## APPENDIX P-1

## Navigation Simulation Modeling Report and Navigation Clearance Study

> Clarification Note for Central Alternative 1: Central Alternatives 1 A and 1 B as described in the DEIS/FEIS are physically the same alternative. The only difference between them is that Central Alternative 1A would include tolls on both the new I-69 bridge and on the US 41 bridge. Central Alternative 1B would only include tolls on the new I-69 bridge. Any reference in this document to Central Alternative 1 applies to both Central Alternative 1A and Central Alternative 1B.
> This document was completed before the development of Central Alternative 1B Modified (Selected); therefore, the alternative is not included in the document. Applicable information regarding Central Alternative 1B Modified (Selected) is provided in the FEIS.


# Navigation Simulation Modeling Report 

## I-69 Ohio River Crossing Project

Evansville, IN and Henderson, KY

August 24, 2017

Prepared by:
Seamen's Church Institute
in coordination with:
Stantec Consulting Services Inc.
Parsons Transportation Group, Inc.


# Evansville Bridge Project I-69 Ohio River Crossing 

Henderson, KY - Evansville, IN Navigation Simulation Study Report

Conducted at the Seamen's Church Institute Center for Maritime Education, Paducah

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\text { July } 10 \text {-14, } 2017
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[^0]Evansville Bridge<br>I-69 Ohio River Crossing Henderson, KY - Evansville, IN Navigation Simulation Study Report

### 1.0 Introduction

In April 2017 representatives from the Stantec Consulting Services, Inc. contacted the Seamen's Church Institute (SCI) Center for Maritime Education (CME) for information regarding pricing, timelines, and scheduling for a new bridge project. The new bridge across the Ohio River is US Interstate 69 near Evansville, Indiana. SCI provided a proposal, Appendix A, to Stantec and Parsons for consideration. The objective of this simulation exercise would be to evaluate the proposed location options (Areas $1 \& 2$ ) and pier spacing configurations for a proposed bridge on the Ohio River.


Proposed Site

### 2.0 Process

2.1 Initial Meetings - Through a series of phone calls and emails prior to the study, the group formulated the simulation objectives, procedures and team member roles.
2.1.1 April 2017 - An initial discussion involving project estimates, database work needed, possible dates, survey field work, USCG coordination, and project scope was discussed with Tony Hunley, SCI Paducah Staff, Matt Hyner, and Stephen Polk. The overall project was outlined and a framework for the project was discussed. Stantec had questions about barge fleeting companies in the affected areas, and asked SCI for more information. The team also discussed getting assistance from Evansville Marine Service (EMS) for assistance with getting the site survey completed, as well as a boat ride for interested parties. SCI also assisted Stantec in getting navigation charts for the areas, and USCG bridge allision statistics for use in the matrix development.
2.1.2 May 2017 - Matt Hyner confirmed his travel arrangements for the site survey with Bob Aldridge of EMS for early June. SCI reached out to Stantec to continue work on the run matrix. John Arenstam reached out to barge companies confirming the typical tow configurations transiting through the area was 15 barges, mixed between loaded tows and empty tows. The team heard back from Crounse Corporation who said it is a "turn area" in which tows can exceed 15. It is not unusual to have as many as 25-30 barges operating in the affected area.
2.1.3 June 2017 - from June 6-9 Matt Hyner performed a site survey to gather the pictures and data for the Evansville database. SCI also facilitated Stantec and Parsons in performing a "navigation industry survey" to assist with information gathering for the variables when constructing the run matrix. Stantec assisted in helping SCI get the relevant current data for both high and low flow. Several team members
(Parsons/Kongsberg/Stantec) assisted SCI with the current data points, file formats compatible with the Kongsberg system, and getting the hydraulic data as accurate as possible. SCI supplied Stantec with sample pictures and video files of previous feasibility studies to help others understand why SCI is involved in the process. The team members assisted SCI in finalizing the run matrix, by discussing the variables and worst-case scenarios at length. The team also finalized the run questionnaire to capture the exact set of data points to satisfy the USCG Western Rivers Bridge Branch. SCI lined up 4 volunteers to serve as pilots for the boats during the 5-day study from July 10-14, 2017.
2.1.4 July 2017 - SCI finalized the plan of the week with Stantec and Parsons, as well as communicated with the USCG Western Rivers Bridge Branch on hours of operations, and our ideas on how the first day will be planned. John Arenstam and the Paducah staff added buoys into the exercises, and put alarm zones into Rosepoint to indicate the fleeting locations in the affected areas. SCI built the exercise templates and exercise simulator files by run matrix grouping. SCI staff in Paducah communicated the logistical information for all parties participating in the study. Stantec and Parsons supplied SCI with the FINAL Navigation Simulation Modeling Plan supplied to the USCG Western Rivers Bridge Branch.
2.2 Planning Meeting - A planning, testing, and validation meeting was held the week of July 5-7, 2017. SCI Paducah Staff performed final tests and validation of the database, models, exercises to be used for the study. SCI reviewed the FINAL Modeling Plan and documents supplied by Stantec and Parsons for the opening brief of pilot participants.
2.3 Database Development - The database that included the various bridge pier positions for SCI's Evansville database was produced "in-house" at SCI's Center for Maritime Education Houston facility by Matt Hyner.
2.3.1 Accuracy of existing database area - Upon commencement of this project, SCI was sent a package of data by Stantec which was used in construction of the visual database for the Ohio River surrounding the proposed new bridge locations 1 and 2. The data files were imported from Kentucky State Plane projection Microstation files, and converted into WGS 84/Flat Earth Projection to make them compatible with Presagis and Kongsberg's database building tools.

The first step was to create a basic database of the river area surrounding the bridge site. An area from Mile Marker 780 to Mile Marker 800 was defined. Next the Existing DTM.dgn file was imported, and converted into a 3D Gridded Terrain File. The imported data was then overlaid on a larger section of Spatial Data Transfer Standard (SDTS) terrain data obtained from NASA. The two files were then merged, and used as the basis for the elevation data input for the final Visual Database used on the simulator.

The merged elevation file, and the Army Corps of Engineers iENC chart for the area were brought into the Kongsberg Area Database Generator (KDAG) tool to create a visual database. The 3D terrain model generated by KDAG was populated with trees typical to the area and served as the visual representation on the simulator. The existing bridge was removed from the simulated radar file, and the instructor station map. Finally, the bottom contours were brought in to the depth contour file, and a new DCS depth file created based upon them. These files were then loaded onto the simulator, to be used as the setting to test the bright alignments.

A bridge pier was next created based on dimensions provided in the Pier Sketch for model pdf drawing supplied by Stantec, as well as a generic bridge deck. By creating these as dynamic "Target Models", the Kongsberg system allowed them to be placed on the instructor station, and moved as necessary within the simulation area.

Finally, the substructure file was imported, and the different alignments were exported as Fairway Line Files for use on the simulator. The line files were individually imported for each alignment, and the bridge piers and deck moved into the outlines of each location to create the exercises used in the final simulations. These simulator files associated with this study can be found in Appendix B. (please note these files are formatted for the simulator station and are not "text/readable format").
2.4 Simulator Capabilities - SCI tested and verified the accuracy for many features of the simulator to meet the tasks required by the Feasibility Study. The capacity to capture, record, replay and save exercises and exercise configurations, along with the use of factor time multipliers all had to be tested. These capabilities of the system were demonstrated, tested, and verified. The accuracy of wind, currents, dock positioning, and logging parameters all had to be reviewed and understood.

SCI used four models for the study identified below:

1. TUGBA14L - 5600HP PUSHING 15 LOADED HOPPER BARGES
2. TUGBA40L $-6140 H P$ PUSHING 25 LOADED HOPPER BARGES
3. TUGBA41B $-6140 H P$ PUSHING 25 EMPTY HOPPER BARGES
4. TUGBA42B -6140 HP PUSHING 15 EMPTY HOPPER BARGES

These vessels were tested for handling accuracy, the pilot cards are in Appendix A.
SCI developed a series of exercises, anticipating initial conditions. These conditions were input, checked and stored to reduce the time required to switch from exercise to exercise. These exercises were based on the Simulator Exercise Matrix (see section 2.5).
2.5 Development of Simulator Exercise Matrix - A matrix of the exercises to be run, was carefully crafted, reviewed and refined to include those exercise conditions that would best test the feasibility of the bridge area and pier locations. Some of the variables included:

Upbound or Downbound - direction of travel to be simulated
Model - loaded or empty tow, or 15, or 25 barge configurations
Current condition - Pool or higher flow was set up
The initial simulation matrix and proposed bridge layout drawings were provided by Stantec in the "Navigation Simulation Modeling Plan" for the project dated 7/7/2017. The simulation run matrix from that document is included in Appendix A.

### 3.0 Simulation Phase

3.1 Participants - For the Simulation Phase the project team assembled in Paducah, Kentucky at SCI's facility on July 10-14, 2017. The following entities were represented, and the pilot's participating in the survey questions are highlighted below:
(Please note, Capt. Ciaramitao was only available on Day 1 so after the $1^{\text {st }}$ day Capt. Dewey took his place).

## American Commercial Barge Lines

 Capt. Don Ryan
## Crounse Corporation

Capt. Brad Richardson

## Ingram Barge

Capt. Todd Butts

## Southern Towing

Capt. Pete Ciaramitaro

## Seamen's Church Institute

Capt. Stephen Polk
Kelly Butts
Capt. Dave Dewey
Capt. Ray Sexton

## Stantec / Parsons

David Depp (Stantec)
Murat Aydemir (Parsons)
USCG Western Rivers Bridge Branch
David Orzechowski
Rob McCaskey

Matt Hyner
Buck Viniard
CAPT. John Arenstam, USCG (Ret.)
3.2 Simulation Runs Format - After careful consideration of the multiple factors affecting the safe transit of vessels, the team arrived at an array of specific simulation exercises (runs). Each run would consist of different bridge pier location configurations, and varying levels of challenges. The three specific configurations were modeled and named:

Area $1 \quad-\quad 1 \mathrm{~A}-2 \mathrm{X} 600^{\prime}$ span
1B - 700'span
1C - 800' span
1D - 900' span
Area $2-2 \mathrm{~A}-2 \mathrm{X} 600^{\prime}$ span
2C - 700' span
2D - 800' span
$2 \mathrm{E}-900^{\prime}$ span
Green River - Backing out of the Green River proceeding downbound on the Ohio, and proceeding downbound in the Ohio River and turning into the Green River.
Please note, "Span" in this context respresents "Clear Span" from face-face of piers.
For each exercise, the team concluded that the emphasis should be simulating the most challenging scenarios. Tracking print outs of each of these simulation runs is shown in Appendix B.
3.3 Simulation Run Matrix - To document the precise conditions encountered during each simulation exercise the team designed a matrix of run parameters (see paragraph 2.5 above). This matrix outlines the various current conditions, vessel type, and engineering designs that appeared in each of the runs. The planned simulation run matrix was not followed completely. As the testing progressed, runs were added, removed, or modified based on observations and priorities.
3.4 Simulation Runs - Prior to each run the simulator was configured in accordance the run matrix and the run matrix parameters were recorded. The pilot for each run was given a briefing on the conditions he was about to encounter. Each simulation lasted between 15 to 30 minutes. Immediately following the simulation, Pilots were debriefed using a standard set of questions regarding the safety of vessel and the operation. Copies of the completed questionnaires are in Appendix B.
3.5 Simulation Run Data - The simulator captured a range of data items at one minute intervals during each of the simulation runs. These data items include: vessel speed, current speed, wind speed, wind direction, latitude, longitude, rudder angle, engine power and rate of turn. These data can be seen for each exercise by utilizing the playback feature of the log files on any Kongsberg (Polaris) simulator system. Copies of the run data (log files) are in Appendix B. (Please note, these files are formatted for the simulator station and are not "text/readable format).

### 4.0 Process Critiques

4.1 Daily Report - The team held simulation progress debriefing conference calls daily. A summary of our notes from each day, and the progression of the week is below:

Monday, July 10, 2017: The team assembled in the briefing room, conducted a facility safety brief, introductions, and a project briefing for the pilots participating in the study. SCI explained the process of how the study was to be conducted, the various bridge locations, pier configurations, and the process to collect the run data by completing questionnaires after each run. SCI staff conducted a pilothouse orientation to familiarize the pilots with the hardware in the bridges. A specific familiarization exercise was not conducted since all the pilots have recently attended course of instructions at CME Paducah. SCI needed to run roughly 12 simulations per day to stay on track, this would allow us to run special exercises requested by the pilots, engineers, or USCG Western Rivers Bridge Branch members.

Runs 2, 3, 5, 7, and 8 for layout 1A were completed before lunch on Monday. The general feedback from the pilots was that they stressed the importance of two navigational spans (primary span + an alternate span) so that commercial traffic does not have to hold up. The combination of high flow, downbound, and empty tows with the 25 mph North wind was the most difficult passage.
The day finished after successfully completing runs $10,11,13,15$, and 16 . The pilots feedback was unenthusiastic with the 700/500 span configuration, as the general feedback was better for a $600 / 600^{\prime}$ in Area 1. Below is a picture of run 13A which scored lower than run 13. After running the boats through the "channel span" 700 ' wide, David Orzechowski asked the pilots to do run 13 again, but transit through the smaller "alternate span" which received unfavorable feedback afterwards. The feedback on day 1 was that in high water $90 \%$ of downbound traffic would use the "alternate" channel, and the consensus was just put the new bridge next to the old bridge in Area 1 and line up the bridge piers.


Run 13A

Tuesday, July 11, 2017: The team decided to change the order of our run matrix to account for the USCG Western Rivers Bridge Branch's schedule. The group wanted to accommodate special requests, and simulate as many high-risk or difficult scenarios while the USCG Western Rivers Bridge Branch was available. The group decided to eliminate all the Northbound runs because of the lack of challenge it presented to the pilots. Tuesday's runs started with Area 2 at the USCG's request. The day began with Run 35, in Area 2 with a 600/600 span configuration (pictured below).


David Orzechowski asked if tows would meet between the existing bridges and new bridges in Area 2. He also asked if S/B tows would ever take the alternate span due to traffic. The response to both question is yes. We ran Run 35-1, pictured below.


Run 35-1

Feedback provided was positive. Pilots said that N/B traffic would generally take the "navigation span" and S/B traffic would take the "alternate span". The numeric scoring was higher for Run 35-1 than for Run 35. Similar results were recorded with run 39 and run 39-1. S/B pilots preferred to take the Indiana span.

In the morning of the second day, we ran simulations $35,35-1,39,39-1,34$, and 40. Feedback was that a 600/600' bridge in Area 2 is fine, but they would not meet or pass in a span less than 500 ' wide. We decided to perform the Green River runs in the afternoon of day 2 .

The simulator runs for the Green River were reduced to high-risk and most challenging. Therefore, we concluded we would run the following:

1. (Maneuver A) - Empty 15 barge tow, proceeding downbound in the Ohio River above the confluence with the Green River, and turning into the Green River, with a high-flow current.
2. (Maneuver C) - Empty 25 barge tow, facing inbound in the Green River, backing out of the Green River and turning downbound in the Ohio River and successfully transiting the bridge.

In the pre-brief with the pilots, they were concerned about the proximity of the bridge in Area 2, while turning into or backing out of the Green River.

Maneuver C was run first and it failed because the wind set at N 25 KTS, and with that high amount of winds the tows were immediately set onto the Kentucky bank (pictured below). After just 2 minutes all four boats were pinned against the bank due to the strong winds. The pilots stated that with this amount of wind and direction they would not attempt this maneuver. They would wait for better conditions.


We concluded that for the Green River simulations we needed to make the wind more realistic to simulate normal operating conditions for the maneuver.

Adjusting the wind (7 kts with a 1.5 kts gust) made a big difference. The pilots were able to complete both Green River runs (Maneuver A and C) successfully.


Run 44 (Maneuver C)


Run 44 (Maneuver A)

In both cases, the simulations proved successful. The concern regarding the proximity of the bridge (in Area 2) to the Green River was eliminated. The feedback indicated that about a distance of one mile between the mouth of the Green River and the proposed bridge was sufficient. We then decided to eliminate further testing of the Green River's impact because of the results of Runs 44 Maneuver A and C. We finished the day with run 64, a 700' span at Area 2, high-flow current, downbound, with an empty 25 barge tow, and N25 kt wind at night.


Run 64
One of the pilots allided with the bridge pier close to the Kentucky shore. Again, the consensus was the pilots did not want to transit downbound and take the "channel" span. By doing so it forces them to be in the pocket with the strongest current. They all preferred to take the "alternate" span downbound. We finished the day by discussing the plan for Wednesday.

We discussed the need to test the other bridge pier alignments $700^{\prime}, 800^{\prime}$ and $900^{\prime}$, and the need to test a single span versus an alternate span. Additionally, the USCG requested that SCI simulate tow traffic "meeting" in the bridges to evaluate spacing.

We discussed two-way traffic and the need to evaluate a single span with only one "channel" span to be used for navigation. The pilots agree after Run 64 that most vessels would not attempt to pass with a 700' navigation span. We explained to the pilots the need to evaluate the 700 ' versus 800 ' versus 900 ' to find out the "minimum acceptable clearances" for a single span bridge.

Wednesday, July 12, 2017: The day began with run 64 again, since there was one failure the previous afternoon. This time we asked the pilots to run the alternate span (IN span) downbound, pictured below.


Feedback from the pilots was that there was very limited room. While it was a successful run, the margin of error was very small. The data from run 64-1 supports the feedback provided in the debrief.

We then performed the traffic simulations requested by the USCG Western Rivers Bridge Branch. The plan was to run the 800 ' "channel" single-span configuration with two 15 barge tows, one upbound and the other downbound with the vessels meeting in the selected span.

1. Empty 15 barge tow upbound on the Ohio River:

Loaded 15 barge tow downbound in the Ohio River.
2. Swap pilots, - Empty 15 barge tow upbound on the Ohio River, Loaded 15 barge tow downbound in the Ohio River.
3. Swap models/direction, and original pilots - Loaded 15 barge tow upbound on the Ohio River, Empty 15 barge tow downbound in the Ohio River
4. Swap pilots, and re-run - Loaded 15 barge tow upbound on the Ohio River Empty 15 barge tow downbound in the Ohio River.


The pilots preferred a primary "channel" span of 800 ' over the 2600 ' span configuration.

The USCG wanted to test the 800' span configuration in Area 1, with two-way traffic and meeting in the bridge:

1. Empty 15 barge tow upbound on the Ohio River

Loaded 15 barge tow downbound in the Ohio River
2. Swap pilots, and re-run - Empty 15 barge tow upbound on the Ohio River Loaded 15 barge tow downbound in the Ohio River.
3. Swap models/direction, and original pilots - Loaded 15 barge tow upbound on the Ohio River
Empty 15 barge tow downbound in the Ohio River.
4. Swap pilots, and re-run - Loaded 15 barge tow upbound on the Ohio River Empty 15 barge tow downbound in the Ohio River .


Run 23-1BD2
The feedback from the pilots was favorable and the data provided by the various surveys indicated the runs were easy, with minimal stress. We began planning for the following day. Where should the "channel" span be for an 800 ' or 900 'opening? The team agreed that the best course of action was to move the bridge piers out, from the KY side, roughly 250 ' to as much as $500^{\prime}$. This configuration would allow the barge fleeting companies room to shift barges without impeding the larger tows navigating in the "channel span."

1. Area 1 - Center the 800 ' span on the existing sailing line in the river.
2. Area 2 - Move the navigation span to the North, centered in the river.

Thursday, July 13, 2017: The day began with testing a proposed 500'-700'-500' span configuration in Area 2 with the two-way traffic meeting at the bridge:

1. Empty 15 barge tow upbound on the Ohio River, Loaded 15 barge tow downbound in the Ohio River
2. Swap pilots, and re-run - Empty 15 barge tow upbound on the Ohio River, Loaded 15 barge tow downbound in the Ohio River
3. Swap models/direction, and original pilots - Loaded 15 barge tow upbound on the Ohio River
Empty 15 barge tow downbound in the Ohio River.
4. Swap pilots, and re-run - Loaded 15 barge tow upbound on the Ohio River Empty 15 barge tow downbound in the Ohio River


Run 700N-2AC
The feedback provided was that it was narrower than they'd prefer. Usually they would not meet another tow in or near the bridge with this configuration.

After lunch, we changed to the 800 ' single span in Area 2. The feedback/data resulting from the runs in was more favorable. That afternoon, we tested a proposed single "channel" span of 800 ' in Area 2 shifted to the north from the original configuration again with the two-way traffic.

1. Empty 15 barge tow upbound on the Ohio River Loaded 15 barge tow downbound in the Ohio River
2. Swap pilots, and re-run - Empty 15 barge tow upbound on the Ohio River Loaded 15 barge tow downbound in the Ohio River.
3. Swap models/direction, and original pilots - Loaded 15 barge tow upbound on the Ohio River
Empty 15 barge tow downbound in the Ohio River.
4. Swap pilots, and re-run - Loaded 15 barge tow upbound on the Ohio River Empty 15 barge tow downbound in the Ohio River.


Run 800N-2BD2

After doing the runs with the $800^{\prime}$ span we ran the $900^{\prime}$ span configuration before ending day. The 900 ' proposed single "channel" span in Area 2 with the two-way traffic meeting at the bridge:

1. Empty 15 barge tow upbound on the Ohio River Loaded 15 barge tow downbound in the Ohio River
2. Swap pilots, and re-run - Empty 15 barge tow upbound on the Ohio River Loaded 15 barge tow downbound in the Ohio River.
3. Swap models/direction, and original pilots - Loaded 15 barge tow upbound on the Ohio River
Empty 15 barge tow downbound in the Ohio River.
4. Swap pilots, and re-run - Loaded 15 barge tow upbound on the Ohio River Empty 15 barge tow downbound in the Ohio River.


We concluded Thursday discussing the schedule for Friday.

Friday, July 14, 2017: We finished running the 900 ' span configuration after swapping models and pilots. The 900 ' span runs were successful and received the highest scores yet.
The engineers wanted to evaluate if there was enough room to hold up, and how much of a delay there would be for upbound traffic. We decided to run a simulation where a downbound 25 barge tow meets an upbound 15 barge tow. We then adjusted the $500^{\prime} / 700^{\prime} / 500^{\prime}$ bridge configuration by adding piers to the Indiana span. This eliminates their ability to navigate the IN span and force vessels to only take the $700^{\prime}$ channel span. The upbound tow was asked to "hold up" to allow the downbound tow through the bridge first, to determine if there were any concerns about this procedure (which would be much more common than trying to pass "in" the bridge). The pilots had no problems with this simulation.


Run 64-700N-2BD2

We finished the simulations, backed up the data, and completed the final questionnaires.
The final questionnaires asked the pilots to comparatively rate each different bridge configuration that was tested during the week (including some long spans that were not simulated). The ratings are based on comfort/safety for navigating through the bridge, and the effect of the bridge on river traffic (possible delays). The results of the final questionnaires are provided in Appendix B.

### 5.0 Closing Comments

## Area 1:

If the bridge is to be built in Area 1, with one or both existing bridges remaining in place, the data indicates that it would be preferred to locate the new bridge piers in exact alignment with the existing bridge piers.
If both existing bridges are removed it was determined that one large navigation span of at least 800 feet would be needed.

## Area 2:

The data indicates that a bridge built in this area would not adversely affect safe navigation into or out of the Green River.
For a bridge in this area the data indicates that it would be more advantageous if the navigational span or spans were shifted slightly to the North from the original engineering drawings. For a single navigational span, 800 feet was indicated to be the minimum required. For a multiple span bridge the $500 / 700 / 500$ configuration shifted to the north was an acceptable configuration.

In addition to the navigation span the pilots indicated in conversations that the spans outside of the navigation spans needed to be considered in the overall permitting process of the bridge. There is a significant level of fleeting activity and recreational activity operating in the area. The pilots indicated that if there is not significant room outside of the navigational span for the local fleeting and recreational traffic they would have to use the navigational span. This would create significant congestion and severely hinder safety of navigation.

The simulation phase proved to be extremely useful in the development and transfer of understanding among team members. The range and number of simulation run exercises adequately addressed the key parameters required to bring out the most important issues and concerns of engineering and navigation.

## Appendix A1

## I-69 SCI Bridge Proposal

## Executive Qualifications

The Seamen's Church Institute(SCI) utilizes the latest in computer simulation technology to assist in maritime planning in order to promote a safer environment for mariners by performing feasibility studies for various government, commercial, and private agencies. Most of SCl's studies deal with projects that in some way impact navigation, including waterfront development and bridge spans.

SCI feasibility studies can help save millions of dollars towards project costs. One engineering firm estimates that an initial study done at SCI in Paducah saved \$50M, and in a follow-up study saved another \$10-15M.

Feasibility studies make construction easier and satisfy industry representatives and the US Coast Guard on safety issues. Costs for feasibility studies are miniscule in relation to potential savings, and because SCI is a not-for-profit mariners' service agency, the Institute looks only to cover the costs for such studies. SCl's concern is for the mariner, seeking to make safer transits on our waterways.

Utilizing simulated geo-specific visual databases, and ship models SCl seeks to assist architects, planners and other project stakeholders by leveraging the power of real-time simulation to examine:

- New port designs
- Pier or channel modifications
- Suitability of a design for specific vessels or vessel types
- Maritime Vessel Hydrodynamic Prototyping

Beginning from CAD, GIS, photographic data and printed drawings as well as information from NOAA and US Army Corps of Engineers, our staff can assemble a site specific 3D visual database of any study area. Our visual databases consist of a three dimensional visual representation of the existing site as well as proposed design alternatives linked to simulated radar and depth sounding information. The ship models utilized in the simulation are not only a three dimensional representation, but have real world hydrodynamic properties attached to them allowing the vessels to perform and maneuver like there real-world counterparts.

With the power of SCl's Kongsberg Maritime Simulators located in Houston, TX and Paducah, KY, ship pilots may perform various maneuvers within the proposed site alternatives. Throughout the exercise, pilots can test navigability through multiple situations taking into account variables such as medium or high flow currents, day or night situations, fully loaded barges or empty barges, and up river or down river scenarios. After each run, captains and pilots are debriefed, commenting on the ease or difficulty of the scenario and the safety margins that could be expected if a bridge was built in that position.

At the end of our studies, SCl will produce a final report documenting our findings, as well as suggestions offered by mariners to help make waterways safer for seafarers and the general public all the while saving millions of dollars in construction costs.

## Facilities \& Technology

SCI has created two first-class facilities for the Western River and GIWW towing communities.

- SCI - Paducah is located in the heart of Downtown Paducah. Since opening in June of 1997, more than 15,000 mariners have attended training sessions.
- SCI - Gulf Region is located at 9650 High Level Road inside the Port of Houston directly across from the Port Authority building. Since opening in April of 2001, more than 5,000 mariners have attended training sessions.


## Management Summary

SCI provides the overall management of our facilities. Instructors are trained in exercise development, simulator use, and education philosophy. The managers and instructors work with company-provided facilitators in making company-specific changes to the curricula developed by SCl and the individual companies. Captain Stephen Polk, SCl's Director of Maritime Education, manages the operations and direction of both facilities. The resources of each Center are available to the other Center.

The published resumes of current staff members who will be involved in the training of your personnel are available upon request.

## Contact Information

Captain Stephen J. Polk
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spolk@seamenschurch.org
The Seamen's Church Institute www.seamenschurch.org

## PROJECT BACKGROUND

In April of 2017 Parsons approached the Seamen's Church Institute(SCI) proposing the development of a navigational simulation to access the feasibility of adding a new l-69 bridge structure located near Hendersonville, KY near river mile 663.5 on the Ohio River. SCI would conduct the study at its Center for Maritime Education in Paducah, KY utilizing its four-bridge Kongsberg simulator.

## INFORMATION REQUIRED FROM CLIENT

The following information is required from the Client to support the Work.

- Details of proposed pier placements, and bridge locations.
- Hydrographic survey of the vicinity
- Details on any proposed modifications to bathymetry and/or solid fill structures;
- Details on input format for hydrographic current vectors and water levels including required spatial and temporal resolution and extents.


