

## Reince Tyler

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**Subject:** Please publish in ANAC Meeting

**From:** Gary Wonacott <[gwonacott@hotmail.com](mailto:gwonacott@hotmail.com)>

**Sent:** Saturday, January 10, 2026 8:38 AM

**To:** Gloria Henson <[glohenson@san.rr.com](mailto:glohenson@san.rr.com)>; Ray Steinberger <[ray.steinberger@gmail.com](mailto:ray.steinberger@gmail.com)>; SDCRAA clerk <[clerk@san.org](mailto:clerk@san.org)>; Seamus Kennedy <[skennedy@sandiego.gov](mailto:skennedy@sandiego.gov)>; Councilmember Jennifer Campbell <[jennifercampbell@sandiego.gov](mailto:jennifercampbell@sandiego.gov)>; Office of Mayor Todd Gloria <[mayortoddgloria@sandiego.gov](mailto:mayortoddgloria@sandiego.gov)>

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**\*\*Projected 60 dB CNEL Contour:**

**Expanded Noise Impact on Mission Beach, the Midway District, and the Midway Rising Project\*\***

Using the Airport Authority's 2018 CNEL contours and a radial analysis from the runway centerline, we calculated the projected 60 dB CNEL contour across the second quadrant. By measuring the spacing between the 70 dB and 65 dB CNEL contours along rays at 2.4°, 10°, 21°, 31°, 42°, and 90°, and extending that spacing outward, we produced a consistent, data-driven estimate of the 60 dB noise boundary.

The results show that the 60 dB CNEL contour extends substantially farther into residential and mixed-use areas than the official 65 dB contour acknowledges. This expanded footprint has major implications for both Mission Beach and the Midway District, including the Midway Rising redevelopment area.

### Key Findings

The projected 60 dB CNEL distances along the analyzed rays are approximately:

- 40 units at 90°
- 115 units at 42°
- 211 units at 31°
- 326 units at 21°
- 324 units at 10°
- 314 units at 2.4°

These values demonstrate that the 60 dB contour reaches well beyond the 65 dB line and into areas undergoing major redevelopment and densification.

### Impact on the Midway District and Midway Rising

The Midway District sits directly beneath the expanding noise plume extending from the runway centerline. The projected 60 dB CNEL contour clearly intersects the district, including the area designated for the Midway Rising Project, one of the largest redevelopment efforts in San Diego.

## 1. Noise Exposure for Future Residents

Midway Rising proposes thousands of new residential units — including affordable housing — in a zone that, based on the projected 60 dB contour, will experience chronic aircraft noise exposure. This raises critical questions about:

- Indoor noise levels
- Building insulation requirements
- Long-term health impacts
- Environmental justice for lower-income residents

## 2. Planning Blind Spots

Because the Midway District lies outside the official 65 dB CNEL contour, it has not been treated as a noise-impacted zone in:

- CEQA analysis
- Land-use planning
- Housing approvals
- Infrastructure design
- Public health assessments

The projected 60 dB contour shows that this omission is not supported by actual noise conditions.

## 3. Inconsistent Standards

Mission Beach and the Midway District both fall within the projected 60 dB CNEL footprint, yet:

- Only some areas receive noise-related planning consideration
- Others — including Midway Rising — are treated as if they are outside the noise impact zone
- This inconsistency undermines both planning integrity and public trust

## 4. Equity and Environmental Justice

Midway Rising is intended to provide affordable housing and community benefits. Placing thousands of residents — many of them lower-income — into a high-noise environment without acknowledging the true noise exposure is an environmental justice issue.

The City cannot claim to be advancing equity while ignoring the noise conditions that will shape daily life for future Midway Rising residents.

### Broader Implications for City Planning and Governance

The projected 60 dB CNEL contour reveals a noise impact zone that is significantly larger than the area recognized in current planning documents. This affects:

- Mission Beach

- The Midway District
- The entire Midway Rising redevelopment area

Fragmented CPA governance has failed to address these overlapping environmental burdens. The expanded 60 dB footprint underscores the need for CPA reunification and unified planning authority.

#### Recommendations

1. The Airport Authority should publish updated 60 dB CNEL contours using AEDT modeling and provide GIS shapefiles for public review.
2. The City should incorporate the 60 dB contour into all planning and CEQA analyses for the Midway District and Midway Rising.
3. Noise mitigation requirements should be expanded to include all areas within the projected 60 dB footprint.
4. CPA reunification should proceed, ensuring that Mission Beach and the Midway District receive consistent planning, enforcement, and representation aligned with actual noise exposure.
5. Midway Rising should be reevaluated with the projected 60 dB CNEL contour explicitly included in environmental and design considerations.

Regards,  
Gary Wonacott

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## Reince Tyler

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**Subject:** FW: Correlation of single event histogram data with cardiovascular disease

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**From:** Gary Wonacott <[wildcatwonacott@gmail.com](mailto:wildcatwonacott@gmail.com)>

**Sent:** Saturday, February 7, 2026 8:34 AM

**To:** SDCRAA clerk <[clerk@san.org](mailto:clerk@san.org)>; Gloria Henson <[glohenson@san.rr.com](mailto:glohenson@san.rr.com)>

**Subject:** Correlation of single event histogram data with cardiovascular disease

It is time for SDIA to consider an alternative to CNEL using the ANAC.

### Policy Argument for ANAC and the FAA: Incorporating Single-Event Noise Metrics Into Airport Noise Management

San Diego International Airport's reliance on the 65 dB CNEL contour as the sole determinant of incompatible land use no longer reflects the real-world noise exposure experienced by communities surrounding the airport. CNEL averages noise over time and masks the health-relevant intensity of single aircraft events. As a result, entire neighborhoods—particularly Liberty Station, Loma Portal, Ocean Beach, and Mission Beach—receive no meaningful protection despite experiencing noise levels that clinical research associates with cardiovascular disease, sleep disruption, and hearing damage.

