

Oakland Airport-Community Noise Management Forum

DRAFT Meeting Minutes – October 16, 2024

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1. INTRODUCTIONS

The October 16, 2024, meeting of the Oakland Airport-Community Noise Management Forum (Noise Forum) was called to order at 6:40 p.m. by the Noise Forum’s facilitator, Rhea Hanrahan. Ms. Hanrahan noted that this meeting was a regular in-person meeting and members had to be present to be able to vote and to be counted for a quorum. She noted that a quorum was not present; therefore, formal action items could not be voted upon. Roll was taken.

Noise Forum Members/Alternates Present

Tony Daysog, Councilmember, Alameda
 Jay Seaton, Community Representative, Alameda
 James Nelson, Community Representative, Berkeley
 Co-Chair Benny Lee, Community Representative, San Leandro
 Craig Simon, Interim Director of Aviation, Port of Oakland

Noise Forum Members/Alternates Online

Edward Bogue, Community Representative, Hayward
Bart Lounsbury, Community Representative, Oakland
Gopal Krishnan, Community Representative, County of Alameda

Staff Members/Advisors/Officials Present

Matt P. Davis, Airport Operations Manager, Port of Oakland
Jesse Richardson, Airport Noise and Environmental Affairs Supervisor, Port of Oakland
Marjon Saulo, Government Affairs, Port of Oakland
Joan Zatopek, Manager, Planning and Development, Port of Oakland
Rhea Hanrahan, Noise Forum Facilitator, HMMH
Jason Stoddard, Consultant to the Port, HMMH
Sarah Yenson, Consultant to the Port, HMMH
Paul Hannah, Lean Technology Corporation
Perry Oleck, Lean Technology Corporation
Christian Valdes, Technical Consultant to the Noise Forum, Landrum & Brown
Bert Ganoung, Noise Manager, San Francisco International Airport

FAA Representatives Present

Moifair Chin, Community Engagement Officer
Carlette Young, Acting Supervisor and Senior Advisor, Western-Pacific Regional Administrators Office
Harley Aronson, OAK Air Traffic Control Tower

Ms. Hanrahan reminded everyone that the meeting was being transcribed by a court report. She asked everyone to speak clearly and slowly and speak one at a time.

2. ANNOUNCEMENTS

A. FY 24/25 Noise Forum Membership Dues

Facilitator Hanrahan announced that the City of Richmond is the only outstanding jurisdiction for the 2024/2025 fiscal year annual Noise Forum membership dues.

B. New County of Alameda Community Representative

Gopal Krishnan introduced himself and said he is looking forward to working with everyone. He said he lives in San Leandro but is representing Alameda County on the Noise Forum.

C. New City of San Leandro Elected Representative

Facilitator Hanrahan announced that the new City of San Leandro elected official was not able to attend the meeting.

D. Second Quarter 2024 Noise Abatement Report

Facilitator Hanrahan reported that the Noise Abatement Report for the second quarter of 2024 was posted on the flyquietaok.com website. Co-Chair Benny Lee said he reviewed the numbers

and noticed an improvement from the second quarter of 2023 but would like compliance to be closer to 100 percent. He asked what actions have been taken and what plans are in place to reach 100-percent compliance. Jesse Richardson responded that the Port of Oakland (Port) has been reaching out to repeat offenders, an action item assigned by the North Field / South Field Research Group. He explained that he and Matt Davis analyzed the data and contacted organizations with operators having five or more jet departures from North Field, seeking their support. Those contacted have agreed to help. Mr. Richardson noted the Port has other ideas in progress and mentioned the use of rack cards and posters at fixed-base operators.

James Nelson asked if the repeat offenders are the bulk of the violators. Mr. Richardson said that he estimated that the situation is about fifty-fifty. He said most offenders are transient, coming in every six to eight months. However, he said there are a significant number of repeat offenders where the infractions accumulate.

