Introduction

In September 2014, the U.S. Coast Guard (USCG) announced it would be conducting navigational surveys of three waterways that are impacted by rail traffic, including the New River, Loxahatchee River, and St. Lucie River bridges, to help determine if changes in federal bridge operation regulations should be considered to accommodate the reasonable needs of navigation (Exhibit 1). The survey process was initiated in September, and the current survey schedule requires all written public comments to be transmitted by November 1, 2014 to be made part of the official public record, although it is expected the deadline will likely be postponed later in 2014. The purpose of this agenda item is to provide an overview of related navigational issues in the region and provide comments for transmission to the USCG.

The marine navigational surveys are a separate USCG regulatory action from the Coast Guard’s participation as a cooperating agency in the current All Aboard Florida (AAF) environmental review process, including the Draft Environmental Impact Statement (DEIS), that is currently being coordinated by the Federal Railroad Administration (FRA). A copy of the AAF DEIS is available on-line at http://www.fra.dot.gov/Page/P0672. Given the publication of the DEIS and active AAF planning and project development activities currently underway, the analysis of navigational impacts includes the AAF project and incorporates DEIS data in this staff report as noted.

Background

The Florida East Coast (FEC) rail corridor traverses Florida’s eastern coastline, requiring the construction of dozens of bridges to accommodate the railroad connection from Jacksonville to Miami, and ultimately to Key West. While most of the railroad bridges are fixed, low-level structures crossing smaller creeks, tributaries, and canals, bridges crossing navigable waterways tend to be drawbridges. The region’s two railroad drawbridges at the Loxahatchee River and St. Lucie rivers are owned, operated, and maintained by the FEC railroad. All bridges over navigable waterways are regulated by the USCG, primarily through the Code of Federal Regulations (CFR). The agency’s primary focus regarding bridge regulation is to ensure the public right of navigation is preserved while maintaining a reasonable balance between the competing needs of land and waterborne modes of transportation. Towards this end, the USCG is charged with the regulatory authority to propose modifications to the CFR as necessary and appropriate to maintain reasonable navigation. In locations where navigational concerns are raised by boaters, the USCG utilizes the navigational survey process to obtain public input and help inform potential modifications to bridge regulations.

The marine navigational surveys that are currently underway were initiated independently by the USCG through its regulatory authority. The surveys respond to concerns raised by boaters...
regarding navigational challenges, both existing and proposed, at the Loxahatchee and St. Lucie River bridges over time. While the normal protocol for review of bridge regulations typically occurs after projects are constructed, the USCG accelerated the process to initiate surveys well ahead of AAF permitting and construction to respond to the high level of public concern regarding the project’s anticipated impacts.

The USCG initially scheduled three public meetings to obtain additional written comment on the navigational surveys. However, public concerns regarding the narrow scope of the meetings led to their postponement. Rescheduled meetings with a broader format, including both written and verbal comment, are anticipated later this year, which would be expected to also delay the deadline for written comments to be submitted until late 2014 (Exhibit 2). No dates for the rescheduled workshops are currently available from USCG. An overview of the Coast Guard’s role regarding the AAF process is described in the USCG Essential Information Sheet included as Exhibit 3.

Overview of Railroad Bridges and Rail Activity

The Region’s two FEC railroad drawbridges are described below, followed by discussions of existing and projected freight and passenger rail service on the corridor and mitigations for navigational impacts as proposed by the AAF project. There are significant data limitations to enable a complete evaluation of bridge impacts along the FEC rail corridor. The AAF DEIS, which was published by the FRA in September 2014, provides the only available source of AAF project-related data. However, within the DEIS exhibits, the USCG notes data deficiencies specific to the marine navigational section of the DEIS (Exhibit 4). Only limited marine vessel counts exist at the two bridges to document navigational patterns. More robust and reliable marine navigational documentation is necessary, and Council notes that more accurate, locally generated data is available through the Jupiter Inlet District (regarding boater counts at the Loxahatchee River railroad bridge) and Martin County (regarding boater counts at the St. Lucie River railroad bridge). Additional data are anticipated through the USCG independent marine navigational surveys that are currently underway. Data have not been presented regarding the historic railroad demand on these two bridges, which Council suggests should be considered to fully understand the impacts to navigation caused at these locations.

**Loxahatchee River Railroad Bridge:** Located in the Town of Jupiter and adjacent to the Village of Tequesta, the Loxahatchee River Railroad Bridge is a drawbridge that crosses the Loxahatchee River approximately 1.3 miles west of the Jupiter Inlet, adjacent to the Atlantic Intracoastal Waterway. The Loxahatchee River extends north and west of the bridge, with three forks that constitute roughly twelve miles of navigable coastline in Palm Beach and Martin counties.