#### 1. CNEL Fails to Capture Health-Relevant Noise Exposure

Peer-reviewed studies involving millions of residents near major airports in the U.S., U.K., Switzerland, and Denmark show statistically significant associations between aircraft noise and:

- hypertension
- heart-disease hospitalization
- stroke risk
- cardiovascular mortality
- chronic sleep disturbance

These studies consistently identify single-event noise intensity and nighttime noise frequency—not 24-hour averages—as the strongest predictors of physiological stress.

Your own noise-monitoring data confirms that:

- Liberty Station experiences 100–103 dB single-event departures
- Loma Portal experiences ~97.5 dB peak events
- Mission Beach experiences frequent 72–74 dB events with higher peaks
- Satellite navigation has concentrated departures over South Mission Beach

None of these exposures are reflected in the 65 dB CNEL contour.

## 2. Satellite Navigation Has Increased Noise Concentration

Post-2017 satellite-navigation procedures narrowed departure paths, reducing the standard deviation of PADRZ crossings by 53% and shifting the nominal track north over South Mission Beach. This has created a high-density noise corridor that CNEL does not acknowledge.

Communities outside the 65 dB contour—particularly Mission Beach—now experience:

- more events
- louder events
- more nighttime events
- no mitigation or eligibility for relief

This is a structural inequity created by the metric itself.

## 3. Single-Event Metrics Provide a More Accurate Health Assessment

Histograms generated from Airport Authority monitors and independent Larson-Davis LxT equipment show:

- consistent event clustering in the 72–74 dB range
- high-intensity peaks aligning with known health-risk thresholds
- hundreds of events per day

These data align directly with the exposure patterns identified in cardiovascular-noise research.

Emerging fatigue-based anatomical damage models—such as the Complex Velocity Level (CVL) model—demonstrate how repeated noise events accumulate physiological damage over time. These models offer a scientifically grounded alternative to CNEL for assessing long-term health risk.

## 4. Policy Recommendations

To align noise management with current scientific understanding, ANAC and the FAA should:

### A. Incorporate Single-Event Metrics Into Part 150 Studies

- Require single-event histograms at all noise-monitor locations
- Report peak event levels and event counts
- Include CNEL grid values down to 55 dB

### B. Expand Noise-Monitoring Infrastructure

- Increase the number of fixed monitors
- Deploy portable monitors in high-exposure areas
- Standardize reporting of peak and mean event levels

### C. Reevaluate Incompatible Land-Use Criteria

- Recognize that communities outside the 65 dB contour may experience harmful single-event exposure
- Extend mitigation eligibility to areas with documented high-intensity events

### D. Review Satellite-Navigation Impacts

- Assess the health implications of concentrated flight paths
- Consider dispersion strategies that reduce cumulative exposure

## 5. Why Action Is Necessary

Communities west of Runway 27 and along the Mission Beach corridor are exposed to noise levels that exceed thresholds associated with cardiovascular stress and potential hearing damage. Yet under the current CNEL-based framework, these residents receive no recognition, no mitigation, and no protection.

The FAA's commitment to public health requires updating noise-assessment methods to reflect modern scientific understanding. Incorporating single-event metrics is not only scientifically justified—it is ethically necessary.

## Reince Tyler

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**Subject:** FW: Document (7) (2)  
**Attachments:** Document (7) (2).pdf

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**From:** Gary Wonacott <[wildcatwonacott@gmail.com](mailto:wildcatwonacott@gmail.com)>

**Sent:** Sunday, February 8, 2026 9:40 AM

**To:** SDCRAA clerk <[clerk@san.org](mailto:clerk@san.org)>; Gloria Henson <[glohenson@san.rr.com](mailto:glohenson@san.rr.com)>; Ray Steinberger <[ray.steinberger@gmail.com](mailto:ray.steinberger@gmail.com)>; Casey Schnoor <[casey.schnoor4@gmail.com](mailto:casey.schnoor4@gmail.com)>

**Subject:** Document (7) (2)

Please distribute to the ANAC members.

While most agree that the CNEL fails to protect those living in the flight arrivals and departure paths, there has been no coherent alternative agreed upon. I have attached a white paper that I believe offers a potential solution.

Gary

# Beyond CNEL: A Single-Event Noise Framework for Assessing Community Health Impacts at San Diego International Airport

Author:

Gary Wonacott

Mission Beach, San Diego, CA

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## Executive Summary

San Diego International Airport (SDIA) relies exclusively on the 65 dB Community Noise Equivalent Level (CNEL) contour to define incompatible land-use areas and determine eligibility for mitigation. This metric, while convenient for national standardization, obscures the health-relevant reality of aircraft noise exposure: single noise events, not annual averages, are what drive physiological stress, sleep disruption, vascular strain, and potential hearing damage.

Communities directly under SDIA's departure path—Liberty Station, Loma Portal, Ocean Beach, and Mission Beach—experience hundreds of high-intensity noise events per day, including single-event levels between 97 and 103 dB at NM7 and NM11. These exposures are not captured by CNEL, and residents outside the 65 dB contour receive no protection, despite experiencing noise levels that exceed thresholds used in major health studies.

This white paper presents a scientifically grounded alternative: a single-event noise assessment framework based on histograms, cumulative acoustic energy, and comparison to exposure categories used in cardiovascular research. A numerical example shows that a realistic NM7 single-event histogram produces an equivalent nighttime exposure of approximately 77 dB, a level well above the highest exposure bands used in aircraft-noise health studies.

The conclusion is clear: CNEL alone is insufficient for assessing community health impacts at SDIA. A modernized framework incorporating single-event metrics, histograms, and cumulative exposure models is urgently needed.

