PACIFIC RIM RESOURCES
Public Affairs and Communications

February 16, 1999

Dear Rose Clark:

Attached please find the minutes from the joint meeting of the Citizens' Advisory Committee and Technical Advisory Committee held on Nov. 18, 1998. If you have questions or comments, please contact either Ron Seymour or myself. The next meeting of the Citizens' Advisory Committee and the Technical Advisory Committee will be at 6 pm on Wednesday, March 3 in the small auditorium on the ticketing level (our usual meeting place). Looking forward to seeing you there.

Sincerely,

Michael J. West

Attachment

1109 First Avenue, Suite 300
Seattle, Washington 98101

phone 206.623.0735
facsimile 206 623.0781

Sea-Tac Part 150 Noise Study Update

Minutes of the Joint Meeting of the Citizens' Advisory Committee and the Technical Advisory Committee

Presentation of Preliminary Noise Contour Map

Sea-Tac International Airport, Nov. 18, 1998 6:00 p.m.

Present: Craig Ward (City of SeaTac), Loyce Saar (City of SeaTac Mobile Home Owners), Guy Spencer (City of Normandy Park), Cayla Morgan (FAA), Richard Kennedy (City of Des Moines), Jim Combs (City of Seattle), Arden Forrey (King County District #2), Steve Mullet (City of Tukwila), Bud Jones (City of SeaTac), Stephen Kiehl (Puget Sound Regional Council), Eric Tweit (City of Seattle), Al Furney (King County District #13), Michael West (Pacific Rim Resources), Mike Anderson (King County District #8), Rose Clark (Burien), Paul Dunholter (BridgeNet Consulting), Ryk Dunkelberg (Barnard Dunkelberg & Co.), Chip Doring (King County District #5), Betty Ivie (King County District #4), Dick Haferbecker (Alaska Airlines), Jules Bloomenthal (King County District #10), Bob Brown (Brown & Bunting Consulting), Mary Vigilante (Synergy Consultants), Bob Wells (Port of Seattle, AV/Planning), Ron Seymour (Port of Seattle), Clare Impett (KCIA/Boeing Field), Jeff Fitch (Port of Seattle), Claire Barrett (Claire Barrett & Associates)

Handouts

1. Agenda
2. Subcommittee membership to date
3. Tentative 1998-1999 Calendar of Events
4. Operations Subcommittee Report
5. Data Subcommittee Report

Introductions, announcements, reports

The second newsletter has been mailed. All those on mailing list should have received it. If anyone has not received the newsletter or for extra copies, there are newsletters available here in this room. Otherwise contact Michael West at (206) 623-0232 ext. 200.

The second working paper has been delayed due to the volume of data that has been collected. The extension of monitoring over four seasons has added time to the process. The working paper will be available within the next few days. Comments on the working paper are requested by Jan. 4, 1999.

Copies of the briefing papers given to local elected officials have been requested by the Citizens' Advisory Committee. These will be provided.

The next public open house will be held tomorrow, Nov. 19, at Tyee High School from 4 to 8 p.m. All are encouraged to attend. For directions, contact Michael West.

Correction to handout with tentative calendar of events: Dates for subcommittee meetings for Land Use and Operations subcommittees should be listed as Dec. 9 for Land Use Subcommittee and Dec. 10 for Operations Subcommittee.

Consultants encourage committee members to submit names and addresses of individuals and citizens' groups who are not currently on the mailing list but should be. Names and contact information should be forwarded to Michael West.

Claire Barrett reported on the first meeting of the Operations Subcommittee on Oct. 21 (see handout). The subcommittee made an initial selection of study items. They are:

1. Run-ups
2. Adherence to flight tracks
3. Fly Quiet programs

Mary Vigilante reported on the second meeting of the Data Subcommittee on Nov. 11. The subcommittee's mandate is to:

1. Identify types of noise data to be presented and how data will be used in noise evaluation
2. Develop the presentation/analysis format for data collected
3. Develop clear methods of presentation for a diverse number of audiences

The Data Subcommittee identified the following questions that the data should answer:

1. Describe noise levels in terms of sleep impact and the difficulty hearing communications.
2. Where do noise contour lines fall?
3. Are there variances within contour boundary areas as evidenced by SEL or Time Above (TA)?
4. What data is available regarding vibrations?