Land uses along the waterway are predominately residential, cultural, recreational, and preservation, including highly popular recreational destinations such as sandbars and Jonathan Dickinson State Park. The Loxahatchee River Bridge also provides exclusive public safety access inland for the Village of Tequesta’s advanced life support vessel, which is docked east of the bridge and is the only means to provide rapid emergency response within the river upstream from the bridge. The DEIS suggests there are seven
marinas with more than 500 slips along with four boat ramps within close proximity to the bridge. Upstream from the bridge, DEIS data indicates there are more than 1,200 private and residential docks. Boating data in the DEIS suggests boating activity at the Loxahatchee River Bridge is predominately recreational, averaging 108 vessels per day Monday-Friday and 271 per day on weekends, with more than 500 on peak weekend days, and up to 14 commercial vessels per day. Data from the Jupiter Inlet District indicates the amount of boater activity at the bridge is considerably higher. According to District data, the bridge has experienced an average of 240 boats per day from January through September 2014, with approximately 450 boats/day on Saturdays and 550 boats/day on Sundays. District data further indicate the majority of boating traffic occurs during daylight hours, between approximately 7 a.m. and 7 p.m. Data from the Jupiter Inlet District through September 2014 are attached in Exhibit 5.

The bridge has a vertical clearance of four feet, which means virtually no boats can cross the bridge when it is closed, and a narrow horizontal clearance of 40 feet. Given the ability for boats to transit the bridge when closed, Council notes the advantage of a wider, taller aperture when the bridge is in the closed position, which would allow additional vessels to transit the bridge when closed. This could be accomplished with wider spacing between pilings and a narrower profile bridge section. There are roadways located immediately north and south of the bridge touchdowns, which would likely require closure if the bridge were raised, causing significant adverse impacts in the adjacent communities. Consequently, any bridge modifications would be recommended to be limited to those that would not present impacts to these adjacent roadways, such as narrowing the profile of the bascule without changing the grade of the approach.

According to the USCG Drawbridge Operation Regulations (33 CFR 111.299), the drawbridge is presumed to be “normally in the fully open position” and lowered for freight train passage. Per the DEIS, under 2013 conditions, 14 freight trains cross the bridge daily, with average closure times of 19 minutes each. The average total weekday closure time is suggested to be approximately 3.6 hours/day on weekdays and 2.6 hours/day on weekends. The bridge currently includes a single railroad track which would be expanded to a double-track with the AAF project.

Regarding the bridge-related regulations in the CFR, all bridges are presumed to open on-demand for maritime traffic, but different default conditions exist for different types of drawbridges. Vehicular drawbridges are constructed with a higher vertical clearance, which enables them to remain in the closed position until a navigational demand is presented. These bridges are operated with an on-site bridge tender to ensure the needs of navigation are addressed. Conversely, railroad drawbridges are typically designed with a lower vertical clearance; therefore, these bridges tend to rest in the open position until a railroad demand is presented. This enables the railroad bridges to be operated remotely according to the operating sequence described in the CFR.

**St. Lucie River Railroad Bridge:** Located in the City of Stuart, the St. Lucie River Railroad Bridge is a drawbridge crossing the St. Lucie River approximately 5.9 miles from the St. Lucie Inlet. The St. Lucie River extends upstream, north, south, and west,
with nearly 40 miles of navigable coastline in Martin and St. Lucie counties. The St. Lucie River also contains the Okeechobee Waterway at the point of the bridge crossing. Approximately six miles southwest of the bridge, the South Fork of the St. Lucie River connects to the St. Lucie Canal/C-44, which provides a 90-mile navigable route through Lake Okeechobee to the Gulf of Mexico at Ft. Meyers.

Land uses along the St. Lucie River are mixed, including residential, retail/commercial, office, hotel, industrial, recreational, and preserve. The bridge also provides access to designated community redevelopment areas in Old Palm City and Indiantown, where a recent state Enterprise Zone designation was secured to support marine commercial activity. The DEIS suggests there are fifteen marinas along the St. Lucie River, and a review of aerial photos indicates there are approximately 2,000 private docks along the coastline. DEIS data suggests the boating activity is mostly recreational, with an average of 102 vessels/day crossing the bridge on weekdays and 315 vessels/day on weekends, with a daily weekend high of 413 vessels/day, and up to 21 commercial vessels per day. Data from Martin County indicate the average number of vessels transiting the St. Lucie River bridge is nearly twice as high as the figures reported in the DEIS, with an average of 235 boats/day and nearly 450/day on peak weekends (Exhibit 6).

The St. Lucie River Railroad Bridge has a vertical clearance of seven feet, enabling only smaller recreational vessels to cross when the drawbridge is down, and a horizontal clearance of 50 feet. For this bridge, Council also notes the advantage of a taller, wider aperture when the bridge is closed, whereby additional vessels could transit the bridge while closed if the pilings are spaced further apart and the bridge bascule is designed to enable greater clearance to the water surface. In this location, there are also grade crossings located immediately north and south of the bridge touchdowns, which provide essential access for the adjacent communities. Accordingly, modifications to the bascule opening to enable a thinner profile bridge span are recommended rather than bridge modifications that would change the approach grade and impact these proximate grade crossings.