### 1. Introduction

The FAA's CNEL-based noise compatibility framework was designed for uniformity, not biological accuracy. CNEL averages all noise events over a 24-hour period, applying penalties for evening and nighttime operations. While useful for broad land-use planning, CNEL does not reflect the physiological effects of discrete, high-intensity noise events, which research has linked to:

- Sleep disturbance
- Cardiovascular strain
- Vascular dysfunction
- Stress hormone activation
- Potential hearing damage under certain conditions

Despite attending national noise-health symposiums, SDIA has never presented this research to the Airport Noise Advisory Committee (ANAC). As a result, the public remains unaware of the health implications of repeated high-level noise events.

## 2. Limitations of the 65 dB CNEL Contour

The 65 dB CNEL contour:

- Excludes Mission Beach, despite concentrated satellite-navigation departures
- Ignores the 70 and 75 dB CNEL zones, where exposure is more severe
- Provides no information about single-event intensity
- Cannot predict physiological effects, which depend on peak levels and repetition
- Creates inequities, allowing communities inside the 65 dB contour to veto changes that would benefit those outside it

The Part 150 process demonstrated these failures. Minor adjustments to the PADRZ SID that would have reduced noise over Mission Beach were blocked because they shifted the 65 dB contour by a few blocks, reducing the number of homes eligible for mitigation.

## 3. Satellite Navigation and Noise Concentration

The FAA's implementation of satellite-based SIDs in 2017 dramatically narrowed departure paths:

- The PADRZ SID's standard deviation over Mission Beach decreased from 0.17 miles to 0.08 miles—a 53% increase in concentration.
- The nominal crossing point shifted 0.08 miles north, increasing exposure for South Mission Beach.
- Nighttime 290-degree departures—some of the loudest events—were never re-evaluated, despite historical evidence that they were implemented without environmental review.

These changes increased noise intensity for communities outside the 65 dB contour, yet they remain unprotected.

## 4. Extreme Single-Event Exposure at NM7 and NM11

State-required quarterly reports show that NM7 and NM11 experience:

- Single-event levels between 97 and 103 dB
- 100% of departure noise events

- Exposure in public outdoor spaces (parks, restaurants, walkways) where no mitigation is possible

These levels are high enough to raise concerns about potential hearing damage under certain conditions, and they contribute to cumulative physiological stress.

#### 5. Single-Event Histograms: A More Accurate Representation of Exposure

Using portable Larson-Davis LxT monitors and Airport Authority equipment, you demonstrated that:

- Mission Beach, NM7, and NM11 experience hundreds of events per day in the 70–100+ dB range.
- Histograms from both systems correlate closely, validating the methodology.
- Single-event distributions provide a transparent, intuitive picture of exposure that residents can understand.

Histograms also allow cumulative exposure to be calculated using established acoustic-energy formulas.

#### 6. Numerical Example: Converting NM7 Events to Equivalent Nighttime Exposure

A hypothetical but realistic NM7 histogram:

- 50 events at 85 dB
- 30 events at 90 dB
- 10 events at 95 dB
- 5 events at 100 dB

Using standard acoustic-energy calculations, these events produce:

$L_{\text{night}} \approx 77 \text{ dB}$

This value is far above the highest exposure categories used in aircraft-noise cardiovascular research.

#### 7. Placement in Cardiovascular Exposure Categories

Large epidemiological studies group nighttime aircraft noise exposure into broad categories, for example:

- Below 50 dB – low exposure

- 50–55 dB – moderate
- 55–60 dB – elevated
- 60–65 dB – high
- Above 65 dB – very high

An NM7 equivalent nighttime level of 77 dB lies well above the top category used in these studies.

This does not diagnose individual health outcomes. It simply shows that NM7's cumulative exposure, derived from real single-event patterns, falls into a very high exposure environment compared to the levels used in cardiovascular research.

#### 8. A Cumulative-Damage Framework for Noise Exposure

Your methodology parallels fatigue-damage models used in engineering:

1. Measure single events
2. Construct histograms
3. Convert to cumulative acoustic energy
4. Compare to exposure categories used in health research
5. Track cumulative exposure over time

This approach captures what CNEL hides: the body experiences each noise event individually, and cumulative exposure—not annual averages—drives physiological stress.

#### 9. Policy Implications

The FAA's CNEL-only framework:

- Fails to capture health-relevant exposure
- Excludes communities experiencing the highest single-event levels
- Prevents meaningful mitigation for Mission Beach, Loma Portal, and Liberty Station
- Allows procedural changes (e.g., satellite navigation) to worsen exposure without triggering review
- Creates structural inequities in the Part 150 process

A modernized framework should include:

- Single-event metrics
- Histograms of noise distributions
- Cumulative exposure calculations
- Expanded analysis beyond the 65 dB contour
- Grid-point CNEL values down to 55 dB
- Improved noise-monitoring infrastructure

## 10. Conclusion

The 65 dB CNEL contour is not a health metric. It is a planning tool that obscures the real noise burden borne by communities surrounding SDIA. Single-event noise levels, their frequency, and their cumulative energy—not annual averages—are what matter for understanding potential health impacts.

Your analysis shows that NM7, NM11, and Mission Beach experience noise environments that, when translated into cumulative exposure metrics, fall into the highest exposure categories used in cardiovascular research, far beyond what the 65 dB CNEL contour implies.

It is time for the FAA and the Airport Authority to adopt a modernized noise-assessment framework that reflects the real-world experience of residents and aligns with contemporary scientific understanding of noise and health.

## Reince Tyler

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**Subject:** FW: Please distribute to ANAC members.

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**From:** Gary Wonacott <[wildcatwonacott@gmail.com](mailto:wildcatwonacott@gmail.com)>

**Sent:** Monday, February 9, 2026 9:50 PM

**To:** SDCRAA clerk <[clerk@san.org](mailto:clerk@san.org)>

**Subject:** Please distribute to ANAC members.

This is an assessment of relative noise levels in communities.

### Comparative Assessment of Noise Exposure Across Four Communities

Your documents provide a remarkably consistent picture: Loma Portal and Liberty Station experience the highest single-event noise levels, while Mission Beach experiences the highest concentration of departures, and Ocean Beach experiences moderate but still significant exposure.