The Data subcommittee recommended different analysis mechanisms for the action items recommended by the Operations subcommittee (see handout).

The Land Use Subcommittee will meet for the first time on Dec. 9.

Consultant Presentation: Preliminary Noise Contour Map (Paul Dunholter, Bridgenet Consulting)

Operations Data

Noise data was generated by the various operations recorded at Sea-Tac Airport. Operations data included:

- Aircraft activity levels (number of operations)
- Fleet Mix (aircraft type)
- Time of Day
- Stage length (distance of flight, which partly determines aircraft weight)
- Runway use
- Flight paths
- Adherence to flight paths

Sources of operations data (collected through September 1998; data for remaining three months of 1998 have been extrapolated):

- Air Traffic Control Activity Reports
- Port of Seattle landing reports
- Port of Seattle flight track monitoring system
- Noise budget report
- Official Airline Guide

An average day at Sea-Tac Airport saw 1110 operations (takeoffs and landings) in 1998. These operations were divided among the following categories of aircraft:

67	wide-body (dual-aisle; 767 and 747 series)
584	narrow-body (single-aisle; 727, 737, 757, MD-80 series)
78	smaller jets (F-28, Regional Jet series)
299	commuter (prop-jet, Dash-8 series)
82	other (general aviation, military aircraft)

Total: 1110 operations

Aircraft such as the DC-8 (cargo freighters) and those operated by Aeroflot such as the Ilyushin IL-62 and the Antonov AN-124 are considered to be widebody aircraft.

Fleet Mix or aircraft type

The most frequently operating types of aircraft were the following:

32.4%	737 series
26.4%	MD-80, -90 series
10.7%	757 series
10.6%	F-28 series

Departure Stage Lengths (Length of Flight)

Data show a considerable variation of flight distances.

Departure Profiles

The INM model contains a higher departure flight profile for Stage 3 aircraft than the actual data at Sea-Tac indicates. The FAA has realized that this is a concern with the current version of INM and is producing a new version to remedy the situation. For this Part 150 Study, we are modifying the model at Sea-Tac to reflect actual conditions measured in the field and to correct the models departure profiles for Stage 3 aircraft.

Arrival Noise

Measurements of arrival noise will become more important as aircraft operations move entirely to Stage 3 aircraft.

Engine Type

Data for noise measurements according to engine type exists. It is not presented as part of tonight's presentation, however.

Weather Conditions

"Altitude density" refers to the fact that an aircraft's rate of climb depends on the density of the air it's climbing through.

Noise Data and Noise Contour Map

Single Event Contour Map

Radar flight tracks from aircraft equipped with the Flight Management System (FMS) (mostly the Alaska Airlines fleet) were noticeably closer to the "ideal" track than non-FMS aircraft.

Current Noise Modeling

The current noise model (version 5.2) tends to underpredict sideline noise measurements for Stage 3 aircraft. While the center line predictions are generally quite accurate, sideline noise is typically underpredicted by a magnitude of 2-3 dB. This underprediction should be corrected in forthcoming

versions of the noise model. For this contour, adjustments are being made to account for the actual conditions around Sea-Tac Airport.

Questions and Answers

Is there a rule of thumb about arrival glide paths and noise?
In general, a longer glide path at a constant rate produces less noise than having to descend more quickly.

What is the effect of weather inversions on noise?
In conditions of cold and high humidity, sound carries farther and louder. Noise measurements tend to be louder in overcast weather than in clear weather.

How does the use of flaps affect noise?
In general, when an aircraft extends its flaps more fully, the airframe creates more noise.

Suggestions from Committee Members

- On the chart marked Departure Stage Lengths, it would be helpful to display the x-axis in increments of miles, and the y-axis in increments of feet.

- To the fullest extent possible, all noise measurement data should be posted to the website.

- On the Single Event Contour Map, label north flow and south flow.

Meeting adjourned at 8:00 p.m.