Key West International Airport

Ad-hoc Committee on Airport Noise

Agenda for Tuesday, June 5th, 2012

Call to Order 2:00 pm Harvey Government Center

Roll Call

A. Review and Approval of Meeting Minutes

   1. For April 3rd , 2012

B. Discussion of Part 150 Study Update –

   1. Role of the FAA and the Part 150 Process
   2. Noise Monitoring
   3. Data Collection –Radar Track graphics to be provided at meeting
   4. Fleet Mix – Table to be provided at meeting

C. Other Reports:

   1. Noise Hotline and Contact Log
   2. Airport Noise Report

D. Any Other Discussion

E. Next meeting: August 7th, 2012

2012 Schedule of Meetings

February 14th	April 3rd	June 5th
August 7th	October 2nd	December 4th

ADA ASSISTANCE: If you are a person with a disability who needs special accommodations in order to participate in this proceeding, please contact the County Administrator's Office, by phoning (305) 292-4441, between the hours of 8:30 a.m. - 5:00 p.m., no later than five (5) calendar days prior to the scheduled meeting; if you are hearing or voice impaired, call "711".

KWIA Ad-Hoc Committee on Noise
April 3, 2012 Meeting Minutes

Meeting called to order by Dan McMahan at 2:04 PM.

ROLL CALL:

Committee Members in Attendance:
- Dan McMahan
- Sonny Knowles
- Dr. Julie Ann Floyd
- Marlene Durazo
- Marvin Hunt
- Harvey Wolney

Staff and Guests in Attendance:
- Deborah Lagos, URS Corp.
- Dan Botto, URS Corp.
- R. L. Blazevic, Resident
- Al Sullivan, Last Stand
- Robert S. Gold, Old Town Homeowner
- Brendon Cunningham, Key West Planning
- T.J. Turnbull, A&J Menendez

Quorum was present

Commissioner Wigington (Committee Chair) and Kay Miller (Committee Vice-Chair) were not in attendance. Dan McMahan was nominated as Chair by Sonny Knowles and seconded by Marlene Durazo. Dan McMahan was approved as temporary chair.

Review and Approval of Meeting Minutes for the February 14, 2012 Ad Hoc Committee Meeting

Dan McMahan asked if everyone had received the meeting minutes and if there were any additions or corrections? Robert Gold submitted a written revision to his remarks at the February 14 minutes, and asked if they should be read aloud. Deborah suggested that it would be best so the Committee would know what changes were requested. Deborah indicated that the revision is on page 7 of the minutes, or page 10 of the entire agenda package, second to last sentence of the

first paragraph, instead of "provide another approach" it should say "encourage a distributed mixture of alternate approach tracks." Robert Gold said the intent is not to use a different approach path, but to use a mixture of approach paths so as to distribute the noise across a larger population rather than concentrating it on the people directly in the straight-in approach path.

Dan McMahon. asked that this change be made. Dan Botto and Deborah agreed that the change will be made. No other changes were requested. Dan McMahan made a motion for approval of the minutes with the changes. Marlene Durazo seconded the motion. There was no opposition and the motion carried.

Discussion of Part 150 Study Update

Role of the FAA

Dan Botto discussed the role of the FAA in the Part 150 Study and process. A handout describing this role and the process was provided to the Committee at the behest of the FAA, and will be provided at each meeting. The Committee was reminded that the FAA does not automatically approve all recommended measures of the Part 150 Study.

Dan explained that the FAA also does not approve the NEMs, they strictly determine if the NEMs are in compliance with the Part 150 requirements, and will issue a Notice of Compliance in the Federal Register. They will make sure that URS and the Airport are following the rules and regulations that govern the Part 150 Process and that the public was included; additionally, they will provide guidance and instruction as to items that were not covered or covered improperly.

Dan further mentioned that the approval role of the FAA occurs during the Noise Compatibility Program [NCP] where recommendations are made for operational and/or land use mitigation measures, like the NIP. That is where the FAA will approve or disprove based on the Part 150 requirements.

Dan McMahan asked if there were any questions regarding the FAA's role in the Part 150 Program, or the Part 150 process. There were none at this time.

Noise Monitoring

KWIA Ad-Hoc Committee on Noise
April 3, 2012 Meeting Minutes

Dan Botto told the Committee that the noise monitors were in place for one month and were removed two weeks prior to the meeting. The subcontractor, L&B, has the data and they have begun the analysis of the data. A draft report will be provided to the Committee as soon as it is available. He also mentioned that the Committee's request that the current noise monitoring data at Key West by the Sea (KWBTS) be compared to the previous noise monitoring results at KWBTS would be included in the report. Dan McMahan asked for an estimated time for completion of the report. Deborah mentioned that should be about a month for data processing and a couple of weeks for documentation. Hopefully the documentation will be ready by the June meeting. Dan Botto also told Robert Gold that he will Email him the report in case he is back in Chicago.

Data Collection and Fleet Mix Change Comparison

Dan Botto discussed the fleet mix change previously discussed at the February meeting, i.e., the United Airlines switch from the Beech 1900 to the Saab 340, and provided the Committee with an Lmax contour comparison of the two aircraft.

Marvin Hunt provided information that United will not be making a complete switch to the Saab 340 due to low inventory of the Saab 340 at this time.

Deborah noted that the contours indicate the Beech 1900 is louder on approach, but the Saab is louder on take-off. Dan Botto mentioned that the Saab also appears to be a wider contour, which may increase the width of the contours at the departure shoulders.

Dan McMahan thought that this fleet mix change would not help KWBTS since the noise monitoring had already been performed. Dan Botto mentioned that the noise contours are still created by modeling, not by the measured data; therefore, the future condition noise model will indicate that all the United Beech 1900 flights will be replaced by the Saab 340.

Deborah explained how the modeling is accomplished. The Part 150 requires two noise contours, and existing condition and a future forecast. This future condition will be a minimum of 5 years into the future. The future condition will show the Saab replacing the Beech 1900 and any other known fleet mix changes. The noise

monitoring is a supplement to the noise modeling. The noise modeling has to represent an entire year's worth of operations whereas the monitoring was only a period of one month. We have to collect data for the entire 12 month period, and then divide by 365 to obtain an average day used for modeling. This is not any actual day, but a calculated average day. Once a contour is produced, the monitored data will be compared to the modeled output, and if the noise levels are not similar, there may be some adjustments made to the noise modeling. That is the extent of the use of the monitoring data; we cannot produce a noise contour from the monitoring data. Dan added that this will only be looked at against the existing condition contour, and any adjustments made to the model will be carried over to the future contour. Dan McMahan asked when the last Part 150 Study had been done. Deborah replied that the last complete study was approved and accepted in 1999, but since this time there have been updates to the Noise Exposure Maps (NEMs) but not to the entire Part 150 Study. Dan McMahan asked that if the data will be continually updated throughout the two years expected to be needed to complete the Part 150. Deborah said "no, the NEMs will be provided to the FAA when they are completed, then the NCP will be submitted at a later date." She mentioned that the existing condition must be representative of the year the NEMs are submitted. The FAA will accept the NEMs while the work is ongoing on the Noise Compatibility Program (NCP) portion of the Part 150 Study.

Marlene Durazo asked if there has been any movement regarding the computer model from the FAA, or are they still hard and fast with the existing model. Deborah said the FAA is solid behind the noise model, and it has held up over time to any questioning and legal review. The model is developed by the FAA and is required to be used in this type of study and other environmental studies. The FAA does not allow much leeway in the use of the model, nor allow much adjustment to the model itself. For example, adjustments made based the monitoring outcome will most likely be limited to changes in fleet mix, runway use and/or flight track location. The methodology the model uses to calculate noise will not be altered. The data to be modified will be limited to the data we input to indicate average day conditions.

Robert Gold asks if the primary input data is a type of flight operations log, does the model also accept actual radar tracks of the actual approach paths used, or is

it simply based on arriving at the threshold. Dan Botto responded that we will use radar data to develop our flight tracks. We will not model every single track that is flown over that time period; we will develop representative tracks with dispersion that will cover the batch of tracks that we are trying to represent. Robert asked if we can graphically see actual radar tracks. Dan Botto said we will provide the actual radar tracks with the representative track superimposed over them to indicate which developed flight tracks represent which batch of radar tracks. Dan mentioned that use of all radar flight tracks make any suggested changes to flight tracks in the NCP are very hard to change when the radar tracks are used as is.

R.L. Blazevic mentioned that every year more and more and more helicopters are operating here and asked if they are part of the study. Dan Botto responded that the helicopters are included in the model. The noise model does contain a subroutine called HNM (Helicopter Noise Model), and separate tracks, landing locations, and operations will be included in the noise contours.

Marlene Durazo asked if the model will also factor in the operations that go east to west due to weather. Deborah answered in the affirmative. Robert Gold had a follow-up question asking if the radar data includes VFR traffic. Dan responded that it should contain everything that appears on radar.

Robert Gold's Proposal

Robert thanked the Committee for including his proposal in the minutes. He has three questions that he would like the committee to address.

The first question is regarding the 2003 study he received from URS on alternative approaches. He observed that the fleet mix in that study does not contain any 737 type aircraft. Robert asked if there was funding available to rerun that study with the current fleet mix. The study examined the effects on the noise contours if alternative approaches into the airport were used. Deborah said that his proposal will be that, and when we analyze his proposal, it will be included in the Part 150 in a similar manner. Sonny Knowles mentioned that the 737's are quieter than many of the aircraft previously using the airport, and

because of the runway length, must fly straight-in from farther out. Robert clarified that since the 737's must fly straight-in, could other traffic that is safely able to make shorter turns to final be encouraged by tower or by FAA regulation, to distribute the noise to compensate for the extra noise received directly under the Runway 09 approach. Sonny said the FAA will not put in place a required alternate approach, but Robert should petition the local controllers and the local pilots to use the alternate approach. Sonny said the committee would need to invite the Tower to meet with the committee to discuss this. Robert said he had mentioned that at the previous meeting, and Director Horton did not seem to think the Tower would be agreeable to implementing a non-sanctioned mix of approaches. Sonny indicated that it would have to be the Tower to suggest this, because there is a large amount of out of town traffic, and only the local pilots would be able to implement any recommended alternate approach.

Deborah informed the committee that URS will be speaking to the Tower Chief to get his take on this item. Robert asked if it was possible to invite a representative from the tower to the June Committee meeting. Dr. Floyd reminded the Committee that Director Horton indicated he was going to talk with the tower regarding this item, but since he was unable to attend, we need to follow up with Peter as to whether the discussion has taken place. Sonny suggested that Robert make an appointment to tour the Tower and talk directly to the Tower Chief and ask if these suggested changes are even possible. Marvin Hunt believed that with current regulations, it may be hard to access the tower as a civilian. Sonny provided Robert with the phone number to directly contact the tower.

Robert's second question was whether any noise monitors were placed in the vicinity of the approach and not just in the vicinity of the airport. Dan Botto informed Robert that no, all the monitors are in the vicinity of the airport. Robert had a follow up question asking if there is any interest in installing a monitor. Deborah mentioned that we had discussed the location of the monitors at the last meeting. Robert commented that all were in closed proximity to the airport, and would like to verify or refute the levels of noise he is experiencing at his home. Sonny indicated that there was no one on the committee that doubted he was experiencing a lot of noise. Dan Botto responded that two of the monitors were almost directly on the approach flight path, and if the noise levels at these sites

were lower than DNL 65, it can be pretty much assured that farther out where Robert lives the nose levels would be lower still. Sonny mentioned that just the increased altitude at Robert's location would result in less noise, and would be below the FAA threshold.

Robert's third question was regarding the conclusion of the 2003 which indicated that alternate approaches would not have much of an impact on overall noise levels. Robert feels that if there is more distribution of flight tracks over the area it would reduce noise levels at the individual areas, as you would be spreading the noise over a large geographical area. Would URS anticipate that with the 737s in the mix and more operations, would the conclusion be the same? Deborah answered that because the alternate paths would be used by primarily smaller planes, alternative approaches would probably not have much impact on the contours, but there may be impacts on the perceived noise levels experienced.