Jay Seaton inquired whether any feedback or advice was received from the offenders regarding the reasons for their infractions and suggestions for improvement. He asked if there was something to learn from their responses. Additionally, he sought clarification on whether the outreach was to those who had committed five offenses or simply had five departures, as he was uncertain about the statistics. Mr. Richardson clarified that operators that departed the North Field five times within the last 12 months were contacted. Mr. Seaton asked if they were contacted regardless of whether they were noncompliant, in other words Lifeguard flights. Mr. Richardson said that the operations had to be noncompliant. Mr. Davis added that every noncompliant operator is contacted by the Port, which remains consistent, and operators are typically notified of noise abatement procedure violations through letters. Mr. Davis said that Mr. Richardson was referring to an extra outreach effort beyond the standard process, involving more personal contact. He said this extra step aims to address whether the issue is due to a lack of education, especially with transient operators, or other reasons. He explained that while many operators didn't have clear answers and sometimes became complacent, those who responded acknowledged the importance and committed to improving. Mr. Richardson clarified that the outreach targeted operators with five noncompliant operations, but the Port does not ignore issues before reaching that point.

3. APPROVAL OF MINUTES

A. July 17, 2024

Facilitator Hanrahan noted that the approval of the meeting minutes will be deferred until the next meeting as there is not a quorum.

4. NEXTGEN SUBCOMMITTEE UPDATE

Paul Hannah briefed the Noise Forum. He discussed recent explorations of instrument procedure concepts with the NextGen Subcommittee, highlighting participants' interest in continuing to explore options aimed at reducing noise in historically affected areas. He said the concepts explored fall into three main areas:

1. **WNDSR Arrival Procedure:** Two options related to the current WNDSR arrival procedure were examined.
2. **Higher Glide Path Angle (GPA) Approaches:** These involve increasing the glide path angle for aircraft approaching from the east to North or South Field, potentially keeping aircraft higher above residents to reduce noise.
3. **Down-the-Bay Options:** These futuristic concepts involve potential shared airspace over the bay between Oakland and San Francisco, which could redirect noise away from the East Bay and over the water. The FAA is working on advanced concepts that might enable this in certain circumstances.

Mr. Hannah began by discussing the arrival procedures explored for WNDSR. He presented a statistical approximation of one week of aircraft arrivals into Oakland International Airport (OAK) using the WNDSR procedure. These aircraft typically approach from the north, northeast, or northwest, descending to 7,000 feet near Richmond and 5,000 feet at HOSTA before fanning out to either the North or South Field. This precise path over East Bay cities has been a source of noise complaints. The NextGen Subcommittee is exploring alternatives to raise aircraft altitudes safely. One concept involves moving the HOPTA waypoint farther east over the Oakland Hills, allowing aircraft to maintain an altitude of 7,000 feet longer, potentially reducing noise. This idea is still in the exploratory phase and would require further review and community input. He described this as a modest step in the right direction with significant benefits, such as keeping aircraft higher. This shift could reduce noise over cities like Richmond, Oakland, Berkeley, Alameda, and San Leandro but might introduce noise over other areas like northern Orinda, Briones Regional Park, Lafayette, and Alamo. Mr. Hannah then discussed a second WNDSR concept, which involves turning aircraft at a higher altitude farther north, aiming for a continuous descent profile to reduce noise. This new trajectory presents challenges, including coordination with the FAA and Travis Air Force Base due to air traffic control boundaries. Despite these challenges, he said the NextGen Subcommittee is interested in pursuing these options.

Mr. Hannah discussed higher glide-path angles, showing opportunities for steeper approach procedures into the North Field runways. This change would increase aircraft altitude over residential areas east of the airport, potentially reducing noise complaints. Although the change is modest, it offers a few hundred feet of altitude gain, with more substantial gains farther east. This adjustment is straightforward to implement as it follows the existing lateral track but increases altitude. Mr. Hannah indicated there was sincere interest in exploring this further. Similar high glide-path angle opportunities for the South Field were also explored, with potential altitude improvements closer to the airport and increasing farther away. He said the NextGen Subcommittee showed interest in this concept.

