February 21, 2019

SUBJECT: THE BROWARD COUNTY AVIATION DEPARTMENT AIRPORT NOISE ABATEMENT COMMITTEE (ANAC) MEETING

Dear County Commissioners / City Officials / ANAC Members / Airport Community:

Enclosed is a copy of the meeting minutes for the ANAC Meeting held on Dec. 10, 2018, along with an Agenda for the next ANAC meeting to be held on March 11, 2019, at 6:00 p.m.

The meeting will be held in Conference Room “D” located in the BCAD Offices at the Airport Commerce Park (Suite 404) - 4101 Ravenswood Road, Fort Lauderdale FL, 33312.

Please note also that the Aviation Department will be conducting rubber removal on Runway 10L/28R and Runway 10R/28L during the week of March 4, 2019 and March 11, 2019 (respectively). The runway rubber removal process will be conducted during the overnight hours.

Each runway will be closed, one at a time, for rubber removal, painting, and other maintenance items. One runway will always remain open during the rubber removal process. The closure schedule is as follows:

- Runway 10L/28R - Closure
  March 4th thru 7th between the hours of 0001-0530

- Runway 10R/28L - Closure
  March 12th thru 15th between the hours of 2230-0600

Please feel free to contact me at (954)359-6181 or at wcannicle@broward.org should you have any questions or visit the Aviation Department’s website at www.fll.net for more information.

Sincerely,

Winston B. Cannicle
BCAD Noise Information Officer

WBC/
AGENDA

FORT LAUDERDALE - HOLLYWOOD INTERNATIONAL AIRPORT
AIRPORT NOISE ABATEMENT COMMITTEE

March 11, 2019
6:00 p.m.
BCAD Conference Room “D”
Suite 404
4101 Ravenswood Road, Fort Lauderdale, FL 33312

1. Welcome
   BCAD Staff

2. Approval of Minutes – Dec. 10, 2018 Meeting
   ANAC Chairperson

3. Old Business /Noise Office Update
   BCAD Staff

4. FLL North Runway Rehabilitation Update
   Kimley-Horn

5. Presentation –
   HMMH.

6. Committee Member Comments

7. Citizen Comments

8. Next meeting – June 10, 2019 at 6:00 p.m.

Please contact Dickey Consulting - (954)467-6822 to RSVP
DATE: Monday, December 10, 2018 6:00 P.M.
LOCATION: Fort Lauderdale-Hollywood International Airport
BCAD Administrative Offices
Airport Commerce Park - Conference Room D
4101 Ravenswood Road, Suite 404
Fort Lauderdale, FL 33312

Cumulative Meeting Attendance (10/01/2008 – 12/10/2018)

<table>
<thead>
<tr>
<th>Committee Member (Organization Represented)</th>
<th>Present/Absent:</th>
<th>Present:</th>
<th>Absent:</th>
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<tbody>
<tr>
<td>Ernie Siegrist (RMT#1)</td>
<td>A</td>
<td>32</td>
<td>8</td>
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<tr>
<td>Gary Luedtke (RMT#2)</td>
<td>P</td>
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<tr>
<td>Randy Wright (RMT#2 Alt.) _Appointed: December 2013</td>
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<tr>
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<tr>
<td>Patricia Wright (RMT#3) _Appointed: December 2013</td>
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<tr>
<td>Micheline Peacock (RMT#4) _Appointed: June 2015</td>
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<td>Rae Sandler (RMT#5)</td>
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<td>11</td>
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<td>Terry Richter (RMT #8 Alt.) _Appointed: June 2017</td>
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<tr>
<td>Duncan Bossle (RMT#9/*Acting Chair)</td>
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<tr>
<td>Debra Van Valkenburgh (RMT#10)</td>
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<td>Richard Reasoner (RMT#10 Alt.)</td>
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<td>Frank Derisi (RMT#11 Alt.) _Appointed: March 2015</td>
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<td>Jet Blue Representative (*Michael Miles, 9/18)</td>
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<td>US Airways Representative</td>
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<tr>
<td>Spirit Airlines Representative (*Matt Nelson, 9/18)</td>
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<td>FAA ATCT Representative</td>
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RMT = Representative for neighborhood containing the identified Remote Monitoring Terminal
Alt. = Alternate RMT representative
*Designates newly appointed representative

