

Airport Community Noise Consultative Committee

Calgary Airport Authority
October 15, 2009





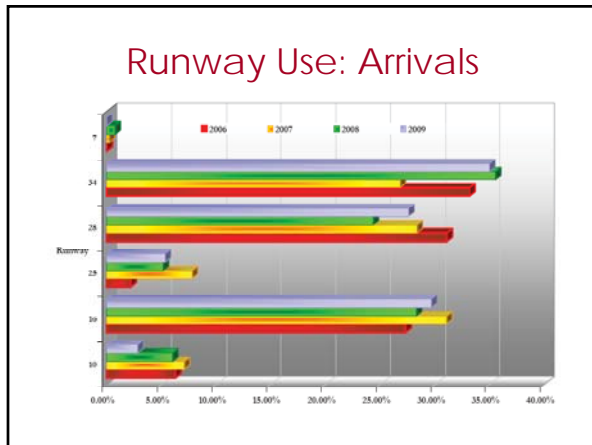
Welcome & Introductions

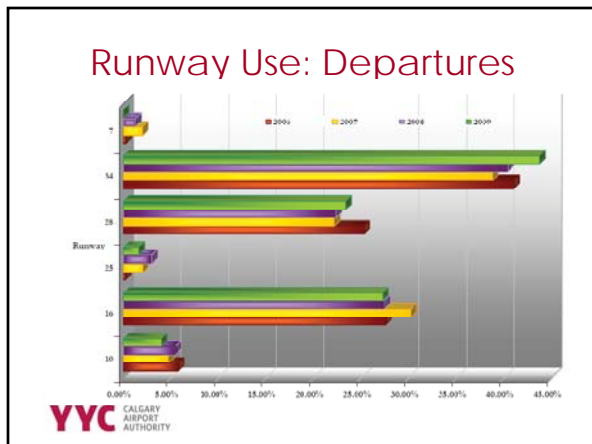
Agenda

- Review of May 28, 2009 Minutes
- 2009 Semi-annual Noise Report
 - Managing Noise Calls
- Parallel Runway Program
- Review of ACNCC Consultation
- Environmental Assessment Process
- Noise Assessment Update
 - Baseline Monitoring
 - Background Document
- Next Steps
- Discussion & Questions

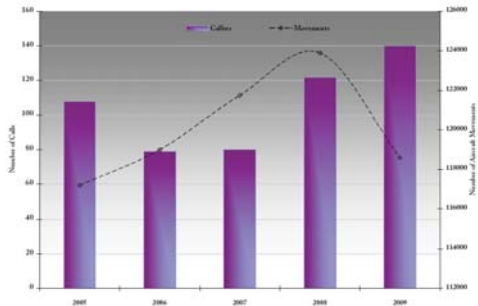




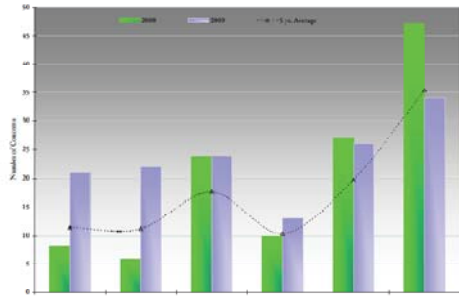




Noise Calls: Jan-Jun 2005-2009 Vs. Movements

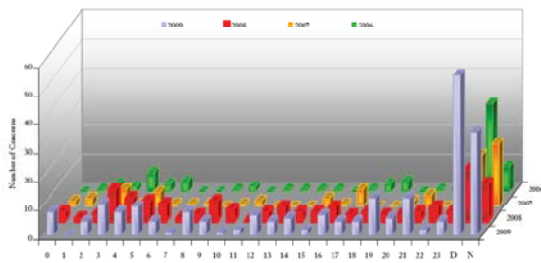


Noise Calls: Jan-Jun



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Noise Calls: Hourly

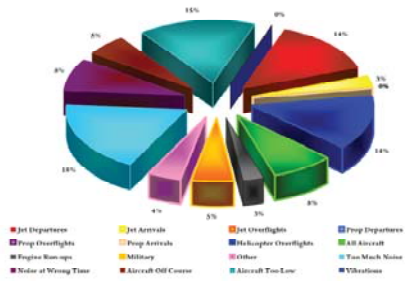


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Noise Calls: Sector



Noise Calls: Operational Concern



403.735.1408

How Do We Manage Noise Calls?