Robert feels that a formal approach to his proposal may not result in any changes, but an informal approach may lead to better results. He mentioned that the previous Garrison Bight approach lead to a large increase in complaints from the residents living under that approach. Deborah mentioned that the Garrison Bight approach was also an informal change and the number of calls from residents who had not previously experienced airport noise increased. Robert felt his proposal was a socialized noise approach to spread the pain.

Dan McMahan felt that without Peter Horton being at the meeting we don't know whether or not he may already be addressing this issue, and that we should wait to hear from him. Robert asked that we extend an invitation to the Tower to attend a meeting and discuss possible alternatives. Deborah said we will either try to get them to the next meeting or a future meeting after that.

Other Reports

Hotline & Contact Log

Dan Botto reported that the hotline had only two calls over the last two months. Sonny mentioned that indicates Peter Horton must have talked to Fred about his aerobatic flying. Dan Botto indicated that one of the calls was concerning the

helicopters the committee was discussing earlier. Sonny indicated that this might have been helicopter tours, which usually do not remain in business very long. Dr. Floyd and Harvey Wolney both mentioned that most of the helicopter activity is emergency or Life Flights. Dan Botto verified that the flight was after 10:00 p.m. at night.

Airport Noise Report

Dan Botto discussed the information Deborah provided in the last meeting about the FAA funding bill including a phase out of the Stage 2 business jets, which was validated by an article on page 22 of the agenda. Sonny and Deborah discussed the cost of this regulation either being new engines or hush kits for these aircraft, or outright replacement of the aircraft. Dan McMahan asked how much these hush kits reduce noise, and Sonny informed the committee that the hush kits reduce the noise to the levels required by the FAA. Deborah said this regulation will greatly reduce the noise experienced at the airport with the number of business jets operating here.

Dan Botto mentioned that the reauthorization bill contained a provision [page 25 of the agenda package] that would have allowed all GA flights to block informational data regarding their aircraft from radar data, making accurate fleet mix development for noise and environmental studies much harder. Luckily, this provision was dropped.

Dan Botto brought to the Committee's attention the 2103 budget request to drop almost $1 billion from the AIP program, which funds the Part 150 programs [page 28].

On page 36 of the agenda package, California is looking at eliminating airport land use commissions. If passed, this could be a budget reducing move used across the country.

Other

Mr. T.J. Turnbill has family that has recently purchased a home in a NIP area, on the understanding that their home would be included in a later phase of the NIP, and does he have any recourse. Deborah explained the proposed clean-up phase

and the FAA's response requiring the Part 150 Update to validate the NIP program boundary. If this Part 150 indicates the area is still within the noise program area, then they will be asked to participate.

Dr. Floyd informed the committee that the state is looking at a real estate disclosure change that would require home buyers to be informed of the proximity to an airport.

Further discussion revolved around the condominium complex off the east end of the airport that was supposed to be built to appropriate noise standards, and there have been almost no noise complaints since occupancy.

Dan McMahan asked if they could make sure the Turnbill address be included in the analysis of this Part 150 Study.

When taking roll, information was obtained that Larry Carcomo has moved and will need to be replaced. Dr. Floyd mentioned Rob Valley of Air Key West would be a good member, and that she would contact him regarding his interest to be on the Committee.

Dan McMahan stated that the next meeting would be on June 5.

Meeting adjourned at 2:55 PM

KEY WEST INTERNATIONAL AIRPORT
AD HOC COMMITTEE MEETING

April 3rd, 2012

NAME	REPRESENTING
Marlene Dwyer	KWBTS
[illegible]	KWBTS
ROBERT S. GOLD	KEY WEST OLD TOWN HOMEOWNER
DAN McMAHON	KWBTS
R. L. BLAZEVIC	SELF
Brendan Cunningham	KWPD
AL SULLIVAN	LAST STAND (alblsull@aol.com)
Sonny Knowles	General Aviation
Marvin Hunt	US AIRWAYS
DAN BOTTO	URS
DEBORAH MURPHY-LAGOS	URS
JULIE ANN FLOYD	KEY WEST SEAPLANES / GA
[illegible]	A+J. Memorials

KEY WEST INTERNATIONAL AIRPORT
AD HOC COMMITTEE MEETING

ROLL CALL

April 3rd, 2012

	MEMBER	REPRESENTING
X	COMMISSIONER KIM WIGINGTON	CHAIR
✓	DAN McMAHON	THE COMMUNITY
X	PAUL DEPOO	AVIATION
X	KAY MILLER	THE COMMUNITY
✓	SONNY KNOWLES	AVIATION
X	ROBERT PADRON	THE COMMUNITY
✓	DR. JULIE ANN FLOYD	AVIATION
✓	MARLENE DURAZO	THE COMMUNITY
✓	MARVIN HUNT	AVIATION
✓	HARVEY WOLNEY, ALTERNATE	THE COMMUNITY
X	LARRY CARCAMO, ALTERNATE	AVIATION

↓ MOVED

ROB VALLEX
AIR KEY WEST

PART 150 PROCESS

NOISE EXPOSURE MAPS

Existing Noise Exposure Map

↓

Future Noise Exposure Map

↓ *Public Review*

Noise Exposure Maps Report

↓ *FAA Review / Comments*

FAA Notice of Noise Exposure Map Conformance

NOISE COMPATIBILITY PROGRAM

Operational Noise Abatement Alternatives

↓

Land Use Noise Mitigation Alternatives

↓ *Public Review*

Program Management Alternatives

↓

Implementation Plan / Noise Benefit Analysis / Cost Estimate / Roles & Responsibilities

↓

Preliminary Noise Compatibility Program Report

↓ *FAA Review*

Final Noise Compatibility Program Report

↓

Public Hearing

↓ *FAA Review - 180 Days*

FAA Record of Approval

URS

Key West International Airport
Contact Log

Date of call	Time of call	Caller	Contact information	Date rec'd	Message
4/3/2012	3:29 PM	Jimmy Davis	Largo Park C80, 600-8988	4/9/2012	There is a helicopter that's been buzzing around here for about 30 minutes about 200 feet off the ground. I thought there was a law they had to be at least 1800 feet. I cant hear my TV and the roof is rattling on my porch. Its black and I have no idea what its doing. I'm sure you can hear it in the background but I want it stopped.
4/16/2012	10:01am	Carl McMacken	KWBTS, 732-581-0682	4/30/2012	Very loud propeller aircraft revving the props and now I think its finally taking off. Perhaps you can hear it (airplane noise in background).
4/22/2012	12:37pm	Carol Warrick	KWBTS, 305-949-9693	4/30/2012	I know the wind is really strong today but you know the planes are flying in the opposite direction and its really really noisy over here at KWBTS. I hope the FAA could do something about that.
4/23/2012	5:23pm	Carol Warrick	KWBTS, 305-949-9693	4/30/2012	The noise at the airport, the landing, has been pretty bad all day long but its really bad right now. Please try to do something about it.
4/30/2012	2:04pm	Carol Warrick	KWBTS, 305-949-9693	4/30/2012	(Plane noise) What's going on here? It sounds like we have been invaded by the Russians or something. The air force is really making a big fuss here at the Key West airport. Tell them to get off of our property there not supposed to be here. Its way too loud.
4/30/2012	2:09pm	William Sheets	KWBTS	4/30/2012	I'm calling about the noise at the airport. I know these aren't your aircraft, its Boca Chica's, but my god the noise of these things and the lowness. I thought the planes were in trouble. It spooked everyone in our building over at KWBTS. I thought they were going to crash. Isn't it illegal for them to be flying over the island? I thought they were supposed to be out at sea. they were military aircraft. I have never heard anything so freaking loud in my life. Is there anything that can be done?
5/3/2012	10:56 AM			5/11/2012	Hang Up
5/9/2012	2:14 PM	Carol Warrick	KWBTS, 305-949-9693	5/11/2012	I don't know what airline but it sounds like it just went through my livingroom. Please tell them to lower it okay.
5/10/2012	2:18 PM	Carol Warrick	KWBTS, 305-949-9693	5/11/2012	It just sounds like a plane went through my house. Would you please tell them to lower it.
5/10/2012	3:20 PM			5/11/2012	Hang Up
5/19/2012	4:20 PM	Carol Warrick	KWBTS, 305-949-9693	5/24/2012	Very, Very loud private jet taking off. Teach these people how to do it.

Key West International Airport
Contact Log

Date of call	Caller	Contact information	Subject
5/9/2012	Rosario Barrett	305-807-0959	Im buying a house on Rivera Dr and the owners told me it could be a little loud and we might apply for new windows but I have no idea who to contact, where to call. Please if you could help me with that I would aprreciate it.
5/10/2012	Rosario Barrett	305-807-0959	This message is for Deborah Murphy. Its in regards to the noise program.

Airport Noise Report

A weekly update on litigation, regulations, and technological developments

Volume 24, Number 8 March 23, 2012

NextGen

DEVELOPMENT OF PBN PROCEDURES MUST BE COLLABORATIVE PROCESS, SYMPOSIUM TOLD

Development of satellite-based Performance-Based Navigation (PBN) procedures that will funnel aircraft over communities on precise, narrowly-defined flight tracks and concentrate noise impact must be done in a collaborative process that includes airports and communities.

That was the clear message asserted over and over again by representatives of airports, airlines, cities, and the Federal Aviation Administration attending the U.C. Davis Aviation Noise & Emissions Symposium held March 4-7 in Palm Springs, CA.

PBN procedures, such as Required Navigation Performance and Area Navigation (RNP/RNAV), form the backbone of the Next Generation Air Transportation System (NextGen) that FAA is in the process of implementing.

Congress set a June 30, 2015, deadline for having all RNP/RNAV procedures in place at the 35 busiest airports in the country and a June 30, 2016, deadline for having them in place at all other airports where they are planned.

Congress does not want new PBN procedures to overlay existing Instrument

(Continued on p. 31)

Environmental Review

FAA, CEQ DETERMINING HOW TO COMPLY WITH CATEX PROVISION FOR RNAV/RNP'S

Attorneys in the Federal Aviation Administration's Office of General Counsel are working with the White House Council on Environmental Quality (CEQ) to determine how to comply with a provision of the FAA reauthorization bill that requires the FAA Administrator to give a Categorical Exclusion (CATEX) from environmental review to RNAV/RNP procedures if they would result "in measureable reductions in fuel consumption, carbon dioxide emissions, and noise, on a per flight basis, as compared to aircraft operations that follow existing instrument flight rules procedures in the same airspace."

"That's a pretty bold statement," Dennis Roberts, Director of Airspace Services for the FAA Air Traffic Office's Mission Support, said in his keynote address on March 4 at the UC Davis Aviation Noise & Emissions Symposium. "Congress has given us a big challenge on PBN implementation."

FAA and CEQ are in the process of determining how to comply with the CATEX language within the bounds of the National Environmental Policy Act (NEPA), he said. That process will take time, Roberts noted, but did not speculate how long it would take.

(Continued on p. 32)

In This Issue…

PBN, from p. 30

Landing System (ILS) procedures, which do not follow the straightest path to airports. But Congress will accept PBN procedures that duplicate existing visual flight paths that pilots use in good weather and provide a more direct path to airports, thus saving fuel.

In addition, as part of NextGen, FAA is reconfiguring airspace around 21 large metropolitan areas to make it more efficient under its Metroplex Plan.

So residents around the nation's airports can expect new flight paths to be defined in the skies above their communities in the next few years as well as greater use of existing visual flight paths. A lot of changes are coming.

"We are in a brave new world here. That is why [community] engagement is so important," Hal Anderson, chief technical advisor, GE Aviation/Naverus, which is developing PBN procedures worldwide, told the conference.

Patrick Moran, an Air Traffic Resource Specialist in FAA's Office of Environment and Energy, said development of a stakeholder process "is a work in process for NextGen" and that FAA is creating a website that will provide information on how to work in a collaborative manner with stakeholders on PBN procedures.

Airports asserted that they should be at the center of any such collaborative process.

"NextGen begins and ends at airport," Chris Oswald, ACI-NA vice president, Safety and Technical Operations, told the symposium. "Airport involvement is essential. Airports have local insights that others do not have." And, he warned, "Airports will be held accountable by the community. This is true even if the airport is not driving the changes in air traffic procedures."