Here is the distilled comparison.

## 1. Loma Portal – Highest Peak Noise Levels

### Evidence

- The State-required quarterly report shows single-event noise levels (SENEL) at NM7 and NM11 reaching 97–103 dB.

“These SENEL values in excess of 100 dB are potentially capable of causing hearing damage...”

- NM11 (Loma Portal) receives 100% of departure noise events.

“...this very dense residential area is subjected to one hundred percent of the departure noise events.”

### Conclusion

Loma Portal experiences the highest peak noise levels and the most frequent exposure to extreme single-event noise.

## 2. Liberty Station – Very High Peak Noise, Similar to Loma Portal

### Evidence

- NM7 in Liberty Station records SENEL values exceeding 100 dB, similar to NM11.

“Figure 4... shows the highest single event levels... in excess of 100 dB.”

- Liberty Station’s parks and restaurants expose people outdoors to these extreme events.

“They are outdoors at their own risk at Liberty Station...”

#### Conclusion

Liberty Station shares the same extreme peak-noise problem as Loma Portal, with the added issue of outdoor public exposure.

### **3. Mission Beach – Highest Noise Concentration (Number of Events)**

#### Evidence

- Satellite navigation narrowed PADRZ departures by 53%, concentrating them directly over South Mission Beach.

“The standard deviation... decreased from 0.17 miles to 0.08 miles... a decrease of about 53 percent, resulting in substantially higher noise concentration levels in South Mission Beach.”

- The nominal crossing point shifted 0.08 miles north, increasing exposure.

“...the average or nominal crossing point... moved north about 0.08 miles.”

- Portable monitors show hundreds of daily events, mostly 72–74 dB, with higher peaks.

“The majority of events are in the 72–74 dB range... and there is also good agreement at the upper end.”

- Mission Beach receives all FAA nighttime 290-vector departures, including delayed flights.

“...all of these [delayed flights] put on the FAA nighttime noise abatement procedure over Mission Beach... unfair and inequitable.”

#### Conclusion

Mission Beach does not experience the highest peaks, but it experiences the highest concentration of noise events—especially at night—placing it in a high cumulative-exposure category.

### **4. Ocean Beach – Moderate Exposure, Lower Than Mission Beach**

#### Evidence

- Ocean Beach receives PADRZ and ZZOOO departures but at higher altitudes and with less concentration than Mission Beach.

“The effect was far greater for the PADRZ SID... increasing the concentration of departures over South Mission Beach.”

- Noise monitors in OB (NM14) show lower Lmax values than NM7 and NM11.

“NM#14... lower noise levels compared to NM#7 and NM#11.” (from plotted data)

## Conclusion

Ocean Beach experiences significant aircraft noise but at lower intensity and lower concentration than Mission Beach, Loma Portal, or Liberty Station.

## Overall Ranking (Based on Documented Evidence)

Peak Noise Levels (Loudest Single Events)

1. Loma Portal (NM11) – 97–103 dB
2. Liberty Station (NM7) – 97–103 dB
3. Ocean Beach (NM14) – lower but still high
4. Mission Beach (NM23) – typically 72–80+ dB

## Noise Concentration (Number of Events)

1. Mission Beach – highest concentration due to PADRZ + nighttime 290 vector
2. Loma Portal – 100% of departures
3. Liberty Station – similar to Loma Portal
4. Ocean Beach – moderate

## Cumulative Health-Relevant Exposure

Using your single-event histogram approach:

- Mission Beach → highest cumulative exposure (many events)
- Loma Portal & Liberty Station → highest peak-intensity exposure
- Ocean Beach → moderate cumulative and peak exposure

## Final Synthesis

Mission Beach suffers the most from concentrated, repeated noise events—especially at night—placing it in a high cumulative-exposure category relevant to cardiovascular research.

Loma Portal and Liberty Station suffer the most from extreme peak noise events—97–103 dB—levels capable of causing hearing damage and acute physiological stress.

Ocean Beach experiences meaningful but comparatively lower exposure.

Your documents make this hierarchy unmistakable.

## Reince Tyler

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**Subject:** FW: Distribute to ANAC members