- Callers are prompted to leave a message
 - Runway Construction Hotline
- Calls are downloaded
 - Recorded into Aircene.com Database
- Concerns are investigated
 - Non-conformance, or
 - Details are gathered
- Aim to have complainants called back with in three business days
- Email will take longer
 - We do not advise people to email the airport as there is no specific email address for noise concerns



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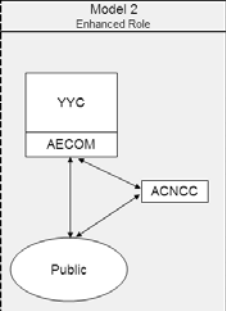
The Calgary Airport Authority Parallel Runway Project



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Review of ACNCC Consultation

Model 2
Enhanced Role



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graph TD
    YYC[YYC] <--> AECOM[AECOM]
    AECOM --> ACNCC[ACNCC]
    YYC --> ACNCC
    ACNCC --> Public((Public))
  
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- Model 2 selected
- Additional meetings
- Reviewing major documents
- Comment on the noise assessment process
 - Are we addressing concerns appropriately?


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Important Dates

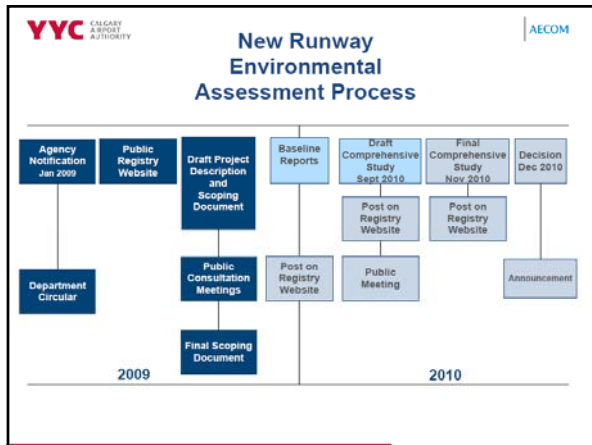
Meeting #	When (approximately)	Objectives & Tasks
1	May 28, 2009	<ul style="list-style-type: none"> • Determine the preferred level of ACNCC involvement • Review the proposed noise approach
2	October 15, 2009	<ul style="list-style-type: none"> • Regular ACNCC meeting <ul style="list-style-type: none"> • General background information • Noise monitoring • Noise modeling & validation • Noise assessment
3	March, 2010	<ul style="list-style-type: none"> • Regular ACNCC meeting & update on the noise program
4	Summer, 2010	<ul style="list-style-type: none"> • Presentation of Baseline Noise Report prior to public release
5	September, 2010	<ul style="list-style-type: none"> • Review of public comment on Baseline Noise Report
6	Fall, 2010	<ul style="list-style-type: none"> • Presentation of draft CSR • Regular ACNCC Meeting - update
7	December, 2010	<ul style="list-style-type: none"> • Review of public feedback on CSR
8	February, 2011	<ul style="list-style-type: none"> • Regular ACNCC Meeting

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Environmental Assessment Process UPDATE