## ASSUMPTIONS AND QUALIFICATIONS

The following assumptions and qualifications apply to this proposal:

- Client to provide SCI with an overview of the proposed facilities.
- Plans will be provided in GIS, Autocad or other standard Formats
- Information required from Client shall be supplied to SCl on a timely basis in order to support the proposed schedule for the Work.


## SCOPE OF WORK

## Task 1 - Hydrodynamic Model Development

A hydrodynamic model will be prepared of current data supplied by Parsons for the area surrounding the study area centered on Henderson, KY area. The model will be used to prepare inputs for a vessel maneuvering simulation by Seaman's Church Institute (SCI).

Model bathymetry will be based on depth data supplied by Parsons for the immediate study area. Portions which are not covered will be filled with data from the US Army Corps of Engineers(USACE).

## Task 2 - 3D Model Development

As this visual area is not within SCl's simulation database library, it will be developed specifically for this exercise. A 16 mile stretch of river spanning from Ohio River mile markers 779 through 790 and 3 miles up the Green River to mile marker 3 will be developed. A lower level of detail will be to develop most portions of database, with higher levels developed to represent houses, fleets and other cultural features along the river banks.


Additional modeling will be performed to create models of bridge piers based upon length and widths provided by Parsons, as well as a generic bridge decks to be placed along the provided alignments.

## Task 3 - Scenerio Construction

Current data, the 3D model, Radar, and Depth file information will be brought together in the simulator in order to create an accurate depiction of the study area.

SCl staff will navigate and validate the scenerio prior to external testing. Parsons and other stakeholders of the project are invited to participate in these tests to assist in validation.

## Task 5 - External Testing

SCl will host Parsons for testing the bridge exercise at our Paducah facility. During external testing, pilots will perform a series of simulations based upon a predetermined matrix of design, environmental, and vessel alternatives in order to determine the feasibility and safety of the project before construction goes underway.

## Task 6 - Final Report

SCl will produce and deliver a final report documenting its findings during the external testing phase of the project. The report will offer suggestions offered by the pilots who participate in testing to help make waterways safer for seafarers and the general public.

## Budget

|  |  |  |  |
| :--- | :--- | :--- | :--- |
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## Schedule

The proposed work will be completed within eight (8) weeks after Client provides signed authorization.

## Validity

This proposal is valid for acceptance until November 17, 2016, after which time SCI reserves the right to review the cost and schedule.

## Appendix A2

## Pilot Questionnaires

## PILOT OUESTIONAIRE

NAME:


Pilot \# $\qquad$

1. How long have you been working on the river? $\qquad$
2. How many years have you been in the pilothouse? $\qquad$ 42 yes
3. What areas of the river do you primarily run?
$\qquad$
Upper Miss. Lower Mess, Missouri, Iccivals, OHIO
4. How familiar are you with area being modeled / simulated in this project?
$\qquad$
I have run it many times over the years
5. Do other members of your family work on the river?
$\qquad$
$\qquad$
6. What company do you currently work for? $\qquad$
Any other comments:
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## PILOT OUESTIONAIRE

 Pilot\# 2

1. How long have you been working on the river? 30 Y $S$.
2. How many years have you been in the pilothouse? 24 yRS.
3. What areas of the river do you primarily run?
pad to pt. plensint
4. How familiar are you with area being modeled / simulated in this project? REal familiar
5. Do other members of your family work on the river?
6. What company do you currently work for? INGRAM

Any other comments:
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## PILOT QUESTIONAIRE

NAME: Brad Richardson Pilot\#_3

1. How long have you been working on the river? $\qquad$ 28
2. How many years have you been in the pilothouse? $\qquad$
3. What areas of the river do you primarily run?

Ohio
$\qquad$
$\qquad$
4. How familiar are you with area being modeled / simulated in this project? Yes
5. Do other members of your family work on the river?

$\qquad$
6. What company do you currently work for? Crounse

Any other comments:
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## PILOT OUESTIONAIRE

NAME: Dow Rywn
Pilot \# 4

1. How long have you been working on the river? Since 1973
2. How many years have you been in the pilothouse? 34 yes
3. What areas of the river do you primarily run?

OHID, MON Rimen
4. How familiar are you with area being modeled / simulated in this project?

5. Do other members of your family work on the river?
yos - Futhen \& Buather
$\qquad$
6. What company do you currently work for? $\qquad$
Any other comments:
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## PILOT OUESTIONAIRE

1. How long have you been working on the river?

2. How many years have you been in the pilothouse?

3. What areas of the river do you primarily run?

4. How familiar are you with area being modeled / simulated in this project?

5. Do other members of your family work on the river?

6. What company do you currently work for?


Any other comments:
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Appendix A3

## Model-Pilot Cards (descriptions)

## PILOT CARD

## TUGBA14L <br> Version 6

Ship's name $\qquad$


SHIP'S PARTICULARS



## PROPULSION PARTICULARS

| Type of engine Diesel |  |  |  | Maximum power | kW ( | 5600 hp) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Manoeuvring engine order |  | RPM | Pitch |  |  |  |  |
|  |  |  |  | Loaded |  | Ballast |  |
| Full sea speed | 1 | 216.0 | N/A | 8.3 |  | N/A |  |
| Full Ahead | 0.8 | 184.9 | N/A | 7.1 |  | N/A |  |
| Half Ahead | 0.5 | 138.3 | N/A | 5.3 |  | N/A |  |
| Slow Ahead | 0.25 | 99.4 | N/A | 3.8 |  | N/A |  |
| Dead Slow Ahead | 0.125 | 80.0 | N/A | 3.1 |  | N/A |  |
| Dead Slow Astern | -0.125 | -80.0 | N/A |  |  |  |  |
| Slow Astern | -0.25 | -99.4 | N/A |  |  |  |  |
| Half Astern | -0.5 | -138.3 | N/A |  |  |  |  |
| Full Astern | -1 | -216.0 | N/A |  |  |  |  |

STEERING PARTICULARS

| Type of rudder |  | Normal/Normal/Flanking/Flanking |  |  |  | Maximum angle |  | 45/45/40/40 |  |  | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Hard-over to hard-over |  | 6 |  |  | S |  |  |  |  |  |  |
| Rudder angle for neutral effect |  |  | 0 |  | - |  |  |  |  |  |  |
| Thruster: | Bow | N/A | kW( | N/A | hp) | Stern | N/A | kW( | N/A | $\mathrm{hp})$ |  |

## CHECKED IF ABOARD AND READY



## OTHER INFORMATION

## PILOT CARD

TUGBA40L
Version 2


## SHIP'S PARTICULARS

| Length overall | 349 | m Anchor chain: Port | shackles | Starboard | shackles |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Breadth |  |  |  |  |  |
| Bulbous bow | No |  |  | 11 sh |  |



PROPULSION PARTICULARS

|  |  | Type of engine $\quad$ Diesel |  | Maximum power | kW | 6140 | hp) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Manoeuvring engine order |  | RPM | Pitch | Speed (knots) |  |  |  |
|  |  | Loaded |  |  | Ballast |  |
| Full sea speed | 1 |  | 207.1 | N/A | 6.3 |  | N/A |  |
| Full Ahead | 0.8 | 204.1 | N/A | 6.2 |  | N/A |  |
| Half Ahead | 0.5 | 156.6 | N/A | 4.6 |  | N/A |  |
| Slow Ahead | 0.25 | 116.0 | N/A | 3.3 |  | N/A |  |
| Dead Slow Ahead | 0.125 | 92.8 | N/A | 2.6 |  | N/A |  |
| Dead Slow Astern | -0.125 | -92.8 | N/A |  |  |  |  |
| Slow Astern | -0.25 | -116.0 | N/A |  |  |  |  |
| Half Astern | -0.5 | -156.6 | N/A |  |  |  |  |
| Full Astern | -1 | -204.1 | N/A |  |  |  |  |

STEERING PARTICULARS


CHECKED IF ABOARD AND READY

| Anchors |  |  |  | Indicators: |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Whistle |  |  |  | Rudder |  |
| Radar | 3 cm |  | 10 cm | Rpm/pitch |  |
| ARPA |  |  |  | Rate of turn |  |
| Speed $\log$ | Doppler: | Yes / No |  | Compass system |  |
| Water speed |  |  |  | Constant gyro error $\pm$ | 。 |
| Ground speed |  |  |  | VHF |  |
| Dual-axis |  |  |  | Elec. pos. fix. system |  |
| Engine telegraphs |  |  |  | Type |  |
| Steering gear |  |  |  |  |  |
| er of power units operating |  |  |  |  |  |

OTHER INFORMATION:

## PILOT CARD

## TUGBA41B

## Version 2



## SHIP'S PARTICULARS




PROPULSION PARTICULARS


STEERING PARTICULARS


CHECKED IF ABOARD AND READY


OTHER INFORMATION:

## PILOT CARD

## TUGBA42B <br> Version 2

Ship's name Lee Ann Ingram Pushing MPT 5L3W


SHIP'S PARTICULARS



PROPULSION PARTICULARS
Type of engine
Diesel
Maximum power
4516
kW $\qquad$ hp)

| Manoeuvring engine order |  | RPM | Pitch | Speed (knots) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Loaded |  | Ballast |
| Full sea speed | 1 |  | 207.1 | N/A | N/A | 10.4 |
| Full Ahead | 0.8 | 204.1 | N/A | N/A | 10.2 |
| Half Ahead | 0.5 | 156.6 | N/A | N/A | 7.7 |
| Slow Ahead | 0.25 | 116.0 | N/A | N/A | 5.6 |
| Dead Slow Ahead | 0.125 | 92.8 | N/A | N/A | 4.4 |
| Dead Slow Astern | -0.125 | -92.8 | N/A |  |  |
| Slow Astern | -0.25 | -116.0 | N/A |  |  |
| Half Astern | -0.5 | -156.6 | N/A |  |  |
| Full Astern | -1 | -204.1 | N/A |  |  |

STEERING PARTICULARS

| Type of rudd | Normal/Normal/Flanking/Flanking |  |  |  |  | Maximum angle |  | 45 |  |  | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Hard-over to hard-over 9 |  |  |  |  |  |  |  |  |  |  |  |
| Rudder angle for neutral effect |  |  | 0 |  | s |  |  |  |  |  |  |
| Thruster: | Bow | N/A | kW ${ }^{\text {( }}$ | N/A | hp) | Stern | N/A |  | N/A |  |  |

## CHECKED IF ABOARD AND READY



OTHER INFORMATION:

## Appendix A4

## Simulation Run Matrix (initial)

I-69 OHIO RIVER CROSSING - HENDERSON, KY TO EVANSVILLE, IN NAVIGATION SIMULATION RUN MATRIX

Constants:
Barge Flotilla: Determined by $\mathrm{SCI} /$ Industry
Towboat power: Determined by $\mathrm{SCl} /$ industry
Wind: direction and velocity determined by $\mathrm{SCl} /$ industry
Day/Night: use Day only
"SHADED" ROWS ARE CONSIDERED FOR "OMIT FROM SIMULATION"

|  | Alignment (1=West, | Horizontal | Secondary | Exist US41 bridges | Water Level | Tow Direction | Barge Load | Green River |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RUN \# | 2=Central) | Clearance | Channel? | With Without | Pool Higher | Up Down | Full Empty | Yes No |  |
| 1 | 1A | 600 | 600 | X | X | X | X | X |  |
| 2 | 1A | 600 | 600 | X | X | X | X | X |  |
| 3 | 1A | 600 | 600 | X | X | X | X | X |  |
| 4 | 1A | 600 | 600 | X | X | X | X | X |  |
| 5 | 1A | 600 | 600 | X | X | X | X | X |  |
| 6 | 1A | 600 | 600 | X | X | X | X | X |  |
| 7 | 1A | 600 | 600 | X | X | X | X | X |  |
| 8 | 1A | 600 | 600 | X | X | X | X | X |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 9 | 1B | 700 |  | X | X | X | X | X |  |
| 10 | 1B | 700 |  | X | X | X | X | X |  |
| 11 | 1B | 700 |  | X | X | X | X | X |  |
| 12 | 1B | 700 |  | X | X | X | X | X |  |
| 13 | 1B | 700 |  | X | X | X | X | X |  |
| 14 | 1B | 700 |  | X | X | X | X | X |  |
| 15 | 1B | 700 |  | X | X | X | X | X |  |
| 16 | 1B | 700 |  | X | X | X | X | X |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 17 | 1 C | 800 |  | X | X | X | X | X |  |
| 18 | 1 C | 800 |  | X | X | X | X | X |  |
| 19 | 1 C | 800 |  | X | X | X | X | X |  |
| 20 | 1 C | 800 |  | X | X | X | X | X |  |
| 21 | 1C | 800 |  | X | X | X | X | X |  |
| 22 | 1 C | 800 |  | X | X | X | X | X |  |
| 23 | 1 C | 800 |  | X | X | X | X | X |  |
| 24 | 1C | 800 |  | X | X | X | X | X |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 25 | 1D | 900 |  | X | X | X | X | X |  |
| 26 | 1D | 900 |  | X | X | X | X | X |  |
| 27 | 1D | 900 |  | X | X | X | X | X |  |
| 28 | 1D | 900 |  | X | X | X | X | X |  |
| 29 | 1D | 900 |  | X | X | X | X | X |  |
| 30 | 1D | 900 |  | X | X | X | X | X |  |
| 31 | 1D | 900 |  | X | X | X | X | X |  |
| 32 | 1D | 900 |  | X | X | X | X | X |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 33 | 2A | 600 | 600 | X | X | X | X | X |  |
| 34 | 2A | 600 | 600 | X | X | X | X | X |  |
| 35 | 2A | 600 | 600 | X | X | X | X | X |  |
| 36 | 2A | 600 | 600 | X | X | X | X | X |  |
| 37 | 2A | 600 | 600 | X | X | X | X | X |  |
| 38 | 2A | 600 | 600 | X | X | X | X | X |  |
| 39 | 2A | 600 | 600 | X | X | X | X | X |  |
| 40 | 2A | 600 | 600 | X | X | X | X | X |  |
| 41 | 2A | 600 | 600 | X | X | X | X | X |  |
| 42 | 2A | 600 | 600 | X | X | X | X | X |  |
| 43 | 2A | 600 | 600 | X | X | X | X | X |  |
| 44 | 2A | 600 | 600 | X | X | X | X | X |  |

Constants:
Barge Flotilla: Determined by SCI/Industry
Towboat power: Determined by SCI/industry
Wind: direction and velocity determined by $\mathrm{SCl} /$ industry
Day/Night: use Day only
"SHADED" ROWS ARE CONSIDERED FOR "OMIT FROM SIMULATION"


## Appendix A5

## Simulation Run Matrix (final)

## I-69 OHIO RIVER CROSSING - HENDERSON, KY TO EVANSVILLE, IN

 As RUN - NAVIGATION SIMULATION RUN MATRIX| Matrix Run Number | Bridge Alignment | Horizontal Clearance | Secondary Channel | Keep <br> Existing Bridges? | Water Level | Tow Direction | Green River | Tow | Wind Speed | Time of Day | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 1A | 600ft | 600ft | Yes | Low | Up | No | 25E | 25MPH | Day |  |
| 3 | 1A | 600 ft | 600ft | Yes | Low | Down | No | 25L | 25MPH | Day |  |
| 5 | 1A | 600ft | 600ft | Yes | High | Up | No | 25L | 25MPH | Day |  |
| 7 | 1A | 600ft | 600ft | Yes | High | Down | No | 25L | 25MPH | Day |  |
| 8 | 1A | 600ft | 600ft | Yes | High | Down | No | 25E | 25MPH | Day |  |
| 10 | 1B | 700ft | None | No | Low | Up | No | 25E | 25MPH | Day |  |
| 11 | 1B | 700ft | None | No | Low | Down | No | 25L | 25MPH | Day |  |
| 13 | 1B | 700ft | None | No | High | Up | No | 25L | 25MPH | Day |  |
| 13A | 1A | 700ft | 450 ft | No | High | Up | No | 25L | 25MPH | Day | IN Span |
| 15 | 1B | 700ft | None | No | High | Down | No | 25L | 25MPH | Day |  |
| 16 | 1B | 700ft | None | No | High | Down | No | 25E | 25MPH | Day |  |
| 21 | 1 C | 800ft | None | No | High | Up | No | 15L | 10MPH | Day | two way traffic |
| 22 | 1 C | 800ft | None | No | High | Up | No | 15E | 10MPH | Day | two way traffic |
| 23 | 1 C | 800ft | None | No | High | Down | No | 15L | 10MPH | Day | two way traffic |
| 24 | 1 C | 800ft | None | No | High | Down | No | 15E | 10MPH | Day | two-way traffic |
| 34 | 2A | 600ft | 600ft | Yes | Low | Up | No | 25E | 25MPH | Day |  |
| 35 | 2A | 600ft | 600ft | Yes | Low | Down | No | 25L | 25MPH | Day |  |
| 35-1 | 2A | 600ft | 600ft | Yes | Low | Down | No | 25L | 25 MPH | Day | IN Span |
| 39 | 2A | 600ft | 600ft | Yes | High | Down | No | 25L | 25MPH | Day |  |
| 39-1 | 2A | 600ft | 600ft | Yes | High | Down | No | 25L | 25MPH | Day | IN Span |
| 40 | 2A | 600ft | 600ft | Yes | High | Down | No | 25E | 25MPH | Day |  |
| 40-1 | 2A | 600ft | 600ft | Yes | High | Down | No | 25E | 25 MPH | Day | IN Span |
| 44 | 2A | 600ft | 600ft | Yes | High | Down | Yes | 25E | 25MPH | Day | backing out Green River |
| 44-1 | 2A | 600ft | 600ft | Yes | High | Down | Yes | 25E | 10MPH | Day | backing out Green River- SB OHR |
| 44-2 | 2A | 600ft | 600ft | Yes | High | Down | Yes | 15E | 10MPH | Day | backing out Green River- NB OHR |
| 64 | 2 C | 700ft | None | Yes | High | Down | No | 25E | 25MPH | Day | KY Span |
| 64-1 | 2C | 700ft | 500ft | Yes | High | Down | No | 25E | 25MPH | Night | IN Span |
| $64-700 \mathrm{~N}$ | 2C-N | 700ft | None | Yes | High | Up | No | 15L | 10MPH | Day | two way traffic |
| 64-700N | 2C-N | 700ft | None | Yes | High | Down | No | 25E | 10MPH | Day | two way traffic |
| 73 | 2D | 800ft | None | Yes | High | Up | No | 15L | 10MPH | Day | two way traffic |
| 74 | 2D | 800ft | None | Yes | High | Up | No | 15E | 10MPH | Day | two way traffic |
| 75 | 2D | 800ft | None | Yes | High | Down | No | 15L | 10MPH | Day | two way traffic |
| 76 | 2D | 800ft | None | Yes | High | Down | No | 15E | 10MPH | Day | two way traffic |
| 76-A | 2D | 800ft | None | Yes | High | Down | No | 15E | 10MPH | Night | two way traffic |
| 73-A | 2D | 800ft | None | Yes | High | Up | No | 15L | 10MPH | Night | two way traffic |
| $700 \mathrm{~N}-1$ | 2C-N | 700ft | 500ft | Yes | High | Up | No | 15E | 10 MPH | Day | two way traffic |
| $700 \mathrm{~N}-1$ | 2C-N | 700ft | 500ft | Yes | High | Down | No | 15L | 10MPH | Day | two way traffic |
| 700n-2 | 2C-N | 700ft | 500ft | Yes | High | Down | No | 15E | 10MPH | Day | two way traffic |
| $700 \mathrm{~N}-2$ | 2C-N | 700ft | 600ft | Yes | High | Up | No | 15L | 10MPH | Day | two way traffic |
| $700 \mathrm{~N}-3$ | 2C-N | 700ft | 500ft | Yes | High | Up | No | 15E | 10MPH | Day | IN Span |
| $800 \mathrm{~N}-1$ | 2D-N | 800ft | None | Yes | High | Down | No | 15L | 10MPH | Day | two way traffic |
| $800 \mathrm{~N}-1$ | 2D-N | 800ft | None | Yes | High | Up | No | 15E | 10MPH | Day | two way traffic |
| $800 \mathrm{~N}-2$ | 2D-N | 800ft | None | Yes | High | Up | No | 15L | 10MPH | Night | two way traffic |
| $800 \mathrm{~N}-2$ | 2D-N | 800ft | None | Yes | High | Down | No | 15E | 10MPH | Night | two way traffic |
| $900 \mathrm{~N}-1$ | 2E-N | 900ft | None | Yes | High | Up | No | 15E | 10MPH | Day | two way traffic |
| $900 \mathrm{~N}-1$ | 2E-N | 900ft | None | Yes | High | Down | No | 15L | 10MPH | Day | two way traffic |
| $900 \mathrm{~N}-2$ | 2E-N | 900ft | None | Yes | High | Up | No | 15L | 10MPH | Night | two way traffic |
| $900 \mathrm{~N}-2$ | $2 \mathrm{E}-\mathrm{N}$ | 900ft | None | Yes | High | Down | No | 15E | 10MPH | Night | two way traffic |

## Appendix B1

## Run Tracking Snapshots


E Polaris Instructor Station 1-[Master of Evansville Run3 in US OHR 780-800]











E4 Polaris Instructor Station 1 [Master of veansilit Run15 in US OHR 780 -800]

















## $\square$

## $\square$

[^1]














E Polaris Instructor Station 2- [Waster of Evansvilie Run75-18Din US OHR $780-800$ ]
문






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EP Polaris Instructor Station 2 [Master of Evansilie Run75-2802 in US ORR 780-800]
x








Appendix P-1, page 95

This is an own ship track history shape












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Appendix P-1, page 111







## Appendix B2

## Run Questionnaires

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 1
Run \# $\qquad$ Date $7 / 10 / 2017$ Location 2 $\qquad$
Bridge Configuration: Location 1 $\qquad$
Day $\qquad$ Night $\qquad$
Northbound $\qquad$ Southbound $\qquad$ Water Lever: High Flow $\qquad$ Pool $\qquad$ Loaded $\qquad$ Empty $\qquad$ Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 |  | 4 | 3 | 2 |
| 1 |  |  |  |  |

If maneuvering room is not adequate, why? $\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why? $\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | -4 | 3 | 2 | 1 |

No visual obstruction that Cam aware of

## Overall Safety

5. Why or why not overall safe?
$\left.\begin{array}{|c|l|c|c|c|}\hline \text { Extremely safe } & \text { Safe } & \text { Neutral } & \text { Not safe } & \text { Not at all safe } \\ \hline 5 & & 4 & 3 & 2\end{array}\right]$
same as existing bridge
6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

normal operations

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 2
Run \#
2
Date $\qquad$
Bridge Configuration: Location 1 $\qquad$ Location 2 $\qquad$

Northbound $X$ Southbound
Water Lever: High Flow $\qquad$ Pool $\times$ Loaded $\qquad$ Empty $\qquad$

Day $\qquad$ Night $\qquad$
Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 2 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

SAME AS it is Right now

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

hake it Same way do now
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | $(3)$ | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 3 Run \# 2
Bridge Configuration: Location 1 X_ Location 2


Northbound $X$ Southbound $\qquad$ Day $\qquad$ Night $\qquad$
Water Lever: High Flow $\qquad$ Pool $X$ Loaded $\qquad$ Empty $\qquad$ Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :--- | :--- | :---: | :---: | :--- |
| 5 |  | 4 | 3 | $\mathbf{2}$ | $\mathbf{1}$ |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 2 Bridge Configuration: Location $1 \_\bar{x}$ Location 2
Date $7 / 10 / 2017$

Northbound $x$ Southbound
Water Lever: High Flow $\qquad$ Pool $x$ $-$
Loaded $\qquad$ Empty $\qquad$ $\times$

Day $\qquad$ Night $\qquad$ $\times$

Wind: 25 MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5 . Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\frac{5}{\text { Run \# }} \frac{3}{\text { Bridge Configuration: Location 1 }} 1$ Location 2_10/2017
Northbound $x$-Southbound $>$
Water Lever: High Flow $\qquad$ Pool Day $\times \quad$ Night $\qquad$ Loaded $\qquad$ Empty $\qquad$ Wind: 25 MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | N | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Bridge Configuration: Location $1 \quad \bar{A}$ Location 2
Northbound

Water Lever: High Flow $\qquad$ Pool Loaded $\qquad$ Empty $\qquad$

Date 7/10/2017
$\qquad$
Day $\qquad$ Night $\qquad$
Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |



Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

sper hais
6. Why or why not difficult?

| Not at all difficult | Neutral | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :--- | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \#
Bridge
Config $\sum_{\text {figuration: Location } 1}^{\text {Run } \# ~}$ Location 2
Date
$7 / 10 / 2017$ Bridge Configuration: Location 1 $\qquad$
Day $\qquad$ Night $\qquad$
 $\qquad$ Pool
$\qquad$ Empty $\qquad$ Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\boxed{5}$ | 3 | 2 | 1 |

$\operatorname{Sin}=A s$ it is Now

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

## SAm

6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 74 | 3 | 2 | 1 |

Stress Level
7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments <br> Set up like this would do <br> I do Now

# I-69 Bridge Project Run Evaluation Form 



## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$

Stress Level
7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

## I-69 Bridge Project Run Evaluation Form

 $\qquad$
Date $7 / 10 / 2017$

Northbound $\qquad$ Southbound $\qquad$ Day $\quad X$ Night $\qquad$
$\qquad$ Empty $\qquad$ Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4$ | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory <br> 5 | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 |  | 3 | 2 |

LIVY Lite Gey in brittle
6. Why or why not difficult?

| Not at all.difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |
|  |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \#
Bridge
$\operatorname{Run} \#$
Configuration: Location $1 \_$Location 2 $\quad$ Date $7 / 10 / 2017$
$\qquad$
Northbound $X$ Southbound $\qquad$ Day $X$ Night $\qquad$
Water Lever: High Flow $X$ Pool $\qquad$ Loaded $X$ Empty $\qquad$ Wind: 25 MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge
$\left.\begin{array}{|c|c|c|c|c|}\hline \begin{array}{l}\text { Extremely } \\ \text { Satisfactory }\end{array} & \text { Satisfactory } & \text { Neutral } & \text { Not satisfactory } & \begin{array}{l}\text { Not at all } \\ \text { satisfactory }\end{array} \\ \hline 5 & & 4 & 3 & 2\end{array}\right]$

If pier alignment is not adequate, why?
Good Bliqnuey

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 |  | 4 | 3 | 2 |
| 1 |  |  |  |  |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |
| 600 d To Slope up. A/ß. |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :--- | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ |  | 4 | 3 | 2 | 1 |



## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 5
Bridge Configuration: Location $1 \quad \bar{A}$ Location 2 $\qquad$
Northbound $X$ Southbound $\qquad$ Day X Night $\qquad$
Water Lever: High Flow $X$ Pool $\qquad$
Loaded $\qquad$ Empty $\qquad$ Wind: 25MPH Direction 000

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 2
Run \# 5
Bridge Configuration: Location 1 _ $\quad$ Location 2
Date $7 / 10 / 2017$

Northbound $\qquad$ $X$ Southbound $\qquad$ Day X Night $\qquad$
Water Lever: High Flow $X$ Pool $\qquad$ Loaded $\qquad$ Empty $\qquad$


Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
Same AS it is Right wow
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

Same as it is Right now
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 | $($ | 4 | 3 | 2 | 1 |

## Additional Comments

Right wow mink it the Same way l,

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 7
Date $\qquad$
Alignment: 1A
Clearance: 600
Secondary Channel:600
With existing bridges
High flow water
Direction: Down bound
Barges: loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 | $($ | 4 | 3 | 2 | 1 |

