increase YVR's capacity and improve air traffic control functionality. The Consultant was instructed to make

recommendations for aircraft noise abatement taking into consideration all impacted areas of Surrey and surrounding communities. The Consultant is a certified expert in providing instrument approach, flight procedure design and airspace configuration services worldwide. In addition to his experience as a pilot, the Consultant has undertaken assignments from Nav Canada and Transport Canada in airspace and instrument procedures design and airport safety certification. The Consultant has designed standard terminal approach routes ("STARS") for Vancouver International Airport and is highly qualified to independently review Nav Canada's flight path amendments and make recommendations for improvements to these changes.

The City has also retained BKL Consultants Ltd. to work with YVR staff in selecting appropriate locations for aircraft noise monitoring devices in Surrey.

At its meeting of September 17, 2007, Council adopted the following resolution:

"THAT City of Surrey and City Council request NavCanada to review the current flight pattern arrangement;

AND THAT NavCanada and Transport Canada consult with residents;

AND THAT NavCanada provide monthly updates on their review and actions to Surrey Council in writing or by delegation;

AND THAT NavCanada find solutions to the current noise pollution problems."

On September 24, 2007 a representative of NavCanada announced that a new visual route would be tested for aircraft approaching YVR from the south. This trial for visual flight rules route would take flights further west over Semiahmoo Bay and away from the Crescent Beach and Ocean Park areas of Surrey.

Nav Canada undertook a 90 day review of the new May 2007 STARS, which was completed in January 2008. The review resulted in further changes (that were made effective February 14, 2008) to the south approaches to YVR's north/south runway in response to concerns from Delta residents. This moved aircraft slightly further from the populated areas of White Rock/Crescent Beach and Tsawwassen.

On February 25, 2008, Nav Canada advised the City it would not respond to the City's letter of January 16, 2008 (copies attached as Appendix "D") containing a number of questions regarding its review of airspace and route changes.

## **DISCUSSION**

### **1. Surrey Membership on YVR Aeronautical Noise Management Committee (the "Committee")**

At its meeting of March 12, 2008, the Committee voted to make the City of Surrey a permanent member. Surrey joins Vancouver, Richmond and Delta as the Committee's municipal members. In addition to YVR staff, the Committee has representatives from Nav Canada, Transport Canada, the airlines and the pilots associations. The role of the Committee and its objectives are summarized as:

- provide a forum for the exchange of relevant information amongst all stakeholders,
- discuss, analyze and provide advice on noise management issues,
- assist in the development of a Noise Management Plan,
- provide recommendations on noise abatement practices to guide efforts of the implementation of the Noise Management Program, and
- minimize the noise disturbance to those living in the vicinity of YVR while recognizing the need for efficient and effective airport operations.

Attached to this report as Appendix "C" are the YVR noise complaint statistics for the first two months of 2008, which were provided to the Committee members at the March 12, 2008 meeting. Compared to the same period in 2007, there has been a 123% increase in noise complaints. Most complaints are related to Nav Canada's airspace changes instituted in May, 2007.

At the Committee meeting YVR staff advised that the City's noise consultants could meet with YVR staff to work out the best locations for new automated noise monitoring devices in Surrey. Once the monitoring devices are installed the City's consultants and YVR staff will be able to track and analyze flight and noise data and occurrences of reported excess noise to assess the impact of arrivals and departures from YVR.

## 2. **Summary of Consultant's Recommendations for Flight Path Modifications to Nav Canada (See the Report attached as Appendix "A")**

The Consultant in making his recommendations took into consideration, in part, the concerns brought to his attention by Air Canada's Chief Pilot. Apparently the new STARS configurations require most of the Instrument Flight Rules ("IFR") arriving aircraft to flight plan for lengthier arrivals with greater fuel consumption than the pre May 2007 STARS. This has had the effect of removing aircraft from their optimal vertical profiles, which cancels out aircraft operating efficiencies, one of the objectives of the revised May 2007 STARS.

Discussions with Air Canada have confirmed they are not satisfied with the increases in flight distances of the new approach routes. Air Canada estimates the increased fuel costs are in the range of \$2 – \$4 million per year. This is in direct contradiction to the Nav Canada 90 day review, which stated "it is estimated that the routing changes made at Vancouver are saving aircraft operators \$20 million in fuel costs and reducing green house gas emissions by 79,000 metric tones of CO<sub>2</sub> annually."

The main recommendations of the Report concerning flight path changes are as follows:

- (a) Amend the Alex Fraser Visual Approach Runway 26L & 26R.

At page 8 – 10 of the Report the Consultant describes the Alex Fraser Visual procedures as fundamentally flawed and unsafe. Because of this aircraft are finding it difficult to meet the landing approach procedure requirements. The Consultant proposes flight path and navigational changes (at p. 11) and new notations in the Canadian Airline Pilot publication.