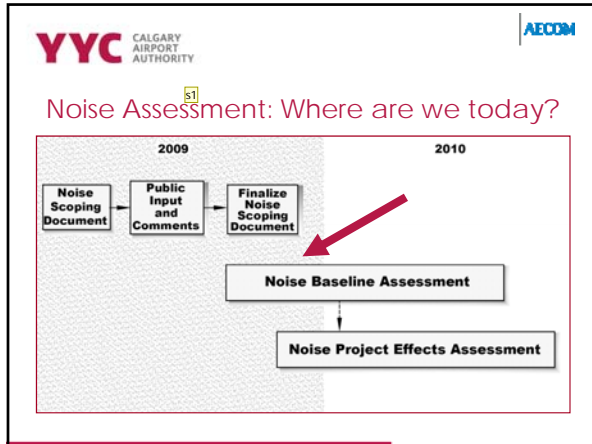


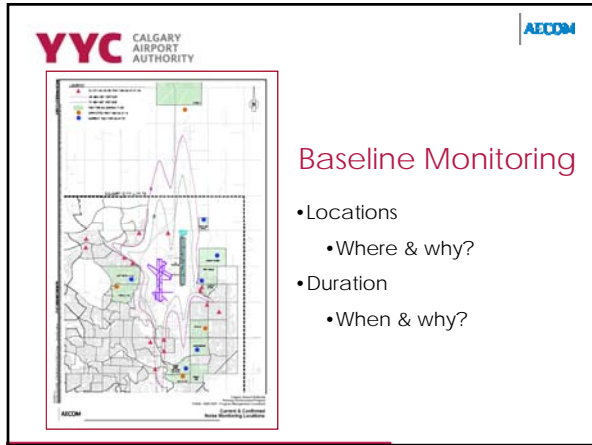
Noise Assessment UPDATE



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Baseline Monitoring

The existing YYC noise monitoring network provides good coverage of the locations already affected by airport noise,

But;

Needs to be augmented by monitoring in those locations with currently relatively little or no aviation noise, but which in future may be subject to changes in aircraft noise.

Slide 19

s1

Noise baseline assessment should be entirely within 2009. Who produced original figure?

scoularm, 08/10/2009

Baseline Monitoring

East of the Airport
Martindale
Castleridge
Saddleridge

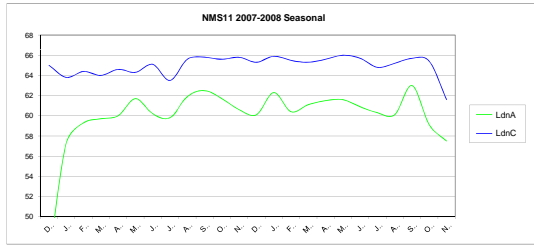
West of the Airport
Thorncliffe
Huntingdon Hills

South of the Airport
Rundle
Marlborough
Forest lawn
Southview
Albert Park

North of the Airport
Airdrie
Sky View (new community north east of airport)

Baseline Monitoring

Noise levels vary over time e.g.



Baseline Monitoring

Ideally would monitor at the supplementary locations for long enough to capture all the variability.

But, this could entail monitoring at multiple locations for over a year or more.

Such an idealistic approach is not justifiable economically, and the time taken would delay the EA delivery schedule considerably.

Baseline Monitoring

Therefore the study needs to understand the typical variability of noise levels over time.

And

Monitor noise sufficiently long enough to obtain noise levels that can be regarded as representative; in the knowledge of the typical variability of noise levels.

Baseline Monitoring

Scrutinised the YYC noise data at all 14 locations for the whole of 2008.

The standard deviation measures the variability of data about the average value.

Found for all the YYC monitoring points that the averages of noise levels measured over a month were typically within 1 standard deviation of the annual average noise level.

Baseline Monitoring

This analysis suggested that adequate baseline noise data at the supplementary locations can be obtained by continuously measuring for periods of at least a month at each location;

On the basis that the average of such data would lie within the range of typical variability at each location.

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Background Document

- Noise modeling
- Supplemental metrics
- Model validation

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Overview of Noise Modeling

Best to measure noise at every location likely to be affected.

However, this is impractical where:

- the noise potentially affects a large number of locations dispersed over a wide area; and
- where there is a need to predict future impacts of noise associated with a new development or changes to an existing operation.

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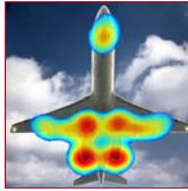
Overview of Noise Modeling

Therefore have to predict:

- the propagation and distribution of noise; and,
- any changes in the propagation and distribution of noise.

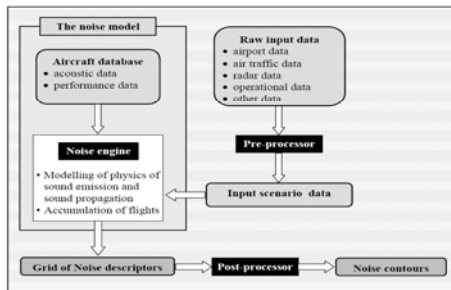
This process is called noise modelling and a number of established methods can be used.