Airport/County Staff

Acoustical Consulting Team Members
Rhea Gundry (HMMH), Kurt M. Hellauer (HMMH) and Justina Hicklyn (DCS)

Visitors/Residents:
Florence Straugh (FXE Airport), Geoff Rames (Lauderdale Isles), Jacques Beaumier, and Khalil Nasser (Lauderdale Isles).
Airport Noise Abatement Committee, December 10, 2018

1. WELCOME
Mr. Duncan Bossle welcomed all guests and requested that all attendees introduce themselves.

2. APPROVAL OF JUNE 2018 MINUTES
Mr. Luedtke shared one revision to the September 2018 meeting minutes.
- Page #6, 2nd paragraph. The September 2018 minutes read: “Mr. Luedtke provided a handout stating Mumbai (Chhatrapati Shivaji International Airport) is much bigger than FLL and operates with only one runway.” The minutes have now been revised to read: “Mumbai (Chhatrapati Shivaji International Airport) which is smaller in comparison to FLL had 969 daily operations on one runway and FLL had 857 average daily operations on two runways.”

The above noted revision was made and appropriately updated on the September 2018 meeting minutes. Mr. Dick Cahoon moved to approve the September 2018 quarterly meeting minutes with the amendment Mr. Luedtke provided. Ms. Rae Sandler seconded and the minutes were unanimously approved by the committee.

Mr. Winston Cannicle introduced himself as the Broward County Aviation Department’s Noise Officer and gave an overview of his role. He also informed the committee of the temporary closures of the runways at FLL for routine maintenance. Starting December 17, 2018 to December 20, 2018 the North Runway (10L-28R) will be closed between 12:01am – 5:30am and January 6, 2018 to January 9, 2018 the South Runway (10R-28L) will be closed from 10:30pm – 6am. Mr. Cannicle provided a slide depicting the Noise Comment Map for the August 2018 to October 2018 period. Another slide of a graph for the December 2017 to December 2018 period of noise complaints was shown.

3. OLD BUSINESS

Proposed Remote Noise Monitor Update:
The Broward County Aviation Department has been awarded a purchase order by Broward County Purchasing on December 7, 2018 for the installation of two additional Remote Monitoring Terminals. Winston and his team are currently working on coordinating with the vendor to have the monitors delivered (delivery is estimated to be 4 to 6 weeks). The next step will be coordination with A/D Engineering to complete site installations. During the update Mr. Cahoon inquired about the validity of the monitors since the data is not used by the FAA in the Part 150 Study. Mr. Cannicle advised that it does not serve as a decision making tool for the Part 150 Study but does assist in assessing the current and historic noise issues. The data from the noise monitors is used by several ANAC members to cross reference their personal experience with noise compared to what is recorded on the monthly reports from the monitoring system.

Mr. Cannicle reported that Remote Monitor Terminal #3 continues to have intermittent issues. Some of the issues have been: Powering down issues, recording long noise events and constant manual calibration. Mr. Cannicle noted that the aforementioned issues have not necessarily overlapped but have been experienced by the terminal at one time or another. Also, included in the update was that Remote Monitor Terminal #8 has been down for maintenance since October 8, 2018. To date, the power source has been replaced by BCAD Maintenance and permitting by the City of Fort Lauderdale. BCAD is currently awaiting FPL to reconnect the power to the monitor. Mr. Duncan Bossle suggested that W. Cannicle swap RMT#9 (the site he represents) with RMT #3. Mr. Bossle feels that this would be an acceptable arrangement considering RMT #3 is more active with regards to noise and complaints than RMT #9. Mr. Cannicle said that he would look at that option and get back with the committee.