Mr. Hannah explained that the San Francisco International Airport (SFO) is preparing for a new down-the-bay approach procedure using Ground Based Augmentation System (GBAS) technology. Currently, this path is used for departures and arrivals at SFO. The FAA is developing the Multiple Airport Route Separation (MARS) concept, which aims to safely separate aircraft using similar airspace. OAK and SFO are preparing conceptual procedures for future evaluations. Implementing MARS requires additional technology and air traffic controllers, making it a long-

term initiative. One concept involves OAK using SFO's down-the-bay trajectory with a last-minute turn, reducing noise for East Bay residents. Another concept proposes a unique track for OAK. These procedures are not yet FAA-approved and face technical challenges. Mr. Hannah said the NextGen Subcommittee is interested in these concepts for their potential noise benefits but acknowledges the many years needed for implementation. He said they plan to continue exploring WNDSR concepts, higher-angled approaches, and ensuring OAK is ready for future MARS trials and down-the-bay approaches.

Mr. Nelson asked if the down-the-bay approach conflicted with SFO departures. Mr. Hannah explained that the intent of the procedures is not to interfere with operations; rather, the procedures are designed to keep aircraft as high as possible above residential areas. Using the example on the screen, he pointed out that the approach starts at DBAYY at 11,000 feet and descends to FAIRO at 8,000 feet, which is higher than the departures from San Francisco. This trajectory is currently used by Northern California TRACON approach controllers, allowing arrivals to pass over SFO departures. The goal is for future arrivals to maintain this higher altitude over SFO departures. Mr. Nelson asked if this change would lower the altitude of the SFO departures on TRUKN. Mr. Hannah reiterated that the intent of these procedures is not to interfere with current operations. The altitudes being evaluated are for concepts far in the future, requiring many additional elements. He said these procedures should enable the full extent of current climb capabilities for departures from SFO.

Co-Chair Lee asked to get a copy of the presentation. Mr. Krishnan asked Mr. Hannah if the future options mentioned, considering the increase in flights and destinations across the Bay Area, take into account the modeling of this increased activity. Mr. Hannah clarified that his team's role is to ensure that individual aircraft follow paths compliant with current and upcoming FAA design rules. They focus on achieving safe separation from other aircraft flying strategically at the same time. They do not model increases in traffic but simulate scenarios to ensure aircraft avoid each other safely within a specific timeframe. He said other team members may handle broader traffic modeling.

Bart Lounsbury thanked Mr. Hannah and others at Lean Technology and the Port for supporting the research, expressing excitement about exploring these concepts further. He then asked the group, given the presence of representatives from SFO and the FAA, how East Bay residents could engage in efforts to address the NextGen procedures coming out of SFO, despite it not being within the Noise Forum's agreement to address these directly. Mr. Davis said that the TRUKN procedure was one of the 37 items the original community group asked the FAA to review. The FAA requested the group to narrow down the list, leading them to focus on the HUSSH and WNDSR approaches. He suggested that if the NextGen Subcommittee wants to pivot and focus on TRUKN, they should make requests and collaborate with San Francisco. The group's current focus on HUSSH and WNDSR is why TRUKN hasn't been closely examined. Bert Ganoung agreed with Mr. Davis, noting that when SFO initially reviewed the extensive list of items for Metroplex, the FAA indicated that the TRUKN procedure was efficient, making it a challenging focus. While they are open to community collaboration and working with other airports, he

emphasized the importance of honoring OAK's commitment with the FAA to proceed with the agreed-upon procedures before addressing additional items.

Matt Pourfarzaneh thanked everyone for the informative modeling. He noted that the second concept, involving arrivals over the bay, wouldn't be problematic if all arrivals were on the South Field. However, he pointed out that when the South Field is closed for repairs or other reasons, all flights would land on the North Field, which could be problematic. He emphasized the need to be mindful of this issue.

5. PUBLIC COMMENT

Facilitator Hanrahan opened the public comment period with an announcement that it was an opportunity for the public to speak on issues not on the agenda but relevant to airport noise at OAK. The following individuals provided a public comment:

- Bob Jarman, Berkeley – Mr. Jarman said he is requesting that OAK take in the Stop Jet Noise Reports.
- Yvonne McHugh, Richmond – Ms. McHugh said she lives in Richmond, California, where aircraft noise from SFO and OAK is a significant issue. The area is heavily impacted by NextGen flight paths, causing health concerns due to noise and emissions. Ms. McHugh said Dr. Daniel Spank has highlighted the public health risks, including metabolic stress and cardiovascular disease. An example of the disturbance is FedEx Flight 690, which woke her at 5:12 a.m. with its noise and vibrations. Despite not being included in OAK's noise abatement procedures, Richmond experiences frequent disturbances from numerous flights daily. She urged the Oakland Noise Office to include Richmond in its noise abatement graphics and to avoid lowering SFO departure altitudes to mitigate the impact.
- Karen Pertschuk, Berkeley – Ms. Pertschuk stated she lives in South Berkeley and experiences significant aircraft noise from flights over her home. Using the Flightradar 24 app, she observed a Southwest flight at 4,900 feet directly overhead. Having grown up in Berkeley, she recalls that flights used to take off over the bay, avoiding residential areas. She is puzzled by the shift to satellite-distributed air traffic control, which now directs flights over communities like hers. A year ago, her quality of life changed dramatically due to the constant jet noise, with flights from both SFO and OAK flying over her home at low altitudes. The noise is almost constant, with jets passing every one to three minutes for hours at a time. She urged for changes to flight paths to reduce the impact on residential areas, highlighting a sharp right turn made by OAK departures that she hopes will be adjusted.
- Darlene Yaplee, San Mateo – Ms. Yaplee said she is the President of the Aviation Impacted Communities Alliance, a coalition of over 90 groups that address concerns about airport expansion. She highlighted that the Alliance's comments on the FAA's Noise Policy Review were endorsed by 13 percent of respondents, emphasizing their expertise. She criticized the Draft Environmental Impact Report (DEIR) for relying on the outdated day-night average sound level (DNL) 65 standard, which inaccurately concludes that the airport expansion will not significantly increase aircraft noise. This metric fails to account

for the number and intensity of noise events, leading to misleading assessments. Despite the FAA acknowledging the limitations of DNL 65 in a 2021 study, the new noise policy will not be retroactive. Ms. Yaplee urged delaying the airport expansion approval until the FAA's new noise policy is finalized to ensure accurate assessment of the true impact of increased air traffic.

- Martine Kraus, Berkeley – Ms. Kraus said she represents communities significantly impacted by aviation and has two main points regarding the expansion. First, there are already too many aviation impacts. In 2023, there were 207,101 aircraft operations, with residents enduring several hundred flights daily, including nighttime operations. The FAA's NextGen implementation at OAK has shifted flight tracks, concentrating air traffic into narrowed corridors, lowering altitudes, and increasing noise impacts on previously unaffected communities. Over a thousand comments on the DEIR have expressed concerns about noise, air quality, and emissions. The current burden on communities like Oakland and Alameda is overwhelming, and additional aircraft noise is not needed. Second, the expansion will increase aircraft operations by 74 percent between 2031 and 2038, resulting in an aircraft noise event every 72 seconds during an 18-hour day. Nighttime operations will also extend, with arrivals as late as 2:00 a.m. and departures as early as 4:15 a.m. This will significantly increase aviation noise impacts. She urged the Noise Forum to delay the project's approval until the FAA's new noise policy is finalized to ensure the true impact of increased air traffic is accurately assessed.
- Benjamin Maurice, Berkeley – Mr. Maurice said he is relatively new to the Noise Forum and a resident of the Berkeley Hills. He noted that planes used to fly over the bay, which was acceptable to residents. The change to the current situation, where planes fly over residential areas, has made residents unhappy. He believes reverting to the previous flight paths would be a better decision. Second, he appreciates the options presented for improving the noise situation but wants to see concrete plans, timelines, and quantified noise reduction targets. He suggested setting specific goals, such as reducing noise by 70 percent by June 2025 and by 90 percent by the end of 2025, to ensure meaningful progress.
- Bill Harrison, Hayward – Mr. Harrison said he is a resident of Hayward near the Castro Valley border and has been attending these meetings since 2001. In 2005, thanks to Jesse Richardson and his team, a monitor was installed in his yard, recording 5,000 flyovers in March 2005. Listening to Mr. Hannah and the subcommittee report, he understands that relief may still be decades away, which is disheartening given his age and the impact of the noise on his body and mind. He has consistently attended these meetings, hoping for timely action to address the noise issue.
- Rani Marx, Oakland – Ms. Marx stated she has suffered significant health consequences from NextGen for eight years, having no prior issues with aircraft noise. She has documented and researched the problem extensively. On July 19, she wrote to the FAA about her routine sleep disturbances, citing four loud flights between 12:40 and 1:00 a.m. on July 14 and seven loud flights in the early evening. The FAA responded on August 7, noting 128 flights within one nautical mile of her home in May and 247 in July, mostly OAK arrivals and departures. She said the FAA claimed NextGen is not responsible for the