The FAA reauthorization bill recently passed by Congress sets aggressive RNAV deadlines, Oswald said. He noted that Congress mentioned fuel and emissions reduction in the bill in terms of specific performance metrics but did not mention noise. But community issues need to be recognized, Oswald contended. "Airports need to be proactive with FAA and airlines to find the right balance between noise and efficiency."

Flavio Leo, manager, Aviation Planning, Massachusetts Port Authority, added, "Airports know the local lay of the land and can be the point of contact for FAA to see what will happen with a change of airspace. Airports need to be apprised early."

"FAA is looking to airports to give approval to PBN [procedures]," Leo said but warned airports not to go that far. "You are dancing with FAA but you don't want to approve RNAV's," he said.

Jason Schwartz, noise manager, Port of Portland, stressed that airports should be open about increased noise impact.

The PBN procedures developed through a collaborative process must be defensible, he said, and airports must be honest about the noise benefits and noise increases.

"Be open about that; don't surprise the community. The NextGen train is coming. Public outreach is essential. Be proactive; be transparent; provide honest complete information; focus on the big picture; encourage realistic community expectation," he told the conference.

The airport is the intermediary between the aviation industry and the community, Schwartz said. "Don't promise a noise benefit when there may not be any. It will destroy trust."

Chad Leqve, manager, Aviation Noise and Satellite Programs Office, Minneapolis-St. Paul Metropolitan Airport Commission (MAC), told the conference that it is better for airports to lead on PBN than to follow.

The MAC feels that PBN procedures are a significant development at airports if they can reduce environmental impact and increase capacity, he said. But, he stressed, local citizens expect an environmental review process to be conducted on PBN procedures before they are implemented.

"Early and sustained community engagement in a PBN procedures development and implementation process is crucial," he stressed.

FAA Airports division and Air Traffic division are on two planets sometimes in terms of recognizing the need for an environmental review to address comunity concerns, Leqve noted.

He said that the MAC wants to do more with its existing infrastructure and is funding a study to quantify the effect of PBN procedures on capacity at Minneapolis-St. Paul International Airport.

The FAA is conducting the study but the MAC is funding it, he eplained, noting that the MAC is making sure that environmental review of PBN procedures meets it needs.

"Airports need to be prepared to make investments [in developing PBN procedures]. FAA wants to do a lot but does not have a lot of money," he said.

Armando Tovar, noise officer at Raleigh-Durham International Airport said that, while PBN procedures save fuel, he has not seen any data to substantiate that they also reduce noise impact.

But Ken Shapero, director, U.S. Programs, GE Aviation/Naverus, said a study of PBN procedures at Brisbane, Australia, Airport documents both noise and fuel reductions.

And others in the audience pointed out that noise reductions from PBN procedures will become evident over time because 80-85 percent of aircraft operating at an airport must be doing PBN procedures for the noise benefits to accrue. The potential for noise reduction is real, they said. The opportunity will come as more aircraft are equipped to perform PBN procedures.

Others wondered how PBN procedures reduced noise on departure. They allow an aircraft to climb better and "do what it wants to do," explained a representative of Mitre Corp.

James Davies, Noise Officer for the City of Phoenix Aviation Department, discussed an issue that has arisen at Phoenix Sky Harbor International Airport – and will be faced at other airports – in the wake of implementing PBN procedures, which were put in place at Phoenix over five years ago.

He said that noise disclosure maps required by state law

to inform potential home buyers of aircraft noise impact no longer accurately reflects where the noise impact occurs around Sky Harbor International.

"At one point the disclosure map was a valuable tool," he said. "Unless we make it better, it will lose its value." Davies wants to expand the boundary of the noise disclosure area so that citizens affected by new RNAVs are informed of their impact.

But, Davies said, it could be difficult process to amend state regulations on noise disclosure maps because such action requires the approval of the Arizona Aviation DOT Division of Aviation and the state Department of Real Estate.

An issue that was left in question at the end of the symposium was whether FAA endorsed fanning PBN procedures to reduce their noise impact.

GE/Naverus's Chief Technical Advisor Hal Anderson acknowledged that PBN procedures do concentrate air traffic. Traffic can be fanned if that is what the community wants but the decision must be made by the community, he argued. Fanning aircraft is what residents around Sydney International Airport in Australia decided was best, he said.

But an unidentified FAA representative in the audience cautioned that the agency must be cognizant of Environmental Justice issues and not allow fanning of aircraft to be used to move noise over disadvantaged areas. "Successful engagement of the community doesn't mean 100 percent agreement," he said. "It means the community is a partner in the process."

Whether to fan aircraft is a conversation that has already occurred in Australia but has yet to occur in the United States, GE Aviation/Naverus's Shapero said.

But it appears to be a converstion that is needed.

Confused about what the FAA's policy on fanning is, Port of Portland's Jason Schwarz asked at the end of the symposium whether FAA supports fanning.

No response from FAA.

PBN, from p. 30

ANR learned that at least one FAA official is concerned that the CATEX provision requires FAA to measure fuel, CO2, and noise reductions from PBN procedures *on a "per flight basis"* against emissions from aircraft following existing instrument flight rules procedures.

The concern is that the phrase "on a per flight basis" denies the agency the ability to aggregate noise impact, making it much more difficult to deny a CATEX.

However, former FAA Chief Counsel Greg Walden, now at the Washington, DC, law firm Patton Boggs, thinks FAA can still deny a CATEX on the grounds of aggregate noise impact under the final language in the FAA bill.

"The language does not amend NEPA per se, although Congress certainly has the authority to revise NEPA or to exempt certain actions from NEPA," he explained.

"CEQ by regulation allows 'categorical exclusions', and defers largely to each agency to determine the appropriateness of a categorical exclusion for an action or set of actions. This language does require the FAA to presume no significant impact and issue a cat ex," Walden told ANR.

"I do not think the law prevents the FAA from issuing a cat ex in part on the basis of aggregate impact, if a cat ex is otherwise warranted. I do not read the new law as preventing that by implication. FAA still has the discretion to rely on aggregate impact to conclude no significant impact, if such a conclusion is warranted after the agency considers all the relevant factors."

It is unclear who in Congress added the CATEX language to the final FAA reauthorization bill. It appears to have been added during the House-Senate conference held to negotiate the provisions in the final bill.

Sen. Maria Cantwell (D-WA) added language to the earlier Senate version of the bill that would have required the FAA administrator to give a CATEX to PBN procedures that "will measurably reduce aircraft emissions and result in an absolute reduction or no net increase in noise levels."

However Cantwell's language was removed from the final bill and replaced with the current language.

It is likely that FAA and CEQ are trying to determine who in Congress added the CATEX language to the final FAA bill in order to better understand their intention in terms of FAA providing CATEX's for PBN procedures.

But, if the CATEX provision is used to give most or all PBN procedures a CATEX from environmental review, that denies the public an avenue to have input on them. As reported elsewhere in this issue of ANR, there was wide agreement among aviation industry officials attending the UC Davis symposium that the public must be included in a collaborative process to develop PBN procedures.

The Council on Environmental Quality coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives. CEQ was established within the Executive Office of the President by Congress as part of NEPA.

Airspace

FAA MAKING NORTHERN CALIF. AIRSPACE MORE EFFICIENT

Acting Federal Aviation Administrator Michael Huerta and aviation industry partners on March 19 kicked off a collaborative effort to make air traffic control more efficient, help airlines improve on-time performance, and reduce emissions generated by aircraft flying into and out of Northern California airports.

"The Federal Aviation Administration and members of the aviation industry are teaming up to create satellite-based arrival and departure routes that will make some of the most complex airspace in the country some of the most efficient," Huerta said. "Implementing these NextGen procedures will

result in more direct flight routes, fewer delays and an even safer, greener flying experience."

As part of the FAA's NextGen modernization program, the Metroplex initiative will improve the flow of air traffic into and out of the major airports in Northern California by making airspace more efficient. A Metroplex is a region with multiple airports serving major metropolitan areas where heavy airport activity and environmental constraints combine to hinder the efficient movement of air traffic. Metroplex initiatives are under way or planned in 21 metropolitan areas across the country.

The Metroplex initiative is based on satellite navigation, or Performance-Based Navigation (PBN), which is a key component of NextGen. PBN allows shorter, more direct routes that reduce flight time and fuel consumption, and result in fewer carbon emissions.

The FAA estimates that 1.5 million fewer nautical miles will be flown into and out of Northern California annually, based on current flight plan miles filed. This equates to 2.3 million fewer gallons of fuel used and a reduction in carbon emissions of 23,000 metric tons.

This collaborative, regional partnership includes the FAA, the National Air Traffic Controllers Association (NATCA), United Airlines, Southwest Airlines and the airports in San Francisco, Oakland, San Jose, and Sacramento.

The Metroplex work teams will explore and develop strategies to streamline airspace over Northern California to help reduce airspace complexity for air traffic controllers and flight crews. The strategies include:

• Creating Optimized Profile Descent (OPD) procedures into San Francisco, Oakland, San Jose and Sacramento.

• Separating the arrival flows into San Francisco, Oakland, San Jose and Sacramento to reduce congestion. This will also shorten the route into San Jose.

• Implementing satellite-based departure procedures at San Francisco, Oakland and San Jose. These procedures are expected to provide predictable, repeatable paths and optimize aircraft ascents, thus reducing the need to level off.

• Shortening flight tracks by making them more direct.

• Designing a new, high-altitude route that skirts the northern boundary of the military airspace around the Edwards Range Complex. This would create more predictability for air traffic controllers and pilots and allow aircraft to hold at higher altitudes where they burn less fuel.

• Creating a high-altitude holding area east of San Francisco that controllers can use when bad weather reduces the airport's arrival rate.

• Building a new route that Los Angeles-bound aircraft could start using when they are still offshore in Oakland Center's high altitude airspace. The route could allow aircraft to remain longer at higher altitudes, where they burn less fuel, and could provide OPD-like benefits for much of the approach.

AIRPORT NOISE REPORT

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Ft. Lauderdale-Hollywood Int'l

FAA WANTS CONTROVERSIAL CRITERION FOR SIP ADDED TO SETTLEMENT AGREEMENT

The Federal Aviation Administration's Atlanta Office has recommended that language be added to a proposed noise mitigation settlement agreement at Ft. Lauderdale-Hollywood International Airport requiring that homes eligible for sound insulation meet a controversial interior noise level criterion of 45 dB DNL in addition to also being located in the 65 dB DNL noise contour.

FAA contends that the 45 dB DNL interior noise level criterion is not new and was added to the 2005 update of its Airport Improvement Program (AIP) Handbook. However, airports insist that the language in the AIP Handbook in incorrect and was added mistakenly and without them being aware of it.

The FAA included the 45 dB DNL interior noise level criterion in a draft Program Guidance Letter (PGL) that agency headquarters personnel are preparing to clarify language in the agency's AIP Handbook regarding eligibility of homes for installation of sound insulation treatments.

Airports argued in a White Paper last fall that the adoption of a 45 dB DNL internal noise level criterion for eligibility for AIP and PFC funding of airport resi-

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Germany

GERMAN FEDERAL COURT UPHOLDS BAN ON NIGHT FLIGHTS AT FRANKFURT AIRPORT

A German federal court on April 4 upheld a lower state court ban on night flights at Frankfurt Airport, dealing a major blow to the airport – Europe's third busiest – and to Lufthansa Cargo, which hubs there.

The Federal Administrative Court in Leipzig held that the German state of Hesse, where the airport is located, erred in approving the expansion of Frankfurt Airport when it decided to allow 17 night flights without proper consultation with stakeholders. The court said the state of Hesse could make a new decision on night flights but warned that there was little room to maneuver from it's ruling.

The federal court did, however, find that the expansion of Frankfurt Airport and addition of a new fourth runway was legitimate, disappointing residents under the new flight path who have been demonstrating in an effort to shut the new runway down.

The Hesse transport minister said the state would implement the night ban on flights "100 percent," *Reuters* reported.

The federal court upheld a total ban on night flights at Frankfurt from 11 p.m. to 5 a.m. and also reduced the number of flight from 150 to 133 during the shoulder

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In This Issue…

Ft. Lauderdale, from p. 38

dential sound insulation programs would stop the programs in their tracks, leaving thousands of homes uninsulated, and creating a public relations disaster for airports (23 ANR 157).