$\qquad$

Additional Comments
for ne Evinything is the SAmE, with Bride ss like they ARE

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 7
Date $\qquad$
Alignment: 1A
Clearance: 600
Secondary Channel:600
With existing bridges
High flow water
Direction: Down bound
Barges: loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| (5) | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| (5) | 4 | $\mathbf{3}$ | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment. 1A
Clearance: 600
Secondary Channel:600
With existing bridges
High flow water
Direction: Down bound
Barges: loaded
Green River: No
Run \# 7
Date $\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | $\mathbf{4}$ | $\mathbf{3}$ | $\mathbf{2}$ |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |
| 600 d Eusp Set yp. |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful   Neutral  <br> 5  4 3 2 <br> Extremely     <br> stressful     |
| :--- |
| EASy |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \#
Alignment: 1A
Clearance: 600
Secondary Channel:600
With existing bridges
High flow water
Direction: Down bound
Barges: loaded
Green River: No

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |
|  |  |  |  |  |
| $M$ Malang |  |  |  |  |

6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 | Some

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 1A
Clearance: 600
Secondary Channel:600
With existing bridges
High flow water
Direction: Down bound
Barges: Empties
Green River: No

Run \# 8
Date $7-10-17$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| $\mathbf{5}$ | $\mathbf{4}$ | $(13)$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

$\qquad$
$\qquad$
6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| ---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | (2) | 1 |



## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 8
Date $\qquad$
Alignment: 1A
Clearance: 600
Secondary Channel:600
With existing bridges
High flow water
Direction: Down bound
Barges: Empties
Green River: No

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |
| Got To Hold Pen |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 1A
Clearance: 600
Secondary Channel:600
With existing bridges
High flow water
Direction: Down bound
Barges: Empties
Green River: No

Run \# 8 Date $\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $\left(5^{\circ}\right)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ |  | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 8
Date $\qquad$
Alignment: 1A
Clearance: 600
Secondary Channel:600
With existing bridges
High flow water
Direction: Down bound
Barges: Empties
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $\mathbf{4}$ | $(3)$ | 2 | 1 |

Wind spasd not safe to Run with 25 mis HRough bridge
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |
| gilinct |  |  |  |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | $\boxed{3}$ | 2 | 1 |

$\qquad$
$\qquad$

Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 2 2
Clearance: 700
Secondary Channel:
Without existing bridges
Pool water
Direction: Up bound
Barges: Empties
Green River: No
Run \# 10
Date $\qquad$
Alignment: 1B

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 | $C$ | 4 | 3 | 2 | 1 |

Additional Comments $\frac{\text { Suggestion }}{\text { Som Kind of }}$ mARKER(REFlsctor) on flat side of inside pieRS

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 10
Date $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
Pool water
Direction: Up bound
Barges: Empties
Green River: No

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $44^{*}$ | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\mathbf{3}$ | $\mathbf{2}$ | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) | $\mathbf{3}$ | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 10
Date 1-10
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
Pool water
Direction: Up bound
Barges: Empties
Green River: No

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 |  | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
G00 d Room
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$

Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
Pool water
Direction: Up bound
Barges: Empties
Green River: No

Run \# 10
Date $\qquad$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

upstream rumning cme use cunent to
6. Why or why not difficult?

| Not at all difficult | N | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \#
Alignment. 1B
Clearance: 700
Secondary Channel:
Without existing bridges
Pool water
Direction: Down bound
Barges: Loaded
Green River: No

Date $7 \leftarrow / 0$
$\qquad$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers
$\left.\begin{array}{|c|c|c|c|c|}\hline \text { Extremely safe } & \text { Safe } & \text { Neutral } & \text { Not safe } & \text { Not at all safe } \\ \hline 5 & & 4 & 3 & 2\end{array}\right]$

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |



## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 11
Date $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
Pool water
Direction: Down bound
Barges: Loaded
Green River: No

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 2 | 4 | 3 | 2 | 1 |

## Additional Comments

oily one Span - Not REally wide Enough to met Anyone within pish

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 11
Date $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
Pool water
Direction: Down bound
Barges: Loaded
Green River: No

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | (4) | $\mathbf{3}$ | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4) | $\mathbf{3}$ | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 11
Date $7-10$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
Pool water
Direction: Down bound
Barges: Loaded
Green River: No

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremetysafe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremełysafe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at alцdifficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressfur |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
High water
Direction: Up bound
Barges: Loaded
Green River: No

Run \# 13
Date $7-10-17$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 |  | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 47 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | $\mathbf{4}$ | 3 | 2 |



## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5) | 4 | 3 | 2 | 1 |
| 5) |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| $(5)$ |  | 4 | 3 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 2
Run \# 13
Date $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
High water
Direction: Up bound
Barges: Loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $\boxed{4}$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 | $C$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

This way only one option on spans to RuN -could caUse hazards if a lout of Traffic gets Backedups

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 13
Date $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
High water
Direction: Up bound
Barges: Loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| (5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

NoT cliffacult

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressfu/n |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 13
Date $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
High water
Direction: Up bound
Barges: Loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |  |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# $13 A$ Bridge Configuration: Location 1 $\qquad$ Location 2
$\qquad$
 $700 / 450$
$\qquad$ Southbound $\qquad$ Water Lever: High Flow $\qquad$ Loaded $\qquad$ Empty $\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | - | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 |  | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |  |
| :---: | :--- | :--- | :--- | :--- | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?
$\left.\begin{array}{|c|c|c|c|c|l|}\hline \begin{array}{l}\text { Not at all } \\ \text { stressful }\end{array} & & & \text { Neutral } & & \begin{array}{l}\text { Extremely } \\ \text { stressful }\end{array} \\ \hline 5 & & 4 & & 3 & 2\end{array}\right]$
$\qquad$


# I-69 Bridge Project Run Evaluation Form 

Pilot\# 2
Run \# $13 A$ $\qquad$ Bridge Configuration: Location 1 $\quad x$ Location 2 $\qquad$ -

Northbound $X$ Southbound $\qquad$ Day $X$ Night $\qquad$
MS ALT $700 / 450$ Water Lever: High Flow $X$ Pool $\qquad$ Loaded $\qquad$ Empty $\qquad$ Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | C | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 3 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | $(3)$ | 2 | 1 |

## Additional Comments

 Slow ir throw that. 15 no probleñ.

## I-69 Bridge Project Run Evaluation Form



Northbound $X$ Southbound $\qquad$
Water Lever: High Flow $\qquad$ Pool $\qquad$ Loaded $\qquad$ Empty $\qquad$
Day $\qquad$ Night $\qquad$
Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral. | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult 4 Neutral  Extremely difficult <br> 5 $(3)$ 2 1  <br> Right Hond Poen     |
| :--- |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| ---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 3 Run \# 13 Date $\quad M 5$ ALT
$M 00 / 450$
Northbound $\qquad$ Southbound $\qquad$ Water Lever: High Flow $\qquad$ Pool $\qquad$ Loaded $\qquad$ Empty $\qquad$
Day $x$ Night $\qquad$ Bridge Configuration: Location 1A Location 2 $\qquad$
Wind: 25MPH Direction 000 NO GR

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | 3 | Not at all safe |  |  |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | $\mathbf{3}$ | $\mathbf{2}$ |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 15
Date $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
High water
Direction: Down bound
Barges: Loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | $\square$ | 4 | 3 | 2 | 1 |

## Additional Comments

ons option only Agnin.

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 15
Date $\qquad$
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
High water
Direction: Down bound
Barges: Loaded
Green River: No

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :---: |
| $\mathbf{5}$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at alıdifficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 3
Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
High water
Direction: Down bound
Barges: Loaded
Green River: No

Run \# 15
Date $\qquad$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | $\mathbf{4}$ | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 4. | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful | Neutral |  | Extremely <br> stressful |  |  |
| ---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project <br> Run Evaluation Form 

Pilot \# $\qquad$ Run \# 15
Date $\qquad$

Alignment: 1B
Clearance: 700
Secondary Channel:
Without existing bridges
High water
Direction: Down bound
Barges: Loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :---: |
| $\mathbf{5}$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 2 | 2 | 1 |  |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $2 \quad$ Run\# 16 Date
Bridge Configuration: Location 1 $\qquad$ Location 2 $\qquad$
Northbound $\qquad$ Southbound


Water Lever: High Flow

Day
 Night
$\qquad$ Loaded $\qquad$ Empty
$\qquad$
Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge
$\left.\begin{array}{|c|c|c|c|c|}\hline \begin{array}{l}\text { Extremely } \\ \text { Satisfactory }\end{array} & \begin{array}{c}\text { Satisfactory }\end{array} & \text { Neutral } & \text { Not satisfactory } & \begin{array}{l}\text { Not at all } \\ \text { satisfactory }\end{array} \\ \hline 5 & & 4 & 3 & 2\end{array}\right]$

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

$\qquad$
$\qquad$
6. Why or why not difficult?

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 0 | 4 | 3 | 2 | 1 |

## Additional Comments

RzaListic!

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 3
Run \#
 Bridge Configuration: Location 1 $\qquad$ Location 2
$\qquad$
$\qquad$
Northbound $\qquad$ Southbound $\qquad$ Water Lever: High Flow $\qquad$
$\qquad$ Loaded $\qquad$ Empty $\qquad$
$\qquad$

Night $\qquad$
Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | $\mathbf{4}$ | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \#
Bridge
Configuration
Run \#
 Location 2
Date $\qquad$ $7-10$

Bridge Configuration: Location 1 $\qquad$
$\qquad$
Northbound Southbound $x$

Day $\qquad$ Night $\qquad$ Water Lever: High Flow $x$ Pool $\qquad$ Loaded $\qquad$ Empty $>$

700
No/GR

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \#


Run \#


Date $7-10-17$ Bridge Configuration: Location 1 $\qquad$ Location 2 $\qquad$
Day X Night $\qquad$
Northbound $\qquad$ Southbound $\qquad$
Water Lever: High Flow

$\qquad$
Loaded


Wind: 25 MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 |  | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | Not at all safe |  |
|  |  |  |  |  |
| alequato |  |  |  |  |

6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $1 \quad$ Run\# 23-1 Date ㄱ.12-17
Alignment: 10 Clearance: 800 Secondary Channel: $x$
With or withoul existing bridges
Direction: Down bound Upbound
Green River: Yes or NO


Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |


| Wider Would be better but one wide span is adequate |
| :--- |

6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Low | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$ Run\# 23-1

Date $\qquad$ 12

Alignment: 10 Clearance: 800 Secondary Channel: $X$

With or without existing bridges
Direction. Down bound / Dpbound
Green River: Yes or NO

High water) Pool water
Barges: Empties/loaded $15-5$ acer

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$600 d$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 42 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | N) | Neutral | Not safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | Not at all safe |  |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

wide Spow bethe
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all stressfal |  |  | Neutral |  | Extremely stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (5) |  | 4 | 3 | 2 | 1 |

No Stress

## Additional Comments



## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$ Run\# 23-1
Date $\qquad$
Alignment: 10 Clearance: 800 Secondary Channel: $X$

With or without existing bridges
Direction: Down bound /abound
Green River: Yes or NO

High water / Pool water
Barges: Empties / loaded $15-$ Day Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :--- | :--- | :---: | :---: |
|  | 5 | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| ( 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| r-75 | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $7^{5}$ 2 | 4 | 3 | 2 | 1 |

Position of Braids in good Location
6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful e |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :---: | :---: | :---: | :---: | :--- |
| $\left(\mathrm{C}^{5}\right.$ |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 23-1 Date $\qquad$
Alignment: 10 Clearance: 80 Secondary Channel: $X$

With or without existing bridges
Direction: Down bound/ Unbound Green River: Yes or NO

High water/ Pool water
Barges: Empties loaded 15-Daer

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | 2 | $\mathbf{1}$ |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe (4) | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

## I-69 Bridge Project Run Evaluation Form

Pilot \# 3
Run\# 23-1 Date $\qquad$
Alignment: $1 \subset$ Clearance: $8<0$ Secondary Channel: $x$
With or withou existing bridges
Direction: Down bound Upbound


Green River: Yes or NO

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4.) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments

## I did like the $800^{\prime}$ spar

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ 2 Run \#23-1 Date $\qquad$
Alignment: 10 Clearance: 800 Secondary Channel: $x$

With or Withoy existing bridges
Direction Sown bound / Unbound
Green River: Yes or NO

High water / Pool water
Barges: Empties (loaded

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :--- | :--- | :--- | :--- |
| $\langle 子$ | 4 | $\mathbf{3}$ | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\ell 5$ |  |  |  |  |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe. | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $C$ CS | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $S(5)$ | 4 | 3 | 2 | 1 |

$\frac{\text { This location of Bridge with } 1800 \text { span is }}{g \text { gent }}$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $S<$ | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 |

$\qquad$


## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$ Run\# 23-1 $\qquad$
Alignment: 10 Clearance: 800 Secondary Channel: $X$

With or without existing bridges
Direction: Down bound Unbound
Green River: Yes or NO


Barges: Empties / loaded

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 |  | 3 | 2 | 1 |

If pier alignment is not adequate, why?
Good wide pies.

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

Good wide span versus ob l Burble
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| $\left.\begin{array}{l}\text { Not at all } \\ \text { stressful }\end{array}\right)$ |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

Additional Comments


## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$ Run\# 23-1 Date $7-12-17$

Alignment: 10 Clearance: 800 Secondary Channel: $X$

With or without existing bridges
Direction: Down bound Unbound
Green River: Yes or NO


Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
Apequate - wider bettor -
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |
| $800^{\prime}$ wide span at this location is good/safe - widen would be |  |  |  |  |
| better - must remove existing spans |  |  |  |  |

6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |
|  |  |  |  |  |
| Wider woud lessen difficu/ty |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful | Low 5 tress | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

single wide span at this locution is good

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 23-2

Date $7 / 12 / 2017$

Alignment: | C Clearance: 800 Secondary Channel:

With or without existing bridges
Direction: Down bound Unbound
Green River: Yes or NO

High watery Pool water
Barges: Empties faded

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 55 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $(5$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4．Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation？

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $5 ;$ | 4 | 3 | 2 | 1 |

Overall Safety
5．Why or why not overall safe？

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

Good width，good Location for passing with oth zR BRid立 york．

6．Why or why not difficult？

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7．Why or why not stressful？

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| $(5)$ |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 23-2 Date 7/12/20/7 Alignment: | Clearance: 800 Secondary Channel:

With or withoutexisting bridges
Direction: Down bound / Øpbound
Green River: Yes or NO

High watery Pool water
Barges: Empties / oaded $15-\mathrm{Ddy}$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
No problem meetuy-wider would be better
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

wide enough for tour to meet
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |
| Nor too difficult |  |  |  |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

Nor Tow Stressful

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 23-2 Date $7 / 12 / 2017$

Alignment: | C
Clearance: 800
Secondary Channel:

With or without existing bridges
Direction: Down bound Upbound
Green River: Yes or NO

High watery Pool water


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Noutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4) | 3 | 1 |  |
| W0 obstructions.s |  |  |  |  |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4$ | 3 | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

Snue

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| $(5)$ |  | Neutral |  | Extremely <br> stressful |

```
NO STNeSS
```


## Additional Comments

Wide vepsus Imall

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Rum 1 23-2 Date $7 / 12 / 20 / 7$

Alignment: | Clearance: 800 Secondary Channel:

With or without existing bridges
Direction: Down bound/ Upbound
Green River: Yes or NO

High watery Pool water


1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

Had plenty of room in $800^{\circ}$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :---: | :---: | :---: | :---: | :---: |
| (5) |  | 4 | 3 | 2 | 1 |
| plenty of room $800^{\prime}$ |  |  |  |  |  |

Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 23-2 Date 7/12/20/7

Alignment: | Clearance: 800 Secondary Channel:

With or without existing bridges
Direction Down bound / Upbound
Green River: Yes or NO

High watery Pool water
Barges:Empties /loaded $15-$ Dou

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
wider span wruld be safer
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

wider would be safer but this was adequate
6. Why or why not difficult?

| Not at all difficult | Neutral | Extremely difficult |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :--- | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

Nor too stressful

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Rum $423-2$
Date $7 \mid 12 / 2017$
Alignment: $\| \mathrm{C} \quad$ Clearance: $800 \quad$ Secondary Channel:

With or without existing bridges
Direction: Down bound /Upbound
Green River: Yes or NO

High watery Pool water
Barges: Empties loaded $5-b$ ay

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

If "stera-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | N | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |



## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 | 5 | 4 | 3 | 2 | 1 |



## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 23-2 Date $7 / 12 / 2017$
Alignment: $\mid C \quad$ Clearance: 800 Secondary Channel:
With or without existing bridges
Direction: Down bound Upbound

High watery Pool water
Barges: Empties loaded 15-10 ay

Green River: Yes or NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stera-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | Not at all safe |  |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$

Additional Comments
plenty of Room in $800^{\circ}$

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 2
Run\# 23-2 Date $7 / 12 / 2017$
Alignment: | C Clearance: 800 Secondary Channel:

With r without existing bridges
Direction: Down bound/ Upbound Green River: Yes or

High watery Pool water
Barges.Empties /loaded 15-Doy

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 25 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  |  |  |  |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremelysafe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 2 | 2 | 1 |

This location a width Safe for minting within side if Hind ito
6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?


## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 34
Date $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Up bound
Barges: Empties
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 | Good Pres p/iqumoit For Slippy up.

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

Good Easy steen

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ 3
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Up bound
Barges: Empties
Green River: No

Run \# 34
Date $\qquad$
Date


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4.$)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ 1

Run \# 34
Date $7-11-17$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Up bound
Barges: Empties
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 | $(3)$ | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\frac{\text { North wind caused hard set to stbd-close on }}{\text { stbd stern to pier }}$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 | wide would have been better/safer

6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

Stress Level
7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | $(2)$ | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\#


Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Up bound
Barges: Empties
Green River: No

Run \# 34
Date $\qquad$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $((3)$ | 2 | 1 |

If maneuvering room is not adequate, why?
with he wind of mTs Kinden tight
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :--- | :--- |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

with the High wind ${ }^{\text {t }}$ of mos Kinda tight
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | -4 | $(3)$ | 2 | 1 |

## Additional Comments

$\xrightarrow{\substack{\text { Additional Comments } \\ \text { Med } \\ \mathrm{t}_{6} \mathrm{H}_{0} \text { ld } \\ \text { up } \\ \text { a lo }}}$

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ 4

Run \# 35
Date 1-11
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Down bound
Barges: loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 4 | $(3)$ | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

should have Envecge tue Io get shaped ep
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project <br> Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Down bound
Barges: loaded
Green River: No

Run \# 35
Date $\qquad$
$\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
Por pool water $\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | 4 | -3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Noutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | 3 | $(4)$ | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5 . Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

To chose To point; was still sliding when gof close
to bridge
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |
| no problems A+ pool |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Down bound
Barges: loaded
Green River: No

Date $7 / 11 / 17$
$\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |


2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |



## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

Don't wout to cross center pier
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 4 |  | 3 |  | 2 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful  Neutral  Extremely <br> stressful <br> 5 4 3) 2 1 |
| :--- |
| Nor laad |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 3
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Down bound
Barges: loaded
Green River: No
Date $\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 2 $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Down bound
Barges: loaded
Green River: NO

Run \# 35-1
Date $\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 ) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4. | 3 | 3 | 2 |

 this span

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | $(4)$ | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

alternate span much eases to plo

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ 1
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Down bound
Barges: loaded
Green River: NO

Run \#35-1
Date 7.11.17

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 4 | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
better running nortlasjan

## Vessel Controllability

3. Thad adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $4!$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |
| Muchletter runminy wisth span |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 |  | 3 | 2 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ Run \# 35-1
Date $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Down bound
Barges: loaded
Green River: NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not af all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
Good iliquit of fieks To Shine of Riven

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | (9) | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | Not at all safe |  |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |



## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :--- | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project <br> Run Evaluation Form 

Pilot \# 3 3
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
Pool water
Direction: Down bound
Barges: loaded
Green River: NO

Run \# 35-1
Date $\qquad$

## Circle the number that best describes the rum just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $\mathbf{3}$ | $\mathbf{2}$ | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 |  | 3 | 2 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 39
Date $1-11$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | -4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
Preks nligmeit 6oo d

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 2 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral $_{2}$ | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |
| shroo /d Be Olay fun Eperencep Peloto |  |  |  |  |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 1 |  |  |
| Clear Budpe (Now) then Crossij oner |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 39
Date $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project <br> Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: loaded
Green River: No

Run \# 39
Date $\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
would net Run this span unless I Had too.
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $\boxed{3})$ | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $\mathbb{3}$ | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

Not a wise desc. to make that span siB in Running
water
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 | current tried to sat down on Right pirn

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | Extremely <br> stressful |  |

Additional Comments
Hov loot Have 25 LD's in High water

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 1
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: loaded
Green River: No

Run\#39
Date $7-11-17$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |


2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 |  | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |



## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

Do-able but not as safe as running
right -span
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | (2) | 1 |

stressful to cross center pier in high water

Additional Comments


# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: loaded
Green River: No

Run \# 39 - 1

Date $\qquad$ $7-11$ -

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| $\mathbf{5}$ | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 39- -
Date $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 39 -
Date $7-11-17$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |


| If pier alignment is not adequate, why? |
| :--- |
| had to come around corner close to point for proper aligua- |
| ment with North spen (right bank) |

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | $\mathbf{1}$ |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

wider span on North aloghment would be safer
6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $\mathbf{4})$ | 2 | 1 |  |
| not too difficult if you set up early |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful | Neutral |  | Extremely <br> stressful |  |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | $(3)$ | 2 | 1 |

$\qquad$
much less stress twit oh am running left to span

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \#
Run \# 39 -
Date $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: loaded
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $(4)$ | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | 3 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $((4)$ | 3 | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

Right span A lot easier to Run thaw channel spans ib
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 5 | $(2)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Additional Comments
Right sids spmrjnd problems.

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 40
Date $7-11-17$

Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: Empties
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| $\mathbf{5}$ |  | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
widen woullbe better

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |



## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$$
\text { barely safe for } 25 \text { mtys in high wind }
$$

6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |
| must pay attention + plan ached |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ 4
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: Empties
Green River: No

Run \# 40
Date $\qquad$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | 4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$$
\begin{aligned}
& \text { Would have To Keep pointed ip To Right Hinud Pren } \\
& \text { Fon new PiLoTs }
\end{aligned}
$$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful  Neutral  Extremely <br> stressful <br> 5  4 3 2 |
| :--- |
| Pien Rlige mont Trhe off sThess |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 40
Date $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: Empties
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4$, | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers


If "stern-room" was inadequate, why?
I" "stern-room" was inadequate, why?
Would RuN AlteRNATE SPAN NORmally

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $\boxed{3}$ | 2 | 1 |  |

Would nil Run channel span with those conditions unless fad too
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 23 | 2 | 1 |

Additional Comments
Altar $\operatorname{sintz}$ Sn N Best choice.

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 3
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: Empties
Green River: No

Run \# 40
Date $\qquad$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| ---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | (3) | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 2 Run \# 40-1 Bridge Configuration: Location 1 $\qquad$ Location 2 $\times A$ $\qquad$ $7 / 11 / 17$ 6001606
NO GR
Northbound $\qquad$ Southbound $X$ Day $X$ Night $\qquad$
Water Lever: High Flow $\qquad$
$\qquad$ Loaded $\qquad$ Empty $\qquad$ Wind: 25 MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge
$\left.\begin{array}{|c|c|l|c|c|}\hline \begin{array}{l}\text { Extremely } \\ \text { Satisfactory }\end{array} & \text { Satisfactory } & \text { Neutral } & \text { Not satisfactory } & \begin{array}{l}\text { Not at all } \\ \text { satisfactory }\end{array} \\ \hline 5 & 4 & \text { (2) } & 3 & 2\end{array}\right]$

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |  |
| :---: | :--- | :--- | :--- | :--- | :---: |
| 5 | 4 | (1) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
Wish winds with pis Had to Kep HishPcir)

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 2 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

Cauls down on Room with wind Blowing that Hart
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

High winds 25 mist thigh waler

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful | $\ldots$. |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (C) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 



Northbound $\qquad$ Southbound $X$ Water Lever: High Flow $\qquad$ Pool $\qquad$ Loaded $\qquad$ Empty

Day X Night $\qquad$
Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 



## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

If pier alignment is not adequate, why?


Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :--- |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?
$y$-Ten $100^{\prime}$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | Not at all safe |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |  |
| :---: | :--- | :--- | :--- | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$$
\text { Goed steen shene out Point }+ \text { shone }
$$

6. Why or why not difficult?

| Not at all difficult C) Neutral  Extremely difficult <br> 5 4 2 1  <br> Good STeRe~     |
| :--- |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

$\qquad$

# I-69 Bridge Project Run Evaluation Form 


Northbound $\qquad$ Southbound $X$ Water Lever: High Flow $\qquad$
Day X Night $\qquad$

Loaded $\qquad$ Empty

Wind: 25MPH Direction 000

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

No

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$$
\begin{aligned}
& \text { have to get lots of 'point to right to make } \\
& \text { successful passage }
\end{aligned}
$$

6. Why or why not difficult?

| Not at all difficult | 4 | Neutral | 3 | 2 |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | Extremely difficult |  |  |
| wider span better |  |  |  |  |

## Stress Level

7. Why or why not stressful?


## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 44
Date $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: Empties
Green River: Yes

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :--- | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

To much wind coming out of Green River
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\mathbf{4}$ | 3 | (2) | $\mathbf{1}$ |

To much wind coming out of Green River

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: Empties
Green River: Yes
Run \# 44
Date $\qquad$ Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | $(1)$ |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | 4 | 3 | 2 |  |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | $(1)$ |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral. | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at allsafe |
| :---: | :---: | :---: | :---: | :---: |
| 5. | 3 | 2 | 1 |  |
| Wincl |  |  |  |  |

6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

$\qquad$

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 1
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: Empties
Green River: Yes
25 mph wind

Run \# 44
Date 7-11-17

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why? $\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
NA

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at allsafe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

NOT - NS Room in VIND
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 5 | 4 | 3 | 2 |  |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$
Alignment: 2A
Clearance: 600
Secondary Channel: 600
With existing bridges
High water
Direction: Down bound
Barges: Empties
Green River: Yes
$\qquad$
Date

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\square$

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If "stern-room" was inadequate, why?
Due To wind weebed mowe stenn Riom

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 | ExTneme Wind miny weed mone Roow.

6. Why or why not difficult?

| Not at all difficult 4 Neutral  Extremelyd difficult <br> 5 3 2 1  <br> bue To Wind muy be difficult     |
| :--- |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :--- | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 3
Run\# 44-1 Date $\qquad$
Alignment: 2A Clearance: 600 Secondary Channel: 600
With) or without existing bridges
(1igh water Pool water
Direction: Down bound Upbound
Barges:Empties) / loaded
Green River-Yes or NO

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 |  | 3 | Not at all safe |  |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :--- | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$ Run \# 44-1

Date $\qquad$
Alignment: 24 Clearance: 600 Secondary Channel: 600
With or without existing bridges
Direction Down bound/ Unbound


Green Rive Yes or NO

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | -4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

Shoved up High to give myself plenty of Room

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | $\langle 4)$ | 3 | 2 | 1 |

Additional Comments
shows up a Li He High T6 make sure Had Enough
Rom To get TuRned Around ot lined up for Bridge.

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 44-1
Date $7-11$
Alignment: 2A Clearance: 600 Secondary Channel: 600
With) or without existing bridges
Direction: Sown bound/ Unbound


Green River: Yes or NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| $\mathbf{5}$ | 4 |  | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | -3. | 2 | 1 |

If pier alignment is not adequate, why?
Den Rlignnent Good

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ |  | 4 | 3 | 2 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (3) | 2 | 1 |  |
| STenn Roorn | (3) |  |  |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :--- | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

## I-69 Bridge Project Run Evaluation Form

Pilot\# 1
Run\# 44-1 Date $7-11$-17
Alignment: $2-A$ Clearance: 600 Secondary Channel: 600

With or without existing bridges
Direction Down bound / Upbound

High water Pool water
Barges: Empties / loaded

Green Rive: Yes or NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :--- | :--- | :--- | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\mathbf{3}$ | $\mathbf{2}$ | 1 |
| not much room at all |  |  |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful   Neutral  Extremely <br> stressful <br> $\mathbf{5}$  4 3 2 1 |
| :--- |
| have to be on your 'A'game to make it safely |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

$\qquad$ Run\# 44-2 Date $\qquad$
Alignment: 2 A Clearance: 600 Secondary Channel: 600

With or without existing bridges
Direction Down bound Upbound
Green River Yes or NO

High water Pool water
Barges. Empties loaded 15

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely_safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments

## I-69 Bridge Project Run Evaluation Form

Pilot \#
 Run \# 44-2 Date $\qquad$
Alignment: 2 A Clearance: 600 Secondary Channel: 600

With or without existing bridges
Direction Down bound Unbound
Green River Yes or NO

High water Pool water
Barges: Empties / loaded 15

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| $\mathbf{5}$ | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
6. Why or why not difficult?

| Not at all difficult | (C) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 | $C$ | 4 | 3 | 2 | 1 |

Additional Comments
No problems at all getting in mouth of GREEn.

## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$ 1 Run \# 44-2

Date $\qquad$
Alignment: 2 A Clearance: 600 Secondary Channel: 600

With or without existing bridges
Direction: Down bound/ Unbound
Green River Yes or NO

High water/ Pool water
Barges. Empties loaded 15

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge
$\left.\begin{array}{|c|c|c|c|l|}\hline \begin{array}{l}\text { Extremely } \\ \text { Satisfactory }\end{array} & \text { Satisfactory } & \text { Neutral } & \text { Not satisfactory } & \begin{array}{l}\text { Not at all } \\ \text { satisfactory }\end{array} \\ \hline(5\end{array}\right)$

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $3)$ | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?


## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 44-2 Date $\qquad$ $1-11$

Alignment: 2-A Clearance: 600 Secondary Channel: 600

With or without existing bridges
Direction: Down bound Unbound
Green River Yes or NO


Barges: Empties/ loaded 15

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| $\mathbf{5}$ | - | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

Plenty of Room
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 64
Date $1-11$
Alignment: 2C
Clearance: 700
Secondary Channel:
With existing bridges
High water
Direction: Down bound
Barges: empties
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | -4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |
| Did nat Pir rethentiun To Wind wile Span |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :--- | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

$\qquad$

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 64
Date $7-11-17$
Alignment: 2C
Clearance: 700
Secondary Channel:
With existing bridges
High water
Direction: Down bound
Barges: empties
Green River: No

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 | 3 | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 |



## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\frac{700^{\prime} \text { span is good - would be be tteron NORTH }}{(\text { right }) \text { side }}$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |
| wider is be ter |  |  |  |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all stressful |  |  | Neutral |  |  | Extremely stressful |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) |  | 3 | 2 | , |
|  | - | Not | BAD | - |  |  |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ 3
Alignment: 2C
Clearance: 700
Secondary Channel:
With existing bridges
High water
Direction: Down bound
Barges: empties
Green River: No

Run \# 64
Date $\qquad$ Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $\mathbf{5}$ | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\#2
Run \# 64
Date $\qquad$
Alignment: 2C
Clearance: 700
Secondary Channel:
With existing bridges
High water
Direction: Down bound
Barges: empties
Green River: No

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :--- | :--- | :--- | :--- |
| 5 |  | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\boxed{4}$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 2. | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$
$\square$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 5 | $2 \quad$ | 4 | 3 | 2 | 1 |

Additional Comments


# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#64-1
Date $\qquad$
Alignment: 2 C Clearance: 700 Secondary Channel: 500

With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes or

## High water / Pool water

Barges: Empties/ loaded


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | B. Le le | 2) | 1 |

If maneuvering room is not adequate, why? 100 FT. More Nopnow Need more loon
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | (2) | 1 |

If "stern-room" was inadequate, why?
Tight on heft pion

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | $(2)$ | 1 |

II could ton in Axponver Plat

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | $(2)$ | 1 |

$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 1 | 1 |

NERNOW In SPAN

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

100' move WHMNOW

Additional Comments
Weed the Bytun 100 FT,

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 1
Run \# 64~1
Date $\qquad$
Alignment: 2 C Clearance: 700 Secondary Channel: 500
With or without existing bridges
Direction: Down bound / Upbound
High water / Pool water
Barges: Empties/ loaded


Green River: Yes or NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

| It maneuvering room is not adequate, why? |
| :--- |
| $100^{\prime}$ les's room in span made big difference with |
| Cross wind |

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If pier alignment is not adequate, why?

$$
\begin{aligned}
& \text { alignment of piers of- } \\
& \text { span width Not adequate }
\end{aligned}
$$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | $(2)$ | 1 |

> too narrow for safe trait with this tow and prevailing conditions
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |
| very little margin for error |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 64~1 Date $\qquad$
Alignment: 2 C Clearance: 700 Secondary Channel: 500

With or without existing bridges
Direction: Down bound / Unbound
Green River: Yes or

High water / Pool water
Barges: Empties/ loaded

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 |  | $\square$ | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | 4 | $a^{2}$ | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | ---: | :--- | :---: |
| 5 | 4 | $(3) \quad$ ( | 2 | 1 |

If "stern-room" was inadequate, why?
Not wide Enough with Conditions

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | (1) | 2 |

Not wide Enough with Conditions
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | B) 0 | 2 | 1 |

## Additional Comments

Channel span much EasieR to make with these conditions

## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$

Run \# 64~1 Date $\qquad$
Alignment: 2 C Clearance: 700
Secondary Channel: 500
With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes or NO

High wate- / Pool water
Barges: Empties// loaded

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 |  | 3 | $(2)$ | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | $(2)$ | 1 |

If "stern-room" was inadequate, why?
Not wide enough

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | $(2)$ | 1 |
| Not enough Room |  |  |  |  |

6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | $(2)$ | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | (2) | 1 |

wind - Tow size

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#64-700 Nate $\qquad$
i-14
Alignment: 21 Clearance: 700 $\qquad$
With or without existing bridges

High mater / Pool water
Barges: Empties loaded
10 mpH

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3. |  | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3) | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

NOT good For passing

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |


6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\square$

Additional Comments


# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#64-700 Date $\qquad$
Alignment: 21 Clearance: 700
With or without existing bridges
Direction: Down bound Upbound
Green River: Yes or NO


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | $\ldots$ | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ 1 Run \#64-700 Date _7-14
ne: 700 Secondary Channel)

With or without existing bridges
Barges (Empties /loaded ${ }^{2}$ )
Green River: Yes or NO

High water / Pool water
10 MPH

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | $C 2$ | 1 |

If maneuvering room is not adequate, why?
$\frac{\text { NoT w. DE savigh for } 2 \text { tows }}{\text { to meet in bridge }}$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If pier alignment is not adequate, why? adequate for 1 tow on l

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 3 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

No obstruct ron to At os

## Overall Safety

5. Why or why not overall safe?

6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | $(3)$ | 2 | 1 |

Additional Comments
1 way Fraffec

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#64-700 Nate $\qquad$
Alignment: 2 I Clearance: 700 Secondary Channel
With or without existing bridges
Direction: down bound / Unbound
Green River: Yes or NO

High water / Pool water
Barges: Empties / loaded


10 mpH

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $<4$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | 44 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $\mathbf{3}$ | $\mathbf{3}$ | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $\ldots 5$ | 3 | 2 | 1 |  | if wind was Higher $700^{\prime}$ span would be tight with $25 \mathrm{mpt} / 5$

6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :--- | :--- | :---: |
| 5 | 3 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  |  | 4 | 3 | 2 |

$\qquad$
$\qquad$

## Additional Comments

## I-69 Bridge Project Run Evaluation Form

Pilot\# 3 Run \#64-700 Nate $\qquad$
Alignment: 2 I Clearance: 700 Secondary Channel.
With or without existing bridges
Direction Down bound/ Unbound
Green River: Yes or NO


$$
10 \mathrm{mpH}
$$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

wide span
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (5) |  | 4 | 3 | 2 | 1 |

wide span
would not in span

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#64-700 Nate $\qquad$
Alignment: $2 \perp$ Clearance: 700
With or without existing bridges
Direction: Down bound <Unbound
Green River: Yes or NO


Barges: Empties loaded
15

$$
10 \text { MPH }
$$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| $<5$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| $(65$ | 4 | 3 | 2 | 1 |

$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| $(5$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at alledifficult | Neutral | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 3 | 2 | 1 |
| DN Not HAVZ to WAIf LONg |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| $(5)$ |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
 A good spot on not long

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\#64-700 Date $\qquad$
Alignment: 21 Clearance: 700
With or without existing bridges


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| $\mathbf{5}$ | Q | $\mathbf{3}$ | 2 | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## 6ood

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | A | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 2. |  | 1 |  |

Wet Good Fon Tow 's Prssuy.
Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral | $\cdots$ | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |
|  |  |  |  |  |
| wet bood Fow possy tower $200^{\prime}$ |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |



## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#64-700N Date $7-14$
nance: 700 Secondary Channel.
With or without existing bridges
Direction: Down bound / (Unbound)
Green River: Yes or NO


Barges: Empties /(loaded) /S

$$
10 \mathrm{MPH}
$$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why? $\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
OK if nor passing situation

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
? Ok for I tow only

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2. | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3. | 2 | 1 |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all stressful |  | Neutral |  | Extremely stressful |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $3)$ | 2 | 1 |



Pilot \# $\qquad$

## I-69 Bridge Project

 Run Evaluation FormAlignment: 2D Clearance: 800
Alignment: 2D Clearance: 800
With) or without existing bridges
Direction: Down bound $D$ Unbound Run\# 75-×1 Date 7-12-2017

Secondary Channel: -
Day
High watery Pool water
Barges: Empties loaded
Green River: Yes or

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 4 | 3 | 2 | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | Not at all safe |  |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | $(3)$ | 2 | 1 |

Would nat Iypically meat in Bradye
Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 2
Run\# 75-\#゙| Date 7-12-2017
Alignment: 2D Clearance: 800
Secondary Channel: -
Day
With) or without existing bridges
Direction: Down bound Upbound


Green River: Yes or

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | $(3)$ | 2 | 1 |

If maneuvering room is not adequate, why? under Rent situation would Have slowed down A LitHE to wet mart in Bridge
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 |  | (4) | $\mathbf{3}$ | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4>$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

Easier to judt slow down for a few minotes
6. Why or why not difficult?

| Not at all difficult |  | Neutrap |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral <br> 5 | $\ldots$ | $-(3)$ |
| :---: | :---: | :---: | :---: | :---: | :---: |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 75-1 Date 7-12-2017

Alignment: 2D Clearance: 800
Withor without existing bridges
Direction: Down bound $<$ Upbound


Green River: Yes or

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?

$$
\begin{aligned}
& \text { euvering room is not adequate, why? } \\
& \text { widen would have been better }
\end{aligned}
$$

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 75-×1 Date $7-12-2017$ Alignment: $2 D \quad$ Clearance: 800

With) or without existing bridges
Direction (Down bound/ Upbound Secondary Channel: -

Day
High watery Pool water
Barges: Empties loaded 15
Green River: Yes or

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

Additional Comments
like the $2600^{\circ}$

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 75-1 Date 7-12

Alignment: $2 D$
Clearance: 800
With or without existing bridges
Direction: Down bound Unbound
Secondary Channel: -

Green River: Yes of NO


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ |  | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Alignment Good

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
ABD Enlouqu Room

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

IN my opinion NO

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| $(5)$ |  | 4 | 3 | 2 | 1 |

Compound To $600^{\circ}$ no stress, bat ul 600 2-spume- mon optorns

Additional Comments


# I-69 Bridge Project Run Evaluation Form 



Alignment: 20
Clearance: 800 Secondary Channel: —
 With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes of NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

wider would be safer
two tows were able to meet in bridge
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful  Nor Neutral  Extremely <br> stressful <br> $\mathbf{5}$  4) $\mathbf{3}$ $\mathbf{2}$ 1 |
| :--- |
| Not very Stressful |



## I-69 Bridge Project Run Evaluation Form

$\qquad$ Run\# 75-1 Date $\qquad$
Alignment: 2 D Clearance: 800
Secondary Channel:
-


With or without existing bridges


Direction: Down bound Upbound


Green River: Yes of NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why ot why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

Additional Comments


# I-69 Bridge Project Run Evaluation Form 

Run\# 75-1 Date $\qquad$
Alignment: 20
Clearance: 800
Secondary Channel: -
With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes of NO


Barges: Empties loaded

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | -3 | 2 | 1 |

If maneuvering room is not adequate, why? Doable but not safe meeting Boat in span $800^{\circ}$ with Conditions
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $Q^{3}$ | 2 | 1 |

Not safe in these conditions
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

water Running; wind; met Bon- in Bridge.

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral <br> 5 |  | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |

## Additional Comments <br> would Rather Have 2 poo' foot spans Rather than ont ROO'span

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 75-2 Date $7-12-2017$

Alignment: 20 Clearance: 800 Secondary Channel: -

With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes or NO


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

wider span would be safer
6. Why or why not difficult?

| Not at all difficult | N | Neutral |  | Extremely difficult |
| :---: | :---: | :--- | :--- | :---: |
| 5 | 4 | 3 | 2 | 1 |
| not very difficult |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful   Neutral  Extremely <br> stressful <br> 5  4 3 2 1 |
| :--- |
| low stress |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 75-2 Date 7-12-2017
Alignment: 20 Clearance: 800 Secondary Channel:
With pl without existing bridges
High water Pool water
Direction: Down bound/Upbound
Barges: Empties /loaded) 15
Green River: Yes oo


Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | 4) | $\mathbf{3}$ | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
Pen klignment Good

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments



# I-69 Bridge Project <br> Run Evaluation Form 

Pilot \# $\qquad$ Rum 4 75-2
Date $7-12-2017$
Alignment: 20 Clearance: 800 Secondary Channel:


Direction: Down bound Upbound
Green River: Yes or NO


Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult | N | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot\# 1 Run\# 75-2 Date 7-12-2017
Alignment: 20 Clearance: 800 Secondary Channel: -

With 0. without existing bridges
Direction: Down bound / Ypbound

High water $D$ Pool water
Barges: Empties / faded
$15 J A Y$

Green River: Yes 1 NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

Low stress

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

$\qquad$ Run\# 75-2 Date 7-12-2017

Alignment: 20 Clearance: 800 Secondary Channel: -
With 0) without existing bridges
Direction. Down bound Upbound


Green River: Yes 8 r NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 |

Span was plenty wide

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ Run\# 75-2
Date $7-12-2017$
Alignment: 20 Clearance: 800 Secondary Channel: -

With without existing bridges
Direction. Down bound/ Unbound
Green River: Yes NO


Circle the number that best describes the ran just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :--- | :--- | :---: | :---: |
| 5 | -4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | $\mathbb{Z}$ | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | $(0)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Additional Comments
CAN manvanir mes SIB EASER than LoAdS

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 75-2 Date
7-12-2017
Alignment: 20 Clearance: 800 Secondary Channel:

With without existing bridges
Direction: Down bound Upbound Green River: Yes or


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\left(4^{\circ}\right)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | $\ldots$ | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |
| :--- | :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot\# 2
Run \#75-2 Date 7'12-2017
Alignment: 20 Clearance: 800 Secondary Channel: -
With ) without existing bridges
High water Pool water
Direction: Down bound Upbound
Barges: Empties /raced
Green River: Yes (1O

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
Easier To Hold LoAns STEAdy rub
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | 4 | $\mathbf{3}$ | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| $\mathbf{5}$ | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 2 | 1 |  |
| EnSy to Hold Londs stendy N/B |  |  |  |  |

6. Why or why not difficalt?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | $\square$ | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\#75-3
Date $7 / 12 / 2017$
Alignment: $2 D$ Clearance: 800 Secondary Channel:

With or without existing bridges
Direction: Down bound Upbound
Green River: Yes orNO

Barges: Empties loaded

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe Safe Neutral Not safe Not at all safe <br> 5  3 2 1 |
| :--- |
| Wider is safer |

6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |
| low difficulty |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful  Neutral Extremely <br> stressful   <br> 5  4 3 2 1 |
| :--- |
| Low StresS |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#75-3
Date $7 / 12 / 2017$
Alignment: 2 D Clearance: 800 Secondary Channel:

With or without existing bridges
Direction: Down bound / Unbound Green River: Yes or NO


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :---: | :--- | :--- | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\square$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | ? | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 3 | 2 | Not at all safe |


6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :--- | :---: | :--- | :--- | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 




Alignment: 21 Clearance: 800 Secondary Channel:

With or without existing bridges
Direction: Down bound / pound
Green River: Yes or

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

easily doable with these conditions
6. Why ot why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral | Extremely <br> stressful |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 5 |  |  | 2 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#75-3 Date $7 / 12 / 2017$

Alignment: 2 D Clearance: 800 Secondary Channel:

With or without existing bridges
Direction Down bound Unbound
Green River: Yes or


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :--- | :--- | :--- | :--- |
| 5 | (4) | 3 | 2 | Not at all safe |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe (4) | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |
| plenty of Room |  |  |  |  |

6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 700N-1
Date 7-13-2017
Alignment: 2 H Clearance: 700 Secondary Channel: 500

With or without existing bridges
Direction: Down bound / Unbound
Green River: Yes or NO


Barges: Empties / loaded $15-D A 4$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 6 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | N | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | Not at all safe |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (5) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) | 3 | 2 | 1 |

abit of stress due to pilot error

Additional Comments
Comments
Did FALC to left as much as expected with loads

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# $700 \mathrm{~N}-1$
Date $7-13-2017$
Alignment: 24 Clearance: 700 Secondary Channel: 506

With or without existing bridges
Direction Down bound Upbound
Green River: Yes or NO

High water Pool water
Barges: Empties / Coded $15-D_{A}$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $3 \wedge 1$ | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | $(3)$ | 2 | 1 |

$\qquad$

## Additional Comments

## would not meet in this span in ReAl its

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# $700 \mathrm{~N}-1$
Date 7-13-2017
Alignment: 2 H Clearance: 700 Secondary Channel: 506

With or without existing bridges
Direction: Down bound Unbound
Green River: Yes of NO


Barges: Empties'/ loaded $15-$ DAy

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

| $800^{\prime}$ would Be Welty |
| :--- |
| 2. The pier alignment is adequate for maneuvering under the bridge |
| Extremely <br> Satisfactory Satisfactory Neutral Not satisfactory Not at all <br> satisfactory <br> 5 4 3 2 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the-piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | ( $)$ | Neutral | Not safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | Not at all safe |  |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | C3 | 2 | 1 |  |
| $100^{\prime}$ meree Room |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot\# $3 \quad$ Run\# 700N-1 Date 7-13-2017
Alignment: 2 H Clearance: 700 Secondary Channel: 506

With or without existing bridges
Direction: Down bound Unbound

 Green River: Yes or NO

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | $(2)$ | 1 |

Not enough of Room
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2) | 1 |  |  |  |  |  |
| 11 |  |  |  |  |  |  | 11 | 11 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | $(3)$ | 2 | 1 |

$\qquad$

Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#700N-1 Date 7-13-2017
Alignment: 2 H Clearance: 700 Secondary Channel: 506

With or without existing bridges
Direction:(Down bound/ Upbound
Green River: Yes or NO

High water Pool water
Barges: Empties loaded $15-$ DAy

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

Not enough Room
6. Why or why not difficult?

| Not at all difficult | 4 | Neutral | (2) | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 1 |  |  |
| Not enough Room |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | $(3)$ | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# $700 \mathrm{~N}-1$
Date $7-13-2017$
Alignment: 24 Clearance: 700 Secondary Channel: 500
With or without existing bridges


Green River: Yes of NO


## Circle the number that best describes the ran just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 |  | 3 | 2 |

If maneuvering room is not adequate, why?
adequate room
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\ldots$ | 4 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | Neutral | Not safe | Not at all safe |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\square 4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |
| sate- ous tow would use North span? |  |  |  |  |

6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project <br> Run Evaluation Form 

Pilot \# $\qquad$ Rem 4 Too - 1
Date 7-13-201
Alignment: 2 H Clearance: 700 Secondary Channel: 506

With or without existing bridges
Direction: Down bound/ Upbound

Barges: Empties loaded $15-$ DAy

## High water Pool water

 Green River: Yes or NO
## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
wed hell Pion meal en shout 100 l

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 |  | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $3)$ | 2 | 1 |

Left fien
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |  |



## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |



## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ Run\# $700 \mathrm{~N}-1$

Date 7-13-2017
Alignment: 2 H
Clearance:
700
Secondary Channel: 506
With r without existing bridges
Direction: Down bound Unbound

High water Pool water
Barges. Empties/ loaded $15-D_{A}$

Green River: Yes of

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 23 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $\ldots 4$ | $(3)$ | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral $_{\text {, }}$ | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | $C 3$ | 1 |  |

## Additional Comments

would not megt in RGAL life situation

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#700N-2 Date $7 / 13 / 2017$

Alignment: $2 H$
Clearance 700 Secondary Channel: 500

With or without existing bridges
Direction: Down bound Unbound Green River: Yes on NO

High water / Pool water
Barges: Empties loaded $15-D A y$
10 mph wind

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
Had Enough Al s.

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |



## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |
| Leff clecendy Reẽ. |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#700N-2
Date $\frac{7 / 13 / 201}{\text { deary Channel: } 500}$
Alignment: $2 H$
Clearance 700

With or without existing bridges
Direction: Down bound Upbound
Green River: Yes of NO


10 mph wind

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If pier alignment is not adequate, why? Needs more Room Not wide enough

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $\ldots$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Not wide enough

6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressfal |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

pilot\# $\qquad$ Run 7 IoN- 2 Date 7/13/2017
Alignment: $2 H$ Clearance 700 Secondary Channel: 500

With) or without existing bridges
Direction: Down bound/ Unbound
Green River: Yes of NO

High water / Pool water
Barges: Emptieg/loaded $15-D A y$
10 mph wind

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $<4$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4$ | 4 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | Neutral | Not safe | Not at all safe |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $($ (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Not safe | Not at all safe |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ Run f700N-2 Date 7/13/2017

Alignment: 2 H Clearance 700 Secondary Channel: 500 With or without existing bridges
Direction:(Down bound $D$ Unbound
Green River: Yes of NO


15-DAY
10 mph wind

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :---: | :--- | :--- | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | -4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Not safe | Not at all safe |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | $\frac{\text { Neutral }}{2}$ | Not | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

widen would be better for tows to meetim span
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |
| Not too difficult |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | $\ldots$ | 2 | 1 |

minimal stress

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 3
Run \#700N-2
Date $7 / 13 / 2017$
Alignment: 2 H
Clearance 700 Secondary Channel: 500

(High water / Pool water

15 - DAY
10 mph wind

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |

Not
enough Room
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | (3) | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3) | 2 | 1 |

Not enough Room not wide enough

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# $700 \mathrm{~N}-2$ Date $7 / 13 / 2017$
Alignment: $2 H$ Clearance 700 Secondary Channel: 500

With or without existing bridges
Direction: Down bound Unbound
Green River: Yes of NO


Barges: Empties / (oaded

15 - DAY
10 mph wind

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | Not at all safe |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Notral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |
| :--- | :---: | :---: | :---: | :---: |
| 5 | ( | 3 | 2 | 1 |
| Lowstress |  |  |  |  |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#700N-2 Date $7 / 13 / 2017$
Alignment: $2 H$ Clearance 700 Secondary Channel: 500
With) or without existing bridges
Direction: Down bound / Unbound
(High water) / Pool water
Barges: Empties 1 loaded $15-D A Y$
Green River: Yes of NO
10 mph wind

Circle the number that best describes the run just completed.

1. Thad adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :--- | :--- | :--- | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | Not at all safe |  |  |
| 5 | (4) | 3 | 1 |  |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | $(3 ;$ | 2 | 1 |

would not mast in Bridge in Real hits
6. Why or why not difficult?

| Not at all difficult | Neutral |  |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | $(4)$ | 3 | 2 | 1 |

## Additional Comments

with only $200^{\circ}$ wold not meet in Bridge in ken situation

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \#700N-2
Date $7 / 13 / 20$
Alignment: $2 H$ Clearance 700 Secondary Channel: 500

With) or without existing bridges
Direction. Down bound $l$ Unbound
Green River: Yes on NO
(High water / Pool water
Barges: $15-D A y$
10 mph wind

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
Good For this Scenant

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult | 4 | Neutral | 3 | 2 |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | Extremely difficult |  |  |
| $700^{\prime}$ Would nuf meet |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$

Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# $700 \mathrm{~N}-3$ Date 7113117 Alignment: 2 H Clearance: 700 Secondary Channel 500 (With) or without existing bridges HIgh water/ Pool water Direction: Down bound/


Green River: Yes or 10mpit is Day

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | $-(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 3 | 2 | Not at all safe |  |

## If "stera-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4.4 | 3 | 2 | 1 |

No pROBlems NIB in that span
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | 3 | 2 | 1 |



# I-69 Bridge Project Run Evaluation Form 

Pilot\# 1
Run\# $700 \mathrm{~N}-3$ Date $7113 / 17$
Alignment: 2 H Clearance: 700 Secondary Channel 500
With or without existing bridges
High water/ Pool water

romp is Day

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 | $\mathbf{3}$ | $\mathbf{3}$ | 1 |

If maneuvering room is not adequate, why?
adequate room for $/$ was traffic
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. Thad adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral $\ldots \ldots$ | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$
$\qquad$

1 \# 700N-3 pr

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | N. | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | Not at all safe |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Not at all safe |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | Neutral | Not safe | Not at | 2 |

6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | -4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?


## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ Run \# $700 \mathrm{~N}-3$ Date $7113 / 17$

Alignment: $2 H$ Clearance: $7(0)$ Secondary Channel 500

With) or without existing bridges
Direction: Down bound / Opbound

Iffgh water/ Pool water
Barges; Emptieg/loaded
Green River: Yes or $\hat{f 0}$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\square$

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $-4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | $(3)$ | 1 |  |


6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |
| :--- | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | $\ldots$ | 1 |



## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 3


Alignment: 2 H Clearance: 700
(With )or without existing bridges
Secondary Channel 500
(C)

Direction: Down bound (pound
Green River: Yes or Fg

$$
10 \mathrm{MPH} \text { IS Day }
$$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :--- |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Noutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | $\underline{2}$ | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (9) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# $800 \mathrm{~N}-1 \quad$ Date $7 / 13 / 2017$
Alignment: $2 G$
Clearance: 800
Secondary Channel: -
10 mph wind
With) or without existing bridges
Direction: Down bound $<$ Unbound Green River: Yes or NO

High water / Pool water
Barges. Empties loaded 15 Day/ NIGHT

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory <br> 5 | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |


6. Why or why not difficult?

| Not at all difficult | 4 | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |



## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot\# 3
Run \# 800N - 1 Date $7 / 13 / 2017$
Alignment: 2 G Clearance: 800
Secondary Channel: -
10 mph wind
With) or without existing bridges
Direction: Down bound Unbound
Green River: Yes on
 Day/NIGHT
Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | (4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

plenty of Room in wider Span
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

riot 2 Run\# $800 \mathrm{~N}-1 \quad$ Date $7 / 13 / 2017$

Alignment: $2 G$
Clearance: 800
Secondary Channel: -
10 mph wind
With) or without existing bridges
Direction: own bound / Unbound
Green River: Yes on


Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $8 \quad 4$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Additional Comments


# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# $800 \mathrm{~N}-1$ Date $7 / 13 / 2017$
Alignment: 26 Clearance: 800 Secondary Channel: -

10 mph wind

With) or without existing bridges
Direction: Sewn bound / Unbound
High water / Pool water
Barges: Empties /Loaded 15
Green River: Yes or

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why? sol' mel better than 'To 'span
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers


If "stern-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe $\quad-\quad$ Neutral | Not safe | Not at all safe |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$800^{\prime}$ mach better width
6. Why or why not difficult?

| Not at all difficult | (.a. | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

lower difficulty

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :--- | :---: | :---: | :--- | :--- | :--- |
| 5 |  | 4 | 3 | 2 | 1 |

Low stress

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# 1 Run \# $800 \mathrm{~N}-1$ Date $7 / 13 / 2017$
Alignment: $2 G$
Clearance: 800
Secondary Channel: -
10 mph wind
With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes on


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge
$\left.\begin{array}{|c|c|l|l|l|}\hline \begin{array}{l}\text { Extremely } \\ \text { Satisfactory }\end{array} & \begin{array}{l}\text { Satisfactory }\end{array} & \text { Neutral } & \text { Not satisfactory } & \begin{array}{l}\text { Not at all } \\ \text { satisfactory }\end{array} \\ \hline 5 & & 4 & 3 & 2\end{array}\right]$

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | N) | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | Not at all safe |  |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe, | N | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | Not at all safe |  |
|  | better than $700^{\prime}$ spom |  |  |  |

6. Why or why not difficult?

| Not at all difficult | (7) | Neutral | 3 | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 1 |  |  |

## Stress Level

7. Why or why not stressfiul?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :---: | :---: | :---: | :---: | :--- |
| 5 |  | $(4)$ | 3 | 2 | 1 |

winimum sfress

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 2
Run \# $800 \mathrm{~N}-1$
Date $7 / 13 / 2017$
Alignment: 29 Clearance: 800
Secondary Channel: -
10 mph wind
With) or without existing bridges
Direction: Down bound Upbound


Green River: Yes on Day /NIGHT

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 25 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to binder navigation?

| Extremelysafe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| (5) | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremelysafe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 3 | 2 | 1 |  |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |
| $P$ sinty of $R o 0 m$ |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 25 |  | 4 | 3 | 2 | 1 |

Additional Comments $\qquad$

# I-69 Bridge Project Run Evaluation Form 

$\qquad$ Run\# $800 \mathrm{~N}-1 \quad$ Date $7 / 13 / 2017$
Alignment: $2 G$ Clearance: 800
Secondary Channel:
10 mph wind
With) or without existing bridges
Direction Down bound y Unbound
Green River: Yes or NO


Barges: Empties loaded 15
(Day/NIGHT
Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 |  | (4) | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | (4) | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

wide span plenty of Room

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run \# 800 N - 1 Date $7 / 13 / 2017$
Alignment: $2 G$
Clearance: 800
Secondary Channel: -
10 mph wind
With or without existing bridges
Direction: Down bound TUpbound


Green River: Yes on NO

/ NIGHT

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
Aliqumeit quod

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | N) | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | Not at all safe |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 |  | 4 | 3 | 2 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | (4) | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | Not at all safe |  |  |

wide Spain
6. Why or why not difficult?


## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |



## Additional Comments

$\qquad$

## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$ Run \# $500 N-2^{\text {Date }} \quad 7 / 13 / 15$
Alignment: 26 Clearance: 800 Secondary Channel: 0

Wit) or without existing bridges
Direction: Down bound / Opbouhd
Green River: Yes or
(High water / Pool water
Barges: Empties / loaded

 oOMPH

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory <br> m | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | -4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\cdots \quad$ adguate $a \phi 800$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Not at all safe |  |  |
| :---: | :--- | :--- | :--- | :--- |
| 5 | $\cdots$ | Neutral | Not safe | Not |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | $2 \ldots \ldots$ | 1 |

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$$
800^{\prime} \text { good - } 900^{\prime} \text { better }
$$

6. Why or why not difficult?

| Not at all difficult | $4 \mathrm{C})$ | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 2 | 1 |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | $(4)$ | 3 | 2 | 1 |

Lowstress

## Additional Comments

## I-69 Bridge Project Run Evaluation Form

 Run\# SOON-2 Date_ $7 / 13 / 5$ Alignment: 26 Clearance: 800 Secondary Channel: 0

With or without existing bridges
Direction: Down bound (Unbound Green River: Yes or 0
(High water / Pool water
Barges: Empties Loaded

$$
15 \text { lumper }
$$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :--- | :--- | :--- | :--- |
|  | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :--- | :--- | :---: | :---: |
| $\mathbf{5}$ | 4 | 3 | $\cdots$ | 2 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $/(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to binder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(75$ |  | 4 | 3 | 2 | 1 |

$\qquad$

Additional Comments


# I-69 Bridge Project Run Evaluation Form 

Pilot\# 3 Run\# $500 \mathrm{~N}-2^{\text {Date }} 7 / 13 / 5$
Alignment: 2 6 Clearance: 800 Secondary Channel: 0

With or without existing bridges
Direction Down bound / Unbound Green River: Yes or

High water / Pool water


15 lumps

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | $\mathbf{4}$ | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

plenty wide
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

wide span

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressfuI |  |  | Neutral |  | Extremely <br> stressfal |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 |

## Additional Comments

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | N) | Neutral | Not safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | Not at all safe |  |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | N | 3 | 2 | 1 |
| Ven Sinter wider Spa! |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :--- | :---: | :---: | :---: | :--- |
| 5 |  | 4 | 3 | 2 | 1 |



## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# $800 N-2^{\text {Date }}$ $7 / 13 / 15$ Alignment: 26 Clearance: 800 Secondary Channel: 0

With or without existing bridges
Direction: Down bound Upbound
Green River: Yes or


Barges: Empties loaded
is lumper

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | 2 | Neutral | Not safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | Not at all safe |  |
| 5 |  | 2 | 1 |  |

If "stern-room" was inadequate, why?
Adequito

## I-69 Bridge Project Run Evaluation Form



Run\# $500 N-2$ Date $\quad 7 / 3 / 5$
Alignment: 26 Clearance: 800 Secondary Channel: 0


Green River: Yes or
(High water / Pool water
Barges: Empties// loaded
15 lumper

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :--- | :--- | :--- | :--- |
|  | 4 | 5 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :--- | :--- | :---: | :---: |
| $\left(\begin{array}{ll}5\end{array}\right.$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 ) | 4 | 3 | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 25 | 4 | 3 | 2 | 1 |

$\qquad$
6. Why or why not difficult?

| Not at ald difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $\left(c_{5}\right)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

## 7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$


# I-69 Bridge Project Run Evaluation Form 

$\qquad$ Run\# $\mathrm{GOON}-2^{\text {Date }} \quad 7 / \mathrm{B} / 15$
Alignment: 26 Clearance: 800 Secondary Channel: 0
(With or without existing bridges
Direction: Down bound Unbound
Green River: Yes or
(High water / Pool water
Barges: Empties loaded
15

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| 5 | 4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremedy ane $^{2}$ | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | $\mathbf{3}$ | $\mathbf{2}$ | 1 |  |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

plenty of Room
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ | $\ldots . .$. | 4 | 3 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# $500 \mathrm{~N}-2$ Date $\quad 7 / 13 / 15$
Alignment: 26 Clearance: 800 Secondary Channel: 0

With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes or
(High water / Pool water
Barges: Empties / loaded
is luMpt

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory <br> 5 | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## 600 d

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

wide Span Can meet
6. Why or why not difficult?

| Not at all difficult | N | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |

$\qquad$
No stress

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot\# 1
Run \# ROO N-2 Date $\quad 7 / 3 / 15$
Alignment: 26 Clearance: 800 Secondary Channel: 0
(With or without existing bridges
Direction:(Down bound Upbound
Green River: Yes or
(High) water / Pool water
Barges: Empties /loaded 15 lump\#

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $\ldots$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
luchbetter room for passing in 800 spam
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
-_very adequate

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :--- | :--- | :---: |
| 5 | 4) | 1 |  |  |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful   Neutral  Extremely <br> stressful <br> 5  4 3 2 1 <br> Widar span better.      |
| :--- |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# I

$$
\text { Run\# } 9(0) N-1^{\text {Date }} \quad 7-13<17
$$

Alignment: 2 Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction:(Down bound/ Upbound Green River: Yes or NO
wig. water / Pool water
Barges: Empties (loaded) $15 \quad 10 \mathrm{PPH}$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $4!)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If "stero-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe $\quad$ N | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
6. Why or why not difficult?

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{5}$ | $-\ldots$ | $(4)$ | $\mathbf{3}$ | 2 | 1 |

Lowstres 5

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# 4 Run\# $900 \mathrm{~N}-1^{\text {Date }} 7-13<17$
Alignment: 2 Clearance: 900 Secondary Channel: 0

Th or without existing bridges
Direction: Down bound / Upbound
Green River: Yes or OO
(fig) water / Pool water
Barges: Empties / loaded
is

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?
Real wide

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | N) | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |  |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | ( $)$ | Neutral | Not safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 3 | 3 | 2 |

Good WiFe Span
6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

## Pilot\# 3

Run\# $900 \mathrm{~N}-1$ Date $7-13<17$
Alignment: 2 Clearance: 900 Secondary Channel: 0
th or without existing bridges
Direction Down bound/ Upbound
Green River: Yes or NO
(fig) water / Pool water

Barges: Empties / loaded


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| (5) | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :--- | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Nentral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressfuy |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

 Run\# $900 N-1$ Date $\qquad$ $7-13<17$Alignment: 2 Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes or NO
(in) water / Pool water
Barges: Empties / loaded

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :--- | :--- | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :--- | :--- |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely-safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| $(5)$ | 3 | 2 | 1 |  |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely -safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $((5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(0)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\Gamma(5$ |  | 4 | $\ldots .3$ | 2 | 1 |

## Additional Comments <br> No pro3/sms at All Nice Bridge.

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# $900 N-1$ Date $7-13<12$
Alignment: 2 I
Clearance: ©00 Secondary Channel: 0

With or without existing bridges
Direction: Down bound / Up bound
Green River: Yes or NO
rig. water / Pool water
Barges: Empties loaded is

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge
$\left.\begin{array}{|c|c|c|c|l|}\hline \begin{array}{l}\text { Extremely } \\ \text { Satisfactory }\end{array} & \text { Satisfactory } & \text { Neutral } & \text { Not satisfactory } & \begin{array}{l}\text { Not at all } \\ \text { satisfactory }\end{array} \\ \hline 5 & & 4 & 3 & 2\end{array}\right]$

If pier alignment is not adequate, why?


Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
6. Why or why not difficult?

| Not at all difficult | 4 | Neutral 3 |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  |  | 2 | 1 |
| NOT |  | $600 d$ |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressfut |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 (5) |  | 4 | 3 | 2 | 1 |



## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ Run \# $900 N-1$ Date $7-13<17$
Alignment: 21 Clearance: 400 Secondary Channel: 0

With or without existing bridges
Direction: Down bound (Unbound
Green River: Yes or NO
(rig) water / Pool water


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | -4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :---: | :--- | :---: | :---: |
| $(05)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | $\mathbf{3}$ | $\mathbf{3}$ | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $\left({ }^{5}\right)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $\left(C^{5}\right)$ | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\left(\frac{5}{2}\right)$ |  | 4 | 3 | 2 | 1 |

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 



Run \# 900 N-1 Date $7-13<17$
Alignment: 21 Clearance: 000 Secondary Channel: 0
(T )th or without existing bridges
Direction Down bound / Upbound Green River: Yes or NO


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 47 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| 5 | 4) | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremedy safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 3 | 2 | 1 |  |
| Good wide spam |  |  |  |  |

6. Why or why not difficult?

| Not at all difficult |  | Neutral |  |
| :---: | :---: | :---: | :---: |
| $(5)$ | 3 | 2 | Extremely difficult |
| Wide Span |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 5 |  | (4) | 3 | 2 | 1 |

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ Run \# $900 N-1$ Date $7-13<17$
Alignment: 21 Clearance: 900 Secondary Channel: 0
(4) h or without existing bridges

Direction: Down bound / Upbound )
Green River: Yes or NO
(iig. water / Pool water
Barges: Empties)/loaded is

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 |  |  |  |  |

If maneuvering room is not adequate, why?
… Very ado pute at $900^{\circ}$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| $\left(5^{\circ}\right)$ | $(4)$ | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers


If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult | (4) | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 3 | 2 | 1 |  |
|  |  |  |  |  |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :--- | :--- | :--- |
| 5 |  | $4)$ | 3 | 2 | 1 |

low Sofress

## Additional Comments

Pilot \# $\qquad$

# I-69 Bridge Project Run Evaluation Form 

Run\# 900-N-2 Date $\qquad$ $7-13.17$

Alignment: 2 I Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction: Down bound / Upbound
Green River: Yes or

High water / Pool water
Barges: Empties loaded
is

$$
10 \mu \mathrm{pH}
$$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremelysafe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

Overall Safety
5. Why or why not overall safe?

| Extremely, safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at đ difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
| $(5$ |  | 4 | 3 | 2 | 1 |

Good Ens/ steen

## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot\# $3 \quad$ Run\# 900-N-2 Date フi-13-17
Alignment: 2 Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction: Down bound Unbound
Green River: Yes or 0
(High water / Pool water


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

Wide Span
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| $(5)$ |  | 4 | $\mathbf{3}$ | 2 | $\mathbf{1}$ |



Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 900-N-2 Date $7-13.17$
Alignment: 2 I Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction: Down bound (Unbound)
Green River: Yes or

High water / Pool water
Barges: Empties / loaded

$$
10 \mu \mathrm{pH}
$$

Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :--- | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 25 | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

Vessel Controllability
3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| -5 | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :--- |
| $\not 2)$ |  | 4 | $\ldots$ | 2 | 1 |

Additional Comments


# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# 900-N-2 Date $7-13.17$

Direction: Down bound / Gpbound) Green River: Yes or
(High water / Pool water
Barges: Empties (loaded)
15

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :--- | :---: | :---: | :---: | :---: |
|  | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?

2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | $\mathbf{3}$ | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

```
very good
```


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(2)$ | 3 | 2 | 1 | No apparent obstruitun

## Overall Safety

5. Why or why not overall safe?

| Extremely.safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 2 | 3 | 2 | 1 |

$\qquad$
$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(52$ |  | 4 | 3 | 2 | 1 |

low low stress

## Additional Comments

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# $900-N-2$ Date $7-13.17$ Alignment: 2 Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction: Own bound/Upbound
Green River: Yes or

High water / Pool water
Barges: Empties / loaded

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
$\qquad$
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :--- |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?
$\qquad$

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?
$\qquad$

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $(4)$ | 3 | 2 | 1 | No obstructicu ti aid

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $\left(5^{7}\right.$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful   Neutral  Extremely <br> stressful <br> 5$)$  4 3 2 1 |
| :--- |
| little or no added stress with qoo'span |

## Additional Comments

good alignment + width

# I-69 Bridge Project Run Evaluation Form 

Pilot \# $\qquad$ Run\# qoO-N-2 Date $\qquad$ $7-13.17$
Alignment: 2 Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction: Down bound Unbound
Green River: Yes or
(High water / Pool water


$$
10 \mu \mathrm{pH}
$$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?


## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?


Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremetysafe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremetysafe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |
| W. de |  |  |  |  |

6. Why or why not difficult?

| Not at all difficult | Neutral |  | Extremely difficult |  |
| :---: | :---: | :---: | :---: | :---: |
| $(5$ | 4 | 3 | 2 | 1 |

$\qquad$

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral | Extremely <br> stressful |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 |  | 4 | 3 | 2 | 1 |



## Additional Comments



# I-69 Bridge Project Run Evaluation Form 

Pilot\# $\qquad$ Run\# 9oO-N-2 Date $7-13.17$

Alignment: 2 Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction: Down boung/Upbound
Green River: Yes or
(High) water / Pool water


## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| (5) | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :--- | :--- | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

## Additional considerations

4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

$\qquad$
$\qquad$

## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

Really wide
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  | Neutral |  | Extremely <br> stressful |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 |  | 4 | 3 | 2 | 1 |

$\qquad$

Additional Comments
plenty of Rom without CROwding piERS

## I-69 Bridge Project Run Evaluation Form

Pilot \# $\qquad$ Run\# 900-N-2 Date $7-13.17$

Alignment: 2 I Clearance: 900 Secondary Channel: 0

With or without existing bridges
Direction: Down bound Unbound
Green River: Yes or

High water / Pool water
Barges: Empties / coded
is

$$
10 \mathrm{ppH}
$$

## Circle the number that best describes the run just completed.

1. I had adequate maneuvering room through the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If maneuvering room is not adequate, why?
2. The pier alignment is adequate for maneuvering under the bridge

| Extremely <br> Satisfactory | Satisfactory | Neutral | Not satisfactory | Not at all <br> satisfactory |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If pier alignment is not adequate, why?

## Vessel Controllability

3. I had adequate "stern-room" through the piers

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :--- | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

If "stern-room" was inadequate, why?

Additional considerations
4. Will this bridge obstruct the view of Aids To Navigation or other targets to hinder navigation?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| (5) | $\mathbf{4}$ | $\mathbf{3}$ | $\mathbf{2}$ | 1 |

$\qquad$


## Overall Safety

5. Why or why not overall safe?

| Extremely safe | Safe | Neutral | Not safe | Not at all safe |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | 4 | 3 | 2 | 1 |

Good wide span
6. Why or why not difficult?

| Not at all difficult |  | Neutral |  | Extremely difficult |
| :---: | :---: | :---: | :---: | :---: |
| $(5)$ | $\mathbf{3}$ | 2 | 1 |  |

wide
span

## Stress Level

7. Why or why not stressful?

| Not at all <br> stressful |  |  | Neutral |  | Extremely <br> stressful |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(5)$ |  | 4 | 3 | 2 | 1 |

No stress wide span

## Additional Comments

## Appendix B3

## Final Questionnaires

# Il-69 Bridge Project 

Runs LOCATION MAIN SPAN ALTERNATE SPAN

1-8 $1 \mathrm{~A} \quad 600 \quad 600$
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:

10 | 10 | 9 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

For this bridge configuration, how significant would the delay be? (how often + how long)
10

8
7
6
5
4
3
2
1

9-16 1B
700
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$10 \quad 9 \quad 8$

65
4
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$
8

800
17-24 1C
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
109
(8) $7 \quad 6 \quad 5$
4
3
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)
10 98

900: did not simulate this configuration. Data based on pilot judgement
25-32 1D Comfort level- 10 is very safe causes no stress and 1 is high stress/ would not attempt:
10

$8 \quad 7$
65
43
$\begin{array}{lll}3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$
98
7
7
6
5
4
32
1

IE
1000: did not simulate this configuration. Data based on pilot judgement
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
10
9
87
65
43
21

For this bridge configuration, how significant would the delay be? (how often + how long)
$\qquad$ 98
87 $\begin{array}{lll}6 & 5 & 4\end{array}$

3
1

# I-69 Bridge Project 

Runs LOCATION MAIN SPAN ALTERNATE SPAN

33-44 2A
600
600
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
109
(8) 7
6
$\begin{array}{lll}6 & 5 & 4\end{array}$
3
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$ $8 \quad 7$
(6) 5 4
3
2
1

57-68 2C
700
500
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:

109
98
7

6) 5
4
3
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)

| 10 | 9 | 8 | 7 | 5 | 5 | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## 69-80 2D

 800Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:

$5 \quad 4$
3
21
For this bridge configuration, how significant would the delay be? (how often + how long)

| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## $81-92$ 2E

900
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
10

$8 \quad 7$
$6 \quad 5$
43
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9 \quad 8$
(7)
65
4
3
21

## I-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN
700N 700N $700 \quad 500$
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$10 \quad 9$
87
6
5
4
32
1

For this bridge configuration, how significant would the delay be? (how often + how long)
109


76
5
4
3
2
1

700N-2 700N
700
Comfort level- 10 is very safe causes no stress and 1 is high stress/would not attempt:
$10 \quad 9$
76
5
4
32
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9 \quad 8$
7
6
5
3
21

800N 800N
800
Comfort level- 10 is very safe causes no stress and 1 is high stress/would not attempt:
$\begin{array}{llllllllll}10 & 9 & \text { (8) } & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
$\begin{array}{llll}10 & 9 & 8 & 7\end{array}$

$5 \quad 4$
3
21

900 N 900N
900
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
10 9 $9 \begin{array}{lllllllll}7 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

For this bridge configuration, how significant would the delay be? (how often + how long)
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
1000N 1000: did not simulate this confiquration. Data based on pilot judqement Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:

| $(10)$ | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

For this bridge configuration, how significant would the delay be? (how often + how long) 10
10 $\square$ 8
7
6
5
4
3
2
1

## Il-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN

1-8 1A 600 600
Comfort level- 10 is very safe causes no stress and 1 is high stress/would not attempt:

| 10 | 9 | 8 | 7 | 6 | (5) | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

For this bridge configuration, how significant would the delay be? (how often + how long)


9-16 1B
700
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$10 \begin{array}{lllllllll}10 & 9 & 8 & 7 & \text { (6) } & 5 & 4 & 3 & 2\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
17-24 1C
800
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
109
(8)
)
76
54
32
1

For this bridge configuration, how significant would the delay be? (how often + how long)

25-32 1D
900: did not simulate this confiquration. Data based on pilot judqement Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
(10) 9
$8 \quad 7$
6
5
43
21

For this bridge configuration, how significant would the delay be? (how often + how long)
(10)
8

1000: did not simulate this confiquration. Data based on pilot judqement
1E
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
(10) $9 \quad 8 \quad 8 \quad 7 \quad 6 \quad 5 \quad 5 \quad 4$

For this bridge configuration, how significant would the delay be? (how often + how long)
(10) 9
$8 \quad 7$
65
43
2
1

## I-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN
$\begin{array}{llll}33-44 & 2 A & 600 & 600\end{array}$
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$
(8)
$\begin{array}{llll}57-68 & 2 C & 700 & 500\end{array}$
$\begin{array}{llll}57-68 & 2 C & 700 & 500\end{array}$
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & \text { (6) } & 5 & 4 & 3 & 2 & 1\end{array}$

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$
(8) 7
6
5
4
3
21

69-80 2D
800
Comfort level-10 is very safe causes no stress and 1 is high stress / would not attempt:
109
(8)
盾
$6 \quad 5$
43
21

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$


7
6
5
4
3
21

## 81-92 2E

900
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
(10) $\begin{array}{llllllllll} & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

For this bridge configuration, how significant would the delay be? (how often + how long)

| $(10)$ | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## II-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN
$700 \mathrm{~N} 700 \mathrm{~N} \quad 700 \quad 500$
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llll}10 & 9 & 8 & 7\end{array}$
(6)
5
4
$2-1$

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$

7
6
5
4
3
1

700N-2 700N
700
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & \text { (6) } & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
109
9 (8)
7 -
65
4
3
2
1
$800 \mathrm{~N} \quad 800 \mathrm{~N}$
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & (8) & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
$\begin{array}{lllllllll}10 & 9 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

900 N 900 N
900
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}\text { (10) } & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
(10) $\begin{array}{llllllllll} & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

1000N 1000: did not simulate this confiquration. Data based on pilot judqement
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}(10) & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

For this bridge configuration, how significant would the delay be? (how often + how long)
(10) $\begin{array}{llllllllll} & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

## I-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN

1-8 1A
600
600
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
(10) 9
$8 \quad 7$

BB 700
9-16 1B
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$
98
7
6
(5)
43
2
1

17-24 1C
800
Comfort level- 10 is very safe causes no stress and 1 is high stress/ would not attempt:
$10 \quad 9$
(8) 7
$6 \quad 5$
432
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$

900: did not simulate this configuration. Data based on pilot judgement
25-32 1D Comfort level- 10 is very safe causes no stress and 1 is high stress/ would not attempt:
$\begin{array}{llllllllll}\text { (10) } & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
(10) 9
8

IE
1000: did not simulate this configuration. Data based on pilot judgement Comfort level- 10 is very safe causes no stress and 1 is high stress/ would not attempt:


For this bridge configuration, how significant would the delay be? (how often + how long)
(10)
98
7
65
4
3
2
1

## I-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN

33-44 2A
600
600
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
109
$\begin{array}{ll}8 & 7\end{array}$
5
(4) 32
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$
(8)
7
6
5
4
3
2
1

57-68 2C
700
500
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & \text { (8) } & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
10 (9) $8 \quad 7 \quad 7 \quad 6 \quad 5 \begin{array}{lllllll}1\end{array}$
$69-80 \quad 2 \mathrm{D} \quad 800$
Comfort level- 10 is very safe causes no stress and 1 is high stress/ would not attempt:
$10 \quad 9 \quad 8$
(7)
$6 \quad 5$
$\begin{array}{ll}4 & 3\end{array}$
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

81-92 2E
900
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
10 (9) 8

For this bridge configuration, how significant would the delay be? (how often + how long)
10

8
76
65
43
2
1

## I-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN
$700 \mathrm{~N} \quad 700 \mathrm{~N} \quad 700 \quad 500$
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
10
98
(7) 6
5
4
$3 \quad 2$
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$\begin{array}{llll}10 & 9 & 8 & 7\end{array}$
65
4
3
2
1

700N-2 700N
700
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llll}10 & 9 & 8 & 7\end{array}$
(6) 5
43
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)

| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## 800N 800N

800
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
10
(9) 8

7
$\begin{array}{llll}5 & 4 & 3 & 2\end{array}$
1
For this bridge configuration, how significant would the delay be? (how often + how long)
10
87
6
54
3
2
1

900 N 900 N
900
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
(10) 9
8
7
6
5
43
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)
(10) 9
87
7

1000: did not simulate this configuration. Data based on pilot judgement
1000N
1000: did not simulate this configuration. Data based on pilot judgement
10 is very safe causes no stress and 1 is high stress / would not attempt:
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
(10) 9
87
$6 \quad 5$
43
2
1

For this bridge configuration, how significant would the delay be? (how often + how long) $\begin{array}{llllllllll}(10) & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

I-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN

1-8 1A 600 600
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
109
$\begin{array}{llll}9 & 8 & 7 & 6\end{array}$

4
3
2
1

## 9-16 1B

700
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
109
$\begin{array}{ll}8 & 7\end{array}$

43
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)
$\begin{array}{llllll}10 & 9 & 8 & 7 & 6 & 5\end{array}$

800
17-24 1C
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt: 10

$8 \quad 7$
76
5
4
3
21
For this bridge configuration, how significant would the delay be? (how often + how long)

| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

25-32 1D
900: did not simulate this configuration. Data based on pilot judgement
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:

| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

For this bridge configuration, how significant would the delay be? (how often + how long)
10

8
7
6
5
4
3
2
1

IE
1000: did not simulate this configuration. Data based on pilot judgement Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{lllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2\end{array}$
For this, bridge configuration, how significant would the delay be? (how often + how long)

10 (9) | 9 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

# I-69 Bridge Project 

Runs LOCATION MAIN SPAN ALTERNATE SPAN

33-44 2A
600
600
Comfort level- 10 is very safe causes no stress and 1 is high stress/would not attempt:
109
$8 \quad 7$
6
5
4

21

For this bridge configuration, how significant would the delay be? (how often + how long)

| 10 | 9 | 8 | 7 | 5 | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

57-68 2C
700
500
Comfort level-10 is very safe causes no stress and 1 is high stress / would not attempt:

1034 | 10 | 9 | 8 | 7 | 6 | 5 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

For this bridge configuration, how significant would the delay be? (how often + how long)
$\begin{array}{llllll}10 & 9 & 8 & 7 & 6\end{array}$
6 5 4

32
1

69-80 2D
800
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:


5

$\begin{array}{lll}3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
10 (8) 7 4 6

81-92 2E 900
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

pilot
\# (

## Il-69 Bridge Project

Runs LOCATION MAIN SPAN ALTERNATE SPAN
$700 \mathrm{~N} \quad 700 \mathrm{~N} \quad 500$

Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:

| 10 | 9 | 8 | 7 | 6 | 5 | 4 | $(3)$ | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$

| 9 |
| :--- |

6

4
3
2
1

700N-2 700N
700
Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
109
$8 \quad 7$
$6 \quad 5$
(4)
3
2
1

For this bridge configuration, how significant would the delay be? (how often + how long)
109
$\begin{array}{lll}9 & 8 & 7\end{array}$
65
$5 \quad 4$

2
1

## 800N 800N <br> 800

Comfort level- 10 is very safe causes no stress and 1 is high stress / would not attempt:
$10 \begin{array}{lllllllll}8 & 9 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
$10 \quad 9$
 7
65
4
3
2
1
$900 \mathrm{~N} \quad 900 \mathrm{~N}$
900
$\begin{array}{llllllllll}\text { Comfort level- } 10 \text { is very safe causes no stress and } 1 \text { is high stress/ would not attempt: } \\ \begin{array}{lllllll}10 & 9 & 8 & 7 & 6 & 5 & 4\end{array} & 3 & 2 & 1\end{array}$
$\begin{array}{llllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long) $\begin{array}{rlllllllll} & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$

1000N 1000: did not simulate this configuration. Data based on pilot judgement Comfort level-10 is very safe causes no stress and 1 is high stress / would not attempt:
$\begin{array}{lllllllllll}10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1\end{array}$
For this bridge configuration, how significant would the delay be? (how often + how long)
10
9
8
76
5
3
21


## NAVIGATION CLEARANCE STUDY

I-69 Ohio River Crossing Project Eva nsville, IN and Henderson, KY

FINAL
October 9, 2017

Prepared by:
Stantec Consulting Services Inc.
in coordination with:
Parsons Tra nsportation Group, Inc.