increased traffic and that no changes have been made to flight patterns. She finds the lack of accountability unacceptable, with 82 daily flights disrupting her life, making it hard to focus, sleep, or manage stress. She asked for immediate action to protect the community's health, as many are severely affected by the increased air traffic.

- Kevin Brown, Oakland – Mr. Brown said he agrees with the previous speakers and emphasizes that those attending the meetings represent a small fraction of the many affected people who cannot participate. He highlighted the significant impact of aircraft noise on health and peace of mind, expressing sadness over the disturbances described by others. He appreciated the opportunity to speak and supported the call for reducing noise to bring peace and quiet to everyone affected.
- James Jaber, Oakland – Mr. Jaber said he echoed the sentiments of Mr. Brown, expressing concern for those experiencing health issues due to aircraft noise, including himself. He said moving to the area five years ago was a dream come true, but he soon questioned why planes were flying over the highest ridge in the Bay Area. He discovered that the TRUKN departure route from SFO and arrivals into Hayward Executive Airport were causing three crossing flight patterns over his home. He has spent money on noise mitigation efforts, but jet noise still permeates his house. His neighbor's young child even recognizes the sound of airplanes from inside. He now knows specific flight patterns by the behavior of pilots, which he finds troubling. He appreciates the committee's engagement, particularly Mr. Hannah's expertise, and urged the Noise Forum to move the flight routes to reduce noise, believing the Forum is capable of achieving this goal.
- Laurie Earp, Oakland – Ms. Earp said she is a nearly 25-year resident of the Oakland Hills and thanked everyone who had spoken, expressing sympathy for those suffering from aircraft noise. She has attended these meetings for eight years and feels that despite the Noise Forum's efforts, there has been no progress. She noted that flight patterns now include low-flying planes over Oakland, impacting residents' lives. She said a FedEx pilot mentioned that planes could glide from 35,000 feet, suggesting that current practices are unnecessary. She urged those responsible to implement changes, highlighting that the community was not consulted before these changes were made, resulting in planes flying so low that residents can read their serial numbers.
- Susan Stephenson, Oakland – Ms. Stephenson said she appreciated the efforts to explore alternative routes, especially for WND SR, which affects her home in Montclair. She believes multiple routes over Montclair contribute to constant air traffic from San Francisco, Oakland, and Hayward, with planes passing every minute. The concentration of flights has created a hazard, and she wishes dispersion could be reconsidered despite NextGen. She sympathized with long-term sufferers like Mr. Harrison and urged for urgent action on alternative solutions to alleviate the impact on health and the environment, noting even animals are affected by the low-flying planes. She hopes for quick implementation of strategies to bring relief.
- Jon Hamilton, Alameda – Mr. Hamilton said he represents CLASS, which advocates for about 3,000 homes on Bay Farm Island. Addressing Mr. Hannah, he appreciates the plans being worked on and noted that the 30-degree turn for planes leaving the South Field runway at OAK between 10:00 p.m. and 7:00 a.m. has helped reduce noise and pollutants

for Bay Farm Island residents. He suggested implementing a stronger left-hand turn than the current six degrees for planes departing between 7:00 a.m. and 10:00 p.m., proposing a 30-degree turn all day. He believes this adjustment would further minimize noise impact on Bay Farm Island and benefit the main island, particularly the west end of Alameda.

6. FAA REGIONAL ADMINISTRATOR'S UPDATE

Moifair Chin said that there was no update from the FAA.