An FAA headquarters spokeswoman told ANR that the PGL "is almost done." Whether it retains the controversial interior noise level criterion remains to be seen but the fact that the agency's Atlanta office is already requiring it at Ft. Lauderdale makes that prospect likely.

The recommendation that the interior noise level criterion be added to the proposed settlement agreement at Ft. Lauderdale came in a nine-page, Feb. 16 letter to Broward County, FL, and the City of Dania Beach – the parties in the settlement – from Winsome A. Linfert, manager of the Airports Division in FAA's Atlanta office.

The proposed settlement, which would end two decades of litigation over the extension of the south runway – can only be finalized if the FAA approves the soundproofing and sales assistance programs contained in the agreement, the transfer of some vacant properties to the city, and a voluntary night closure of the new runway from 10 p.m. to 5 a.m.

Both Broward County and Dania Beach recently approved an amendment to their proposed settlement agreement extending the date by which they can void the agreement by 30 days, until May 8, if FAA places conditions on it they cannot accept. It is difficult to tell from Linfert's letter whether that has occured because the letter is unclear in places.

Clarification of Letter Sought

The Broward County Commissioners said at an April 3 meeting that FAA's letter, "at least in part, does not give an affirmative written approval or disapproval" of the proposed settlement agreement. The commissioners hope to obtain the required FAA approval of the agreement by the May 8 deadline for deciding whether to void it.

Neal McAliley of the Miami law firm White & Case, who negotiated the settlement on behalf of Dania Beach, told the local press that FAA's Linert stated in the Feb. 16 letter that federal funds could not be used:

• To fund soundproofing of 1,700 homes eligible for a proposed Residential Sound Insulation Program or;

• To fund a novel "Early Benefit Component" of a proposed sales Assistance Program under which the County would give homeowners 20 percent of their property's fair market value in exchange for the property owners signing a "Conveyance and Release Agreement," which is similar to an avigation easement but more encompassing. Some 857 homeowners are eligible for the Early Benefit.

McAliley declined to discuss the letter with ANR, explaining that the parties are trying to resolve the problems with it.

Part 150 Program

FAA APPROVES ALL 7 ELEMENTS OF KELLOGG NOISE PROGRAM

The Federal Aviation Administration on March 9 announced its approval of all seven elements of the Part 150 Airport Noise Compatibility Program for W.K. Kellogg Airport in Battle Creek, MI.

Outright approval was granted for the following measures:

• Voluntary acquisition of residential units within the 65 DNL contour;

• Sound attenuate eligible existing homes within the 65 DNL contour;

• Construct a ground run-up enclosure;

• Recommend jurisdictions implement land use controls;

• Develop/implement a Fly Quiet program;

• Continue the study input committee; and

• Review and update the Part 150 study as needed.

W.K. Kellogg Airport is a joint civil-military, general aviation, air cargo, and corporate flight facility located on the west side of the city of Battle Creek. It also is home to Western Michigan University's College of Aviation and Duncan Aviation – the nation's largest family-owned aircraft refurbishing company. In addition, the airport is home to the Kellogg Air National Guard Base, a unit of the Michigan Air National Guard.

For further information, contact Katherine Delaney in FAA's Romulus, MI, office; e-mail: Katherine.S.Delaney@faa.gov; tel: (734) 229-2900.

MSP Int'l

MAC WANTS MSP COMMUNITIES IN PARTNER HEALTH STUDIES

The Minneapolis-St. Paul Metropolitan Airport Commission (MAC) wants the communities around Minneapolis-St. Paul International Airport to be included in studies on the health effects of aircraft noise being conducted by the PARTNER research consortium.

"The unbiased, factually sound and peer reviewed studies conducted by PARTNER are critical to successfully addressing the complex elements related to aircraft noise impacts," MAC Chairman Daniel Boivin, said in his recent letter to PARTNER Communications Director William Litant.

"Recently members of the community around MSP have raised concerns with the possible health effects from aircraft noise," Boivin wrote.

He said MAC is "fully supportive of the use of MSP as a candidate location for any future PARTNER studies related to this topic. Specifically, your upcoming studies of noise exposure response in the context of both annoyance and sleep disturbance, as well as the aviation related noise effects on the

elderly seem especially relevant to the topic of interest around MSP."

The MAC asked to be included in PARTNER studies on health effects of aircraft noise at the request of the MAC Noise Oversight Committee, which is comprised of airline and community representatives.

The PARTNER projects the MAC Chairman referred to are:

• Project 24 and 25, which seek to improve tools for assessing, modeling, and predicting annoyance and sleep disturbance in communities exposed to transportation noise; and

• Project 44, Aviation-Related Noise Effects on the Elderly, which is the first national-scale investigation of health impacts of airport noise in the United States.

Harvard and Boston University Schools of Health are conducting this study. They will use national data on Medicare enrollees and noise contours surrounding each of 95 airports to evaluate the linkage between aviation-related noise and hospital admissions for cardiovascular disease (23 ANR 109)..

In Brief…

Nominations Sought for Randy Jones Award

Nominations for the 2012 Randy Jones Award for Excellence in Airport Noise Mitigation will be accepted until July 12.

The Randy Jones Award for Excellence in Airport Noise Mitigation is designed to recognize the efforts of an individual, organization, or program that has made a significant contribution to airport noise mitigation that generally entails land acquisition, sound insulation programs, and other projects related to the implementation of noise compatibility programs.

The award will be presented at the 12th Annual Noise Mitigation Symposium, which will be held in Buffalo, NY, on Sept. 30 – Oct. 2.

For further information on the symposium and the Randy Jones Award, including nomination forms, go to www.noise-mitigation-symposium.com.

VOLANS Software Wins Award

BridgeNet International's VOLANS software was the winner of the Innovation Challenge in the Software category at the 2012 *Aviation Week* Laureate Awards.

The Innovation Challenge recognizes and promotes the groundbreaking work being done within the aerospace and defense industry.

VOLANS is an Internet-based rapid prototyping application to create, evaluate, and display flight procedures in 3D. It can be used for all classes of aircraft, from commercial air transport to UAVs. The software is being used by air traffic organizations to visualize Next Generation surveillance and navigation technology and to graphically demonstration the Today/Tomorrow difference.

VOLANS visually translates complex NextGen ATM technologies and programs and graphically demonstrates the capacity, efficiency, economic, and environmental benefits.

FAA Part 161 Rules Being Simplified

The public has until May 4 to comment on a proposal by the Federal Aviation Administration to update, simplify, and streamline its Part 16 rules of practice and procedures for filing and adjudicating complaints against federally-assisted programs.

The Part 16 procedures have been used in the past to challenge airport noise and access restrictions. They have not been updated since originally published in 1996.

FAA's proposal was published in the March 5 Federal Register and can be accessed at the following web address: http://www.gpo.gov/fdsys/browse/collection.action?collectionCode=FR

Click on "2012," then click on March 5; then click on FAA.

New Principals at The Jones Payne Group

The Jones Payne Group, Inc. announced recently that Diane Bryant Carter and James P. Clinnin have become Principals of the firm. Both have broad experience in airport noise and environmental issues.

Carter recently joined the firm and serves as Project Director for the Fort Lauderdale-Hollywood International Airport Noise Mitigation Program. Mr. Clinnin joined the firm in 2007 and serves as Program Manager for the San Diego County Regional Airport Authority's Quieter Home Program.

"We are very pleased to have Diane and James join the Principals Group at Jones Payne," said Michael Payne, Managing Partner of the firm. "With their leadership skills, their diverse experience in service to the aviation industry, and the respect that they enjoy from peers and clients, they enhance the ability of The Jones Payne Group to continue to provide the highest quality professional services to our clients. Diane and James are both important building blocks to our firm's future, and we are fortunate to have them as part of the firm's senior management."

L&B Adds Airspace Expert

Landrum & Brown announced recently that Tim Stull, formerly with United Airlines, has joined it Planning Division.

"A dynamic leader and innovator in airport and airspace capacity development, Tim brings over 35 years of domestic and international aviation and business experience to L&B," the firm said in a statement.

"As a member of L&B's Planning Division, Tim will be based out of the Chicago office and will initially focus his time on our Port Authority New York New Jersey projects. Tim is known throughout the industry for his expertise in airline operations efficiency and systems planning, and has been a pivotal leader in the design and implementation of airspace and procedures at major metroplexes in the United States. He is also considered an industry leader in the area of NextGen,

and will lead L&B planning efforts in providing cutting edge solutions for our clients. Tim most recently served as Managing Director Air Traffic Strategy and Programs at United Airlines."

Catex Language Developed by Conferees

The final FAA Reauthorizaton bill requires the FAA Administrator to give a Categorical Exclusion (CATEX) from environmental review to Performance Based Navigation procedures if they result "in measurable reductions in fuel consumption, carbon dioxide emissions, and noise, on a per flight basis, as compared to aircraft operations that follow existing instrument flight rules procedures in the same airspace."

But who wrote that language, which differs from the original CATEX provision added by Sen. Maria Cantwell to the Senate version of the bill?

The press secretary for the House Aviation Subcommittee told ANR that it was his understanding "that no one member in particular was responsible for changes to the original CATEX provision. It was worked out amongst the conferees." That might explain why at least on observer says the language is "not consistent" with current practice and it will be up to the Obama Administration to interpret the language.

Frankfurt, from p. 38

hours (10 p.m. to 11 p.m. and 5 a.m. to 6 a.m.).

"This is a terrible blow to Germany's reputation as a place to do business and there is no doubt that one of Europe's largest hubs will fall behind in international competition. Nonetheless, in the additional planning procedure Lufthansa will again make the need for selected night-time flights clear," Christoph Franz, Chairman of the Executive Board and CEO of Deutsche Lufthansa AG, said in a statement.

Lufthansa said it "was not given leave" to appeal in the current court proceeding but said the ruling by the Federal Administrative Court allows the airline to justify the need for night flights in further proceedings.

"A rigid night-flight ban without any operational flexibility is completely unreasonable. It is unique in its kind worldwide and ignores the realities of international competition," Fanz said.

Lufthansa Cargo said that switching its Frankfurt hub to another airport is not possible because more than half the cargo on board passenger aircraft is transported via Frankfurt. "Frankfurt is an indispensable part of our business model. This is the only place where freighters and passenger aircraft can be linked quickly and smoothly."

Lufthansa said it "is investing billions in quieter planes and upgrading older models, thereby providing audible relief to the residents around the airport. In addition, a noise abatement package with 19 separate elements was presented together with [officials] of the state of Hesse, around a month ago."

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Sound Insulation Programs

INTERIOR NOISE LEVEL CRITERION WOULD PRESENT TECHNICAL QUESTIONS FOR FAA

A number of thorny technical issues will have to addressed by the Federal Aviation Administration if it imposes what airports contend is a new 45 dB DNL interior noise level criterion on airport residential sound insulation programs.

Alan Hass, Managing Director of the aviation consulting firm Landrum & Brown – who has almost 25 years experience working on airport sound insulation programs at locations all around the country – defined several questions that FAA will immediately face if it retains the 45 dB DNL interior noise level criterion in a Program Guidance Letter (PGL) the agency is in the process of finalizing:

• If 45 dB DNL interior is the criteria level, will airports and their consultants be required to test every home? Presently, airports and their consultants test a representative sample – usually two to three rooms in each home tested and maybe 20 percent of the homes in each phase of the program. If they would be required to test every room and every house, what would be the basis for inclusion in the program? If one room fails, i.e. > 45 dB DNL, would the whole house fail and the home be-

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ANCA

ANCA DOES NOT APPLY TO AIRPORTS NOT GRANT-OBLIGATED, FAA TELLS CONGRESSMAN

The Airport Noise and Capacity Act of 1990 (ANCA) does not apply to airports that are not obligated under federal grant assurances, the Federal Aviation Administration told Rep. Tim Bishop (R-NY), who represents residents around East Hampton Airport on Long Island.

The agency's informal legal opinion was given in response to questions the congressman posed in an effort to determine what actions the Town of East Hampton, NY, can take to restrict noisy helicopter operations at East Hampton Airport.

FAA's opinion is significant because when the courts are interpreting statutes, they give deference to agency interpretations of them, said attorney Peter Kirsch of Kaplan Kirsch & Rockwell, who is advising East Hampton on airport noise matter.