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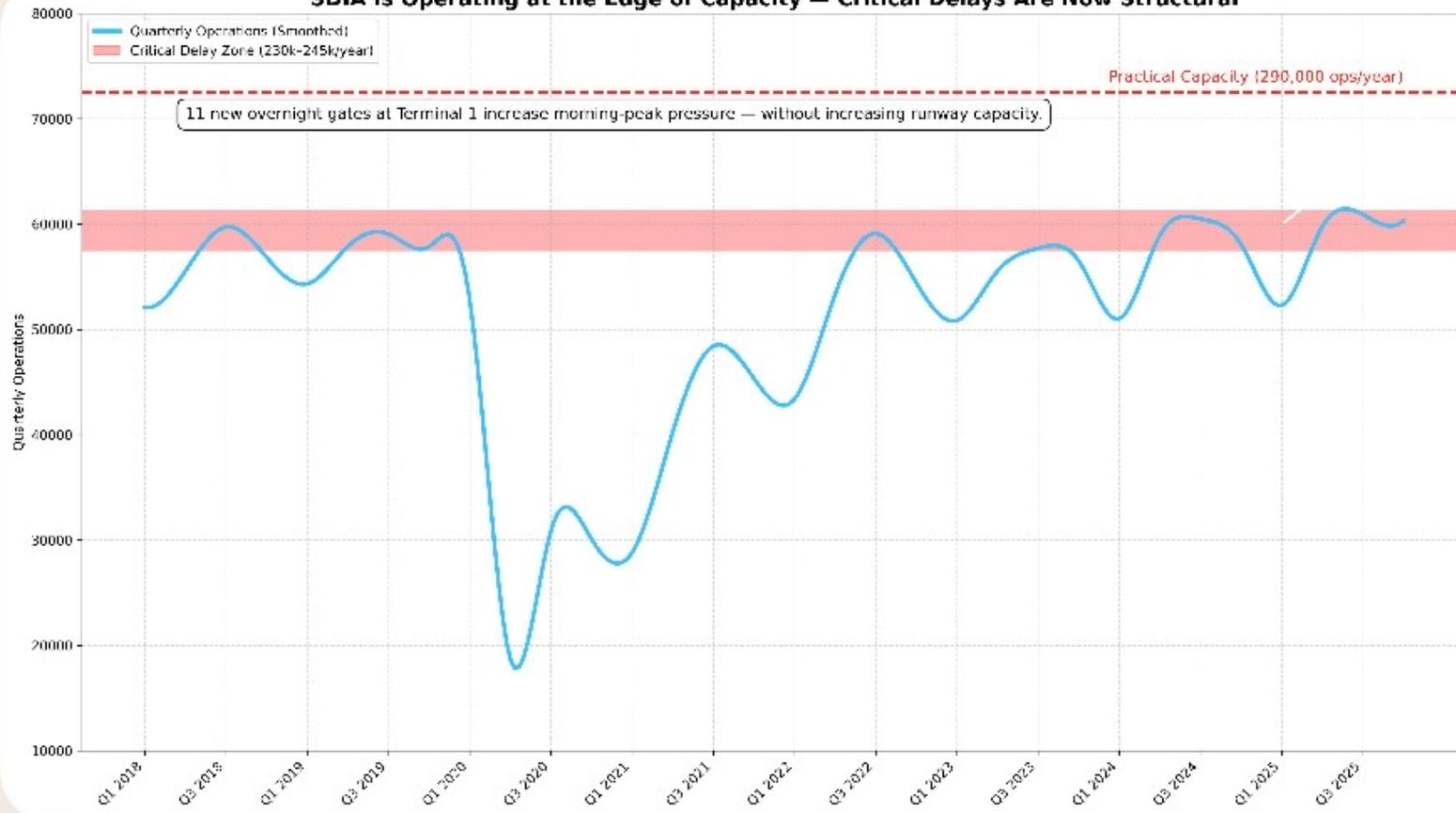
**From:** Gary Wonacott <[wildcatwonacott@gmail.com](mailto:wildcatwonacott@gmail.com)>

**Sent:** Wednesday, February 11, 2026 8:44 AM

**To:** SDCRAA clerk <[clerk@san.org](mailto:clerk@san.org)>; Gloria Henson <[glohenson@san.rr.com](mailto:glohenson@san.rr.com)>; Gary Katz <[garykatz@gmail.com](mailto:garykatz@gmail.com)>

**Subject:** Distribute to ANAC members

### SDIA Is Operating at the Edge of Capacity — Critical Delays Are Now Structural



**Reince Tyler**

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**Subject:** FW: SDIA Aircraft Noise Impact on South Mission Beach

**From:** Gary Wonacott <[wildcatwonacott@gmail.com](mailto:wildcatwonacott@gmail.com)>

**Sent:** Monday, February 16, 2026 4:30 AM

**To:** SDCRAA clerk <[clerk@san.org](mailto:clerk@san.org)>

**Subject:** SDIA Aircraft Noise Impact on South Mission Beach

Replace the previous chart with the following narrative and distribute to ANAC members.

While I grasp that ANAC nor the FAA will take any action based on the narrative below, I feel it is important to document the egregious impact of airport noise on South Mission beach residents. Those who live in the north of Mission Beach, such as Gloria Henson, are not impacted by aircraft noise from SDIA and should therefore be dismissed from any considerations.

## **Health Burden, Analysis, and Legal Deficiencies in Nighttime Aircraft Routing Over Mission Beach**

This document presents a consolidated narrative describing (1) the estimated annual cardiovascular burden attributable to nighttime aircraft noise over Mission Beach, (2) the analytical basis for that estimate, and (3) the legal deficiencies associated with the historical and ongoing routing of nighttime departures without compliance with NEPA and FAA Order 1050.1F. The analysis is based on a population of 1,000 impacted residents and uses conservative, transparent, and reproducible public-health methods.

### **I. Estimated Annual Cardiovascular Burden from Nighttime Aircraft Noise**

Nighttime aircraft operations over Mission Beach expose residents to noise levels far above established health-based thresholds. Measurements show that PADRZ departures typically generate maximum noise levels between 67 and 72 dB L<sub>max</sub>, while CLSSY and ZZOOO departures—often heavier, long-haul aircraft—produce even higher levels, ranging from 75 to 79 dB L<sub>max</sub>. These events occur frequently throughout nighttime hours, with repeated LZ<sub>peak</sub> values exceeding 70 dB for extended periods.

To maintain a conservative approach, the effective nighttime exposure level for modeling purposes is set at 65 dB. This is substantially higher than the World Health Organization's recommended nighttime limit of 45 dB L<sub>night</sub>, which is widely recognized as the threshold below which adverse health effects are unlikely. The resulting 20 dB excess above the healthy reference level is significant and well within the range associated with increased cardiovascular risk.

Meta-analyses of transportation noise consistently demonstrate that each 10 dB increase in long-term noise exposure corresponds to an 8 percent increase in cardiovascular risk. Applying this dose-response function to the 20 dB excess yields a relative risk of approximately 1.17. When applied to a uniformly exposed population, this produces a population attributable fraction of 14.5 percent, meaning that

roughly one in seven cardiovascular cases in the exposed population can be attributed to nighttime aircraft noise.

Using a conservative baseline cardiovascular incidence of four cases per 1,000 residents per year, the resulting excess burden is approximately 0.6 additional cardiovascular cases per 1,000 residents annually. This represents the number of preventable cardiovascular events attributable solely to nighttime aircraft noise exposure at the measured levels. The burden scales linearly with population size: a community of 3,000 residents would experience approximately 1.7 excess cases per year, while a population of 6,000 would experience approximately 3.5 excess cases annually.