Noise Modeling



- **NEF** (Noise Exposure Forecast)
 - Land use planning tool ONLY!
 - Does not infer noise experience
- **INM** (Integrated Noise Model)
 - Evaluates aircraft noise impacts in the vicinity of airports
- **TNIP** (Transparent Noise Information Package)
 - Supplemental noise metrics for ease of understanding

Noise Modeling

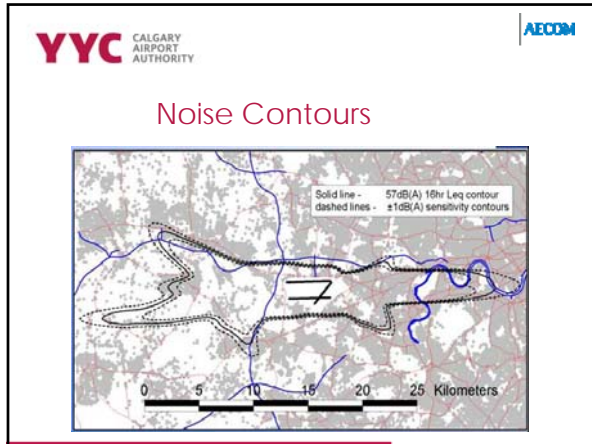


Noise Contours

To describe the noise impact from many flights over an area, contours are used.

These are lines on a map or diagram joining points with the same value of the predicted noise metric.

The area inside this line shows all places where the noise impact is equal to or greater than some value.

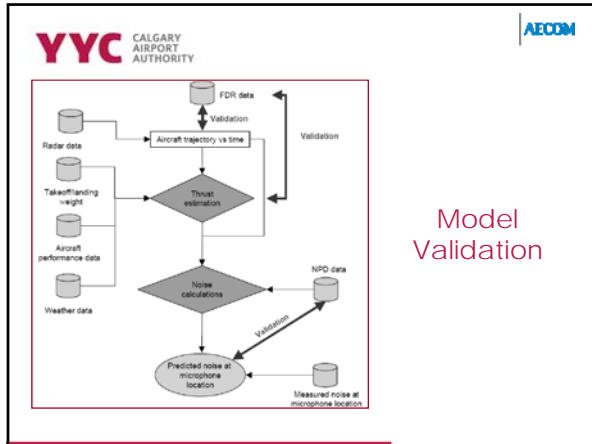


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Aircraft Noise Metrics

Metric	Name
CEXP	Current Exposure
CNEL	Community Noise Equivalent Level
DDOSE	Daily Dose
DNL	Day-Night Level
EPNL	Effective Perceived Noise Level
LAEG	A-weighted Equivalent Continuous Noise Level
LAEGD	Daytime A-weighted Equivalent Continuous Noise Level
LAEGN	Night-time A-weighted Equivalent Continuous Noise Level
LAMAX	A-weighted Maximum Instantaneous Noise Level
LCMAX	C-weighted Maximum Instantaneous Noise Level
NEF	Noise Exposure Forecast
PNLTM	Tone Corrected Perceived Noise Level
SEL	Sound Exposure Level
TALA	Time Above a Specified A-weighted Noise Level
TALC	Time Above a Specified C-weighted Noise Level
TAPNL	Time Above Perceived Noise Level
WECPNL	Weighted Equivalent Continuous Perceived Noise Level

- YYC** CALGARY AIRPORT AUTHORITY **AECOM**
- ### Noise Metrics
- Standard Noise Metrics
- **Leq** Equivalent Sound Level – total noise.
 - **SEL** Sound Exposure Level – event noise.
 - **LDN** Level Day Night –10 dB penalty at night.
 - **EPNL** Effective Perceived Noise Level – How noisy are different aircraft.
- Supplemental Noise Metrics
- **TA** Time Above a specific noise threshold
 - **NA** Number Above a specific noise threshold







Discussion & Questions



Thank-you.