Similar to the Loxahatchee River Railroad Bridge, the relevant USCG Drawbridge Operation Regulations (33 CFR 111.317) also indicate the drawbridge “normally in the fully open position” and lowered for freight train passage. Under 2013 conditions, the DEIS indicates 14 freight trains cross the bridge daily, with average closure times of 21 minutes each. The average total weekday closure time is suggested to be approximately four hours/day on weekdays and nearly three hours/day on weekends. The St. Lucie River Railroad Bridge was originally constructed as a single-track bridge and is proposed to remain as such if the AAF project proceeds as planned.

Freight Demand: The FEC rail corridor was originally constructed as a multi-purpose rail corridor, carrying both passenger and freight traffic until the termination of FEC’s passenger rail service in the late 1960s. Since then, the rail corridor has carried freight exclusively, with freight demand gradually increasing over time. Peak freight demand in the mid-2000s produced as many as 24 freight trains per day in 2006, responding to peak economic activity nationwide. With the economic downturn in 2007, freight demand fell
respectively. However, as economic conditions have been rebounding in the past several years, freight demand has been rising again. Current freight estimates in the DEIS indicate freight rail demand to be 14-17 freight trains per day, which are forecast to grow to 20 trains per day by 2016, increasing 3 percent annually thereafter. Significant freight improvements particularly at PortMiami and Fort Lauderdale’s Port Everglades, along with shipping trends, indicate future freight traffic will likely include longer freight trains carrying inbound freight north.

Given the average closure times per freight train, with average travel speeds of 32-36 MPH in Palm Beach and Martin Counties, the DEIS indicates freight demand alone could result in the Loxahatchee River Bridge closing 5.8 hours/weekday on average and 3.6 hours/weekend day average by 2016. For the St. Lucie River Bridge, the DEIS projects total average daily bridge closures of 6.6 hours/weekday and 3.6 hours/weekend day by 2016.

**Passenger Rail Demand:** In 2012, Florida East Coast Industries (FECI) announced the AAF project, which proposes to introduce 32 additional daily passenger trains between Miami and Orlando. The combination of existing and projected freight rail traffic with the additional AAF passenger rail service between Miami and Orlando, with an additional 32 daily trains, there have been extensive concerns raised by Council, local governments, and others regarding the impacts of railroad bridge operations upon marine navigation.

- For the Loxahatchee River railroad bridge, the AAF project proposes to generally rehabilitate the bridge and replace the second track that historically existed on the bridge; however, no modifications are proposed to change the bridge elevation or width of opening.

- For the St. Lucie River railroad bridge, the AAF project proposes to rehabilitate the bridge and maintain the existing single-track bridge configuration, with no changes proposed to the bridge elevation or width of opening.

Additionally, the AAF proposes to install varied railroad technology and infrastructure improvements, including Positive Train Control, designed to enable faster train speeds operating with higher safety and efficiency. Combining the projected freight and potential passenger rail demand for the corridor, the DEIS indicates an average operation of 52 total daily trains in year one of the combined service program, with projected freight increases of 3% annually. The cumulative impact of the projected freight and passenger rail services would cause additional navigational delays due to the increase in bridge closings.

- For the Loxahatchee River bridge, the DEIS assumes that project improvements will enable up to ten freight trains to routinely cross the Loxahatchee River bridge simultaneously with passenger trains and that average time/closure would fall from 19 minutes today to 12 minutes per closure in 2016. Accordingly, given proposed project improvements, such as double-tracking the bridge, and
the noted assumptions, the DEIS suggests the average daily bridge closure for the Loxahatchee River bridge would increase to 8.6 hours/weekday and 7.2 hours/weekend day (Exhibit 7). Council notes the majority of boat operations occur between approximately 7 a.m. and 7 p.m.; therefore, these bridge closures would impact the greatest number of boaters during those hours.

- For the St. Lucie River bridge, the DEIS continues to assume up to ten freight trains will routinely cross with passenger trains on the single-track bridge and that average time/closure would fall from 21 minutes today to 15 minutes in 2016. Given these assumptions and project improvements, the DEIS suggests the average daily bridge closure for the St. Lucie River bridge would increase to 9.8 hours/weekday and 7.6 hours/weekend day (Exhibit 7). Similar to the Loxahatchee River bridge, Council notes the majority of boating traffic occurs between approximately 7 a.m. and 7 p.m., whereby the greatest impact from the additional closures would occur in that timeframe.

According to the DEIS, the additional bridge closures would result in delays for recreational and commercial mariners at both bridges. Accordingly, the percentage of total boaters experiencing delays after the AAF project is operational is suggested to increase from 14% to 42% of all vessels at the St. Lucie River Bridge and from 25% to 42% at the Loxahatchee River Bridge; however, these figures may be larger given the concentration of boating activity between approximately 7 a.m. and 7 p.m. In that AAF operations are anticipated to occur between 6 a.m. and 9 p.m., nearly all AAF trains crossing the two bridges would cause boater delay during peak boating times.