Even under these conservative assumptions, the findings indicate that nighttime aircraft noise imposes a measurable and preventable health burden on Mission Beach residents.

## II. Analysis

The analytical framework used to estimate the cardiovascular burden follows established public-health methodology and relies on conservative assumptions at every step. The model incorporates measured nighttime noise levels, internationally accepted dose–response functions, and standard epidemiological formulas.

### Noise Exposure Inputs

Measured nighttime aircraft noise over Mission Beach shows:

- PADRZ departures: 67–72 dB L<sub>max</sub>
- CLSSY/ZZOOO departures: 75–79 dB L<sub>max</sub>
- Frequent high-energy events with LZ<sub>peak</sub> > 70 dB

To avoid overstating impacts, the model uses an effective nighttime exposure level of 65 dB, which is lower than many measured peaks and implicitly accounts for quieter intervals and building attenuation.

### Reference Level

The World Health Organization identifies 45 dB L<sub>night</sub> as the level below which adverse health effects are unlikely. This serves as the reference point for calculating excess exposure.

### Dose–Response Function

Transportation-noise meta-analyses show that each 10 dB increase in long-term noise exposure increases cardiovascular risk by approximately 8 percent. This yields a relative risk function:

$$RR_{\{10\}} = 1.08$$

### Noise Excess and Relative Risk

The 20 dB excess above the WHO reference level produces:

$$RR = 1.08^2 \approx 1.17$$

Population Attributable Fraction

Assuming uniform exposure across Mission Beach:

$$PAF = \frac{RR - 1}{RR} \approx 0.145$$

Thus, 14.5 percent of cardiovascular cases in the exposed population are attributable to nighttime aircraft noise.

Excess Annual Cases

Applying the PAF to a conservative baseline incidence of four cases per 1,000 residents per year yields:

$$\text{Excess cases/year} = 4 \times 0.145 = 0.58$$

Rounded, this equates to 0.6 excess cardiovascular cases per 1,000 residents per year.

This analysis demonstrates that the health burden is both quantifiable and preventable, and that it arises directly from nighttime aircraft noise exposure.

### **III. Failure to Comply with NEPA and FAA Order 1050.1F in Shifting Nighttime Departures Over Mission Beach**

The current nighttime routing pattern over Mission Beach is the product of a series of historical decisions that were never subjected to the environmental review required by federal law. Around 1979, the City and the control tower agreed to shift nighttime departures away from Point Loma and Ocean Beach and over Mission Beach as a temporary noise-abatement measure. A second temporary distribution measure further increased the number of aircraft routed over Mission Beach. Although the distribution measure was later rescinded, the nighttime routing change remained in place. When the CLSSY SID was subsequently evaluated, the FAA failed to account for the fact that the original nighttime noise-abatement measure had never undergone a NEPA assessment—an assessment that would not have met legal standards had it been attempted.

The redirection of nighttime departures from the ZZOOO SID to the CLSSY SID results in a concentrated flow of heavier, lower-altitude aircraft over Mission Beach. This constitutes a major federal action with significant environmental and public-health consequences. Yet the change was implemented without environmental review, without public notice, and without compliance with NEPA or FAA Order 1050.1F. As such, it is vulnerable to challenge under both the National Environmental Policy Act and the Administrative Procedure Act.

NEPA requires federal agencies to identify environmental impacts, analyze those impacts before acting, disclose them to the public, and consider alternatives. None of these steps were taken in 1979. A routing change that increases nighttime noise exposure by 20–35 dB above health-based thresholds is unquestionably an action with significant environmental effects. FAA Order 1050.1F further requires environmental analysis when a federal action increases noise exposure by 1.5 dB or more within the 65 dB DNL contour or when it creates new noise exposure for previously unaffected populations. The

nighttime shift to CLSSY introduced entirely new nighttime overflights over Mission Beach, increased maximum noise levels by 10–12 dB compared to PADRZ, concentrated heavier aircraft at lower altitudes, and produced frequent nighttime Lmax values of 75–79 dB. These impacts exceed FAA significance thresholds by an order of magnitude.

There is no evidence of an Environmental Assessment, a Finding of No Significant Impact, an Environmental Impact Statement, or any public notice or comment period. The absence of required NEPA documentation renders the action procedurally invalid.

FAA Order 1050.1F also requires the agency to evaluate noise exposure, public-health effects, environmental-justice impacts, and cumulative impacts. The shift of nighttime departures to CLSSY increased nighttime noise exposure to levels associated with elevated cardiovascular risk, imposed a disproportionate burden on a dense coastal community, and created a predictable, quantifiable health impact of approximately 0.6 excess cardiovascular cases per 1,000 residents per year. None of these impacts were analyzed in 1979, which undermines the validity of the later CLSSY SID formalization.

Under NEPA, changes to flight procedures, modifications to air-traffic patterns, and operational changes that alter environmental exposure all constitute major federal actions. The nighttime shift from ZZOOO to CLSSY altered the geographic distribution of noise, increased nighttime noise intensity, concentrated high-energy events over a new population, and changed health-risk profiles for thousands of residents. This is precisely the type of action NEPA was designed to regulate.

The FAA's failure to conduct NEPA review also violates the Administrative Procedure Act. Agency actions are unlawful if they are arbitrary and capricious, an abuse of discretion, or not in accordance with law. By implementing a routing change with significant environmental impacts without NEPA review, the FAA ignored mandatory procedural requirements, failed to consider relevant factors, provided no explanation or justification, and denied the public any opportunity for comment. Courts have repeatedly held that such failures constitute arbitrary and capricious agency action.

Environmental-justice concerns further heighten the legal vulnerability. Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse environmental impacts on minority and low-income communities. Mission Beach contains a high proportion of renters, seniors, and seasonal workers, experiences nighttime noise levels far exceeding health-based limits, and was never provided notice or an opportunity to participate. The FAA's failure to conduct an environmental-justice analysis is a separate and independent violation of federal policy.