Airport Updates (Trevor Fisher):
Mr. Fisher reported that work on the North Runway will result in a closure on June 3, 2019 for 120 calendar days and contractor bids are expected to be opened on Friday, December 14, 2018. Once the bids are evaluated the Aviation Department will make a decision on a contractor to move forward in the process. The airport was initially forecasting a 5 month period for runway closure during construction but, after review, the runway closure time has been reduced to a 4 month period. Mr. Bossle inquired on what vehicles of outreach, outside of the BCAD website, would be utilized by the airport to make people aware of the upcoming closure. Mr. Fisher advised that the airport does have a public information division that would oversee the outreach on the project. Mr. Fisher reiterated that the airport will grant incentives to the contractor for completing the job before schedule and there could possibly be liquidated damages accessed if the contractor
finished after the scheduled period. Mr. Reasoner questioned what would happen if the work is not adequate and requires additional follow up. Mr. Fisher advised that he and his team will be closely inspecting the job and providing oversight on the integrity of the work. Mr. Reasoner pointed out other recent jobs at the airport that were not completed well. Mr. Cannicle responded that the airport will be utilizing past experiences as a point of reference to improve how they approach this job.

4. PART 150 UPDATE

Mr. Cannicle provided an update on the Part 150 Study. The Technical Committee and SCC meetings were held on November 7, 2018, at which time the draft Noise Exposure Maps (NEMs) were presented. The next public workshop will be held on January 16, 2019 at the Signature Grand. The time of the meeting has not been confirmed. All documents will be published on the project website. Mr. Cannicle advised that the BCAD is working very hard to publicize the workshop to the various affected jurisdictions.

The ANAC Sub-group was created to develop overall recommendations from the ANAC for the Part 150 study. The sub-group met on October 10, 2018 during which time they reviewed and revised the written recommendations drafted by Mr. Eric Ram. Time was provided for the committee to “weigh in” on the recommendations drafted to date. All revisions were noted by Mr. Ram to finalize the document for submission to the Part 150 Study and the Aviation Director.

For more information on the Part 150 Noise Compatibility Planning Study please, visit: [http://www.fllpart150.com/](http://www.fllpart150.com/)

5. PRESENTATION: Airspace, the National Airspace System, Air Traffic Control, and Influence on Noise Setting

The presentation was given by Mr. Kurt Hellauer from HMMH (see PDF). The purpose of the presentation was to acquaint A.N.A.C. members with Regulatory Framework within which aircraft operate, explain the FAA’s role as manager and steward of navigable airspace within the US, and to provide an overview of the operational framework within which infrastructure investment (NEXTGEN) within the National Airspace System (N.A.S.) is managed.

The first few slides provided an overview of the legislative and regulatory authority over “navigable airspace” given to the FAA. Mr. Hellauer likened “Navigable Airspace” to the concept of “high seas”, a common resource not “owned” by any one entity. Within the US, navigable airspace is a common resource that the U.S government manages. Congress delegates this responsibility and authority to the FAA. Even the Department of Defense has to petition the FAA when they wish to withdraw airspace from public use. The other aspect of navigable airspace is that it starts at the surface and as soon as an aircraft is in motion on the airport surface it is in navigable airspace.

With that delegation of authority by Congress, state and local regulation of aircraft operations are pre-empted in favor of a uniform, nationwide regulatory scheme. The airport, municipalities, and the State of Florida are each precluded from governing how or when aircraft fly in Florida; instead aircraft operations (including flight paths) are governed by the FAA and by the operators (pilots, airlines). The role of the airport is to furnish the airfield infrastructure (i.e., suitable runways, taxiways, ramp areas, terminal buildings, etc.) to operators. Once the airport makes the runway complex available to the FAA air traffic controllers, the FAA controllers and the aircraft operators determine how aircraft operate within the airspace at any given time, with the airport operator having no further role in aircraft operations.