## NAVIGATION CLEARANCE STUDY

### 1.1 INTRODUCTION

The I-69 Ohio River Crossing project involves the preliminary study of various alignments crossing the Ohio River to connect the current I-69 facilities at Henderson, KY and Evansville, IN. A detailed screening process has resulted in two preliminary alignments for further consideration. These two alignments are described as follows for the purposes of this report:

- Alignment 1 (West): located at approximate Ohio River mile 787.0, just west of the exiting US 41 bridges
- Alignment 2 (Central): located at approximate Ohio River mile 785.2, east of the existing US 41 bridges and downstream of the Green River confluence


Figure 1 - Aerial map showing preliminary alignments

The screening process has not yet determined whether the existing US41 bridge(s) will remain in place after a new I-69 bridge is constructed. One, or both, of the bridges may remain to provide local access for vehicular and/or pedestrian traffic.

This report summarizes the results of the Navigation Simulation Modeling performed at Seamen's Church Institute and provides a discussion of and recommendations for the navigation clearance requirements for the river bridge. The required horizontal and vertical clearances will affect the bridge construction cost, as well as navigational operation and safety. The U. S. Coast Guard (USCG) regulates the clearance requirements for navigable waterways, including the Ohio River. In a letter dated May 11, 2017 (attached), USCG provided a discussion of preliminary horizontal and vertical clearance requirements for the project.

### 1.2 VERTICAL CLEARANCE

Vertical navigation clearance guidelines are presented in the USCG "Bridge Guide Clearances" document (rev. 2012, provided on their website). For the Ohio River, the recommended vertical clearance is the higher of " 69 ft above Average June Flow" and " 55 ft above $2 \%$ Flowline". However, the USCG letter dated May 11, 2017 for this project uses slightly different wording of " 69 ft above normal pool (average June flow)" for the first criteria. The letter also indicates that existing clearance at other bridges in the area may also be considered in the final recommendation.

The "average June flow" is based on the average of historical daily readings during June. Some past projects have used the "project pool" elevation from USACE Navigation Charts (representing the top of dam) to apply the 69 ft clearance. However, the project pool elevation for the JT Myers dam (341.2, NAVD88) is significantly lower than the "average June flow" value determined for this project, so the project pool elevation is not used in this case.

The " $2 \%$ Flowline" for this application is defined as the elevation with a " $2 \%$ probability of exceedance", or in other words the elevation "exceeded on $2 \%$ of the days of historical data". Note that the Navigation Simulation Modeling Plan for this project incorrectly referenced the " $2 \%$ Flood" (50-yr return interval) which is considerably higher.

The applicable flow elevations were determined based on historical data provided by the Army Corps of Engineers for the Evansville gage and Newburg Dam lower gage, and presented in the I-69 project report "Flowline Elevations for Vertical Clearance Calculations" (Attachment C). The proposed clearance envelope elevations are summarized below (using NAVD88 datum).

Proposed minimum "Low Chord" elevations based on USCG Guide Clearances:

> | Alignment 1 (West), approx. River Mile 787.0 |
| :--- |
| 69 ft above Avg. June Flow: |
| $547.6+69=416.6$ |
| 55 ft above $2 \%$ Flowline: |
| $370.9+55=\underline{\mathbf{4 2 5} .9}$ (controls) |

Alignment 2 (Central), approx. River Mile 785.2
69 ft above Avg. June Flow: $347.8+69=416.8$
55 ft above $2 \%$ Flowline: $\quad 371.3+55=\underline{\mathbf{4 2 6} .3}$ (controls)

For comparison, Low Chord elevations at the existing bridges located in the same dam pool are: Exist. US 41 bridges, at RM 786.8: 424.6
Exist. CSX RR bridge, at RM 803.7: 419.8

This information is provided for the USCG to determine the specific vertical clearance requirements (low chord elevations) for both alignments under consideration.

### 1.3 HORIZONTAL CLEARANCE

The USCG letter dated May 11, 2017 provided preliminary discussion for the horizontal clearance:

- For a new bridge adjacent to the existing US 41 bridges, if the existing bridge(s) are to remain, the letter recommends that the new pier locations align with the existing piers on the outside of the primary and secondary channels, but omit the pier between the channels. (In this case, the USCG recommendation represents a nominal clearance of about 1300 ft , since the existing primary and secondary channel spans are 600 ft and 720 ft respectively.)
- For other alignments, no specific recommendation was presented for the horizontal clearance. However, the letter expressed concern about the effects of a new bridge at Alignment 2 , due to the proximity of the Green River and barge fleeting and related operations.
Previous correspondence from USCG dated July 11, 2002 (attached), recommended an initial horizontal clearance consideration of 1000 ft .


## Navigation Simulation Modeling

To evaluate the horizontal clearance requirements for the proposed bridge locations, a "Navigation Simulation Modeling" study was performed on July 10-14, 2017 at the Seamen's Church Institute (SCI) training facility in Paducah, KY. SCI routinely provides training to ship and tow-boat pilots using their state-of-the-art Kongsberg simulator equipment, which has realistic pilot controls and graphic visualization. SCI has extended the use of the simulator to feasibility and clearance studies on many navigable bridge projects.

Prior to the simulation exercises, the modeling parameters for the simulations were developed and presented in the "Navigation Simulation Modeling Plan" by Stantec/Parsons dated July 7, 2017. The simulation parameters included:

- Existing US 41 bridges (with/without)
- Horizontal clearance between piers ( $600,700,800,900 \mathrm{ft}$ )
- Barge tow size ( 15 or 25 barges, loaded or empty)
- River current (low flow and higher flow)
- Tow travel direction (upstream/downstream) and one/two-way traffic
- Variable wind, and day/night operation
- Green River access (enter/exit)

The SCI simulator stations provide realistic 3-D graphics for the barges, bridges, river and adjacent land features based on actual site conditions. The river flow velocities and directions were realistically modeled based on a 2-D hydraulic analysis of the area. The SCI facility has 4 simulator stations, which allowed 4 pilots to run each simulation simultaneously. After each simulation run, the pilots were asked to provide individual feedback regarding the comfort level and safety for that run. A total of 47 simulation variations were evaluated ( 15 for Alignment 1, and 32 for Alignment 2). Two representatives from the USCG bridge administration division were onsite to observe the first 3 days of the simulations. A summary of the simulations is presented in the "Navigation Simulation Modeling Report" by Seamen's Church Institute, dated August 24, 2017.

## General discussion

Following are some general comments, including observations from the navigation simulations and discussions with the pilots.

- The existing US 41 bridges provide two navigation channels, with horizontal clearances of 580 ft (main channel, near center of river) and 700 ft (alternate channel, north side). The simulation pilots indicated that the alternate channel at this location is used frequently, by about $90 \%$ of the downbound barge traffic except during low water conditions.
- A majority of the existing bridges over the Ohio River below the Markland Dam (near Carrollton, KY) have alternate navigation channels, with main channel clearances ranging from about 500 to 800 ft .
- The following counts of barge flotillas passing through the adjacent locks/dams (based on USACE data) provide an indication of the barge traffic operating in this section of the river:

Newburgh Dam: 5529 barge flotillas (year 2016), 6620 (last 10 years average)
J.T. Myers Dam: 4322 barge flotillas (year 2016), 5280 (last 10 years average)

- The existing bridges are located within an approximate 6 mile length of river available for two-way traffic, from about 2 miles upstream to 4 miles downstream of the US 41 bridges (from Ohio River mile 785 to 791). Upstream of this zone is a narrow stretch below the Newburgh dam, and downstream of this zone are dikes and a sharp bend in the river at Evansville, neither of which is suitable for two-way traffic. The barge pilots operating in
this area of the river must communicate with each other to avoid two-way traffic conflicts. The zone available for two-way traffic is highlighted in Figure 2 below.


Figure 2 - Aerial map showing available area for two-way barge traffic

- The navigation simulations included bridge configurations with two navigation channels (main and alternate channels), and single navigation channels.
- The simulations for two-channel configurations included $600-600 \mathrm{ft}$ and $700-500 \mathrm{ft}$ clearances. The 600 ft clearance was generally comfortable to the pilots, since the existing US 41 bridges have a similar clearance. The 500 ft alternate channel clearance was generally uncomfortable to the pilots.
- The simulations for single-channel configurations included clearances of 700, 800 and 900 ft . Although the simulations tested two-way traffic through the single-channel bridge models, all of the pilots indicated that they would normally avoid passing an opposing barge tow at a bridge in this area, based on consideration of the available clearance and the river bends, currents, etc. The available two-way traffic area (discussed above) would allow the upbound tow to "hold up" until the downbound tow clears the bridge. From discussions during the navigation simulations between the pilots, SCI staff, USCG staff, and engineers, the general consensus was that 800 ft was an appropriate minimum clearance for a single-channel bridge configuration.
- There are barge fleeting operations in this area along both sides of the Ohio River and at the lower end of the Green River. The new bridge configuration and pier locations should allow room outside the navigation channel(s) for these fleeting operations. These fleeting areas are shown on the navigation charts and in Figure 1.


## Alignment 1 (West)

For this location the bank-to-bank distance is about $1,800 \mathrm{ft}$ at pool (low) water elevation.
For the case where one/both of the existing US 41 bridges are to remain, based on discussions during the navigation simulations, the pilots, USCG staff, and engineers concluded that the new bridge configuration should closely match the existing bridge navigation channel locations. This would provide for two navigation channels, including a center pier. A single navigation channel in this case, with a clearance between 600 and 1000 ft , would not be useful since the effective navigation clearance would still be limited by the existing bridges, and the north pier of the new bridge would probably interfere with the alternate navigation channel through the existing bridges.

For the case where the existing bridges will not remain, both a two-channel and single-channel bridge configuration are considered.

A configuration with two navigation channels, each with 600 ft clearance, would be very similar to the existing bridge configuration, which has existed since the 1930's. This configuration was the first of the simulations at SCI (with the existing bridges included), and all pilots were comfortable with the configuration, emphasizing that they are accustomed to the existing clearance and the alternate channel allows for passing of two-way traffic in all but low water conditions.

For a configuration with a single navigation channel, a clearance of 800 ft clearance appears to be adequate for navigation, based on the navigation simulation discussion presented above.

## Alignment 2 (Central)

For this location the bank-to-bank distance is about $1,950 \mathrm{ft}$ at pool (low) water elevation.

The navigation simulations confirmed that the proposed Alignment 2 will not hinder barge traffic into and out of the Green River.

The sailing line for the Green River shown on the electronic navigation charts (and the plan drawings used for this study) converges with the Ohio River sailing line at a location just west (downstream) of this proposed alignment. However, the sailing line shown on the paper navigation charts is slightly different and converges upstream of this alignment. During the navigation simulations, discussions with the pilots indicated that the current Green River sailing line should not control the location of the navigation span, since the distance from the bridge to the Green River would be adequate to allow safe maneuvering into and out of the Green River. If a new bridge at this location is approved by the USCG, then the US Army Corps of Engineers will revise the sailing line(s) for the new bridge configuration.

The navigation simulations indicated that the bridge configuration at this alignment should not be dependent on whether or not the existing US 41 bridge(s) remain. Based on the navigation simulations, both a two-channel configuration (600-600 ft) and a single-channel configuration $(800 \mathrm{ft})$ appear to be appropriate for this alignment, as discussed previously for Alignment 1.

## Proposed Horizontal Clearance configurations

This project is currently in the preliminary design phase, and the eventual final design phase may involve a traditional design-bid-build process (designed before soliciting Contractor bids), or possibly a design-build process (designed by the Contractor-Engineer team). The U.S. Coast Guard recommendations for horizontal clearance may affect the applicable bridge type(s) and associated cost. To allow for flexibility during the final design phase, we respectfully request that the USCG consider providing acceptable navigation clearances for both a single-channel configuration, and a two-channel configuration, at each alignment, as presented below.

## Alignment 1 (West)

If one/both existing US 41 bridges remain:

- Two-channel with 600-600 ft clearances (center pier aligned with existing pier)

If the existing bridges do not remain:

- Two-channel with 600-600 ft clearances (alternate channel on north side)
- Single-channel with 800 ft clearance


## Alignment 2 (Central)

- Two-channel with 600-600 ft clearances (alternate channel on north side)
- Single-channel with 800 ft clearance

These configurations are shown on the attached drawings.

## ATTACHMENTS

- Attachment A: Plan drawings for proposed clearances (2 cases per alignment)
- Attachment B: U.S. Coast Guard correspondence
- Attachment C: "Flowline Elevations for Vertical Clearance Calculations" (by Parsons, dated August 25, 2017)


## REFERENCES

- Navigation Simulation Modeling Plan (by Stantec/Parsons, dated July 7, 2017)
- Navigation Simulation Modeling Report (by Seamen's Church Institute, dated Aug. 24, 2017)




## D.S. COAST GUARD CORRESPONDENCE

Mr. Tony Hunley
Stantec Consulting Services, Inc.
3052 Beaumont Centre Circle
Lexington, KY 40513-1703
Subj: PROPOSED I-69 BRIDGE, MILE 787-781, OHIO RIVER
Dear Mr. Hunley:
This is in reply to your letter dated March 1, 2017 regarding a new bridge crossing near Evansville, IN as part of the I-69 Ohio River Crossing project. You requested span arrangements and navigational clearances for new bridge locations as defined by:

Area 1: Downstream, and in the vicinity of, the existing US 41 Gold Star Bridges;
Area 2: Upstream of the existing bridges but downstream of the confluence of the Green River with the Ohio River; and
Area 3: Upstream of the confluence of the Green River with the Ohio River near South Willow Pond Ditch in the general vicinity of Huntington Creek Driver (Evansville).

For Area 1, if a new bridge was built immediately adjacent to the existing US 41 Gold Star Bridge and this bridge was to remain, the horizontal clearance of a new bridge at this location would match existing left and right descending piers but with no center pier.

For Area 2, the Coast Guard has major concerns with any bridge built in this vicinity due to the proximity to the mouth of the Green River. This area is already congested with fleeting, loading/unloading facilities, and service/support industries and the adding of a bridge to this area could hamper these operations and become a hindrance to safe navigation.

For Area 3, after a more definitive crossing location is selected, we will determine pier placement and clearance requirements.

For any proposed bridge the minimum vertical clearance would be 55 feet above the $2 \%$ flowline or 69 feet above normal pool (average June flow), whichever is greater. Also, actual vertical clearance to be determined by examining vertical clearance of other bridges in the area.

We appreciate the opportunity to comment on the project in this early stage. You can contact Mr. David Orzechowski at the above telephone number if you have questions regarding our comments or requirements.


March 1, 2017

Eric Washburn
Bridge Administrator, Western Rivers
Eighth Coast Guard District
1222 Spruce Street
St. Louis, Missouri 63103-2832

## REF: Vanderburgh County, Indiana / Henderson County, Kentucky A249-17-P1608s101 <br> I-69 Evansville - Henderson New Ohio River Crossing Bridge

## Dear Sir,

The Indiana Department of Transportation and Kentucky Transportation Cabinet are in the environmental and preliminary design process of preparing plans for a new bridge crossing near Evansville as part of the I69 Ohio River Crossing project. Stantec is subcontracted Parsons Transportation Group who is contracted with INDOT to provide the engineering services for this project. FHWA will be contacting the US Coast Guard and other Federal and State agencies separately to re-initiate the NEPA coordination process for the project, which has been recently on hold with the last correspondence with your office in J uly 2002.

INDOT recently contacted you regarding this project and requested that the Eighth Coast Guard District coordinate directly with Stantec Consulting Services Inc. regarding span arrangements and navigation studies for new bridge locations. This letter serves as a request for preliminary guidance on the navigation requirements for any new structure over the Ohio River in the project area to facilitate development of preliminary span arrangement alternatives. At a minimum, we intend to provide horizontal clearances equal to or greater than the existing US41 Gold Star Bridges at Henderson.

At this stage of the project, three areas are being considered for new crossing locations (as illustrated in the attached). During the preliminary engineering phase, we intend to perform navigation simulation modeling in these alternative corridors to further refine the required horizontal clearances and pier placement constraints. Clarification of minimum vertical clearance requirements is also requested. After receiving your response, we will schedule an early coordination meeting to discuss potential issues moving forward on the project.

Attached are the following documents to provide additional background information on the project:

- Project Location Maps - Showing potential crossing areas currently being evaluated.
- Area 1: Downstream, and in the vicinity of, the existing US 41 Gold Star Bridges.

March 1, 2017
Page 2 of 2

## Reference: I-69 Evansville - Henderson New Ohio River Crossing Bridge

- Area 2: Upstream of the existing bridges but downstream of the confluence of the Green River with the Ohio River.
- Area 3: Upstream of the confluence of the Green River with the Ohio River near South Willow Pond Ditch in the general vicinity of Huntington Creek Drive (Evansville).
- Existing Bridge Layouts for US 41 NB \& SB over Ohio River
- Ohio River Navigation Chart pages
- US Coast Guard Project Correspondence Letter dated J uly 11, 2002.

If you have any questions, or would like to discuss further, let us know.

Regards,
STANTEC CONSUKTING/SERVICES INC.

C. Tony finley, PE, SE, PhD

Principal 1, Sector Lead - Bridges
c. J anelle Lemon, INDOT Gary Valentine, KYTC Steve Nicaise, Parsons Martin Furrer, Parsons

Mr. Tim N. Miller
Project Manager
HNTB Corporation
310 W. liberty St.
Suite 701
Louisville, KY 40202

## Subj: PROPOSED NEW I-69 HIGHWAY BRIDGE BETWEEN EVANSVILLE, IN AND HENDERSON, KY, MILE 820.0, OHIO RIVER

Dear Mr. Miller:
In reviewing the Level 1 Draft Analysis Report, page 5 states the design minimums for horizontal and vertical clearances and pier spacings for new river crossings are: 55 feet above the $2 \%$ low level flood plain (vertical clearance); 69 feet above the normal pool plain; and 845 feet of horizontal clearance between piers. These statements are incorrect.

The correct minimum vertical guide clearance for the proposed subject bridge is: 55 feet above $2 \%$ flowline or 69 feet above normal pool (average June flow), whichever is greater. Also, the horizontal clearance in the navigation channel will be a minimum of 1000 feet. After a final crossing location is selected, we will determine pier placement and location and clearance requirements.

We appreciate the opportunity to comment on the project in this early stage. If you have any questions you can contact Mr. David Orzechowski of my office at the above number.

Sincerely,


KENTUCKY-INDIANA HIGHWAY (US 41) BRIDGES
RIVER MILE 786.8






## FLOWLINE ELEVATIONS FOR VERTICAL CLEARANCE CALC'S



Flowline Elevations for Vertical Clearance Calculations

I-69 Ohio River Crossing Project Evansville, IN and Henderson, KY

Final
August 25, 2017

Prepared by:
Parsons


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## CHAPTER 1 - FLOWLINE ELEVATIONS FOR VERTICAL CLEARANCE CALCULATIONS

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1.2 2-Percent Flowline....................................................................................................................1-3
1.3 Exhibits .....................................................................................................................................1-5

# FLOWLINE ELEVATIONS FOR VERTICAL CLEARANCE CALCULATIONS 

As advised by the US Coast Guard for vertical clearances for new river crossings (See USCG email dated 11 July 2002 (Exhibit 1) and the USCG Bridge Clearance Guide rev 2012-02-09 (Exhibit 2)) the design minimums are as follows: 55 feet above the " $2 \%$ flowline" and 69 feet above the "normal pool (average June flow)". The following calculations establish the flowline elevations by these criteria for the I-69 Crossing over the Ohio River project at potential locations.

### 1.1 AVERAGE JUNE FLOW

Average June flow is the average flow in June 1982, and is used by the United States Coast Guard to define the "average pool". The elevation of this flowline is not readily available for the study reach (the Ohio River within the project study limits) and it was necessary to calculate this flowline from river stage records. The US Army Corps of Engineers (USACE) maintains records of stream gages within the study reach. One gage is at the Newburgh Lock and Dam (River Mile 776.3) and the other is at Evansville (River Mile 792.3). For each gage the USACE provided daily records from 1930 to 2017. The June flow elevations were extracted from those records and the average June elevation calculated at each gage. Because the JT Myers Lock and Dam and the Newburgh Lock and Dam were completed in 1975, only records from 1975 through 2017 were used for the basis of the calculations (Exhibit 3). The elevations were converted from the Corp's Ohio River Datum (ORD) to the project datum, NAVD88, using a conversion factor of -0.80 feet as specified by the Corps for these locations (Exhibit 4). With those elevations, a flowline gradient was established and, by interpolation, the average June flow elevation was determined for potential crossing locations:

| Calculation of Average June flow elevation between gages based on stage data from USACE, 8/15/17 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Calc by: | PSB | 8/24/2017 | Checked by: | EAB | 8/24/2017 |  |  |
| Location | River Mile | Distance from Newburgh gage |  | ELEV, June average | Diff | Gradient |  |
|  |  | Miles | Feet | NAVD88 | Ft. | Ft/Mile | Ft/ft. |
| Newburgh gage | 776.3 |  |  | 348.82 |  |  |  |
| Evansville gage | 792.3 | 16 | 84480 | 346.90 | -1.92 | -0.12 | -0.0000227 |
| Alignment 1, Just west of US 41A bridge | 786.8 | 10.5 | 55440 | 347.56 |  |  |  |
| Alignment 2, West of Green River confluence | 785.2 | 8.9 | 46992 | 347.75 |  |  |  |

Table 1: Average June Flow Elevations

### 1.2 2-PERCENT FLOWLINE

The $2 \%$ flowline criterion is based on a stream elevation having a time duration of $2 \%$. A single $2 \%$ flowline elevation was provided by the USACE and was referenced to the Evansville gage (See Exhibit 1, e-mail from Pruitt, USACE, August 4, 2017). The elevation was based on the Ohio River Datum (ORD) and was converted to the project vertical datum, NAVD88, using a conversion factor. This factor is published in the Corps' Ohio River Charts (Exhibit 4). For the location at the US 41A Bridge at Evansville this factor is -.80 feet. Also, as recommended by the Corps, the water surface profile at the $2 \%$ flowline was established by parallel profiling historical or frequency floods (Exhibit 1, e-mail from Pruitt, USACE, August 4, 2017). In this case, the 10year flood profile, determined from the Corps' HEC-RAS record model for this section of the Ohio River, was used for parallel profiling because it was the lowest and closest profile to the $2 \%$ flowline (See Exhibit 5, HEC-RAS output table). This profile is published in the Flood Insurance Study for Henderson County, KY (Exhibit 6). The vertical difference between the record 10-year flood profile and the $2 \%$ flowline elevation at the Evansville gage is -3.09 feet. This vertical elevation difference was applied to the 10-year flood profile to generate a parallel $2 \%$ flowline profile for the study reach. Tables of that data can be found below:

| CALCULATION OF 2\% DURATION FLOWLINE FOR ORX |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Calc by: | PSB | Date: | 8/4/2017 |
|  |  | Checked by: | EAB | Date: | 8/18/2017 |
| EL of $2 \%$ duration= | 370.7 At Evansville gage, 0.R.Datum, River Mile 792.6. Source: Richard Pruitt, USACE, 8/4/17 |  |  |  |  |
| Convert ORD to NAVD88= | -0.8 | As stated on Ohio River Chart for US 41 Bridge |  |  |  |
| EL of $2 \%$ duration= | 369.9 | At Evansville gage, NAVD88 |  |  |  |
|  |  |  |  |  |  |
| Water surface elevation, 10-yr flood, from HEC-RAS modeling | 372.99 | At Evansville gage, River Mile 792.6, NAVD88, by interpolation. |  |  |  |
| Water surface elevation, $2 \%$ duration | 369.9 | At Evansville gage, NAVD88 |  |  |  |
| Vertical offset, ft . | 3.09 | Apply vertical offset from 10-yr water surface profile to obtain $2 \%$ duration profile (as advised by USACE, August 4, 2017). |  |  |  |


| River Mile Location | 10-YR <br> FLOOD <br> WSE from <br> HEC-RAS <br> model, <br> NAVD88 | GRADIENT, FT/MILE | GRADIENT, FT/FT | Description | Vertical Offset, 10-yr flood elevation minus 2\% duration elev, ft . | 2\% <br> Duration <br> Flowline at offset from 10-yr flood |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 784.5 | 374.60 |  |  |  | 3.09 | 371.51 |
| 785.2 | 374.43 |  |  | Potential crossing, west of the Green River confluence, elevation by interpolation | 3.09 | 371.34 |
| 785.5 | 374.36 | 0.240 | 0.0000455 |  | 3.09 | 371.27 |
| 786.8 | 374.00 |  |  | Potential crossing, just W of US <br> 41A, elev. by interpolation | 3.09 | 370.90 |
| 787.3 | 373.86 | 0.278 | 0.0000526 |  | 3.09 | 370.77 |
| 788.7 | 373.72 | 0.100 | 0.0000189 |  | 3.09 | 370.63 |
| 790.9 | 373.26 | 0.209 | 0.0000396 |  | 3.09 | 370.17 |
| 792.6 | 372.99 |  |  | WSE interpolated from HECRAS model 10-yr WSE profile | 3.09 | 369.90 |
| 793.2 | 372.90 | 0.157 | 0.0000296 |  | 3.09 | 369.81 |

$2 \%$ duration flowline offset from 10-year flood profile


Table 2: 2\% Flowline Elevations

### 1.3 EXHIBITS

Mr. Tim N. Miller
Project Manager
HNTB Corporation
310 W. liberty St.
Suite 701
Louisville, KY 40202

## Subj: PROPOSED NEW I-69 HIGHWAY BRIDGE BETWEEN EVANSVILLE, IN AND HENDERSON, KY, MILE 820.0, OHIO RIVER

Dear Mr. Miller:
In reviewing the Level 1 Draft Analysis Report, page 5 states the design minimums for horizontal and vertical clearances and pier spacings for new river crossings are: 55 feet above the $2 \%$ low level flood plain (vertical clearance); 69 feet above the normal pool plain; and 845 feet of horizontal clearance between piers. These statements are incorrect.

The correct minimum vertical guide clearance for the proposed subject bridge is: 55 feet above $2 \%$ flowline or 69 feet above normal pool (average June flow), whichever is greater. Also, the horizontal clearance in the navigation channel will be a minimum of 1000 feet. After a final crossing location is selected, we will determine pier placement and location and clearance requirements.

We appreciate the opportunity to comment on the project in this early stage. If you have any questions you can contact Mr. David Orzechowski of my office at the above number.