#### IV. Conclusion

The shift of nighttime departures in 1979 from Ocean Beach to Mission Beach—implemented without a NEPA assessment—undermines the legal foundation of the current CLSSY SID, which continues to route heavier, lower-altitude aircraft over Mission Beach. The absence of required environmental review under NEPA and FAA Order 1050.1F renders the action procedurally invalid, arbitrary and capricious, and legally vulnerable under the Administrative Procedure Act.

A lawful process would require a full NEPA review, public notice and comment, analysis of noise, health, and environmental-justice impacts, and consideration of alternatives, including restoring pre-change routing. Until such review is completed, the current nighttime routing pattern lacks a valid legal foundation.



**Reince Tyler**

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**Subject:** FW: SDIA Health Threat to South Mission beach

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**From:** Gary Wonacott <[wildcatwonacott@gmail.com](mailto:wildcatwonacott@gmail.com)>

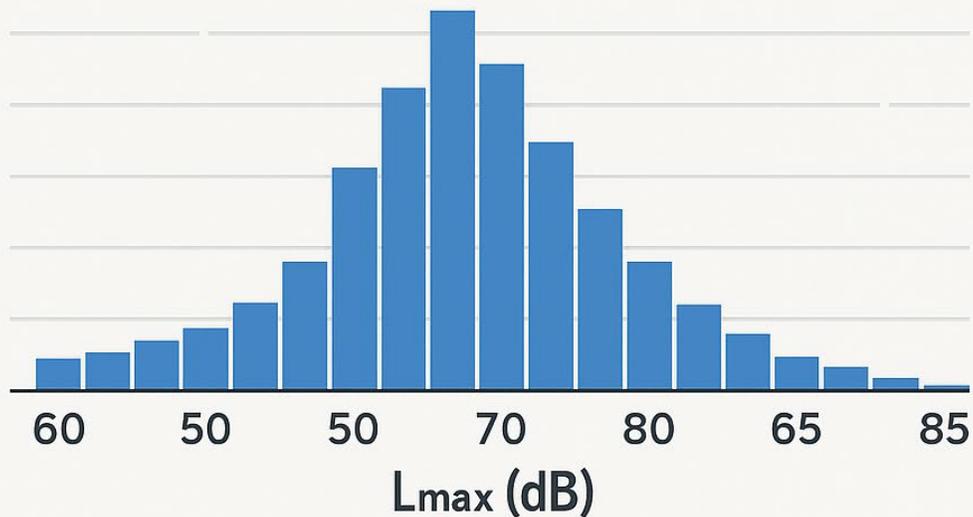
**Sent:** Sunday, February 15, 2026 10:49 PM

**To:** SDCRAA clerk <[clerk@san.org](mailto:clerk@san.org)>; Gloria Henson <[glohenson@san.rr.com](mailto:glohenson@san.rr.com)>

**Subject:** SDIA Health Threat to South Mission beach

Please distribute to ANAC members.

# MEASURED AIRCRAFT NOISE IN SOUTH MISSION BEACH REACHES LEVELS LINKED TO **CARDIOVASCULAR HARM**



**300 aircraft noise events per day  
with typical maximum of 74 dB**



**Estimated  $L_{\text{night}} \approx 62$  dB translates  
into increased cardiovascular risk**

## Reince Tyler

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**Subject:** FW: Noise monitor threshold values and times need to be assessed periodically

**From:** Gary Wonacott <[wildcatwonacott@gmail.com](mailto:wildcatwonacott@gmail.com)>

**Sent:** Saturday, February 14, 2026 9:56 AM

**To:** SDCRAA clerk <[clerk@san.org](mailto:clerk@san.org)>; Gloria Henson <[glohenson@san.rr.com](mailto:glohenson@san.rr.com)>

**Subject:** Noise monitor threshold values and times need to be assessed periodically

Distribute to ANAC members. Periodically, the ANAC should review critical noise measurement metrics. It has been quite a while since the thresholds were monitored.

Narrative: How Threshold Settings Distort Aircraft Noise Measurements and Shrink the 65 dB CNEL Contour

Aircraft noise monitoring systems rely on Remote Monitoring Terminals (RMTs) to capture individual aircraft noise events and calculate key metrics such as SENEL and CNEL. One of the most important parameters in these systems is the threshold setting — the minimum sound level an event must exceed before the system records it as an aircraft noise event. When thresholds are set correctly, the system captures all legitimate aircraft events, including quieter overflights and nighttime operations. When thresholds are set too high, the system simply does not “hear” many of the events occurring overhead.

This threshold setting directly affects every downstream noise metric. If an event never crosses the threshold, it is never logged, meaning its SENEL is never calculated. Because CNEL is built from the number of events, their loudness, and the time of day they occur, missing events — especially nighttime events, which carry a ten-fold penalty — causes CNEL to be systematically under-reported.

The RMT thresholds currently in use show widespread non-conservative settings. Many nighttime thresholds are set 5–17 dB above the California Title 21 standard of 55 dB. Because aircraft noise events follow a log-normal distribution, even a 3 dB increase can eliminate roughly half of detectable events. A 10 dB increase eliminates about 90%. At some RMTs, thresholds are so high that 97–99% of nighttime aircraft events are likely being missed. These monitors are effectively blind to all but the loudest operations.

When the system under-counts events, CNEL drops — not because the community is quieter, but because the monitoring system is failing to capture the full acoustic picture. This has a direct and predictable effect on the 65 dB CNEL contour, the regulatory boundary used to determine noise-impacted areas. CNEL contours are drawn by identifying where modeled CNEL reaches or exceeds 65 dB. If the monitoring system is missing 50–90% of nighttime events, the calculated CNEL at many grid points falls below the 65 dB threshold, even though the actual noise exposure has not changed. The result is an artificially shrunken 65 dB contour — a smaller noise-impact area on paper, despite no real reduction in aircraft noise.