When FAA states that it interprets a statute in a certain way, that is important and has legal significance, he said, but noted that courts give more weight when FAA opinions of law are issued formally and that is not the case here.

A nagging question in the airport legal community has been whether or not ANCA applies to all airports or just to airports obligated by grant assurances they must agree to when accepting federal grant funds, Kirsch explained.

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In This Issue…

Sound Insulation, from p. 42

comes eligible for treatment? Do you test every room and average the interior levels in that house and base eligibility on the average for the house?

• Some have suggested that testing a representative set of housing styles or construction types would be sufficient. Eligibility decisions for all homes would be based on the representative testing numbers. While this might seem like a workable solution to the issue of 100 percent testing, it does have its own issues. For example, at some airports that have similar housing styles, this process would seem to "punish" homeowners who have kept up and invested money in their house and it would "reward" people who have not kept up their house as well. In addition, some rooms might test quieter if full of carpeting, large soft furniture, draperies, and other objects, i.e. a more absorptive environment. Do we "punish" homeowners who choose to have a minimalist interior with hardwood floors and a few hard furnishings?

• If the FAA defines 45 dB DNL as the interior criteria, when is 45 DNL actually 45? If 45 dB DNL is the criteria and the hard and fast number we must live by, does 45 mean 45.0? We typically do not work with fractions of a dB with noise measurements and round to the nearest whole number. Therefore, we would typically round 44.5 to 45. So does 44.5 mean 45 or would 45.0 mean 45? Additionally, we generally assume that the accuracy of our measurements is maybe ± 1 to 2 dB or more. So would 43 or 44 actually mean 45?

"Needless to say," Hass told ANR, "the concept of the FAA requiring 45 dB DNL has a lot of technical issues that need to be defined and resolved."

The controversial interior noise level criterion was included in a draft Program Guidance Letter FAA is preparing to issue to clarify language in the agency's Airport Improvement Program (AIP) Handbook regarding eligibility of homes for installation of sound insulation treatments funded by AIP grants and Passenger Facility Charge (PFC) revenue (23 ANR 157).

However, FAA's Atlanta office is already requiring the interior noise level criterion in a proposed noise mitigation settlement agreement between Broward County, FL, and the City of Dania Beach that would resolve litigation over the extension of a runway at Ft. Lauderdale-Hollywood International Airport (24 ANR 38).

If imposed, homes around airports would have to meet an interior noise level criterion of 45 dB DNL in addition to being located in the 65 dB DNL contour of an airport before being considered for sound insulation treatments.

Hass said that airports and the consulting community will have to wait and see what FAA is requiring in its anticipated PGL before they can determine what kind of impact it will have on individual airport residential sound insulation programs.

Airspace

FAA BEGINS MAKING HOUSTON AIRSPACE MORE EFFICIENT

The Federal Aviation Administration is quickly rolling out segments of its Metroplex Initiative under which the airspace around 21 U.S. metropolitan areas will be redesigned to make it more efficient and to reduce aircraft emissions.

Houston is the latest metropolitan area targeted for an airspace redesign to improve on-time performance of aircraft and reduce emissions.

Metroplex initiatives are already under way at Atlanta, Charlotte, Dallas-Ft. Worth, Washington D.C. and Northern California.

"Houston is testing technology and flight procedures that will improve on-time flights and increase safety and fuel efficiency," U.S. Deputy Transportation Secretary John Porcari said in an April 4 announcement.

"The work underway in Houston to develop new satellite-based arrival and departure routes for the city's two major airports will be replicated nationally, meaning that travelers will reach their destinations more quickly and safely than ever before."

The FAA estimates that, as a result of the Houston Metroplex airspace initiative, airplanes will fly 648,000 fewer nautical miles annually, based on flight plans. This and other NextGen procedures will save up to three million gallons of fuel and reduce carbon emissions by as much as 31,000 metric tons each year.

A Metroplex is defined as "a major metropolitan area with multiple airports, where heavy traffic and environmental constraints combine to hinder efficient movement."

Launched in January, the Houston Metroplex initiative is well into the design phase on a number of strategies to streamline airspace and help reduce complexity for air traffic controllers and flight crews. The strategies include:

• Creating Optimized Profile Descent (OPD) procedures into George Bush Intercontinental and William P. Hobby airports.

• Creating more efficient routes between Houston and the Dallas/Fort Worth Metroplex areas to shave miles off of each flight through this busy corridor.

• Developing similarly efficient alternative routes that can be used when bad weather affects normal arrival and departure paths.

• Establishing departure and arrival routes that align airplanes on preferred paths, which will also reduce the number of miles flown.

• Utilizing side-by-side arrival routes into George Bush Intercontinental Houston Airport to increase airspace efficiency and provide more direct routing.

• Developing satellite-based departure procedures that would provide predictable, repeatable paths that are designed to allow planes to climb without leveling off, which brings them to a cruising altitude sooner.

FAA said the Houston Metroplex also was selected by the Obama Administration as one of 14 high-priority infrastructure projects that are ideal for expedited completion. Rather than taking three years to complete, this project will be completed in two years through environmental streamlining and concurrent reviews.

The collaborative regional partnership at Houston includes the FAA, the National Air Traffic Controllers Association (NATCA), United Airlines, Southwest Airlines and the Houston Airport System.

"We are proud to be an innovator in the Metroplex project in Houston, home to United's largest hub," said Jay Ellzey, United's vice president of operations administration. "The collaborative effort between United and the FAA is a win-win—not only have we designed more efficient operations that benefit our customers, the project also creates a greener airspace."

"Southwest Airlines is committed to the design and implementation of safe and efficient flight procedures that benefit the traveling public and the communities surrounding the Houston Metroplex," said Captain Chuck Magill, Southwest Airlines Vice President of Flight Operations.

In Brief…

Eagan on ACC Board of Directors

Mary Ellen Eagan, President of Harris Miller Miller & Hanson Inc., has been unanimously approved as a member of the 2012 Airport Consultants Council (ACC) Board of Directors.

In her new role, Eagan she expects to contribute to the governance and strategic direction of the organization. "As President of a mid-size consulting firm (at least among ACC members), I look forward to contributing a different perspective to the Board's discussions," Eagan said in an April 9 statement.

ACC is the international trade association that represents private businesses involved in the development and operations of airports and related facilities and is the only association that focuses exclusively on the business interests of firms with airport-related technical expertise.

2nd Major Release of RealContours™

Harris Miller Miller & Hanson Inc. announced the second major release of its RealContours™ software that converts aircraft flight track data into Federal Aviation Administration's Integrated Noise Model (INM) input data, runs the INM, and provides the INM results based on the modeling of each individual flight track.

The latest release, RealContours™ Version 2 or "RCV2", is a remotely-hosted system accessible through the Internet, eliminating the need to purchase equipment and making results readily available to the user through a secure web interface with detailed mapping, HMMH explained.

"Flight track data is transferred daily (or on another schedule) to the HMMH datacenter and is processed and modeled with the latest version of INM. The datacenter is based on an expandable platform so that single- or multi-day runs can be processed based on the needs of the user. This also allows agencies with more than one airport to have all airports modeled with results available at the same time. The flight tracks used in the modeling can be viewed in the same interface and can be selected for additional modeling options.

Modeled results, including ESRI Shapefiles of the contours and details of the modeling, can be downloaded for each day. These daily results are then used to develop annual contours by averaging the results over the selected time period. The website also allows the user to compare contours and animate contour results over a selected time period.

Additional information is available at www.hmmh.com.

No Comment from FAA on CA Bill

Federal Aviation Administration officials declined to comment on a draft budget trailer bill in California that includes a provision that would eliminate the state's pioneering Airport Land Use Commissions and the need for any local airport land use compatibility planning in areas other than Los Angeles and San Diego Counties.

"The FAA will not comment on pending legislation in the State of California and we have not reviewed this proposal," the agency told ANR.

"Since California's state strategy for land use has not been duplicated in other sates, we would not expect revisions to it to have an effect in other states. In any case, nationally applicable Federal guidelines for land use compatibility around airports and the assurance in Federal grant agreements governing compatible land use responsibilities of airport sponsors would not change."

Correction

ANR incorrectly reported in a News Brief headline on p. 40 of the April 6 issue that FAA was simplifying its Part 161 regulations. That is not correct. FAA is simplifying its Part 16 rules, which govern procedures for filing and adjudicating complaints against federally-assisted programs.

ANCA, from p. 42

ANCA states that it applies to any airport noise or access restriction but enforcement provisions do not address remedies for non-obligated airports. The statute only says that, in the event of a violation of the statute, FAA may deny airports eligibility for Airport Improvement Program (AIP) or Passenger Facility Charge (PFC) funding.

Adding to this confusion is a 1998 ruling by the U.S. Court of Appeals for the Second Circuit in *National Helicopter Corp. of America v. The City of New York*, which upheld the city's ability to restrict helicopter operations without mentioning ANCA in its decision.

The airport at issue in that case was not grant obligated. That led observers to two conclusions: (1) the court considered ANCA and decided (but without so stating) that it did not apply; or (2) the court made a mistake or was not aware of ANCA.

A tenet in law is that if the court is silent on an issue, lawyers cannot interpret that silence as having significance, Kirsch said, adding, "But this FAA opinion provides the clarity that lawyers have been seeking since that 1998 case."

It in not clear who at FAA wrote the answers to the questions Rep. Bishop posed. ANR asked his press secretary but got no reply.

Rep. Bishop asked FAA under what basis of law would FAA assert that the Town of East Hampton's proprietary powers are restricted in the absence of specific grant assurances?

Under a settlement agreement with an anti-airport expansion group, FAA agreed to stop enforcing, at the end of 2014, several grant obligations that allow the FAA to review potential noise restrictions at the East Hampton Airport. And, if the Town accepts no more federal grant money, all grant remaining assurances expire in 2021.

FAA replied that its agreement not to enforce Grant Assurances 22a, 22h, and 29 beginning at the end of 2014 "means that unless the town wishes to remain eligible to receive future grants of Federal funding, it is not required to comply with the requirements under [ANCA], as implemented by title 14 CFR, part 161, in proposing new airport noise and access restrictions."

However, the FAA stressed that, regardless of whether the Town is grant-obligated, the legal standard used to judge the permissibility of any noise restriction is identical and any restriction must be "consistent with Federal and constitutional law, be reasonable, non-arbitrary, and non-discriminatory, establishing acceptable noise levels for the airport and its immediate environs."

The FAA encouraged East Hampton to work with aircraft operators on voluntary measures to reduce noise impact.

FAA told Rep. Bishop that it was the agency's opinion that, should the Town of East Hampton propose any restriction at East Hampton Airport that denies access on fair and reasonable grounds or is unjustly discriminatory, federal and constitutional law would provide a basis for aircraft operators to prevail in seeking a declaratory judgment and injunction.

"This basis is independent of Grant Assurances 22a, 22h, and 29. In such circumstances, the United States would have to determine whether affirmative litigation could and should be initiated on that same basis consistent with the terms of the settlement agreement," FAA warned.

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Philadelphia Int'l Airport

ITT EXELIS TO PROVIDE FLIGHT TRACKING, SITUATIONAL AWARENESS SYSTEM AT PHL

The Herdon, VA-based aerospace and communication technology company ITT Exelis announced that it reached an agreement with Philadelphia International Airport to provide its Symphony OpsVue flight tracking and situational awareness system.

Exelis said the system offers a real-time view of airway and airport activity, which allows for safer, more efficient operations.

"Providing flexible data visualization options, the system incorporates the most comprehensive aircraft surveillance data available, including data from the U.S. Federal Aviation Administration's NextGen surveillance system, which Exelis is installing, operating and maintaining nationwide," the firm said in an April 30 release.

"For Philadelphia, Symphony OpsVue's centrally managed, cloud-based architecture delivers business intelligence both cost effectively and on a single platform, ensuring that decisions are based on a complete view of operations," said Ted Carniol, general manager of commercial aviation solutions for Exelis.