**Proposed AAF Mitigations for Navigation:** Given the acknowledged impacts on navigation, the DEIS describes a series of proposed mitigations for navigation. These include improved train schedule management to minimize bridge closures, the provision of bridge closure schedules to the marine industry and in an Internet-accessible format for the public, and the implementation of a countdown clocks to inform boaters when navigation will resume through a closed drawbridge. Formal contact is suggested between first responders and emergency personnel to improve safety. Additionally, the DEIS indicates a schedule of down times could be developed for each bridge location, to enable better informed navigational trip planning.

**Analysis**

The operational impacts of the proposed AAF project upon the Loxahatchee River and St. Lucie River railroad bridges would present a significant departure from the operating conditions of the two bridges today. Freight forecasts will increase the number of closings at each bridge to 20 per day, and the additional AAF service will more than double that to at least 42. Instead of today’s intermittent freight service, the future combined volume is anticipated to operate with more defined scheduling, at least for passenger trains, with two per hour during AAF’s operational window (roughly 7 a.m. until 10 p.m. given Miami/Orlando departures between 6 a.m. and 9 p.m.).
In the scoping component of the DEIS and in communications to FRA, Council has consistently raised concerns regarding impacts on navigation and identified potential measures for mitigation, including modifications to the bridge regulations to balance the rights of navigation with the demands of the rail corridor. Several mitigation measures noted by Council have been identified in the DEIS, some of which are appropriate for the consideration of the USCG regarding bridge regulations. One key measure is the synchronization of passenger and freight schedules to enable multiple trains to cross the bridges with a single opening. The DEIS presumes half the future freight trains will cross the bridges simultaneously with passenger train. Operational requirements for the bridges could limit the number of closures to not more than two per hour, thereby requiring all freight trains to cross with scheduled passenger trains. Given the DEIS data indicates nearly half of all boats approaching the bridges will be delayed by bridge closures, the increased predictability for boaters as to scheduled closings could reduce the number of boat idling at the bridge, awaiting the next opening.

A related safety complication is the width of bridge openings. The St. Lucie River Bridge includes a 50’ width, but the Loxahatchee River Bridge is only 40’ wide. Envisioning future conditions where nearly half the boaters will be idling, awaiting a bridge opening, the narrow 40’ channel through the bridge prevents a safety consideration for bi-directional boating traffic, with two mid-size watercraft unable to pass through the bridge at the same time. A wider bridge opening would require a bridge modification not currently envisioned in the AAF plans, but from an operational standpoint, it may be a necessary requirement to mitigate the increased number of closures to increase boating volumes when the bridge is open. The height of the bridge aperture is another constraint on boating activity, with the bridge heights allowing only four feet of clearance at the Loxahatchee River Bridge and seven feet at the St. Lucie River Bridge. Increasing the height of these apertures, with narrower profile bridge spans and/or elevated bridge sections would enable more vessels to transit the bridges when they are in the closed position. Further, Council notes this increased level of boating traffic in narrow windows may require on-site surveillance via a bridge tender to ensure boating traffic clears the bridge as it is closing.

Broader public safety considerations are also raised regarding bridge operations. At the Loxahatchee River Bridge, the Village of Tequesta provides the only advanced life safety vessel in northern Palm Beach County, which is docked east of the bridge. This vessel is the only means by which water-based emergencies can be reasonably addressed within the Loxahatchee River. Given additional bridge closures, an additional life/safety vessel may be necessary on the west side of the bridge for public safety needs to be reasonably addressed.

Taking into consideration the potential conflicts between marine navigation and railroad operations, a longer-term solution may require substantial or complete bridge replacement to increase horizontal and vertical clearance as well as improve bridge machinery to expedite the closing/opening cycle. A different regulatory condition would apply to a bridge with a higher, wider aperture that could operate more expeditiously, which could improve the balance of interests between navigational rights and commercial railroad demands.
Conclusion

The Loxahatchee River and St. Lucie River railroad bridges represent points of conflict between the rights of maritime navigation and the demands of commercial railroad operations. Both are contributing factors towards economic sustainability and quality of life at the local and regional levels. Projected increases in freight rail traffic, combined with anticipated passenger rail traffic, will create considerable impacts upon marine navigation at levels not previously anticipated or experienced. The USCG is responsible for protecting reasonable rights to navigation, and the related federal regulations should be restructured to provide greater access, predictability, and safety for mariners as railroad impacts increase over time. Further, the bridges themselves should be considered for partial or complete replacement to enable safer, more efficient bridge operations.