- (b) Amend the Pitt Meadows Visual Approach Runway 26L & 26R.

The Consultant proposes a new route (at p. 10) for aircraft to mitigate noise impacts to residents in north Surrey, Guildford and Fleetwood. This route follows more closely the Fraser River.

- (c) Implement "Off Peak" hours STARS for arrivals to Runway 26L & 26R as an alternative to the current CANUCK and GRIZZ STARS when peak capacity is not required using arrivals similar to the current MEADOWS and previous GARTH STARS.

Discussed in the Report (at p. 10 – 12) is a recommendation to utilize pre May 2007 flight paths when the full capacity of YVR is not required. The use of off-peak alternative flight paths is favoured by Air Canada and would result in a net distance saving of approximately 13 nautical miles and 4 minutes of time. It also permits aircraft to maintain a more favourable pre-programmed vertical decent profile with less noise.

- (d) Vertical Profile - Request Nav Canada to conduct a review to revise the existing arrival configurations and to determine if a revised vertical profile would reduce noise exposure to surrounding communities. This should include options to raise the Final Approach Course Fixes ("FACF") altitudes to 4000 ft and Downwind Termination Waypoints ("DTW") altitudes to 1500 ft above the FACF altitudes.

Apparently significant portions of the noise comes from changes to aircraft power settings and configurations as the aircraft prepares for final descent. The Report discusses (at p. 12 - 13) recommendations to have aircraft in a stabilized approach configuration while over noise sensitive areas.

- (e) Request Nav Canada conduct an internal review of departure procedures to determine if the current SIDS and controller vectoring procedures are contributing to the increased noise in the south Surrey area, and as necessary, modify any internal operational directives to keep aircraft further from the noise sensitive areas.

The Report (at p. 13) provides an option to have aircraft more closely follow the Fraser River.

- (f) Request Nav Canada design and implement new RNAV SIDS to provide accurate and optimum track guidance towards less noise sensitive areas and lessen the controller workload.

At p. 14 the Report notes the advantages for noise abatement of implementing Global Navigation Satellite Systems for departures.

### **Noise Monitoring**

The City's noise consultants are working with YVR staff to have new noise monitoring stations installed in Surrey this summer as part of an area-wide aircraft noise monitoring upgrade. The first stage would be for the Surrey team to meet and prepare a list of candidate locations in each of the areas where monitoring would be appropriate. This list may include about four or five locations in a given area (school, park, etc.).

The second stage would be to visit each of these candidate locations, take noise measurements and listen to determine if the site is appropriate from the perspective of not having extraneous noise sources that would over-ride the effectiveness of the site to measure aircraft noise.

The third stage would be to arrange to take detailed measurements over a 24 to 48 hour period at these locations which would then be correlated with YVR data on flight tracks to confirm the noise monitor would be able to measure aircraft overflights and distinguish these events compared to other noise in the area.

The final stage would be to select the most effective sites and install permanent noise monitoring devices at these locations.

### **Proposed Regulations Requiring Environmental Assessments**

Under the *Civil Air Navigation Services Commercialization Act*, R.S.C. 1996, c. 20 ("CANSCA"), which establishes the authority of Nav Canada, there is no statutory provision that requires Nav Canada to undertake an environmental assessment before implementing changes to flight paths. This is in contrast to Australian regulations, which require that environmental aspects be considered and assessed in flight path design.

To ensure that environmental impacts are given proper consideration in Canadian flight path design, Legal Services recommends that CANSCA be amended and that a regulation be introduced, which clearly establishes that an environmental assessment must be undertaken prior to any changes in flight paths. The proposed legislative changes are contained in Appendix "B" to this report.

## **CONCLUSION**

The City has begun an important dialogue with YVR, Nav Canada, the airlines and chief pilots by joining the Aeronautical Noise Committee. The next step will be to begin discussions with Nav Canada on the recommendations contained in the Report. This discussion will now include the airlines, which in the case of Air Canada is a major customer of Nav Canada.

It is recommended that Council:

- Authorize staff to forward a copy of the Consultant's report and recommendations attached as Appendix "A" (the "Report") to Nav Canada and to the YVR Noise Committee;
- Request that the Consultant meet with Nav Canada, Air Canada and other interested stakeholders to discuss implementation of the recommendations contained in the Report;
- Approve of the BKL Consultants Ltd., the City's noise consultant, to select noise monitoring devices/locations in Surrey in cooperation with YVR technical staff to measure and record aircraft noise; and
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CRAIG MacFARLANE  
City Solicitor

CM:mlg  
Attachs.