Sincerely,


Bridge Administrator
By direction of the District Commander

## EXHIBIT 1 <br> CORRESPONDENCE

## Banton, Phillip

From:
Sent:

## To:

Cc:

## Subject:

Pruitt, Richard L CIV USARMY CELRL (US) [Richard.L.Pruitt@usace.army.mil](mailto:Richard.L.Pruitt@usace.army.mil)
Friday, August 04, 2017 9:31 AM
Prevost, Daniel
Banton, Phillip; Nicaise, Steven; Janelle Lemon (jlemon@indot.in.gov); Marshall Carrier
(marshall.carrier@ky.gov); Gary Valentine (gvalentine@ky.gov); Poturalski, Jim; Michelle Allen (Michelle.Allen@dot.gov); Duane Thomas (duane.thomas@dot.gov); Pruitt, Richard L CIV USARMY CELRL (US)
RE: I-69 Ohio River Crossing - 2\% flow line data request

Dan:
The $2 \%$ elevation by duration is 370.7 feet Ohio River Datum (ORD) at the Evansville gage at mile 792.6. To convert to NGVD, subtract 0.5 feet. Comparing this elevation versus frequency elevations, it looks like this $2 \%$ duration elevation is a little bit less than a 10-year flood. The determination of this $2 \%$ elevation is based upon using Math Functions -> Statistics -> Duration Analysis tool built into DSS-VUE. The value is from 1930-present stage and a datum listed as 329.2 feet ORD. For the two locations you're interested in, I would suggest parallel profiling historical or frequency floods to estimate the elevations at your sites. Hope this will be of help to you.

## Richard

Richard Pruitt, P.E.
Ch, Hydrology \& Hydraulic Design Sec
Louisville District
US Army Corps of Engineers
Phone-502-315-6380
Fax - 502-315-6477
P.O. Box 59, Louisville, KY 40201-0059
----Original Message----
From: Prevost, Daniel [mailto:Daniel.Prevost@parsons.com]
Sent: Thursday, August 03, 2017 2:44 PM
To: Pruitt, Richard L CIV USARMY CELRL (US) [Richard.L.Pruitt@usace.army.mil](mailto:Richard.L.Pruitt@usace.army.mil)
Cc: Banton, Phillip [Phillip.Banton@parsons.com](mailto:Phillip.Banton@parsons.com); Nicaise, Steven [Steven.Nicaise@parsons.com](mailto:Steven.Nicaise@parsons.com); Janelle Lemon (jlemon@indot.in.gov) [jlemon@indot.in.gov](mailto:jlemon@indot.in.gov); Marshall Carrier (marshall.carrier@ky.gov) [marshall.carrier@ky.gov](mailto:marshall.carrier@ky.gov); Gary Valentine (gvalentine@ky.gov) [gvalentine@ky.gov](mailto:gvalentine@ky.gov); Poturalski, Jim [JPOTURALSKI@indot.IN.gov](mailto:JPOTURALSKI@indot.IN.gov); Michelle Allen (Michelle.Allen@dot.gov) [Michelle.Allen@dot.gov](mailto:Michelle.Allen@dot.gov); Duane Thomas (duane.thomas@dot.gov) [duane.thomas@dot.gov](mailto:duane.thomas@dot.gov)
Subject: [Non-DoD Source] I-69 Ohio River Crossing - 2\% flow line data request
Richard -

Thank you for chatting with Phil and I this afternoon. As discussed, we would like to request the $2 \%$ duration elevation curve for the area that encompasses our potential crossing locations. Those locations are:

* $\quad$ Ohio River mile 786.8 (just west of the existing US 41 bridges)
* $\quad$ Ohio River mile 785.2 (west of the Green River confluence)

We need this data to support our coordination efforts with the U.S. Coast Guard regarding vertical clearance of our proposed structure.

If you have any questions or need additional information from us as part of this request, please let me know.

Thank you.

- Dan

Dan Prevost, AICP CTP
Project Manager
daniel.prevost@parsons.com [mailto:daniel.prevost@parsons.com](mailto:daniel.prevost@parsons.com) - P: 513.552.7013 M: 513.368.0514
PARSONS - Envision More
Blockedwww.parsons.com [Blockedhttp://www.parsons.com/](Blockedhttp://www.parsons.com/) | Linkedln
<Blockedhttps://urldefense.proofpoint.com/v2/url?u=https-
$\qquad$ _www.linkedin.com_company_parsons\&d=BQMFaQ\&c=Nwf pp4xtYReOsCRVM8_LWH54joYF7EKmrYldfxiq10\&r=iZNIh6dnFYPILyq_2-
DmjpFMBmIHuB7rIGd_TCe7N6M\&m=98igw80xyFTtGS3BUxvVOOBEGOU_4VdnJFCmNS3GWsE\&s=XhjSw-
ZCxfOKjOwsh9wUKhkzNvFiYZoTizi-a3CdqXU\&e=> | Twitter
<Blockedhttps://urldefense.proofpoint.com/v2/url?u=https-3A_twitter.com_ParsonsCorp\&d=BQMFaQ\&c=Nwf-pp4xtYRe0sCRVM8_LWH54joYF7EKmrYldfxlq10\&r=iZNIh6dnFYPILyq_2-
DmjpFMBmIHuB7rIGd_TCe7N6M\&m=98igw80xyFTtGS3BUxvV00BEGOU_4VdnJFCmNS3GWsE\&s=ZAOeWpLHALG5 opp15alwjhlriBrfKZFLrGZqUOsi4kO\&e=> | Facebook <Blockedhttps://urldefense.proofpoint.com/v2/url?u=https-3A__www.facebook.com_parsonscorporation\&d=BQMFaQ\&c=Nwf-pp4xtYReOsCRVM8_LWH54joYF7EKmrYldfxiq10\&r=iZNIh6dnFYPILyq_2-
DmjpFMBmIHuB7rIGd_TCe7N6M\&m=98igw80xyFTtGS3BUxvV0OBEGOU_4VdnJFCmNS3GWsE\&s=UcmPD4yGVpnW pnEfR5XfqTV8qgTS6IKitqeqcVbnxHw\&e=>

## Banton, Phillip

| From: | Lamkin, Kenneth H CIV USARMY CELRL (US) [Kenneth.H.Lamkin@usace.army.mil](mailto:Kenneth.H.Lamkin@usace.army.mil) |
| :--- | :--- |
| Sent: | Tuesday, August 15, 2017 9:56 AM |
| To: | Banton, Phillip |
| Cc: | Pruitt, Richard L CIV USARMY CELRL (US) |
| Subject: | RE: I-69 Ohio River Crossing - 2\% flow line data request (UNCLASSIFIED) |
| Attachments: | Newburgh Evansville daily values.xlsx |

## CLASSIFICATION: UNCLASSIFIED

## Mr. Banton -

In looking through the data we have, unfortunately we do not have discharges to calculate the "average June flow" but I would think since you are looking for an elevation, that elevation data would suffice. Attached you will find an Excel spreadsheet where I have pulled the record of stage data we have readily available for the Evansville gauge downstream of your project area and the Newburgh L\&D lower gauge upstream of your project area. I have converted the stages to Ohio River Datum for reference, and you can convert to whatever datum you are referencing - as Richard mentioned, the conversion from ORD to 1929 NGVD is approximately - 0.54 feet, and the conversion to 1988 NAVD from ORD is approximately - 0.85 feet.

I will let you perform the computations needed to determine the project site values for the clearance requirements. I have included the location (river miles) of each gauge; I would think linear interpolation between the two and extraction and averaging of the June data would adequately represent the elevation for the "average June flow". For reference in selecting your data range, the pool raise for both the JT Myers (formerly Uniontown) L\&D downstream and the Newburgh L\&D upstream was completed in January 1975.

If you have any further questions, please feel free to contact me per below.
Regards,
Ken
Ken Lamkin, PE
LRD Regional Technical Specialist (H\&H - Navigation),
LRL Hydropower Coordinator
US Army Corps of Engineers
Louisville District (LRL) - Hydrology \& Hydraulic Design Section
Phone: (502) 315-6458
Cell: (502) 648-5602
Email: Kenneth.H.Lamkin@usace.army.mil
-----Original Message----
From: Pruitt, Richard L CIV USARMY CELRL (US)
Sent: Friday, August 11, 2017 1:36 PM
To: Banton, Phillip [Phillip.Banton@parsons.com](mailto:Phillip.Banton@parsons.com); Lamkin, Kenneth H CIV USARMY CELRL (US)
[Kenneth.H.Lamkin@usace.army.mil](mailto:Kenneth.H.Lamkin@usace.army.mil)
Subject: RE: I-69 Ohio River Crossing - $2 \%$ flow line data request
Ken, I won't have a chance to look up this information that Philip Banton is requesting before my trip to Buffalo next week. If you have an opportunity, can you find the data that he's requesting in the below messages? Thanks.

Richard

Richard Pruitt, P.E.
Ch, Hydrology \& Hydraulic Design Sec
Louisville District
US Army Corps of Engineers
Phone-502-315-6380
Fax - 502-315-6477
P.O. Box 59, Louisville, KY 40201-0059
----Original Message----
From: Banton, Phillip [mailto:Phillip.Banton@parsons.com]
Sent: Friday, August 11, 2017 11:52 AM
To: Pruitt, Richard L CIV USARMY CELRL (US) [Richard.L.Pruitt@usace.army.mil](mailto:Richard.L.Pruitt@usace.army.mil)
Cc: Prevost, Daniel [Daniel.Prevost@parsons.com](mailto:Daniel.Prevost@parsons.com)
Subject: [Non-DoD Source] RE: I-69 Ohio River Crossing - 2\% flow line data request
Thanks, Richard. We'll need that information to set our bridge clearances. Let us know if we can help.
----Original Message-----
From: Pruitt, Richard L CIV USARMY CELRL (US) [mailto:Richard.L.Pruitt@usace.army.mil]
Sent: Monday, August 07, 2017 7:48 AM
To: Banton, Phillip [Phillip.Banton@parsons.com](mailto:Phillip.Banton@parsons.com)
Cc: Prevost, Daniel [Daniel.Prevost@parsons.com](mailto:Daniel.Prevost@parsons.com)
Subject: RE: I-69 Ohio River Crossing - 2\% flow line data request
Change that discharge to 80,000 cfs for the McAlpine area. For the area by Evansville, I don't have that information at hand at this time.

Richard
----Original Message----
From: Pruitt, Richard L CIV USARMY CELRL (US)
Sent: Monday, August 07, 2017 7:46 AM
To: 'Banton, Phillip' [Phillip.Banton@parsons.com](mailto:Phillip.Banton@parsons.com)
Cc: Prevost, Daniel [Daniel.Prevost@parsons.com](mailto:Daniel.Prevost@parsons.com)
Subject: RE: I-69 Ohio River Crossing - 2\% flow line data request
Dan:
Normal pool is a flat pool based upon the dam elevations at the various lock and dams. The average pool I believe is based upon the average June pool for water year 1982, I think, which had a discharge of about 22,000 cfs. I'm relying on my memory now as I can't find the backup data for that information. Hopefully, that's good enough for you now.

Richard
Richard Pruitt, P.E.
Ch, Hydrology \& Hydraulic Design Sec
Louisville District
US Army Corps of Engineers
Phone-502-315-6380
Fax - 502-315-6477
P.O. Box 59, Louisville, KY 40201-0059

Sent: Friday, August 04, 2017 4:48 PM
To: Pruitt, Richard L CIV USARMY CELRL (US) [Richard.L.Pruitt@usace.army.mil](mailto:Richard.L.Pruitt@usace.army.mil)
Cc: Prevost, Daniel [Daniel.Prevost@parsons.com](mailto:Daniel.Prevost@parsons.com)
Subject: [Non-DoD Source] RE: I-69 Ohio River Crossing - 2\% flow line data request
Thanks, Richard,
Could you confirm one more thing? Is the "average June pool" the same as the "normal pool" and "project pool" in this area?
----Original Message-----
From: Pruitt, Richard L CIV USARMY CELRL (US) [mailto:Richard.L.Pruitt@usace.army.mil]
Sent: Friday, August 04, 2017 9:31 AM
To: Prevost, Daniel [Daniel.Prevost@parsons.com](mailto:Daniel.Prevost@parsons.com)
Cc: Banton, Phillip [Phillip.Banton@parsons.com](mailto:Phillip.Banton@parsons.com); Nicaise, Steven [Steven.Nicaise@parsons.com](mailto:Steven.Nicaise@parsons.com); Janelle Lemon (jlemon@indot.in.gov) [jlemon@indot.in.gov](mailto:jlemon@indot.in.gov); Marshall Carrier (marshall.carrier@ky.gov) [marshall.carrier@ky.gov](mailto:marshall.carrier@ky.gov); Gary Valentine (gvalentine@ky.gov) [gvalentine@ky.gov](mailto:gvalentine@ky.gov); Poturalski, Jim [JPOTURALSKI@indot.IN.gov](mailto:JPOTURALSKI@indot.IN.gov); Michelle Allen (Michelle.Allen@dot.gov) [Michelle.Allen@dot.gov](mailto:Michelle.Allen@dot.gov); Duane Thomas (duane.thomas@dot.gov) [duane.thomas@dot.gov](mailto:duane.thomas@dot.gov); Pruitt, Richard L CIV USARMY CELRL (US) [Richard.L.Pruitt@usace.army.mil](mailto:Richard.L.Pruitt@usace.army.mil) Subject: RE: I-69 Ohio River Crossing - 2\% flow line data request

Dan:
The $2 \%$ elevation by duration is 370.7 feet Ohio River Datum (ORD) at the Evansville gage at mile 792.6. To convert to NGVD, subtract 0.5 feet. Comparing this elevation versus frequency elevations, it looks like this $2 \%$ duration elevation is a little bit less than a 10-year flood. The determination of this $2 \%$ elevation is based upon using Math Functions -> Statistics -> Duration Analysis tool built into DSS-VUE. The value is from 1930-present stage and a datum listed as 329.2 feet ORD. For the two locations you're interested in, I would suggest parallel profiling historical or frequency floods to estimate the elevations at your sites. Hope this will be of help to you.

Richard
Richard Pruitt, P.E.
Ch, Hydrology \& Hydraulic Design Sec
Louisville District
US Army Corps of Engineers
Phone-502-315-6380
Fax - 502-315-6477
P.O. Box 59, Louisville, KY 40201-0059

## ----Original Message-----

From: Prevost, Daniel [mailto:Daniel.Prevost@parsons.com]
Sent: Thursday, August 03, 2017 2:44 PM
To: Pruitt, Richard L CIV USARMY CELRL (US) [Richard.L.Pruitt@usace.army.mil](mailto:Richard.L.Pruitt@usace.army.mil)
Cc: Banton, Phillip [Phillip.Banton@parsons.com](mailto:Phillip.Banton@parsons.com); Nicaise, Steven [Steven.Nicaise@parsons.com](mailto:Steven.Nicaise@parsons.com); Janelle Lemon (jlemon@indot.in.gov) [jlemon@indot.in.gov](mailto:jlemon@indot.in.gov); Marshall Carrier (marshall.carrier@ky.gov) [marshall.carrier@ky.gov](mailto:marshall.carrier@ky.gov); Gary Valentine (gvalentine@ky.gov) [gvalentine@ky.gov](mailto:gvalentine@ky.gov); Poturalski, Jim [JPOTURALSKI@indot.IN.gov](mailto:JPOTURALSKI@indot.IN.gov); Michelle Allen (Michelle.Allen@dot.gov) [Michelle.Allen@dot.gov](mailto:Michelle.Allen@dot.gov); Duane Thomas (duane.thomas@dot.gov) [duane.thomas@dot.gov](mailto:duane.thomas@dot.gov)
Subject: [Non-DoD Source] I-69 Ohio River Crossing - 2\% flow line data request
Richard -

| EXHIBIT 1 |
| :---: | :---: |
|  |

Thank you for chatting with Phil and I this afternoon. As discussed, we would like to request the $2 \%$ duration elevation curve for the area that encompasses our potential crossing locations. Those locations are:

* Ohio River mile 786.8 (just west of the existing US 41 bridges)
* Ohio River mile 785.2 (west of the Green River confluence)

We need this data to support our coordination efforts with the U.S. Coast Guard regarding vertical clearance of our proposed structure.

If you have any questions or need additional information from us as part of this request, please let me know.

Thank you.

- Dan

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|  | Vicksburg to Cairo, IL | Fixed | 55 ft . | Maximum river level. |
| :---: | :---: | :---: | :---: | :---: |
|  | Cairo to llinois River, IL | Fixed | 60 ft . | 2 pct flowline. |
|  | Illinois River to Lafayette Rd., St. Paut, MN mile 853 | Fixed | $\begin{aligned} & 60 \mathrm{ft} . \\ & 52 \mathrm{ft} . \end{aligned}$ | Normal pool. or 2 pct flowline whichever is greater. |
|  | mile 853 to mile857.6 | Fixed | 21.4 ft . | River stage 40,000 cfs |
| 67 | St. Croix River, MN: |  |  |  |
|  | Mouth to Stillwater, MN | Fixed | $\begin{aligned} & 60 \mathrm{ft.} \\ & 52 \mathrm{ft} \end{aligned}$ | Normal Pool. 2 pct flowline |
| 68 | Allegheny River, PA: |  |  |  |
|  | Emsworth Pool | Fixed | 40 ft . | Moveable crest dam. |
|  | Dam 2 to East Brady | Fixed | 47 ft . | Fixed crest dam |
| 69 | Monongahela River, PA: |  |  |  |
|  | Emsworth pool to Fairmont, WV | Fixed | 42.5 ft | Normal Pool |
|  | Dam 2 | Fixed | 47 ft | Dam crest |
| 70 | Ohio River, |  |  |  |
|  | PA to IL | Fixed | $\begin{aligned} & 69 \mathrm{ft} . \\ & 55 \mathrm{ft} . \end{aligned}$ | Average June flow. <br> 2 pct flowline |
| 71 | Tennessee River, |  |  |  |

* excerpt from USCG "Bridge Clearance Guide.doc" (rev 2012-02-09)

| DAILY VALUES FOR EVANSVILLE GAGE AND FOR NEWBURGH GAGE |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SOURCE: CORPS OF ENGINEERS |  |  |  |  |  |  |  |  |
| DATE RANGE: June 1975-2017 |  |  |  |  |  |  |  |  |
|  |  | Newburgh Lower | Evansville | Newburgh Lower | Evansville | Newburgh Lower | Evansville | Remarks |
| Units |  | FEET (Stage) | FEET (Stage) | Elev (ORD) | Elev (ORD) | Elev (NAVD88) | Elev (NAVD88) |  |
| Type |  | INST-VAL | INST-VAL | Stage +330.0 | Stage +329.2 | ORD EL -0.80' | ORD EL -0.80' |  |
| 16588 | 1-Jun-75 | 19.3 | 17.3 | 349.3 | 346.5 | 348.5 | 345.7 |  |
| 16589 | 2-Jun-75 | 21.6 | 19.2 | 351.6 | 348.4 | 350.8 | 347.6 |  |
| 16590 | 3-Jun-75 | 21.8 | 19.6 | 351.8 | 348.8 | 351 | 348 |  |
| 16591 | 4-Jun-75 | 21 | 18.9 | 351 | 348.1 | 350.2 | 347.3 |  |
| 16592 | 5-Jun-75 | 21.8 | 19.4 | 351.8 | 348.6 | 351 | 347.8 |  |
| 16593 | 6-Jun-75 | 22.5 | 20.1 | 352.5 | 349.3 | 351.7 | 348.5 |  |
| 16594 | 7-Jun-75 | 21.9 | 19.7 | 351.9 | 348.9 | 351.1 | 348.1 |  |
| 16595 | 8-Jun-75 | 21.6 | 19.2 | 351.6 | 348.4 | 350.8 | 347.6 |  |
| 16596 | 9-Jun-75 | 22.2 | 19.7 | 352.2 | 348.9 | 351.4 | 348.1 |  |
| 16597 | 10-Jun-75 | 22.9 | 20.4 | 352.9 | 349.6 | 352.1 | 348.8 |  |
| 16598 | 11-Jun-75 | 23.1 | 20.6 | 353.1 | 349.8 | 352.3 | 349 |  |
| 16599 | 12-Jun-75 | 23.2 | 20.9 | 353.2 | 350.1 | 352.4 | 349.3 |  |
| 16600 | 13-Jun-75 | 20.6 | 18.7 | 350.6 | 347.9 | 349.8 | 347.1 |  |
| 16601 | 14-Jun-75 | 19.6 | 17.8 | 349.6 | 347 | 348.8 | 346.2 |  |
| 16602 | 15-Jun-75 | 19.3 | 17.4 | 349.3 | 346.6 | 348.5 | 345.8 |  |
| 16603 | 16-Jun-75 | 20.3 | 18.2 | 350.3 | 347.4 | 349.5 | 346.6 |  |
| 16604 | 17-Jun-75 | 19.9 | 18.1 | 349.9 | 347.3 | 349.1 | 346.5 |  |
| 16605 | 18-Jun-75 | 21.3 | 19 | 351.3 | 348.2 | 350.5 | 347.4 |  |
| 16606 | 19-Jun-75 | 20.3 | 18.2 | 350.3 | 347.4 | 349.5 | 346.6 |  |
| 16607 | 20-Jun-75 | 20.4 | 18.3 | 350.4 | 347.5 | 349.6 | 346.7 |  |
| 16608 | 21-Jun-75 | 19.1 | 17.4 | 349.1 | 346.6 | 348.3 | 345.8 |  |
| 16609 | 22-Jun-75 | 18.3 | 16.8 | 348.3 | 346 | 347.5 | 345.2 |  |
| 16610 | 23-Jun-75 | 17.2 | 16 | 347.2 | 345.2 | 346.4 | 344.4 |  |
| 16611 | 24-Jun-75 | 16.1 | 15.2 | 346.1 | 344.4 | 345.3 | 343.6 |  |
| 16612 | 25-Jun-75 | 14.8 | 14.4 | 344.8 | 343.6 | 344 | 342.8 |  |
| 16613 | 26-Jun-75 | 14.1 | 13.8 | 344.1 | 343 | 343.3 | 342.2 |  |
| 16614 | 27-Jun-75 | 14.6 | 14.1 | 344.6 | 343.3 | 343.8 | 342.5 |  |
| 16615 | 28-Jun-75 | 15.8 | 15 | 345.8 | 344.2 | 345 | 343.4 |  |
| 16616 | 29-Jun-75 | 15.6 | 14.8 | 345.6 | 344 | 344.8 | 343.2 |  |
| 16617 | 30-Jun-75 | 15.8 | 14.9 | 345.8 | 344.1 | 345 | 343.3 |  |
| 16954 | 1-Jun-76 | 17.5 | 15.8 | 347.5 | 345 | 346.7 | 344.2 |  |
| 16955 | 2-Jun-76 | 18.1 | 16.7 | 2101 | 2450 | HIBIT 3 ${ }^{\text {2072 }}$ | 345.1 |  |
| 16956 | 3-Jun-76 | 18 | 16.7 |  | EX | HBIT 3 | 45.1 |  |
| 16957 | 4-Jun-76 | 19.6 | 18 |  | ERAGE | JUNE FLOV | NS 46.4 |  |
| 16958 | 5-Jun-76 | 19.7 | 18.1 |  |  |  | 46.5 |  |
| 16959 | 6-Jun-76 | 19.1 | 17.8 | 349.1 | 347 | 348.3 | 346.2 |  |
| 16960 | 7-Jun-76 | 17.3 | 16.5 | 347.3 | 345.7 | 346.5 | 344.9 |  |
| 16961 | 8-Jun-76 | 16.4 | 15.6 | 346.4 | 344.8 | 345.6 | 344 |  |
| 16962 | 9-Jun-76 | 14.1 | 14.2 | 344.1 | 343.4 | 343.3 | 342.6 |  |
| 16963 | 10-Jun-76 | 13.8 | 14.1 | 343.8 | 343.3 | 343 | 342.5 |  |
| 16964 | 11-Jun-76 | 14.5 | 14.3 | 344.5 | 343.5 | 343.7 | 342.7 |  |
| 16965 | 12-Jun-76 | 13.9 | 14 | 343.9 | 343.2 | 343.1 | 342.4 |  |
| 16966 | 13-Jun-76 | 13.2 | 13.5 | 343.2 | 342.7 | 342.4 | 341.9 |  |
| 16967 | 14-Jun-76 | 12.7 | 13.4 | 342.7 | 342.6 | 341.9 | 341.8 |  |
| 16968 | 15-Jun-76 | 13.6 | 13.8 | 343.6 | 343 | 342.8 | 342.2 |  |
| 16969 | 16-Jun-76 | 13.4 | 13.4 | 343.4 | 342.6 | 342.6 | 341.8 |  |
| 16970 | 17-Jun-76 | 13.5 | 13.7 | 343.5 | 342.9 | 342.7 | 342.1 |  |
| 16971 | 18-Jun-76 | 13.5 | 13.7 | 343.5 | 342.9 | 342.7 | 342.1 |  |
| 16972 | 19-Jun-76 | 13.4 | 13.7 | 343.4 | 342.9 | 342.6 | 342.1 |  |
| 16973 | 20-Jun-76 | 15.4 | 14.8 | 345.4 | 344 | 344.6 | 343.2 |  |
| 16974 | 21-Jun-76 | 16.7 | 15.5 | 346.7 | 344.7 | 345.9 | 343.9 |  |