In the analysis of marine navigational conflicts at the Loxahatchee and St. Lucie river bridges, the USCG should consider the entire history of railroad demand for closures on the bridges, from the 1900s to modern day, to more accurately assess impacts on navigation. Further, the USCG should consider the clustering of bridge closures as related to peak boating activity, with an acknowledgement of the typical dawn-to-dusk boating timeframe and the disproportionate impact of AAF and additional freight traffic will cause during these peak times. The USCG should utilize more accurate, locally generated boater activity counts to evaluate navigational demands. The narrow apertures at the bridges limit bi-directional traffic while the bridges are open and closed, and the low bridge heights further limit boating traffic flows during closures. Consideration should be given to improvements that would widen and raise the aperture, thereby allowing additional boats to transit the bridge, especially while in the closed position. Because raising of the bridges would cause adverse impacts to the grade crossings immediately adjacent to the bridges, alternate measures such as replacing the bascule span with thinner profile bridges are preferable.
PUBLIC NOTICE (11-14)

All interested parties are notified that the Commander, Seventh Coast Guard District, is conducting navigational surveys of three waterways impacted by rail traffic. We are soliciting written comments through this notice and will be accepting written comments regarding the reasonable needs of marine traffic at the following locations at the date and time indicated:

WATERWAY/LOCATION AND COMMENT COLLECTION DATE/TIME:

A. Waterway: New River, mile 1.82, Downtown Fort Lauderdale, Broward Co., FL (Lat: 26°07'06.64"N, Long: 080°08'43.56"W). Comment collection: October 1, 2014, from 7-9 p.m., at Embassy Suites, 1100 SE 17th St, Fort Lauderdale, FL 33316.

B. Waterway: Loxahatchee River, mile 1.23, Jupiter, Palm Beach Co., FL (Lat: 26°56'51.50"N, Long: 080°05'25.10"W). Comment collection: October 2, 2014, from 7-9 p.m., at Embassy Suites, 4350 PGA Blvd, Palm Beach Gardens, FL 33410.

C. Waterway: St. Lucie River, mile 7.11, Okeechobee Waterway (OWW), Stuart, Martin Co., FL (Lat: 27°12'13.02"N, Long: 080°15'36.79"W). Comment collection: October 3, 2014, from 7-9 p.m. at Hutchinson Island Marriott Beach Resort, 555 NE Ocean Blvd, Stuart, FL 34996.

NAVIGATIONAL CONSIDERATIONS:

In order to ensure the reasonable needs of navigation are being met by current bridge operation regulations, the U.S. Coast Guard is gathering written information from mariners to help determine if a change in federal bridge operating regulations should be considered. Interested parties are encouraged to complete the enclosed navigation survey and return it to the Seventh Coast Guard District offices to be included in the official record. Information helpful to this effort includes current and future use of the waterway (especially through movable bridges), the kind and type of vessels used, frequency of use, navigational hazards such as currents, obstructions, and those hazards that may not be evident from charts and published materials.

SOLICITATION OF COMMENTS:

In an effort to meet maritime needs, interested parties are requested to express their navigability concerns in writing. Comments will be received for the record at the Office of the Commander, Seventh Coast Guard District, Brickell Plaza Federal Building, 909 Southeast 1st Avenue, Suite 432, Miami, Florida 33131-3050. Comments mailed on or before November 1, 2014, will be made part of the official record. Written comments can also be received via email at: USCGD7DPBPublicComment@uscg.mil. Written comments will also be received at the locations and dates listed above.
SEVENTH COAST GUARD DISTRICT,
NAVIGATION SURVEY

USER INFORMATION:

NAME, ADDRESS & PHONE NUMBER:

________________________________________________________

________________________________________________________

WHAT TYPE OF WATERWAY USER: (please circle one)

PLEASURE    COMMERCIAL    LICENSED    UNLICENSED

VESSEL INFORMATION:

TYPE VESSEL: (Please circle one)

MOTOR    SAIL    FISHING    FERRY    TUG/BARGE    PILOT    DEEP DRAFT    OTHER

VESSEL DIMENSIONS:

LENGTH______BEAM______DRAFT______TONNAGE______HORSEPOWER______

BRIDGE CLEARANCE REQUIREMENTS FOR VESSEL: (measured in feet)

VERTICLE CLEARANCE______

HORIZONTAL CLEARANCE______

WATERWAY INFORMATION:

NAME OF WATERWAY USED: (Please Circle)

NEW RIVER    LOXAHATCHEE RIVER    SAINT LUCIE RIVER

DO YOU USE MAIN CHANNEL? (Please Circle)

YES    NO

WHEN DO YOU TRANSIT THESE WATERWAYS?

(Please Circle)

SEASONALLY    YEAR-ROUND    DAY    NIGHT

TIMES OF DAY USED MOST:__________
COMMENTS:

PLEASE USE THIS SPACE TO COMMENT ON ANY NAVIGATION RELATED ISSUES REGARDING THIS WATERWAY NOT COVERED IN THIS SURVEY. PLEASE BE SPECIFIC WITH RESPECT TO ACTUAL NAVIGATIONAL NEEDS AND REQUIREMENTS. PLEASE ATTACH SKETCHES OR ANY ADDITIONAL INFORMATION NECESSARY TO HELP US FULLY UNDERSTAND THE ISSUE. COMMENTS MUST BE RECEIVED BY NOVEMBER 1, 2014:

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Please send all written correspondence to:
Commander, Seventh Coast Guard District, 909 SE First Ave, Suite 432, Miami, FL 33131-3050,
Or email: USCGD7DPBPublicComment@uscg.mil

For any questions regarding this navigation survey, please call (305) 415-6691 and leave a message.
PUBLIC NOTICE (12-14)

Due to the number of comments already received and the demands of the boating public, we are expanding the opportunity for comment during our scheduled navigation study meetings to include verbal comments. To accommodate a larger audience and logistics for transcribing verbal comments, we are postponing the scheduled navigation study meetings announced in PN 11-14 to a date and time later in the year.