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Aircraft

LUFTHANSA IS LAUNCH CUSTOMER FOR FIRST B747-8I POWERED BY ADVANCED GE ENGINES

Lufthansa held a special celebration in Frankfurt, Germany, on May 2 with Boeing and GE to welcome the first 747-8 Intercontinental, powered by four GEnx-2B engines, to its fleet.

Lufthansa is the launch customer for the environmentally-friendly passenger aircraft that significantly cuts aircraft noise and emissions.

Lufthansa has ordered a total of 20 747-8Is with options for an additional 20 aircraft. The first flight of the new aircraft from Frankfurt to Washington D.C. Dulles International Airport is scheduled for June 1.

"Our partners GE and Lufthansa helped us to build a great airplane with the most advanced wing and engines in service. This airplane will allow operators to carry more people and goods farther, faster, with much lower fuel burn and emissions," said Elizabeth Lund, Boeing vice president and general manager of the 747-8 Program.

"Coupled with an all-new Dreamliner-inspired interior, this new airplane will set the standards for performance, environmental responsibility and passenger satisfaction for the 21st Century."

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Philadelphia International also licenses the Symphony® EnvironmentalVue™ system, which permits airports to better monitor and manage emission and noise pollution. "Together, Symphony OpsVue and Environmental enable the efficiency, safety and environmental benefits gained from having full awareness of a flight's status both on the ground and in the air. These systems will allow airlines, airports and ground-handling companies to collaborate on a large scale," Exelis explained.

Symphony OpsVue enables collaborative decision-making among pilots, controllers and airport staff by allowing users to track aircraft and vehicle movement. It monitors performance and irregular operations; manages arrivals, departures, pushback and de-icing times; and complies with passenger bill of rights requirements.

Wheel Tugs

ALITALIA IS LAUNCH CUSTOMER FOR ELECTRIC TUG FOR A320

The Italian airline Alitalia and WheelTug announced April 30 they have entered into a partnership to introduce an electric drive system for taxiing the Airbus A320 family of aircraft.

According to an April 25 release, the patented WheelTug electric drive system consists of an electric motor (called "Chorus") installed in the aircraft nose wheels and powered by the APU (Auxiliary Power Unit), which is the auxiliary engine installed in the tail of aircraft to provide energy to the on-board systems when the main engines are off.

The equipment allows aircraft to taxi both forward, without the use of main engines, and backward without the use of a tow tug. The Chorus electric motor allows the movement of the aircraft from the departure gate to the runway, and upon landing, from runway exit to the stand for passenger disembarkation, Alitalia and WheelTug said.

They said this new technology allows up to an 80 percent reduction in the fuel consumption for aircraft ground movements, with a significant reduction in cost, noise, and environmental impact.

The use of the Chorus electric motor also makes the aircraft independent from the tractor for push back, helping to increase operational flexibility and improve on-time operations.

With the agreement announced with WheelTug, Alitalia becomes the launch customer for this technology, having reserved 100 WheelTug systems for its A320 aircraft.

WheelTug is represented in Italy by G&G Aviation, a consulting company serving airlines, airports, training centers and executive operators. WheelTug is a Gibraltar Corp. (www.wheeltug.gi).

Aircraft

AIRBUS ROLLS OUT FIRST NEW A320 FITTED WITH SHARKLETS

Airbus announced April 27 that it had reached a new milestone in its application of "Sharklets" to its single-aisle product line with the rollout of the company's first new-build A320 fitted with the large wingtip devices, which will reduce fuel burn and enhance aircraft performance.

The aircraft – Airbus' 5,098th A320 Family jetliner produced to date – is one of seven that will participate in the certification test campaign for production-standard Sharklets that begins next month, logging some 600 flight hours.

Results of the tests will lead to certification of these fuel-saving devices on aircraft with both engine versions offered for the current A320 Family: CFM International's CFM56 and the V2500 from International Aero Engines, Airbus said. These in-flight validations follow the initial flight tests that began last November with Sharklets equipped on Airbus' no. 1 A320 testbed aircraft.

Sharklets are offered as an option on members of the A320 Family now in production, with the first aircraft scheduled to enter airline service from the fourth quarter of 2012. The wingtip devices will be standard on Airbus' new A320neo Family.

Sized at approximately 2.5 meters tall, Sharklets are specially designed for the Airbus A320 Family and will reduce fuel burn by up to 3.5 percent – resulting in an annual CO2 reduction of some 700 tons per aircraft, according to Airbus.

Sharklets also reduce aircraft noise on takeoff by allowing better take-off performance and rate-of-climb.

Aircraft Engines

P&W GEARED TURBOFAN ENGINE COMPLETES FIRST FLIGHT TEST

On April 30, Pratt & Whitney's PW1200G revolutionary Geared Turbofan engine, which promises "double-digit" reductions in noise and emissions, successfully completed its first flight, launching the engine family's flight test program.

The PW1217G engine for the Mitsubishi Regional Jet (MRJ) aircraft flew on a specially designed stub wing aboard Pratt & Whitney's Boeing 747SP flying test bed at the company's Mirabel Aerospace Centre, in Mirabel, Quebec, Canada, P&W said in a May 2 release.

"We're really pleased to have started our initial flight test program with the PW1200G engine," said Bob Saia, vice president, Pratt & Whitney Development Programs. "Results from altitude testing will complement the PW1200G sea level data we have collected during the more than 1,000 hours of full engine testing with over 2,000 endurance cycles.

"Overall, we have completed in excess of 2,400 hours and 7,600 cycles of full engine testing for the entire PurePower

Geared Turbofan™ engine program, of which more than 250 hours have been in flight tests. Results continue to validate the geared architecture's dependability, reduced fuel consumption, lower noise and environmental benefits. We're very confident in its performance and that the PurePower engine programs will meet customer commitments. We currently have four PurePower engines at test and nine engines in the build cycle." This initial PW1200G flight test program will validate performance, engine operability and in-flight starting.

A larger version of the PurePower engine that was designed for Bombardier C Series aircraft also is being tested. The largest version of the PurePower engine for Airbus A320 aircraft has not been flown yet. P&W is now working to adapt geared turbofan technology to larger engines that could power new versions of the Boeing 777.

The PurePower engine family uses an advanced gear system allowing the engine's fan to operate at a different speed than the low-pressure compressor and turbine. The combination of the gear system and an all-new advanced core deliver double-digit improvements in fuel efficiency, environmental emissions and noise, P&W explained.

The company said its PurePower engine family "also shares common, advanced cores and features flight proven, next-generation technology." The engine core consists of an ultra-efficient high-pressure compressor, a low-emissions combustor, and state of the art high-pressure turbine module.

Complaints

NY SENATORS URGE FAA, PANYNJ TO CREATE ONE COMPLAINT LINE

NY Sens. Charles Schumer (D) and Kirsten Gillibrand (D) have urged the Federal Aviation Administration and Port Authority of New York and New Jersey to work together to streamline and create one uniform complaint hotline and website for residents to voice their concerns over aircraft noise at both JFK International and LaGuardia Airports.

Many Long Island and Queens residents who experience excessive jet noise do not know how best to log their complaints since each agency uses a separate process, the senators said. To cut through the confusion, they proposed that both the Port Authority and FAA operate a single call-in line and website that allows for the collection and sharing of data.

Senators Schumer and Gillibrand wrote in a May 1 letter to FAA Acting Administrator Michael Huerta and Port Authority Executive Director Patrick Foye, "We are aware that the FAA and Port Authority already have separate ways for accepting community concerns, collecting and sharing data. This approach has led to confusion as to where noise complaints should be submitted. The system should be streamlined so that residents of Nassau County, Queens, and surrounding communities have a clear and consistent way to have their voices heard and know that both the Port Authority and the FAA are aware of their concerns. The operation of a single line and website can be administered by either one or both of your agencies, as long as the information gathered is shared by both."

The Senators also requested online updates on construction and runway closures at both JFK International and LaGuardia Airports.

Rep. Carolyn McCarthy (D-NY) made a similar request in February.

In Brief…

Hellauer Joins HMMH

Kurt Hellauer has joined the Burlington, MA, office of Harris Miller Miller & Hanson Inc. as a Principal Consultant, the firm announced May 2. He will support HMMH's aviation environmental projects.

"I am looking forward to working with Kurt," said HMMH President Mary Ellen Eagan. "He brings a wealth of NEPA experience to us and will be an enormous asset to our growing environmental practice."

Mr. Hellauer brings 20 years' experience in land use and environmental planning, supporting and managing NEPA documentation and managing military environmental projects, HMMH said. He has a strong background in aircraft operations modeling, airspace analysis, land use planning, and obstruction evaluation, and has a clear understanding of Air Force Air Installation Compatible Use Zone (AICUZ) and 14 CFR Part 150 studies.

Mr. Hellauer holds a Bachelor's degree in Government and holds a commercial pilot certificate. In addition, he presently serves in the U.S Army Reserve with the rank of Lieutenant Colonel.

Parks Overflights Group to Meet

The National Parks Overflights Advisory Group (NPOAG) Aviation Rulemaking Committee (ARC) will meet on May 16 in Rapid City, SD, the Federal Aviation Administration announced May 2.

The agenda for the meeting will include an update on ongoing Air Tour Management Program projects and a discussion on implementing the new amendments to the National Parks Air Tour Management Act of 2000 that were included in the FAA Modernization and Reform Act of 2012.

The meeting is open to the public and will be held from 8 a.m. to 5 p.m. in the Garden Pavilion C room at the Hilton Garden Inn, 815 E. Mall Drive, Rapid City, SC; tel: (605) 791-9000.

For further information, contact Barry Brayer on the Special Programs Staff in FAA's Western-Pacific Region Headquarters in Los Angeles; e-mail: Barry.Brayer@faa.gov; tel: (310) 725-3800.

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"Today's celebration at for the GEnx-powered Boeing 747-8I at Lufthansa is exciting news for our customer and is the culmination of six months of delivery milestones for the GEnx engine," said Chuck Nugent, general manager of the GEnx Program. "The GEnx engine has performed extremely well since it entered service in October, and GE employees are proud to see their efforts to design, test and manufacture the GEnx engine celebrated with customers around the world."

The first GEnx engine powering Boeing's 747-8 Freighter was delivered to Cargolux in October. Today 60 GEnx-2B engines are powering 15 Boeing 747-8 freighters for six customers. In March, Japan Airlines received the first two GEnx-1B-powered Boeing 787 Dreamliners, which entered service last week on the first non-stop route from Asia to Boston.

To date, the GEnx engine has accumulated more than 68,000 flight hours and more than 13,000 cycles since it entered revenue service six month ago. The engine has experience no interruptions or unscheduled removals with a 99.9% reliability rate.

Based on proven GE90 architecture, the GEnx engine combines the latest technology like the low-emission twin-annular combustor with advanced material like the durable, light-weight composite fan case and fan blades. Compared to GE's CF6 engine, the GEnx engine offers:

• Up to 15 percent better fuel efficiency, which translates to 15 percent less CO2;

• NOx gases emissions as much as 55 percent below today's regulatory limits on and the emission of other regulated gases as much as 90 percent below today's regulatory limits; and

• 30 percent lower noise levels.

GE said its GEnx engine family is the fastest-selling engine in GE Aviation history with close to 1,300 engines on order. GE Aviation has been ramping up production of the GEnx engines over the last few years and plans to produce more than 160 GEnx engines this year and more than 200 GEnx engines in 2013.

AIRPORT NOISE REPORT

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Sound Insulation

IMMINENT PUBLICATION OF PGL ON SIPS WILL PUSH BACK RELEASE OF ACRP GUIDANCE

The imminent publication of a Federal Aviation Administration Program Guidance Letter on funding eligibility for airport sound insulation programs will delay publication of updated guidance for such programs developed under the Airport Cooperative Research Program.

Release of the final report on ACRP Project 02-24, "Guidelines for Airport Sound Insulation Programs" will likely be extended until early next year, Theresia Schatz, the ACRP Senior Program Officer who is managing the project, told ANR.

The Jones-Payne Group is developed the guidelines under the $200,000 ACRP project, which began in August 2010 with a completion date of April 2012. It generally takes several months beyond the completion date for the project review panel to complete its work and the final report to be prepared.