The presentation next described the “National Airspace System (NAS)”, of which navigable airspace is just a part. The NAS is how the FAA and the operators view the system as a whole. The NAS includes the navigable airspace through which aircraft operate; however, it also includes a comprehensive system of personnel, infrastructure and equipment, aeronautical data, and regulations governing certification of airmen, aircraft, scheduled air carrier and air taxi operators, and “rules of the road” governing air traffic. Airfields, airport terminal buildings, terrestrial- and satellite-based navigational transmitters, air traffic control towers, and surveillance radar systems are each examples of NAS infrastructure that form a comprehensive system. Aeronautical data, another aspect of the NAS, is jointly developed with the military. Users of the NAS (i.e. pilots, schedulers, dispatchers) rely upon a common framework of aeronautical data that is updated in a timely manner for safe operations.

The next few slides provided a more in-depth overview of Air Traffic Control (ATC). The three principal kinds of facilities – Air Traffic Control Towers for the immediate vicinity of an airport, Terminal Radar Approach Control facilities (TRACON) for the regional area, and Air Route Traffic Control Centers (ARTCC) for the en route environment were discussed. The Air
Traffic Control Tower is only controlling the aircraft for approximately 90 seconds and then control is transferred to TRACON and ultimately to an ARTCC. Air Traffic Control infrastructure was broken down into three major components: Communications Infrastructure (voice and datalink for transmitting instructions to pilots), Navigation Infrastructure (legacy, terrestrial-based as well as satellite-based area navigation) and Surveillance Equipment (legacy, radar-based as well as satellite based ADSB). Considerable time was spent on the benefits RNAV provides compared to legacy VOR navigation systems, including increased accuracy and flight precision, ability to define airways independent of ground-based transmitters as well as random routing (“direct to”) navigation, and explaining the difference between “fly-by” and “fly-over” waypoints.

With these concepts explained, Mr. Hellauer then presented examples of flight procedures in use by aircraft arriving and departing FLL. The ARKES Four (RNAV) Departure and the FIESL SEVEN (RNAV) Arrival procedures were explained as an illustration of the several published flight procedures that exist at FLL. Shown on the slides were the aeronautical data/charts that pilots use side-by-side with a map of southeast Florida over which the waypoints and radar flight track data were overlaid. The radar track data enabled ready visualization that in many instances aircraft are able to turn onto their ultimate course early without necessity of flying an entire procedure as published.

The next portion of the presentation described air traffic separation techniques and standards applicable to aircraft operating under Instrument Flight Rules (IFR) as well as under Visual Flight Rules (VFR). Mr. Hellauer explained that the primary mission of ATC is to prevent aircraft collisions (either with other aircraft or terrain) among participating aircraft. In order to do that, aircraft under IFR are required to obtain clearances prior to operation and certain kinds of operations (e.g., scheduled air carriers) may only occur under IFR, regardless of the presence of visual meteorological weather conditions. Additionally, time was spent discussing visual approaches for aircraft operating under IFR, the use of which allows greater airfield throughput and operational efficiency for air carriers.

The presentation concluded with an illustration of what airfield capacity and how airfield layout and runway geometry influence it. Using historical aerial photography from O’Hare International Airport in Chicago, IL the audience could see its evolution from a system of triangular, intersecting runways to the current arrangement of multiple, parallel runways. The former were required prior to the advent of the jet age because cross-winds were a significant proportion of the takeoff and landing speed of propeller aircraft. In contrast, the takeoff and landing speeds of jet aircraft are approximately twice as fast and consequently, the crosswind is a much lower proportion of the aircraft’s forward speed. Slides illustrating the FAA Airfield Capacity Analysis in east and west flows for FLL were presented, illustrating how throughput increases when favorable weather conditions are present due to the increased use of visual approaches and the consequent reduction in separation standards.