We will be changing the format of the meetings from written comments only to include written and verbal comments regarding navigation through railroad bridges on the New River, Loxahatchee River, and St. Lucie River. Due to the time it takes to secure a larger facility space and give those wishing to attend and make comments reasonable advance notification, announcements for these public meetings will be made in the near future via a separate public notice.

We are still collecting navigation surveys in accordance with Public Notice 11-14 via mail and email. The following navigation survey collection meetings are postponed until further notice:

A. Postponed - Waterway: New River, mile 1.82, Downtown Fort Lauderdale, Broward Co: October 1, 2014, at Embassy Suites, 1100 SE 17th St, Fort Lauderdale, FL 33316.
B. Postponed - Waterway: Loxahatchee River, mile 1.23, Jupiter, Palm Beach Co. October 2, 2014 at Embassy Suites, 4350 PGA Blvd, Palm Beach Gardens, FL 33410.
C. Postponed - Waterway: St. Lucie River, mile 7.11, Okeechobee Waterway (OWW), Stuart, Martin Co., FL October 3, 2014, at Hutchinson Island Marriott Beach Resort, 555 NE Ocean Blvd, Stuart, FL 34996.

The location and venues are subject to change and will be announced via a separate notification.

SOLICITATION OF COMMENTS:

Interested parties are still requested to express their navigability concerns in writing as soon as practicable to accommodate the Coast Guard’s assessment of the above waterways. Comments will be received for the record at the Office of the Commander, Seventh Coast Guard District, Brickell Plaza Federal Building, 909 Southeast 1st Avenue, Suite 432, Miami, Florida 33131-3050. Written comments can also be received via email at: USCGD7DPBPublicComment@uscg.mil.
ESSENTIAL INFORMATION SHEET

U.S. COAST GUARD: PRESERVING THE PUBLIC RIGHT OF NAVIGATION

The Coast Guard is charged with safety and security of U.S. navigable waters and contributes to marine stewardship through its authority to regulate bridges crossing navigable waters of the United States. It is the Coast Guard's role to ensure the public right of navigation is preserved while maintaining a reasonable balance between the competing needs of land and waterborne modes of transportation.

U.S. COAST GUARD AND THE ALL ABOARD FLORIDA PROJECT:

All Aboard Florida, LLC (AAF) is proposing to construct a privately owned and operated 235-mile intercity passenger railroad system that will connect Orlando and Miami, Florida. If completed, the multi-billion dollar project will utilize 36 bridges that pass over navigable waters of the United States. Of the 36 bridges, six will require issuance of CG permits and an additional three may require a modification to existing regulations governing bridge openings and operations.

The Coast Guard's concern in this matter is limited to the navigability and regulation of drawbridges, ensuring that navigation is not unreasonably impacted.

While the public right of navigation is paramount to land transportation, it is not absolute. This right may be diminished to benefit land transportation, provided reasonable needs of navigation are not impaired.

In particular, three existing drawbridges- one crossing New River in Ft. Lauderdale, one crossing the Loxahatchee River in Jupiter, and one crossing the St. Lucie River, may require modification to the Coast Guard regulations which govern the operation of these drawbridges.

The Coast Guard is authorized to regulate drawbridge operations; establishing, amending or revoking regulations for the operation of drawbridges based on transportation needs, changes in waterway usage, or requirements of public interest, health or safety.
The Coast Guard has insufficient data to adequately assess the level of impacts to navigation. Additional study, including public input from impacted stakeholders, will be required to determine the reasonable needs of navigation at these three waterways.

Additional information on these affected bridges is required for the Coast Guard to fully assess navigational impacts. The natural flow of these waterways including currents, water velocity, water direction and velocity fluctuations are extremely hazardous and will affect navigation while awaiting openings at the existing drawbridges. Also, the existing drawbridges have restrictive vertical clearance and a large percentage of vessels cannot travel under the bridges in the closed position. Any increase in the current closure periods may have an impact on navigation.

The Coast Guard has established processes for navigation impact assessments, which include public scoping meetings to take comments from the general public. The Coast Guard plans to hold local public scoping meetings for each of the three drawbridges. There are three basic steps to this process. The first step is to conduct a navigation survey to determine the current use of the waterway. The Coast Guard will be soliciting navigation information from boaters and marine interests through written comment via a public notice and through limited scoping meetings. This information along with other resources will be evaluated to determine if there is a need to establish, or adjust bridge operating regulations.