The final guidance has been submitted by Jones-Payne and is under review. However, the FAA's PGL is likely to require that changes be made to that guidance because the PGL is expected to include what airports contend is a new requirement that homes meet an interior noise level criterion of 45 dB DNL – in addition to

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Litigation

PROPERTY RIGHTS GROUP CHALLENGES ANOTHER AVIGATION EASEMENT ORDINANCE

The conservative property rights advocacy group The Pacific Legal Foundation has once again challenged a local government ordinance requiring that property owners sign an avigation easement as a condition of obtaining a building permit.

The PLF is representing Scott Powell, a resident of Humboldt County, CA, who filed for a county building permit in 2004 to bring the covered porch and carport attached to his mobile home into compliance with County law. The previous owners of the trailer had constructed the carport and porch without a permit.

However, Powell discovered during the permit process that he also was required to sign an avigation easement. His property is about one mile from the flight path of Arcata/Eureka Airport, which is located about 20 miles north of Eureka, CA.

The PLF argued that the County cannot demand an easement when the building project has no impact on airport operations. The Fifth Amendment to the U.S. Constitution states that the government cannot take private property for public use without just compensation, the group asserted.

The County argued that the court does not have jurisdiction over the matter be-

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being located in an airport's 65 dB DNL noise contour – in order to be eligible to participate in airport sound insulation programs funded by Airport Improvement Program grants.

It also is expected that airports will take FAA to court to challenge the 45 dB DNL interior criterion, which would delay any final determination of what the program eligibility requirements will be until court rulings are issued.

Airports contend that the 45 dB DNL interior eligibility criterion would significantly cut the number of home eligible for airport residential sound insulation programs, stop some programs in their tracks, and put airports in the position of having to renege on promises they made to their nearby communities (23 ANR 157).

The ACRP project was undertaken to develop updated guidance for airports to use in effectively managing their sound insulation programs in conformance with FAA Noise Compatibility Program (NCP) and Airport Improvement Program (AIP) funding requirements.

To assist sponsor-approved noise programs, FAA published Advisory Circular 150/5100-9A in July 1993 that announced the availability of the Guidelines for the Sound Insulation of Residences Exposed to Aircraft Operations (the Guidelines).

The Guidelines themselves were published in 1992 for military and FAA airports programs to serve as a project management handbook for studying, initiating, and implementing sound insulation measures developed under airport noise compatibility programs.

The Guidelines were updated in 2005 by the U.S. Navy for application at military airports. The Navy updated the guidelines to meet their current program objectives and to reflect current building codes and insulation product specifications.

Optimized Departure Procedures

The final report on an ACRP project studying how to "optimize" aircraft departures to better balance noise and emissions reductions and to potentially eliminate Noise Abatement Department Procedures is due out this fall.

ACRP Project 02-12, "Environmental Optimization of Aircraft Departures: Fuel Burn, Emissions and Noise," is virtually complete, Lawrence Goldstein, the Transportation Research Board staff member managing the project, told ANR.

"I am awaiting delivery of the Draft Final Report which should arrive within the next two weeks. It will then be subject to a three-month review and final edit prior to submission for publication, which put us into a fall publication," Goldstein said.

Wyle Laboratories developed the departure optimization model under a $299,639 project that began in April 2009. The ACRP description of the project follows:

Many airports recommend that aircraft operators use noise abatement departure procedures (NADP) to reduce the impact of noise on their neighboring communities. While minimizing noise impacts, these procedures may result in other adverse environmental and operational effects, including increased fuel burn, increased emissions, and reduced airport capacity. With the potential for near-term introduction of significantly quieter aircraft, research is needed on how to optimize or potentially eliminate NADPs without generating adverse noise impacts. In addition, a change from NADPs to more direct routing can increase capacity at the airports through more efficient use of facilities and airspace. Changing to more direct routing has the potential to decrease aircraft fuel consumption; and, given an increasing focus on climate change, decreasing fuel consumption can be important.

Efforts to reduce fuel consumption can broadly fit in two categories: aircraft/engine design improvements and air traffic optimization. With respect to optimization of air traffic, effort to date has primarily focused on the enroute flight phase. In contrast, research is needed that focuses on departure procedures that affect airports and airport communities more directly. For air traffic optimization, the focus of FAA's "Next Generation Air Transportation System" (NextGen) has been on reducing flight time. Reduced flight times generally translate into aircraft engines burning less fuel and emitting fewer pollutants; however, for short-haul flights, fuel consumed enroute can be less than 50% of the total fuel burn. Arrivals and departures have received less attention despite the possibility that changes might achieve fuel savings during take-off and climb to cruise. One example of possible improvement to landing applications now receiving considerable attention is continuous descent arrivals (CDA). FAA has worked with airports, airlines, and academia to study the impact of implementing CDAs, which can simultaneously result in a reduction in fuel burn, emissions, and noise.

As quieter aircraft are introduced into service, an opportunity may arise to optimize departures and achieve a balance between noise and emissions impacts. In response to apparently limited efforts to date on environmental optimization of aircraft departures, research is needed to provide a tool to help regulators and airport managers make environmentally optimal decisions.

Project Goals

The objective of this research is to develop a departure optimization methodology to (1) quantify potential reductions in fuel burn and source emissions, (2) estimate possible increases in air traffic capacity that can be achieved by optimizing departure procedures while continuing to address noise exposure for communities around airports, and (3) account for existing and future fleet mixes and improvements envisioned under NextGen. In the context of current noise abatement departure procedures, this methodology should estimate environmental and capacity-related benefits associated with the following localized contributors: (a) source noise reduction in future engine/airframe technologies, and (b) realistic alterations to present noise abatement departure procedures to help regulators and airport management make environmen-

tally optimal decisions. Although novel approaches to compare the impacts of climate change, degraded air quality, and community noise are welcome, the output of this research should, at a minimum, provide directly quantifiable metrics.

Europe

EU PROPOSAL ON SLOTS, NOISE, DRAWS FIRE AT EP HEARING

The European Commission's legislative proposals for better usage of take-off and landing slots, a harmonized approach to reduce noise nuisance around airports, and more competitive ground-handling services came under severe fire during a May 8 hearing before the European Parliament's Transport and Tourism Committee.

Independent experts, representatives of airlines, airports, national aviation authorities, and citizens' NGOs slammed the proposed regulation issued last December, according to the Committee.

The noise portion of the proposal was intended to make European airports more consistently follow the International Civil Aviation Organization's "Balanced Approach" to imposing noise restrictions under which they would have to be more transparent in their decision-making and would be required to select the restrictions that are the most cost-effective (24 ANR 1). The Balanced Approach requires that aircraft operating restrictions be considered only as a last resort.

Committee Rapporteur Jörg Leichtfried welcomed the Commission's "balanced approach" as a management tool for local airport authorities when the interests of local residents conflict with those of airport operators but felt that the proposal was too far-reaching, the Committee said in a release following its hearing.

The proposal also would allow European airport authorities to more easily phase out the very noisiest aircraft in airline fleets (called "marginally compliant"), which the EU said account for a disproportionate amount of noise nuisance.

Despite the clear need to address increasing air traffic congestion around and in Europe's main airports, the Commission's recent proposals raised serious concerns within the industry and amongst members of the European Parliament, the Committee said.

"Airline associations as well as European Parliament rapporteur Giommaria Uggias look forward to secondary trading of slots as a means to increase usage of existing capacity, but they are opposed to any future requirement imposed on airlines to use 85% of an allocated slot, as compared to the current 80%, in order to keep their slot. MEPs voiced concerns that carriers might take off empty, just to use the slot," the Committee said

NextGen

ITT, GE WILL DEVELOP RNP APPROACHES AT FIVE AIRPORTS

The Federal Aviation Administration said May 10 that it has awarding a $2.77 million contract to ITT Corp. and GE's Naverus to develop Required Navigation Performance (RNP) approach procedures into five airports: Ted Stevens Anchorage International, James M. Cox Dayton International, Kansas City International, General Mitchell International (Milwaukee), and Syracuse Hancock International.

The contract is intended to help accelerate the development of satellite-based procedures at these five airports in order to allow aircraft to fly more directly to their destinations.

"If you imagine highways in the sky, then these are high-speed off ramps," said Acting FAA Administrator Michael Huerta. "Aircraft using RNP approaches make a more direct and efficient approach into the airport, also decreasing fuel burn."

"NextGen will help deliver an environmentally friendly, more efficient traveling experience for the flying public," added U.S. Transportation Secretary Ray LaHood.

Under the contract, ITT Corp., the prime contractor, and GE's Naverus, the sub-contractor, will be responsible for designing, implementing, and maintaining a total of 10 procedures – two for each airport. The FAA will closely monitor the work to make sure all safety and environmental steps are conducted properly. This effort will supplement the FAA's work to develop RNP procedures for airports across the country. The FAA has developed 305 RNP procedures to date.

The FAA said it awarded the contract to ITT Corp. and GE's Naverus through a competitive process under the System Engineering 2020 contract, a portfolio of work designed to help the agency roll out NextGen.

Fiscal year 2012 appropriations included funding for a contractor to develop and deliver NextGen procedures and the FAA reauthorization bill called for the agency to demonstrate the ability of a contractor to design, implement, and maintain these procedures.

In Brief…

Oakland Seeks Noise Consultant

The Port of Oakland is calling for Request for Proposal (RFP) packages for Aviation Noise Consulting Services (RFP 11-12/05), to be delivered to the Noise/Environmental Compliance Office, Oakland International Airport, Terminal 1, 2nd Floor, 1 Airport Drive, Oakland, CA 94621, until 3:00 PM on June 22, 2012.

The RFP process is designed to select a qualified firm with demonstrated technical expertise and experience in providing aviation noise consulting services to a major commer-

cial airport. The qualified firm must have extensive experience (minimum of six years) in working with regulatory agencies and scientific organizations related to noise standards and aircraft operations, demonstrated command of the local and national regulatory environment, understand the latest industry trends and policy directions, and demonstrated ability to communicate effectively with the public.

Copies of the RFP may be obtained at Port of Oakland, Purchasing Department, 530 Water Street, Oakland, CA 94607, (510) 627-1526, Office Hours: 9:00 a.m. to 4:00 p.m., or by visiting the Port's website at: http://portofoakland.com/business/rfpsrfqs.asp and downloading the RFP packet.

Technical questions should be directed to Wayne Bryant at 510-563-2885 or email: wbryant@portoakland.com.

PFC Approved at Great Falls

FAA announced May10 that it has approved the imposition and use of a Passenger Facility Charge (PFC) at Great Falls (MN) International Airport for a number of projects, including to "design and construct noise mitigation measures for residences."

FAA approved imposition of a $4.50 PFC from Nov. 1, 2016, to June 1, 2021, to collect a total estimated revenue of $4,040,904.

For further information, contact Jason Garwood in FAA's Helena, MT, District Office; tel: (406) 449-

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cause Powell did not exhaust the permit process. The PLF countered that federal case law does not require him to do so.

The County asserted that the requirement to sign an avigation easement is a legitimate land use regulation and is not a taking of property.

Humboldt County Superior Court Judge Dale Reinholtsen heard cross-motions for summary judgment in the case on April 17 and will issue a decision in 90 days.

In a legal settlement agreement advised by its counsel in 2008, El Dorado County, CA, agreed to withdraw a requirement that landowners near general aviation Cameron Park Airport seeking development permits grant avigation easements allowing aircraft overflights as low as 40 feet over their property.

The homeowner in the case, Bobby Dutta, was represented by The Pacific Legal Foundation (20 ANR 74). Dutta's lawsuit rested on the precedent set by the High Court in *Nollan v. California Coastal Commission*, a landmark 1987 property rights case brought by the PLF. "Nolan holds that government may not force landowners to accept unrelated, unreasonable conditions as the price of getting a building permit," The PLF said.

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NextGen

NEXTGEN: HOW WE'LL GET WHERE WE'RE GOING TOMORROW

(Following is news feature by Jim Banke of NASA's Aeronautics Research Missions Directorate that answers questions about aircraft of the future that will operate under the Next Generation Air Transporation System (NextGen). It was published by NASA on May 5.)