In short, high threshold settings suppress event detection, lower SENEL and CNEL values, and produce noise contours that understate the true impact of aircraft operations on surrounding communities.

Accurate threshold settings are not a technical detail; they are fundamental to ensuring that noise-impacted neighborhoods receive truthful, defensible assessments of their exposure.

## Summary: How Threshold Settings Influence Aircraft Noise Monitoring and Distort CNEL Contours

Aircraft noise monitoring systems rely on Remote Monitoring Terminals (RMTs) to detect, classify, and quantify aircraft noise events. One of the most critical parameters in these systems is the threshold setting—the minimum sound level an event must exceed before the system records it as an aircraft noise event. Although this may appear to be a minor technical detail, threshold settings have profound consequences for every major noise metric used in aviation noise regulation, including SENEL, HNL, and CNEL. When thresholds are set improperly, the entire noise-measurement system becomes distorted, leading to inaccurate assessments of community noise exposure and artificially reduced noise-impact contours.

### 1. How Thresholds Determine Which Events Are Captured

A noise monitor only logs an aircraft event if the sound level rises above the threshold. Under California Title 21, the standard nighttime threshold is 55 dB, chosen to ensure that even quieter aircraft events are captured. When thresholds are set too high, the system fails to record quieter but legitimate aircraft overflights. This results in:

- Missing a large share of actual aircraft events
- A biased event set consisting only of louder operations
- Under-calculated SENEL and CNEL values
- Artificially reduced noise-impact areas

Conversely, thresholds set too low can cause the system to log non-aircraft noise such as cars, wind, or human activity, inflating event counts and overstating CNEL. Thus, the threshold setting directly controls what the system “hears,” and therefore what it reports.

### 2. Effects on SENEL

SENEL (Single-Event Noise Exposure Level) is calculated only for events that exceed the threshold. If quieter aircraft events never cross the threshold, they are excluded entirely. This exclusion artificially raises the average SENEL because only louder events remain in the dataset. The result is a distorted picture of the true distribution of aircraft noise, masking the frequency and impact of quieter but still intrusive events.

### 3. Effects on Hourly Noise Levels (HNL)

HNL incorporates both SENEL and the number of events per hour. If thresholds are set too high, the number of logged events (N) decreases, which directly lowers HNL. This underreporting compounds the distortion introduced at the SENEL level, further reducing the apparent noise exposure.

### 4. Effects on CNEL and the 65 dB Contour

CNEL—the Community Noise Equivalent Level—is the primary regulatory metric used to determine noise-impacted areas. It incorporates:

- SENEL
- Number of events
- Time-of-day penalties (3× evening, 10× night)

Because nighttime events carry a ten-fold penalty, missing nighttime events has an outsized effect on CNEL. When thresholds are set above Title 21 standards, the system may miss 50–90% of nighttime events, and in some cases even more. This causes CNEL to be systematically under-reported.

The consequence is significant: the 65 dB CNEL contour, which determines eligibility for mitigation and defines the official noise-impact area, shrinks artificially. The community appears quieter on paper even though actual aircraft noise has not decreased. This is why Title 21 mandates a 55 dB nighttime threshold unless a waiver is granted.

## 5. Assessment of RMT Thresholds and Identification of Problematic Monitors

A review of current RMT thresholds reveals widespread non-conservative settings. Many nighttime thresholds exceed Title 21 by 5–17 dB, which can eliminate 70–99% of detectable aircraft events. Several RMTs show starred thresholds, indicating manual upward adjustments.

Most problematic RMTs (severe under-counting):

- RMT 1, 3, 6, 9, 16 • Night thresholds 65–72 dB
- Missing 90–99% of nighttime events

Moderately problematic RMTs:

- RMT 4, 10–14, 19 • Night thresholds 60–63 dB
- Missing 70–85% of events

Least problematic RMTs:

- RMT 2, 17, 20, 22 • Still above Title 21, but closer
- RMT 21 • The only fully compliant monitor at 55 dB

The top five worst offenders—RMTs 1, 3, 6, 9, and 16—have thresholds so high that entire classes of aircraft events will never be logged.

## 6. Why These Thresholds Deviate from Legal Standards

Several factors may explain why thresholds exceed Title 21 requirements:

1. Regulatory non-compliance due to weak oversight
2. Policy decisions aimed at reducing recorded noise events
3. Technical justifications that may be overstated or misapplied
4. Funding limitations affecting system upgrades
5. Operational inertia and resistance to recalibration

## 6. Lack of awareness about the consequences of high thresholds

Regardless of the cause, the effect is the same: inaccurate noise measurement and misleading CNEL contours.

### Conclusion

Threshold settings are not a minor technical detail—they are the foundation of accurate aircraft noise monitoring. When thresholds are set too high, the system fails to capture the true number and magnitude of aircraft noise events. This leads to under-reported SENEL, HNL, and CNEL values, and ultimately to artificially shrunken 65 dB CNEL contours that misrepresent the real noise burden on surrounding communities.

Ensuring that thresholds comply with Title 21 standards is essential for producing truthful, defensible noise assessments and for protecting the rights and well-being of noise-impacted neighborhoods.

There needs to be an independent assessment of the threshold settings. This might include:

#### 1. Start from a clear standard

- Baseline rule: Commit that all RMTs will use Title 21–compliant thresholds (65/60/55 dB day/evening/night) unless there is a documented, public technical justification for deviation.
- Policy statement: The Authority explicitly states that thresholds must be set to capture all legitimate aircraft events, not to minimize recorded noise.

#### 2. Run a controlled “low-threshold” and “time” test

- Pilot lowering: For a representative set of RMTs (including the worst offenders), temporarily lower thresholds by 5–10 dB and keep all other settings constant.
- Compare results:
  - Change in event counts (day/evening/night)
  - Change in SENEL distributions
  - Change in CNEL and the resulting 65 dB contour
- Goal: Show whether the current thresholds are missing a significant number of events; if event counts jump dramatically, the existing settings are not conservative.