Based on the information gathered during the navigation survey, the Coast Guard may require special drawbridge operating regulations (to include operational schedules and additional personnel requirements) for any or all three drawbridges. If special drawbridge operating regulations are required to meet the reasonable needs of navigation, we may commence with a Notice of Proposed Rulemaking (NPRM) to consider a change in regulations applicable to the drawbridges. This second step includes publishing the proposal in the Federal Register and solicitation of comments through public meetings. After all comments are considered, the last step is to publish a Temporary Final Rule or a Final Rule.
Charlene Stroehlen PE
Senior Associate Engineer
AMEC - Environment & Infrastructure
404 SW 140th Terrace
Newberry, FL 32669

Dear Ms. Stroehlen:

In March 2014, the U.S. Coast Guard received a draft copy of the Navigation Discipline Report (NDR) for the AAF Passenger Rail Project from Orlando to Miami, Florida. The Coast Guard reviewed and provided comments on the NDR on April 4, 2014. Since then a revised advance copy of the NDR was given to the Coast Guard for a second review on May 8, 2014.

The Coast Guard agrees the revised NDR is more comprehensive than the first study and provides useful data on current use of three major waterways with drawbridges along the AAF corridor (New River in Broward County, Loxahatchee River in Palm Beach County, and the St. Lucie River in Martin County). In Sections 2.6.2 and 6.0, the NDR addresses evaluation criteria and a criteria matrix for assessing the No-Build Alternative and the Proposed Action’s impact on identified navigation needs. While information on the impacts on navigation received from the applicant will be analyzed, the Coast Guard will make the ultimate determination as to whether or not the impacts on navigation are unreasonable.

The Coast Guard, in making a permit decision, must preserve the public right of navigation while maintaining a reasonable balance between competing land and waterborne transportation needs. We do so by taking a balanced approach to total transportation systems, both land and water modes, in all bridge actions. At this time, we are unable to fully assess the potential impacts and will require more information on the following issues prior to making a permit decision:

1. The impacts on navigation from the natural flow of these waterways, including currents and water velocity fluctuations, while vessels await openings at these drawbridges, remain unknown;

2. The affected drawbridges set the most restrictive vertical clearance on these waterways, and a large percentage of vessels cannot transit the bridges in the closed position;

3. Any increase in the existing closure periods at the drawbridges spanning these waterways may not provide for the reasonable needs of navigation;

4. The methodology used in the NDR may be sufficient to assess the waterways’ trends and uses for purposes of making a navigation impact determination. However, the Coast
Guard is unfamiliar with the model and needs to evaluate the assumptions and data therein.

Accordingly, additional study will be required to determine the reasonable needs of navigation on these three waterways in the vicinity of the drawbridges. To advance the NEPA process, we support including the NDR as an attachment to the DEIS as it informs the choice of alternatives for analysis. The DEIS should note that the Coast Guard still must make a determination as to the prospective impacts on navigation in the vicinity of the three drawbridges spanning the New River in Broward County, Loxahatchee River in Palm Beach County, and the St. Lucie River in Martin County and that the DEIS will be used to inform that Coast Guard determination.

If the Coast Guard determines the proposed AAF operating schedule unreasonably impacts navigation on the New River, Loxahatchee River and St. Lucie rivers, it may be necessary for the Coast Guard to amend existing bridge regulations and require modifications to those bridge operations so that navigation is not unreasonably burdened.

(Miss) Evelyn Smart will continue to be the contact for your project.

Sincerely,

Barry L. Dragon
Director, District Bridge Program
Seventh Coast Guard District
By direction

Copy: Commander, Coast Guard Sector Miami (s, sp)
Commandant (CG-BRG), U.S. Coast Guard
Jose Gonzalez, FECI/AAF
Alex Gonzalez, FECI/AAF
Mr. Chris Bonanti, FECI/AAF
Exhibit 5

Loxahatchee River Railroad Bridge Boat Count Data
January 15, 2014 to September 30, 2014

Total Boats Counted to date: 56,049

<table>
<thead>
<tr>
<th>Month</th>
<th>Days</th>
<th>Total Boats Counted</th>
<th>Average Boats per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>18</td>
<td>1,964</td>
<td>109.1</td>
</tr>
<tr>
<td>Feb</td>
<td>28</td>
<td>6,073</td>
<td>216.9</td>
</tr>
<tr>
<td>Mar</td>
<td>31</td>
<td>7,220</td>
<td>232.9</td>
</tr>
<tr>
<td>Apr</td>
<td>30</td>
<td>7,979</td>
<td>266.0</td>
</tr>
<tr>
<td>May</td>
<td>25</td>
<td>7,791</td>
<td>311.6</td>
</tr>
<tr>
<td>Jun</td>
<td>30</td>
<td>8,318</td>
<td>277.3</td>
</tr>
<tr>
<td>Jul</td>
<td>31</td>
<td>8,782</td>
<td>283.3</td>
</tr>
<tr>
<td>Aug</td>
<td>12</td>
<td>3,462</td>
<td>288.5</td>
</tr>
<tr>
<td>Sep</td>
<td>28</td>
<td>4,457</td>
<td>159.2</td>
</tr>
</tbody>
</table>