7. NOISE OFFICE REPORT

A. Update on Action Items from North Field/South Field Working Group

Mr. Richardson gave reports on the following action items from the North Field/South Field Research Group meeting held on September 18, 2024:

- The first Action Item involved analyzing repeat offenders for jet departures from the North Field and the North Field quiet hours procedure. Every noncompliant operator receives a letter. Additionally, the Port contacted operators with five or more jet departures or offenses. The feedback was very positive, with all operators agreeing to comply moving forward.
- The second Action Item involved analyzing the number of clicks on the “noise abatement procedures” page on FlyQuietOakland.com. According to the August analytics report, the Fly Quiet procedures page received 37 views, and the pilot page received 10 views. However, the webmaster couldn't track Whisper Track analytics due to limitations in the new Google Analytics tracking system. Attempts to obtain analytics from Whisper Track were unsuccessful, as they don't have analytics on their site.
- The third Action Item was to analyze whether noise abatement procedures are prominently displayed at the pilot flight-planning areas of fixed-base operators, Signature and Kaiser. A check on August 1 at around 10:00 a.m. confirmed that noise abatement posters and rack cards are present in these areas.
- The fourth Action Item addressed CLASS' concerns regarding an email about Southwest departures on the North Field. This issue was discussed and resolved.
- The fifth Action Item was to analyze whether touch-and-go operations at OAK are higher than at other Bay Area airports. After consulting with NorCal, it was found that touch-and-go operations at OAK are not necessarily higher than at Hayward or other airports in the area. OAK's numbers are comparable to those of Hayward and other nearby airports.
- The sixth Action Item involved analyzing the percentage of Instrument Flight Rules (IFR) versus Visual Flight Rules (VFR) departures from the North Field. Between July 1 and August 14, there were 47 percent IFR departures and 53 percent VFR departures. This analysis was crucial because beckon codes, previously used to determine noncompliance, are now randomly assigned by the FAA. The old VFR based on specific beckon code ranges is no longer valid, necessitating a rewrite of the violation rule to include the new VFR in the Airport Noise Monitoring System (ANOMS). The updated third quarter report looks good, indicating the issue has been resolved.

- The seventh Action Item was to investigate the southeast runway capacity in compliant operations. The definitions are detailed in the 56-page quarterly report.
 - **Southeast Plan Constraints:** Aircraft may land on Runway 10R/L to alleviate airspace congestion on Runway 12. If constraints are confirmed through flight replay or air traffic control recordings, the flight is considered compliant with the noise abatement program for safety reasons.
 - **Excused by Reprocessing:** If a flight is found compliant through flight replay or track analysis, despite initially appearing noncompliant, it is exempt. This can occur during go-arounds for safety, where flights may pass through multiple noise abatement gates. Port staff determined that the flight in question was compliant due to safety-related go-around procedures.
- The eighth Action Item was the community request for additional language in the letters sent to noncompliant operators. The community believe this will address the concern once implemented. Mr. Richardson sent one of these letters to a CLASS Representative earlier in the week, who will help craft different language for the letter. They are awaiting feedback on this effort.
- The ninth Action Item was to analyze the lifeguard flight trend quarter over quarter. There were 94 lifeguard flights in the first quarter of 2024 and 29 in the second quarter of 2024, indicating a decrease. Lifeguard flights tend to fluctuate based on individual health needs.

B. Update on Action Items from July 17, 2024, Noise Forum Meeting.

Mr. Richardson gave reports on the following action items from the previous Noise Forum meeting:

- The members of the Forum asked staff to analyzed whether the CNDEL Five departure procedures could be changed to mimic the Oakland Six departure procedure from Runway 30. Recently, Mr. Davis entered the CNDEL Five procedure into the FAA IFP gateway to attempt this six-degree turn. The FAA will analyze this information and inform them if the change is possible.
- At the request of the City of Richmond, the Port is hiring a consultant to prepare new west and southeast plan characterization maps. These maps will include the City of Richmond, other East Bay jurisdictions, the Peninsula, and potentially South Bay jurisdictions. The process will take about 10 weeks to complete. There will be an interactive version available on the website and a static version for the community to print out.