Vehicles that operate in the NextGen could look a little bit like what we see today, but with some major differences such as this idea that uses a boxed wing and different engine placement to dramatically reduce drag and increase fuel efficiency. Image credit: NASA/Lockheed Martin

The United States is undertaking the largest transformation of air traffic control ever attempted. The Next Generation Air Transportation System, or NextGen, is a multi-billion-dollar technology modernization effort that will make air travel safer, more flexible and efficient. NASA is one of several U.S. government agencies that play a crucial role in helping to make NextGen a reality through research and development of new ideas and technologies.

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SSTs

SONIC BOOM HEADS FOR A THUMP

(Following is a news feature by Jim Banke of NASA's Aeronautics Research Mission Directorate on progress in developing supersonic aircraft with quieter booms. It was published by NASA on May 11.)

NASA's aeronautical innovators are one step closer to confidently crafting a viable commercial airliner that can fly faster than the speed of sound, yet produce a sonic boom that is quiet enough not to bother anyone on the ground below.

The key to this recent advance came when wind tunnel tests of scale model airplanes verified that new approaches to designing such aircraft would work as hoped for when aided by improved computer tools, which were used for the first time together in each step of the design process.

"That was really the breakthrough for us. Not only that the tools worked, but that our tests show we could do even better in terms of reducing noise than we thought at the start of the effort," said Peter Coen, NASA's supersonic project manager at Langley Research Center in Virginia.

Nuisance noise generated by a commercial supersonic jet's sonic booms during cruise, and by its powerful engines at takeoff and landing, has kept the speedy air-

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In This Issue…

NASA, from p. 58

In Part 1 of this series (http://www.nasa.gov/topics/aeronautics/features/8q_nextgen.html) , Leighton Quon, project manager of NextGen Systems Analysis, Integration, and Evaluation at NASA's Ames Research Center, Moffett Field, Calif., answered eight questions about NASA's research into improving the air traffic control system.

In Part 2, presented here, NASA project managers Ruben Del Rosario and Fay Collier answer eight questions about the agency's research into the new aircraft and engine designs that could be flying when NextGen is operational.

Del Rosario is manager of the Subsonic Fixed Wing Project at NASA's Glenn Research Center in Cleveland. Collier is manager of the Environmentally Responsible Aviation Project at NASA's Langley Research Center in Hampton, Va. The projects represent some of the work being done at NASA's aeronautics laboratories in Virginia, California and Ohio.

Q: What will be different about the aircraft and engines when NextGen is a reality?

Airliners of the future are going to be kinder to the environment in every way possible, propelled by jet engines that are quieter, use less fuel and send less pollution into the air. Aircraft will be made using even more composite material than they are today. Eventually we could see passenger aircraft that can fly faster than the speed of sound or take off and land like a helicopter.

If you're interested in numbers, by 2025 we'd like to see vehicles that burn half as much fuel and put out half as much harmful exhaust compared to the best equipment flying today. The numbers are even more aggressive if we look ahead another decade. We even have a goal that says by 2035, if you live close to a major airport, the only objectionable noise you might hear will come from your next door neighbor, not from any nearby takeoffs and landings.

Q: What will these new vehicles look like?

NextGen aircraft that reduce noise, emissions and fuel use might look very different, but would fly at the same speeds as today's aircraft. Image credit: NASA

We don't know for sure, yet, but you can count on the fact that airliners of the future are going to look like something between what you're used to seeing flying today and nothing that has ever been flown before. Not only will they look more exotic – perhaps with engines on top of the wings instead of below – they will be made entirely out of materials other than metals such as aluminum or titanium. We could even have engines that are partly powered by electricity, just like hybrid cars.

Q: How is NASA involved in developing this new technology?

Deeply. If you didn't know, NASA replaced the National Advisory Committee for Aeronautics, which was formed in 1915, so we've been working on new technology for aviation for nearly 100 years. Today we work closely with the U.S. aviation industry, universities and other government agencies as we lay out our research plans and then use all our talents and capabilities to carry out those plans to make improvements for aviation.

Not unlike children progressing through school, new ideas are nurtured. NASA has two main programs working on these ideas: the Fundamental Aeronautics Program (FAP) and the Integrated Systems Research Program (ISRP). Generally, an idea for some kind of new aviation technology begins its life within FAP (think elementary school). When a new idea has matured enough that it is ready to graduate to the next level (think high school), it moves to the ISRP, where we test several new technologies together to make sure they work well in a larger system, such as an airplane or the air traffic management system. If the concepts get passing grades in those system-level tests, then they graduate from NASA and are ready for further development by industry and the FAA (think college) before entering the aviation "workplace."

Q: In general, what still needs to be invented?

More than you'd think given that airplanes have been around for more than a century. We're still learning something new about flight every day. To achieve our goals for quieter aircraft that use less fuel and cause less pollution, we need to come up with better ways to design and build aircraft than what we use today. We need more accurate ways to simulate how airplanes will work before we fly them. And we need to be smart enough and flexible enough to be ready to invent those things we don't even know we need right now.

Q: Specifically, what kinds of things are researchers working on right now?

This possible future aircraft uses braces to support long, slender wings that can help reduce fuel use. Image credit: NASA/The Boeing Company

NASA personnel observe the Electron Beam Freeform Fabrication, or EBF3, system at NASA's Langley Research Center. The system uses an electron beam gun, a dual wire feed and computer controls to manufacture metallic structures for building parts or tools in hours, rather than days or weeks. EBF3 could tailor material for more efficient aircraft. Image credit: NASA/Sean Smith

In an open rotor engine, one high-speed propeller spins in one direction while another directly behind it spins in the other direction. The engine shows promise in reducing fuel use and emissions without sacrificing power. Image credit: NASA

Some of the coolest and promising things we're now working on include:

• A new method for manufacturing and assembling major airplane parts out of composite material. It will help us build an airplane with fewer parts, prevent damage from spreading if there is a problem, and reduce the overall weight of the airplane. This means that the airplane will use less fuel — or get better gas mileage, to borrow an automotive term.

• Using braces to hold up longer and more slender wings, which computer studies show could help reduce the amount of fuel needed on any given flight. The challenge is that slender wings used on larger airliners become too flexible and can actually start to vibrate dangerously from the force of high speed air moving over them – a phenomenon called flutter. We also are working on ways to automatically change the shape of the wing to control the aerodynamic forces that cause flutter.

• Learning to make aircraft parts using an electron beam that melts a source of metal which is then built up one layer at a time on a rotating surface. Parts made this way would be stronger and lighter, and the method is friendlier to the environment and uses less energy than the current method, which is to carve away at a large block of aluminum or titanium until it is in the desired shape.

• Ways to fly airplanes using a mixture of fuel and batteries, similar to hybrid automobiles that use both gas and electricity. Early studies indicate we could achieve our long range fuel reduction goals with this technology.

• A new type of jet engine called an open rotor, whose fan blades are exposed to the open air. While an airplane with open rotor engines might look a lot like a World War II-era plane with propellers, the new open rotors move a lot more air than propellers do. Tests we have done so far indicate open rotor engines would use much less fuel than today's jet engines. Although open rotors are as quiet as today's engines, the challenge is to make them even quieter so they will meet our future noise goals.

Q: Will NASA build and operate these new airplanes?

No, there's no such thing as a NASA airline. Our job is to put more technology into the "tool box" from which the future of aviation can be built. Once those building blocks are made available, it then is up to industry to take those ideas, test them some more to decide if it makes good business sense to use them, and then work with the FAA to certify that they are safe.

A great, recent example is a technology called chevrons, which are saw tooth-shaped edges you see around the exhaust nozzle of some jet engines. The chevrons change the flow of exhaust gases as they mix with the air and the result is less noise. Designed and developed by NASA, the technology was turned over to industry, further refined and now can be seen on engines powering Boeing's new 787 and updated 747 aircraft.

Q: When can I expect to fly in these new airplanes?

First, it's important to note that advances in aviation are always coming. The airplane you fly in five years from now will be more advanced in some ways than the airplane you are flying in today, even if you can't tell from what the plane looks like on the outside, or while you are sitting inside as a passenger.

That said, our belief is that you'll start seeing some of these ideas first employed in the 2020 to 2025 timeframe. Once again it will be up to industry to determine when it makes the most sense from a business perspective, but everything NASA is working on today are the kind of things that will help the entire aviation community.

Q: What will it be like to be a passenger then?

We're confident that your experience as a passenger aboard one of these new aircraft will be better than your passenger experience today. Fifteen to 20 years from now you will be flying in a quieter airplane that has a more aerodynamic shape, which will require less engine power to push it through the air. And that power will come from more fuel efficient engines. And when you have these more advanced aircraft flying in skies managed by a fully operational NextGen air traffic management system, you will experience fewer flight delays caused by weather and traffic congestion and you may even be able to fly out of smaller airports closer to your home. The only thing we can't promise, because it's not up to NASA, is that the food or in-flight entertainment will be better.

Sonic Boom, from p. 58

craft from entering service in the United States – except for Europe's Concorde, which was limited to trans-Atlantic flights only.

Using the computer tools, teams led by Boeing and Lockheed Martin, and funded through a NASA Research Announcement, came up with designs for two small supersonic airliners that would carry between 30 and 80 passengers and potentially enter service in the 2025 timeframe.

"In bringing their design expertise to the process, these companies are not only addressing the low boom design elements, but all of the other aspects necessary for a realistic design," Coen said.

For example, the computer tools show that one way to reduce the perceived loudness of a supersonic jet's sonic boom is to change the aircraft shape, in part, by lengthening the aircraft's fuselage, making it much more slender. Theoretically, the noise issue could be solved by a really, really long aircraft body.

Unfortunately, while an 800-foot-long airliner may lead to publicly acceptable sonic booms, an aircraft that size still must fit at its gate, make turns while taxiing to the runway without hitting anything and generally not require an expensive redesign of the nation's airports.

"The long skinny fuselage is not a practical answer. In our pursuit of boom reductions, we examine the whole, three-dimensional shape of the vehicle including the engine configuration," Coen said. "Even then, we keep in mind that the airliner has to meet all of the other requirements which are part of good design practice."

To help reach their goals, the engineers relied on earlier studies that revealed how an aircraft's overall configuration could modify the shape of the supersonic shockwaves coming off the airplane so that the atmosphere then reduces the

sharpness of the wave. By the time the shockwave reached the ground the shock would be removed, resulting in a nearly inaudible sonic boom.

"The booms are still there, but your ear is tricked into hearing a thump," Coen said.

Two other design considerations are important. The first reduces the size of the proposed commercial airliner so it carries fewer passengers and is lighter. The second slows the cruising speed. While the Concorde cruised at twice the speed of sound, or Mach 2.0, this airliner would cruise at a slightly slower Mach 1.6 to Mach 1.8.

"These design choices not only made both the sonic boom problem easier to tackle, but make the takeoff and landing noise problem much more solvable, much more amenable to solutions with the technologies we have in hand," Coen said.

So how loud was the Concorde and how does that relate to NASA's goals of making a quieter supersonic airplane?

The measurement NASA researchers are using to base their work on is called perceived decibel level, or PLdB. Like comparing apples and oranges, PLdB is a different flavor of decibels than the measurement (dBA) often quoted when discussing how loud, for example, a rock concert is compared to a kitchen blender or library reading room.

Concorde's sonic boom noise level was 105 PLdB. The PLdB that researchers believe will be acceptable for unrestricted supersonic flight over land is 75, but NASA wants to eventually beat that and reach 70 PLdB.

"For this phase of the research, we did succeed in reducing the perceived noise level. In fact, one of the designs reached as low as 79 PLdB," Coen said. "It was a really big step, but we still have some more work to do to reach our ultimate goal of about 70 PLdB."

Additional studies already are under way to keep whittling away at the supersonic noise challenge and come up with solutions that will be acceptable to regulatory agencies such as the Federal Aviation Administration, as well as airplane manufacturers, the airlines and the general public.

And while a commercial supersonic airliner flying from New York to Los Angeles over the U.S. heartland may be another decade or two away, Coen said it's very possible that smaller supersonic business jets could debut in the skies much sooner because lighter aircraft create weaker shock waves, which makes the low boom design challenge easier to solve.

"The business jet would probably be the first on the market, and that would help introduce some of the technologies that eventually would be used on the supersonic airliner. But such product decisions belong to others outside of NASA," Coen said. "Our job is to support the science and technology behind those choices, eventually making supersonic flight available to the traveling public."

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