Total Vessels Counted per Month (Daylight Hours Only)

Average Boats Counted by Day of Week (Daylight Hours Only)

Histogram Distribution by Hour (daylight hrs)

Histogram Distribution by Air Draft (daylight hrs)

Histogram Distribution by Length (daylight hrs)

Estimated Boat Length

All data are draft and subject to revision until final report.
Summary report available online at JID’s website:
http://jupiterinletdistrict.org/?page_id=207
# Loxahatchee River Railroad Bridge Operation Data

**January 15, 2014 to September 30, 2014**

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>Total Closure Time (hh:mm:ss)</th>
<th>Count</th>
<th>Average Time Closed per Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td>15:24:29</td>
<td>57</td>
<td>0:16:13</td>
</tr>
<tr>
<td>Mon</td>
<td>57:28:44</td>
<td>179</td>
<td>0:19:16</td>
</tr>
<tr>
<td>Tues</td>
<td>69:13:12</td>
<td>193</td>
<td>0:20:17</td>
</tr>
<tr>
<td>Wed</td>
<td>55:14:10</td>
<td>183</td>
<td>0:18:07</td>
</tr>
<tr>
<td>Thurs</td>
<td>69:35:27</td>
<td>225</td>
<td>0:18:33</td>
</tr>
<tr>
<td>Fri</td>
<td>47:46:53</td>
<td>180</td>
<td>0:15:56</td>
</tr>
<tr>
<td>Sat</td>
<td>36:00:20</td>
<td>137</td>
<td>0:15:46</td>
</tr>
<tr>
<td></td>
<td>346:43:15</td>
<td>1,154</td>
<td></td>
</tr>
</tbody>
</table>

![Total Bridge Closure Time per Day](image-url)
Potential Impacts - Navigation

- DEIS overall average 121 boats/day
- Actual average of 235 boats/day
- Peak weekend days – 450 per day

- Horizontal clearance Dixie Highway Bridge (Old Roosevelt) is 80 feet; DEIS indicates 58 feet.

- Horizontal clearance St. Lucie River Rail Bridge is 40 feet; the DEIS table indicates 50 feet. Boats must travel single file.
Exhibit 7
Summary of Projected Bridge Operations

Table 5.1.3-5  Summary of Projected Bridge Operations for the Loxahatchee River Bridge

<table>
<thead>
<tr>
<th>Loxahatchee River Bridge</th>
<th>No-Action Alternative¹</th>
<th>Project²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Single Closure Time (minutes)³</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Total Number of Daily Closures</td>
<td>16</td>
<td>42</td>
</tr>
<tr>
<td>Average of Total Weekday Closure Time (Minutes)</td>
<td>351</td>
<td>515</td>
</tr>
<tr>
<td>Average of Total Weekday Closure Time (Hours)</td>
<td>5.8</td>
<td>8.6</td>
</tr>
<tr>
<td>Average of Total Weekend Closure Time (Minutes)</td>
<td>216</td>
<td>434</td>
</tr>
<tr>
<td>Average of Total Weekend Closure Time (Hours)</td>
<td>3.6</td>
<td>7.2</td>
</tr>
</tbody>
</table>

1 Results based on RTC modeling data of train and bridge operations with closure times verified with existing field conditions and under the assumption that infrastructure improvements planned under the Proposed Action do not occur.
2 Results based on RTC modeling data of train and bridge operations for both freight and passenger rail with the planned infrastructure improvements planned under the Proposed Action.
3 Multiple trains (freight and passenger) can cross under a single bridge closure.

SOURCE: AAF DEIS, page 5-23

Table 5.1.3-3  Summary of Projected Bridge Operations for the St. Lucie River Bridge

<table>
<thead>
<tr>
<th>St. Lucie River Bridge</th>
<th>No-Action Alternative¹</th>
<th>Project²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Single Closure Time (minutes)³</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Total Number of Daily Closures</td>
<td>18</td>
<td>42</td>
</tr>
<tr>
<td>Average of Total Weekday Closure Time (Minutes)</td>
<td>397.4</td>
<td>588</td>
</tr>
<tr>
<td>Average of Total Weekday Closure Time (Hours)</td>
<td>6.6</td>
<td>9.8</td>
</tr>
<tr>
<td>Average of Total Weekend Closure Time (Minutes)</td>
<td>213</td>
<td>458</td>
</tr>
<tr>
<td>Average of Total Weekend Closure Time (Hours)</td>
<td>3.6</td>
<td>7.6</td>
</tr>
</tbody>
</table>

1 Results based on RTC modeling data of train and bridge operations with closure times verified with existing field conditions and under the assumption that infrastructure improvements planned under the Proposed Action do not occur.
2 Results based on RTC modeling data of train and bridge operations for both freight and passenger rail with the planned infrastructure improvements planned under the Proposed Action.
3 Multiple trains (freight and passenger) can cross under a single bridge closure.

SOURCE: AAF DEIS, page 5-20