8. OAKLAND SIX PRESENTATION

Jason Stoddard explained that the Oakland Six departure, while not a new standard instrument departure, has been amended. Instead of taking the runway heading of 296 degrees magnetic off Runway 30, it now shifts to a 290-degree magnetic heading, which is about six degrees to the left. While only two months of data was previously available as of April 2024, data is now available through August 2024. Out of 27,757 departures off Runway 30, around 6,000 used the 290-degree heading, which is about 22 percent of the departures. He continued that HMMH analyzed noise levels using three of the permanent noise monitors in the community (Five, Six, and Seven) and compared them to the previous year. For Noise Monitor Five, the average community noise

equivalent level (CNEL) dropped from 62.6 to 59.6. Noise Monitor Six saw a decrease from 60.2 to 59.1, and Noise Monitor Seven decreased from 59.4 to 58.4. HMMH also tested the impact of specific flights on noise levels. For example, on August 20, 2024, two 737-800 aircraft departures were compared. The 296-degree heading resulted in higher sound exposure levels (SEL) on all monitors compared to the 290-degree heading, which showed decreases in SEL. On August 27, 2024, similar tests showed that the 290-degree heading generally resulted in lower SEL readings compared to the 296-degree heading for the same type of aircraft.

Mr. Nelson asked if the results were for all aircraft. Mr. Stoddard confirmed that they were for all aircraft. Mr. Nelson said despite only a fraction of aircraft using the 290-degree departure path, they achieved a reduction of 1 to 3 dB in noise levels. This shows the effectiveness of the amended Oakland Six departure in reducing noise pollution. Co-Chair Lee asked if the numbers from August 20, 2024, and August 27, 2024 were peak numbers. Mr. Stoddard replied that the data was downloaded from specific noise monitors at the time of day when the departures occurred. SEL represents all the noise energy from the event consolidated into one second. The comparison showed how the green departure (290-degree heading) and the red departure (296-degree heading) individually impacted each noise monitor. The results clearly indicate a reduction in noise levels for the areas monitored, as seen from the SEL readings.

9. NOISE NEWS UPDATE

Christian Valdes reported on the current news of the aviation and noise industries. The following items were discussed:

- Air travel has fully recovered since the COVID pandemic. Boeing projects a 3-percent increase in airplane deliveries over the next 20 years, totaling nearly 44,000 new commercial airplanes. These new aircraft will meet the FAA Stage Five Noise Standard, making them quieter than any previous models. Market analysts predict that single-aisle aircraft will drive industry growth globally. They also expect air travel demand to outpace economic growth, with passenger aircraft numbers rising by an average of 4.7 percent annually over the next 20 years. Other highlights include airlines increasing productivity by raising load factors and utilizing planes more hours per day. Surprisingly, the average global airfare remains about the same as 20 years ago, despite overall consumer prices doubling. Passenger air traffic growth will be strongest in South Asia, Southeast Asia, and Africa, with increases of 6 to 7 percent. Eurasia will receive 22 percent of new aircraft deliveries, and North America and China will each receive 20 percent. By 2043, single-aisle aircraft like the 737 will comprise 71 percent of the fleet, with 33,380 new deliveries. The global wide-body fleet will more than double, with twin-aisle aircraft making up 44 percent of the Middle East fleet.
- In other Boeing news, the company will lay off 10 percent of its workforce, or roughly 17,000 jobs, to stay competitive. The release of the 777-X will be delayed to 2026, and production of the 767 freighter will stop after fulfilling orders in 2027.
- The bypass ratio is a key design characteristic for commercial engines, with higher bypass ratios being more efficient and quieter. For example, the DC-9 in the 1980s had a 2:1 bypass ratio, while the newer 737 MAXs and A320 Neos use the CFM LEAP engine with an 11:1 bypass ratio. Future aircraft will use the new CFM RISE engines, featuring an open-fan

concept and a 75:1 bypass ratio, making them more efficient and environmentally friendly. NASA is exploring ways to make these engines quieter by adding electric motors, creating a hybrid jet engine that reduces fuel consumption. The challenge lies in determining the optimal times to use the electric motors to maximize efficiency. NASA and GE Aerospace will perform testing on which phase of flight will make up the most fuel savings.