Member questions and comments followed the presentation as summarized below:
Q. You mentioned radar tracking aircraft but there was no slide identifying noise. Why?
A. The radar data received provides a visual graph that is in mosaic patterns that are measurements based on separation of the aircraft as they arrive and depart. You can tighten up the separations by looking at the radar measurements therefore allowing more operations per hour. The FAA’s primary and secondary job is to provide guidance on separation and sequencing of aircraft at an airport.
Q. Is there a way to get more separations of the aircraft to create space so the aircraft can avoid the more sensitive areas where the neighborhoods are experiencing the most noise?
A. The capacity at each airport is measured and determined by the FAA as to what is allowable relative to operations.
Q. Do you have an idea when NEXTGEN will come to FLL?
A. You already have some parts of it now starting with the pilot’s use of aeronautical data charts and the surveillance equipment used.
Q. Why are there measurements showing exact routes versus the planned routes for the aircraft?
A. Sometimes pilots deviate from the planned routes once they are given visual data to use so they can save miles and fuel.
Q. Why is deviation allowed and who keeps track of them?
A. The FAA keeps track of the Economic Impact of operations at an airport which includes number of miles minus the emissions. The deviations range between 3-6 miles and can save time and allow for more operations per hour.
C. Allowing aircraft to deviate or “cut corners” has a negative impact on citizens by going over neighborhoods more frequently all day and night.
C. At other airports with two runways the operations are one runway is used for departures and the other is used for arrivals. Residents would like to see FLL do this. It was noted that taxiways would need to be put in to accomplish that type of operation.

Members requested the presentation be provided to the Committee and Mr. Cannicle agreed to send it.

6. COMMITTEE MEMBER COMMENTS AND QUESTIONS (“ISSUES”) AND ANSWERS:
Mr. Bossle commended Mr. Ram on the draft document of the ANAC recommendations to the airport and Part 150 Study. The only recommendation that Mr. Bossle suggested was that the language pertaining to the Aviation Director be softened to request rather than stipulate. Mr. Ram received the recommendation well and said that he would begin to mark up the revisions at the meeting to expedite a final submission to the airport and Part 150 Study team.

Geoff Rames spoke on behalf of the Lauderdale Isles community and referenced the ANAC recommendations document to for FLL Part 150 Study Item #6: and commented that “Since some 82% of takeoffs from FLL are to the East over the Atlantic Ocean, then FLL takeoffs to the East should occur that way and any deviations should be allowed only when absolutely necessary due to an emergency. Mrs. Pat Wright shared that she is extremely concerned about the noise and environmental issues for her home as a result of overhead aircraft. She then requested that paragraph #6 be completely removed from the document. After further discussion Mr. Rames recommended that the introductory sentence of #6 be removed and #6 should begin with the verbiage for #6-a: “It is believed that Miami TRACON is setting a runway direction for FLL that does not fit the FLL airport during certain times”. Ms. Van Valkenburgh made the motion for this change, it was seconded and approved. After further discussions, Mr. Cahoon proposed that the entire section #6 be removed from the document. This motion was seconded by Mrs. Pat Wright and was unanimously approved by the committee. The second proposed change also included that the north runway becomes the preferential runway with the assigned headings of: 275/095, the motion was seconded and approved. The committee collectively thanked Mr. Ram for his efforts on drafting the document on behalf of the ANAC.

Mr. Ram shared with the committee that the FAA is proposing to do a Metroplex Study which would analyze the Palm Beach/ Broward/Miami-Dade area air traffic. The routes will be looked at with a rail concept, meaning that regardless to the wind direction or magnetic deviation, the planes will be directed to a straight line to their destination. Mr. Cannicle advised that there could still be deviation.

Mr. Ram inquired about follow up to whether or not the ANAC can vote without a quorum. Mr. Cannicle advised that staff consulted with one the Assistant County Attorney’s at the airport and was advised that the changes recommended by the ANAC could be implemented. Mr. Cannicle stated that he would further look into the next steps to implement this change.

7. CITIZEN COMMENTS AND QUESTIONS (“ISSUES”) AND ANSWERS:
Khalil Nasser, resident of the Lauderdale Isles community stated that the entire community has some strong comments/revisions that they would like to propose to include in ANAC recommendations to the Airport/Part 150 Study. Mr. Nasser also suggested that the recommendations include specific headings recommended for “take-offs” at the airport during calm conditions.

Mr. Nasser shared his understanding of what is meant by simultaneous operations based on responses he has received to his inquiries over time. The definition that he shared was that simultaneous departures are departures that occur within the same minute.

8. ADJOURNMENT:
The meeting adjourned with no further questions or comments. The next meeting is March 11, 2019.