- Just like smartphones help us navigate through traffic more efficiently, NASA has developed tools for air traffic control to avoid delays and backups. These tools help manage flight schedules to reduce nighttime noise impact on residents near airports. The digital information platform processes data from various sources using the “collaborative departure digital tool” to reroute flights. This tool will be available to the FAA, airlines, and the public. A test conducted in Dallas in 2022 showed that these tools can lead to fuel savings.
- The FAA’s Fueling Aviation Sustainable Transition (FAST) discretionary grant program is investing in accelerating the production and use of sustainable aviation fuels (SAF). NASA has also developed low-emission aviation technology to support the U.S. aviation industry in achieving zero greenhouse gas emissions by 2050. The SAF portion of the program is providing over \$240 million in grants for infrastructure projects related to SAF transportation, blending, and storage, as well as scoping studies for SAF production needs. The low-emission technology portion is providing \$46 million in grants to develop and demonstrate aviation technology improvements. Although OAK applied for a FAST SAF grant, it was not selected for funding. The awarded grants went to various entities, including startups, fuel producers, airport authorities, universities, and local governments, across 23 states. One recipient, Wright Aviation, is developing a new type of battery for Spirit aircraft. These Wright lithium-sulfur batteries will hold up to three times the power of the best current carbon batteries.
- Locally, Martinez Renewable Company in Contra Costa County received \$50 million for operational updates to their facilities. They are estimated to produce 100 to 350 million gallons of sustainable aviation fuel (SAF) annually by 2027. Additionally, Heart Aerospace in Palo Alto received \$4 million to develop a hybrid electric magnet system to optimize power sources in aircraft.
- Lastly, there was a news piece on the “Teslas of the Skies.” The Pipistrel Velis Electro, an electric aircraft, was delivered to Santa Monica, with another one expected soon. It is quieter than gas-powered planes, producing just 60 decibels. Videos show it sounding like a loud fan during takeoff. The Velis Electro is a low-cost, user-friendly, and environmentally friendly trainer, ideal for flight training. The Eco Aviation Foundation, dedicated to promoting clean and quiet aviation, has purchased this aircraft and will receive another next month. They are also launching an eco-flight ground school and a scholarship initiative. The Velis Electro has an 80-horsepower motor, can fly at speeds up to 100 knots, has a max range of 50 minutes, a takeoff weight of just over 1,500 pounds, and a usable payload of 370 pounds. This aircraft could be used for training sessions in Oakland.

Mr. Nelson asked about using hydrogen fuel cells in aircraft. Mr. Valdes mentioned that the RISE engine is being developed and will be capable of using various future fuels, such as hydrogen and SAF. Some aircraft manufacturers are already testing hydrogen technology by conducting

test flights with twin-engine aircraft, using hydrogen in one engine and regular fuel in the other. He said there is a lot of ongoing testing with hydrogen.

10. NEW BUSINESS / CONFIRM NEXT MEETING DATE

Mr. Seaton said in January 2024, the Noise Forum discussed sending two people to the UC Davis Aviation Noise Symposium. However, since the event was in March, there wasn't enough time to organize it. Now, the dates for the next symposium have been announced for March 2025, and it will be held in Las Vegas. He suggested that the Noise Forum should review the process and decide whether to send one or two people to the event. Facilitator Hanrahan said that she will discuss with the Co-Chairs adding the UC Davis Aviation Noise Symposium to the agenda for the next meeting in January. The members would then vote on who to send, prioritizing the Co-Chairs and other Noise Forum members before considering subcommittee members.

She thanked Mr. Seaton for bringing it up now, as they wouldn't be able to vote on it until the next meeting. She explained that attendees would need to book their own accommodations, travel, and registration, and then submit receipts for reimbursement by the Port. The upfront costs would be borne by the attendees.

Facilitator Hanrahan announced that the Final Environmental Impact Report (EIR) for the Terminal Modernization and Development Program will be published tomorrow. The Board will consider the EIR Certification on Thursday, November 21, 2024. She wanted to inform the group, as it is of interest to them, even though it is not within their prerogative.

The next Noise Forum meeting is scheduled to be a virtual meeting on January 15, 2025.

11. ADJOURNMENT

Facilitator Hanrahan adjourned the meeting at 8:40 p.m.