| 16975 | 22-Jun-76 | 16.5 | 15.4 | 346.5 | 344.6 | 345.7 | 343.8 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 16976 | 23-Jun-76 | 16.8 | 15.6 | 346.8 | 344.8 | 346 | 344 |  |
| 16977 | 24-Jun-76 | 17.8 | 16.5 | 347.8 | 345.7 | 347 | 344.9 |  |
| 16978 | 25-Jun-76 | 18.5 | 16.8 | 348.5 | 346 | 347.7 | 345.2 |  |
| 16979 | 26-Jun-76 | 21 | 18.6 | 351 | 347.8 | 350.2 | 347 |  |
| 16980 | 27-Jun-76 | 21.6 | 18.4 | 351.6 | 347.6 | 350.8 | 346.8 |  |
| 16981 | 28-Jun-76 | 19.4 | 17.9 | 349.4 | 347.1 | 348.6 | 346.3 |  |
| 16982 | 29-Jun-76 | 18.1 | 16.7 | 348.1 | 345.9 | 347.3 | 345.1 |  |
| 16983 | 30-Jun-76 | 16.9 | 15.9 | 346.9 | 345.1 | 346.1 | 344.3 |  |
| 17319 | 1-Jun-77 | 13.1 | 13.7 | 343.1 | 342.9 | 342.3 | 342.1 |  |
| 17320 | 2-Jun-77 | 12.9 | 13.4 | 342.9 | 342.6 | 342.1 | 341.8 |  |
| 17321 | 3-Jun-77 | 12.7 | 13.3 | 342.7 | 342.5 | 341.9 | 341.7 |  |
| 17322 | 4-Jun-77 | 12.7 | 13.2 | 342.7 | 342.4 | 341.9 | 341.6 |  |
| 17323 | 5-Jun-77 | 12.7 | 13.3 | 342.7 | 342.5 | 341.9 | 341.7 |  |
| 17324 | 6-Jun-77 | 12.6 | 13.2 | 342.6 | 342.4 | 341.8 | 341.6 |  |
| 17325 | 7-Jun-77 | 13 | 13.5 | 343 | 342.7 | 342.2 | 341.9 |  |
| 17326 | 8-Jun-77 | 13.2 | 13.7 | 343.2 | 342.9 | 342.4 | 342.1 |  |
| 17327 | 9-Jun-77 | 13.2 | 13.7 | 343.2 | 342.9 | 342.4 | 342.1 |  |
| 17328 | 10-Jun-77 | 13.9 | 14.3 | 343.9 | 343.5 | 343.1 | 342.7 |  |
| 17329 | 11-Jun-77 | 14 | 14.4 | 344 | 343.6 | 343.2 | 342.8 |  |
| 17330 | 12-Jun-77 | 14.2 | 14.3 | 344.2 | 343.5 | 343.4 | 342.7 |  |
| 17331 | 13-Jun-77 | 14.2 | 14.5 | 344.2 | 343.7 | 343.4 | 342.9 |  |
| 17332 | 14-Jun-77 | 14.7 | 15 | 344.7 | 344.2 | 343.9 | 343.4 |  |
| 17333 | 15-Jun-77 | 14.8 | 15 | 344.8 | 344.2 | 344 | 343.4 |  |
| 17334 | 16-Jun-77 | 13.8 | 14.1 | 343.8 | 343.3 | 343 | 342.5 |  |
| 17335 | 17-Jun-77 | 12.5 | 13 | 342.5 | 342.2 | 341.7 | 341.4 |  |
| 17336 | 18-Jun-77 | 12.9 | 13.5 | 342.9 | 342.7 | 342.1 | 341.9 |  |
| 17337 | 19-Jun-77 | 13.7 | 14 | 343.7 | 343.2 | 342.9 | 342.4 |  |
| 17338 | 20-Jun-77 | 14.4 | 14.2 | 344.4 | 343.4 | 343.6 | 342.6 |  |
| 17339 | 21-Jun-77 | 14.4 | 14.3 | 344.4 | 343.5 | 343.6 | 342.7 |  |
| 17340 | 22-Jun-77 | 12.6 | 13.2 | 342.6 | 342.4 | 341.8 | 341.6 |  |
| 17341 | 23-Jun-77 | 12.6 | 13.3 | 342.6 | 342.5 | 341.8 | 341.7 |  |
| 17342 | 24-Jun-77 | 14.1 | 14.4 | 344.1 | 343.6 | 343.3 | 342.8 |  |
| 17343 | 25-Jun-77 | 14.6 | 14.4 | 344.6 | 343.6 | 343.8 | 342.8 |  |
| 17344 | 26-Jun-77 | 14.7 | 14.7 | 344.7 | 343.9 | 343.9 | 343.1 |  |
| 17345 | 27-Jun-77 | 16.2 | 15.4 | 346.2 | 344.6 | 345.4 | 343.8 |  |
| 17346 | 28-Jun-77 | 17.1 | 16.1 | 347.1 | 345.3 | 346.3 | 344.5 |  |
| 17347 | 29-Jun-77 | 17.5 | 16.4 | 347.5 | 345.6 | 346.7 | 344.8 |  |
| 17348 | 30-Jun-77 | 17.4 | 16 | 347.4 | 345.2 | 346.6 | 344.4 |  |
| 17684 | 1-Jun-78 | 21 | 19.2 | 351 | 348.4 | 350.2 | 347.6 |  |
| 17685 | 2-Jun-78 | 18.5 | 17.3 | 348.5 | 346.5 | 347.7 | 345.7 |  |
| 17686 | 3-Jun-78 | 18.6 | 17.3 | 348.6 | 346.5 | 347.8 | 345.7 |  |
| 17687 | 4-Jun-78 | 18.1 | 16.9 | 348.1 | 346.1 | 347.3 | 345.3 |  |
| 17688 | 5-Jun-78 | 16.8 | 16.1 | 346.8 | 345.3 | 346 | 344.5 |  |
| 17689 | 6-Jun-78 | 16.4 | 15.7 | 346.4 | 344.9 | 345.6 | 344.1 |  |
| 17690 | 7-Jun-78 | 16.6 | 15.7 | 346.6 | 344.9 | 345.8 | 344.1 |  |
| 17691 | 8-Jun-78 | 16.2 | 15.7 | 346.2 | 344.9 | 345.4 | 344.1 |  |
| 17692 | 9-Jun-78 | 16.1 | 15.6 | 346.1 | 344.8 | 345.3 | 344 |  |
| 17693 | 10-Jun-78 | 17.9 | 16.7 | 347.9 | 345.9 | 347.1 | 345.1 |  |
| 17694 | 11-Jun-78 | 19.6 | 17.7 | 349.6 | 346.9 | 348.8 | 346.1 |  |
| 17695 | 12-Jun-78 | 20.9 | 19 | 350.9 | 348.2 | 350.1 | 347.4 |  |
| 17696 | 13-Jun-78 | 20.5 | 18.8 | 350.5 | 348 | 349.7 | 347.2 |  |
| 17697 | 14-Jun-78 | 18.5 | 17.2 | 348.5 | 346.4 | 347.7 | 345.6 |  |
| 17698 | 15-Jun-78 | 17.6 | 16.4 | 347.6 | 345.6 | 346.8 | 344.8 |  |
| 17699 | 16-Jun-78 | 17 | 16.3 | 347 | 345.5 | 346.2 | 344.7 |  |
| 17700 | 17-Jun-78 | 15.6 | 15.5 | 345.6 | 344.7 | 344.8 | 343.9 |  |
| 17701 | 18-Jun-78 | 15.2 | 15.1 | 345.2 | 344.3 | 344.4 | 343.5 |  |
| 17702 | 19-Jun-78 | 16 | 15.4 | 346 | 344.6 | 345.2 | 343.8 |  |


| 17703 | 20-Jun-78 | 16.8 | 16.1 | 346.8 | 345.3 | 346 | 344.5 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 17704 | 21-Jun-78 | 15.2 | 15.1 | 345.2 | 344.3 | 344.4 | 343.5 |  |
| 17705 | 22-Jun-78 | 16.9 | 16.2 | 346.9 | 345.4 | 346.1 | 344.6 |  |
| 17706 | 23-Jun-78 | 17.3 | 16.3 | 347.3 | 345.5 | 346.5 | 344.7 |  |
| 17707 | 24-Jun-78 | 17.1 | 16.4 | 347.1 | 345.6 | 346.3 | 344.8 |  |
| 17708 | 25-Jun-78 | 15.5 | 15.2 | 345.5 | 344.4 | 344.7 | 343.6 |  |
| 17709 | 26-Jun-78 | 14.6 | 14.4 | 344.6 | 343.6 | 343.8 | 342.8 |  |
| 17710 | 27-Jun-78 | 15.2 | 14.7 | 345.2 | 343.9 | 344.4 | 343.1 |  |
| 17711 | 28-Jun-78 | 15.2 | 14.8 | 345.2 | 344 | 344.4 | 343.2 |  |
| 17712 | 29-Jun-78 | 16.3 | 15.5 | 346.3 | 344.7 | 345.5 | 343.9 |  |
| 17713 | 30-Jun-78 | 17 | 16.2 | 347 | 345.4 | 346.2 | 344.6 |  |
| 18049 | 1-Jun-79 | 30.2 | 27.1 | 360.2 | 356.3 | 359.4 | 355.5 |  |
| 18050 | 2-Jun-79 | 29.2 | 26.4 | 359.2 | 355.6 | 358.4 | 354.8 |  |
| 18051 | 3-Jun-79 | 26.3 | 24.1 | 356.3 | 353.3 | 355.5 | 352.5 |  |
| 18052 | 4-Jun-79 | 23.4 | 21.4 | 353.4 | 350.6 | 352.6 | 349.8 |  |
| 18053 | 5-Jun-79 | 21.5 | 19.6 | 351.5 | 348.8 | 350.7 | 348 |  |
| 18054 | 6-Jun-79 | 20.4 | 18.8 | 350.4 | 348 | 349.6 | 347.2 |  |
| 18055 | 7-Jun-79 | 20.4 | 18.8 | 350.4 | 348 | 349.6 | 347.2 |  |
| 18056 | 8-Jun-79 | 22.4 | 20.5 | 352.4 | 349.7 | 351.6 | 348.9 |  |
| 18057 | 9-Jun-79 | 25.4 | 23.1 | 355.4 | 352.3 | 354.6 | 351.5 |  |
| 18058 | 10-Jun-79 | 28.9 | 26.1 | 358.9 | 355.3 | 358.1 | 354.5 |  |
| 18059 | 11-Jun-79 | 26.3 | 24.5 | 356.3 | 353.7 | 355.5 | 352.9 |  |
| 18060 | 12-Jun-79 | 23.6 | 21.7 | 353.6 | 350.9 | 352.8 | 350.1 |  |
| 18061 | 13-Jun-79 | 22.9 | 21 | 352.9 | 350.2 | 352.1 | 349.4 |  |
| 18062 | 14-Jun-79 | 21.8 | 20 | 351.8 | 349.2 | 351 | 348.4 |  |
| 18063 | 15-Jun-79 | 20.6 | 19.1 | 350.6 | 348.3 | 349.8 | 347.5 |  |
| 18064 | 16-Jun-79 | 18.7 | 17.6 | 348.7 | 346.8 | 347.9 | 346 |  |
| 18065 | 17-Jun-79 | 16.4 | 16 | 346.4 | 345.2 | 345.6 | 344.4 |  |
| 18066 | 18-Jun-79 | 15.2 | 15.2 | 345.2 | 344.4 | 344.4 | 343.6 |  |
| 18067 | 19-Jun-79 | 15.3 | 15.1 | 345.3 | 344.3 | 344.5 | 343.5 |  |
| 18068 | 20-Jun-79 | 15.3 | 15 | 345.3 | 344.2 | 344.5 | 343.4 |  |
| 18069 | 21-Jun-79 | 16.5 | 15.8 | 346.5 | 345 | 345.7 | 344.2 |  |
| 18070 | 22-Jun-79 | 18.7 | 17.1 | 348.7 | 346.3 | 347.9 | 345.5 |  |
| 18071 | 23-Jun-79 | 20.8 | 18.7 | 350.8 | 347.9 | 350 | 347.1 |  |
| 18072 | 24-Jun-79 | 22 | 19.6 | 352 | 348.8 | 351.2 | 348 |  |
| 18073 | 25-Jun-79 | 23.7 | 21.1 | 353.7 | 350.3 | 352.9 | 349.5 |  |
| 18074 | 26-Jun-79 | 25 | 22.3 | 355 | 351.5 | 354.2 | 350.7 |  |
| 18075 | 27-Jun-79 | 24.6 | 22.2 | 354.6 | 351.4 | 353.8 | 350.6 |  |
| 18076 | 28-Jun-79 | 21.3 | 19.5 | 351.3 | 348.7 | 350.5 | 347.9 |  |
| 18077 | 29-Jun-79 | 18.3 | 16.6 | 348.3 | 345.8 | 347.5 | 345 |  |
| 18078 | 30-Jun-79 | 16.2 | 15.3 | 346.2 | 344.5 | 345.4 | 343.7 |  |
| 18415 | 1-Jun-80 | 18 | 17 | 348 | 346.2 | 347.2 | 345.4 |  |
| 18416 | 2-Jun-80 | 16.8 | 16 | 346.8 | 345.2 | 346 | 344.4 |  |
| 18417 | 3-Jun-80 | 18.1 | 16.7 | 348.1 | 345.9 | 347.3 | 345.1 |  |
| 18418 | 4-Jun-80 | 19.8 | 18 | 349.8 | 347.2 | 349 | 346.4 |  |
| 18419 | 5-Jun-80 | 21.8 | 19.6 | 351.8 | 348.8 | 351 | 348 |  |
| 18420 | 6-Jun-80 | 24.5 | 21.7 | 354.5 | 350.9 | 353.7 | 350.1 |  |
| 18421 | 7-Jun-80 | 26 | 23.1 | 356 | 352.3 | 355.2 | 351.5 |  |
| 18422 | 8-Jun-80 | 26.7 | 23.3 | 356.7 | 352.5 | 355.9 | 351.7 |  |
| 18423 | 9-Jun-80 | 26 | 23.4 | 356 | 352.6 | 355.2 | 351.8 |  |
| 18424 | 10-Jun-80 | 25 | 22.4 | 355 | 351.6 | 354.2 | 350.8 |  |
| 18425 | 11-Jun-80 | 24.7 | 22.1 | 354.7 | 351.3 | 353.9 | 350.5 |  |
| 18426 | 12-Jun-80 | 24.3 | 21.8 | 354.3 | 351 | 353.5 | 350.2 |  |
| 18427 | 13-Jun-80 | 23.5 | 21.1 | 353.5 | 350.3 | 352.7 | 349.5 |  |
| 18428 | 14-Jun-80 | 22.4 | 20.2 | 352.4 | 349.4 | 351.6 | 348.6 |  |
| 18429 | 15-Jun-80 | 21.6 | 19.4 | 351.6 | 348.6 | 350.8 | 347.8 |  |
| 18430 | 16-Jun-80 | 20.1 | 18.3 | 350.1 | 347.5 | 349.3 | 346.7 |  |
| 18431 | 17-Jun-80 | 18.5 | 17 | 348.5 | 346.2 | 347.7 | 345.4 |  |


| 18432 | 18-Jun-80 | 17.7 | 16.3 | 347.7 | 345.5 | 346.9 | 344.7 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18433 | 19-Jun-80 | 17.6 | 16.2 | 347.6 | 345.4 | 346.8 | 344.6 |  |
| 18434 | 20-Jun-80 | 18.5 | 16.9 | 348.5 | 346.1 | 347.7 | 345.3 |  |
| 18435 | 21-Jun-80 | 17.9 | 16.6 | 347.9 | 345.8 | 347.1 | 345 |  |
| 18436 | 22-Jun-80 | 16.8 | 15.9 | 346.8 | 345.1 | 346 | 344.3 |  |
| 18437 | 23-Jun-80 | 14.7 | 14.4 | 344.7 | 343.6 | 343.9 | 342.8 |  |
| 18438 | 24-Jun-80 | 15.5 | 15 | 345.5 | 344.2 | 344.7 | 343.4 |  |
| 18439 | 25-Jun-80 | 15.1 | 14.9 | 345.1 | 344.1 | 344.3 | 343.3 |  |
| 18440 | 26-Jun-80 | 14 | 13.9 | 344 | 343.1 | 343.2 | 342.3 |  |
| 18441 | 27-Jun-80 | 14 | 13.9 | 344 | 343.1 | 343.2 | 342.3 |  |
| 18442 | 28-Jun-80 | 12.9 | 13.3 | 342.9 | 342.5 | 342.1 | 341.7 |  |
| 18443 | 29-Jun-80 | 16.1 | 15.1 | 346.1 | 344.3 | 345.3 | 343.5 |  |
| 18444 | 30-Jun-80 | 17.4 | 16.6 | 347.4 | 345.8 | 346.6 | 345 |  |
| 18780 | 1-Jun-81 | 28 | 25.8 | 358 | 355 | 357.2 | 354.2 |  |
| 18781 | 2-Jun-81 | 29.8 | 27.2 | 359.8 | 356.4 | 359 | 355.6 |  |
| 18782 | 3-Jun-81 | 31.6 | 28.9 | 361.6 | 358.1 | 360.8 | 357.3 |  |
| 18783 | 4-Jun-81 | 32.1 | 29.6 | 362.1 | 358.8 | 361.3 | 358 |  |
| 18784 | 5-Jun-81 | 31.8 | 29.3 | 361.8 | 358.5 | 361 | 357.7 |  |
| 18785 | 6-Jun-81 | 31.3 | 28.8 | 361.3 | 358 | 360.5 | 357.2 |  |
| 18786 | 7-Jun-81 | 31.7 | 29.1 | 361.7 | 358.3 | 360.9 | 357.5 |  |
| 18787 | 8-Jun-81 | 33.4 | 30.4 | 363.4 | 359.6 | 362.6 | 358.8 |  |
| 18788 | 9-Jun-81 | 36.2 | 32.9 | 366.2 | 362.1 | 365.4 | 361.3 |  |
| 18789 | 10-Jun-81 | 38.7 | 35.3 | 368.7 | 364.5 | 367.9 | 363.7 |  |
| 18790 | 11-Jun-81 | 40.2 | 36.6 | 370.2 | 365.8 | 369.4 | 365 |  |
| 18791 | 12-Jun-81 | 41.6 | 38.2 | 371.6 | 367.4 | 370.8 | 366.6 |  |
| 18792 | 13-Jun-81 | 41.8 | 38.8 | 371.8 | 368 | 371 | 367.2 |  |
| 18793 | 14-Jun-81 | 40.9 | 38 | 370.9 | 367.2 | 370.1 | 366.4 |  |
| 18794 | 15-Jun-81 | 39.8 | 37.2 | 369.8 | 366.4 | 369 | 365.6 |  |
| 18795 | 16-Jun-81 | 38.3 | 35.8 | 368.3 | 365 | 367.5 | 364.2 |  |
| 18796 | 17-Jun-81 | 36.7 | 34.1 | 366.7 | 363.3 | 365.9 | 362.5 |  |
| 18797 | 18-Jun-81 | 35.7 | 33 | 365.7 | 362.2 | 364.9 | 361.4 |  |
| 18798 | 19-Jun-81 | 34.5 | 31.9 | 364.5 | 361.1 | 363.7 | 360.3 |  |
| 18799 | 20-Jun-81 | 32.3 | 29.9 | 362.3 | 359.1 | 361.5 | 358.3 |  |
| 18800 | 21-Jun-81 | 29.3 | 27.3 | 359.3 | 356.5 | 358.5 | 355.7 |  |
| 18801 | 22-Jun-81 | 25.4 | 23.6 | 355.4 | 352.8 | 354.6 | 352 |  |
| 18802 | 23-Jun-81 | 22.1 | 20.6 | 352.1 | 349.8 | 351.3 | 349 |  |
| 18803 | 24-Jun-81 | 21.4 | 19.4 | 351.4 | 348.6 | 350.6 | 347.8 |  |
| 18804 | 25-Jun-81 | 22.2 | 20.2 | 352.2 | 349.4 | 351.4 | 348.6 |  |
| 18805 | 26-Jun-81 | 22.2 | 20.2 | 352.2 | 349.4 | 351.4 | 348.6 |  |
| 18806 | 27-Jun-81 | 21 | 19.4 | 351 | 348.6 | 350.2 | 347.8 |  |
| 18807 | 28-Jun-81 | 19.9 | 18.4 | 349.9 | 347.6 | 349.1 | 346.8 |  |
| 18808 | 29-Jun-81 | 20.1 | 18.4 | 350.1 | 347.6 | 349.3 | 346.8 |  |
| 18809 | 30-Jun-81 | 20 | 18.4 | 350 | 347.6 | 349.2 | 346.8 |  |
| 19145 | 1-Jun-82 | 27.7 | 24.5 | 357.7 | 353.7 | 356.9 | 352.9 |  |
| 19146 | 2-Jun-82 | 29.3 | 26.2 | 359.3 | 355.4 | 358.5 | 354.6 |  |
| 19147 | 3-Jun-82 | 30 | 27.1 | 360 | 356.3 | 359.2 | 355.5 |  |
| 19148 | 4-Jun-82 | 27 | 25.1 | 357 | 354.3 | 356.2 | 353.5 |  |
| 19149 | 5-Jun-82 | 21.8 | 20.2 | 351.8 | 349.4 | 351 | 348.6 |  |
| 19150 | 6-Jun-82 | 18.5 | 17.2 | 348.5 | 346.4 | 347.7 | 345.6 |  |
| 19151 | 7-Jun-82 | 19.6 | 17.3 | 349.6 | 346.5 | 348.8 | 345.7 |  |
| 19152 | 8-Jun-82 | 22.9 | 20.3 | 352.9 | 349.5 | 352.1 | 348.7 |  |
| 19153 | 9-Jun-82 | 24.9 | 22.3 | 354.9 | 351.5 | 354.1 | 350.7 |  |
| 19154 | 10-Jun-82 | 25.9 | 23.1 | 355.9 | 352.3 | 355.1 | 351.5 |  |
| 19155 | 11-Jun-82 | 25.6 | 23.1 | 355.6 | 352.3 | 354.8 | 351.5 |  |
| 19156 | 12-Jun-82 | 25.7 | 23.8 | 355.7 | 353 | 354.9 | 352.2 |  |
| 19157 | 13-Jun-82 | 27.5 | 24.6 | 357.5 | 353.8 | 356.7 | 353 |  |
| 19158 | 14-Jun-82 | 27.4 | 24.6 | 357.4 | 353.8 | 356.6 | 353 |  |
| 19159 | 15-Jun-82 | 25.6 | 23.4 | 355.6 | 352.6 | 354.8 | 351.8 |  |


| 19160 | 16-Jun-82 | 23.7 | 21.5 | 353.7 | 350.7 | 352.9 | 349.9 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19161 | 17-Jun-82 | 24.5 | 21.5 | 354.5 | 350.7 | 353.7 | 349.9 |  |
| 19162 | 18-Jun-82 | 28.2 | 24.9 | 358.2 | 354.1 | 357.4 | 353.3 |  |
| 19163 | 19-Jun-82 | 28.3 | 25.6 | 358.3 | 354.8 | 357.5 | 354 |  |
| 19164 | 20-Jun-82 | 24.9 | 22.9 | 354.9 | 352.1 | 354.1 | 351.3 |  |
| 19165 | 21-Jun-82 | 22.2 | 20.6 | 352.2 | 349.8 | 351.4 | 349 |  |
| 19166 | 22-Jun-82 | 20.5 | 19 | 350.5 | 348.2 | 349.7 | 347.4 |  |
| 19167 | 23-Jun-82 | 18.1 | 17.4 | 348.1 | 346.6 | 347.3 | 345.8 |  |
| 19168 | 24-Jun-82 | 16.8 | 16.2 | 346.8 | 345.4 | 346 | 344.6 |  |
| 19169 | 25-Jun-82 | 15.8 | 15.5 | 345.8 | 344.7 | 345 | 343.9 |  |
| 19170 | 26-Jun-82 | 15.3 | 15.1 | 345.3 | 344.3 | 344.5 | 343.5 |  |
| 19171 | 27-Jun-82 | 14.8 | 14.8 | 344.8 | 344 | 344 | 343.2 |  |
| 19172 | 28-Jun-82 | 13.8 | 14.1 | 343.8 | 343.3 | 343 | 342.5 |  |
| 19173 | 29-Jun-82 | 15 | 15.2 | 345 | 344.4 | 344.2 | 343.6 |  |
| 19174 | 30-Jun-82 | 14.4 | 14.6 | 344.4 | 343.8 | 343.6 | 343 |  |
| 19510 | 1-Jun-83 | 30.7 | 29.5 | 360.7 | 358.7 | 359.9 | 357.9 |  |
| 19511 | 2-Jun-83 | 27.7 | 26.5 | 357.7 | 355.7 | 356.9 | 354.9 |  |
| 19512 | 3-Jun-83 | 25.5 | 24.1 | 355.5 | 353.3 | 354.7 | 352.5 |  |
| 19513 | 4-Jun-83 | 26.5 | 24 | 356.5 | 353.2 | 355.7 | 352.4 |  |
| 19514 | 5-Jun-83 | 27.1 | 25.2 | 357.1 | 354.4 | 356.3 | 353.6 |  |
| 19515 | 6-Jun-83 | 26.9 | 25 | 356.9 | 354.2 | 356.1 | 353.4 |  |
| 19516 | 7-Jun-83 | 27.3 | 25.3 | 357.3 | 354.5 | 356.5 | 353.7 |  |
| 19517 | 8-Jun-83 | 27.3 | 25.3 | 357.3 | 354.5 | 356.5 | 353.7 |  |
| 19518 | 9-Jun-83 | 24.8 | 23.4 | 354.8 | 352.6 | 354 | 351.8 |  |
| 19519 | 10-Jun-83 | 21.6 | 20.5 | 351.6 | 349.7 | 350.8 | 348.9 |  |
| 19520 | 11-Jun-83 | 19.7 | 18.7 | 349.7 | 347.9 | 348.9 | 347.1 |  |
| 19521 | 12-Jun-83 | 17.9 | 17.1 | 347.9 | 346.3 | 347.1 | 345.5 |  |
| 19522 | 13-Jun-83 | 17.1 | 16.4 | 347.1 | 345.6 | 346.3 | 344.8 |  |
| 19523 | 14-Jun-83 | 17 | 16.4 | 347 | 345.6 | 346.2 | 344.8 |  |
| 19524 | 15-Jun-83 | 15.6 | 15.4 | 345.6 | 344.6 | 344.8 | 343.8 |  |
| 19525 | 16-Jun-83 | 14.8 | 15 | 344.8 | 344.2 | 344 | 343.4 |  |
| 19526 | 17-Jun-83 | 15.2 | 15 | 345.2 | 344.2 | 344.4 | 343.4 |  |
| 19527 | 18-Jun-83 | 16 | 15.4 | 346 | 344.6 | 345.2 | 343.8 |  |
| 19528 | 19-Jun-83 | 16.1 | 15.6 | 346.1 | 344.8 | 345.3 | 344 |  |
| 19529 | 20-Jun-83 | 15.5 | 15.2 | 345.5 | 344.4 | 344.7 | 343.6 |  |
| 19530 | 21-Jun-83 | 16.4 | 15.8 | 346.4 | 345 | 345.6 | 344.2 |  |
| 19531 | 22-Jun-83 | 17.7 | 16.8 | 347.7 | 346 | 346.9 | 345.2 |  |
| 19532 | 23-Jun-83 | 17.5 | 15.6 | 347.5 | 344.8 | 346.7 | 344 |  |
| 19533 | 24-Jun-83 | 17.3 | 15.3 | 347.3 | 344.5 | 346.5 | 343.7 |  |
| 19534 | 25-Jun-83 | 17.4 | 16.5 | 347.4 | 345.7 | 346.6 | 344.9 |  |
| 19535 | 26-Jun-83 | 17.7 | 16.8 | 347.7 | 346 | 346.9 | 345.2 |  |
| 19536 | 27-Jun-83 | 14.9 | 14.8 | 344.9 | 344 | 344.1 | 343.2 |  |
| 19537 | 28-Jun-83 | 14.3 | 14.4 | 344.3 | 343.6 | 343.5 | 342.8 |  |
| 19538 | 29-Jun-83 | 15.2 | 15 | 345.2 | 344.2 | 344.4 | 343.4 |  |
| 19539 | 30-Jun-83 | 16.2 | 15.5 | 346.2 | 344.7 | 345.4 | 343.9 |  |
| 19876 | 1-Jun-84 | 26.3 | 23.7 | 356.3 | 352.9 | 355.5 | 352.1 |  |
| 19877 | 2-Jun-84 | 28.6 | 25.8 | 358.6 | 355 | 357.8 | 354.2 |  |
| 19878 | 3-Jun-84 | 29.3 | 26.5 | 359.3 | 355.7 | 358.5 | 354.9 |  |
| 19879 | 4-Jun-84 | 27.7 | 25.4 | 357.7 | 354.6 | 356.9 | 353.8 |  |
| 19880 | 5-Jun-84 | 24 | 22.2 | 354 | 351.4 | 353.2 | 350.6 |  |
| 19881 | 6-Jun-84 | 21.6 | 19.9 | 351.6 | 349.1 | 350.8 | 348.3 |  |
| 19882 | 7-Jun-84 | 19.1 | 17.9 | 349.1 | 347.1 | 348.3 | 346.3 |  |
| 19883 | 8-Jun-84 | 18 | 16.9 | 348 | 346.1 | 347.2 | 345.3 |  |
| 19884 | 9-Jun-84 | 17.4 | 16.5 | 347.4 | 345.7 | 346.6 | 344.9 |  |
| 19885 | 10-Jun-84 | 16.7 | 16.1 | 346.7 | 345.3 | 345.9 | 344.5 |  |
| 19886 | 11-Jun-84 | 15.7 | 15.2 | 345.7 | 344.4 | 344.9 | 343.6 |  |
| 19887 | 12-Jun-84 | 14.8 | 14.8 | 344.8 | 344 | 344 | 343.2 |  |
| 19888 | 13-Jun-84 | 15.3 | 15.1 | 345.3 | 344.3 | 344.5 | 343.5 |  |


| 19889 | 14-Jun-84 | 13.6 | 13.6 | 343.6 | 342.8 | 342.8 | 342 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19890 | 15-Jun-84 | 15.7 | 15.4 | 345.7 | 344.6 | 344.9 | 343.8 |  |
| 19891 | 16-Jun-84 | 14.5 | 14.4 | 344.5 | 343.6 | 343.7 | 342.8 |  |
| 19892 | 17-Jun-84 | 15.2 | 15 | 345.2 | 344.2 | 344.4 | 343.4 |  |
| 19893 | 18-Jun-84 | 14.3 | 14.4 | 344.3 | 343.6 | 343.5 | 342.8 |  |
| 19894 | 19-Jun-84 | 13.7 | 14.1 | 343.7 | 343.3 | 342.9 | 342.5 |  |
| 19895 | 20-Jun-84 | 15.7 | 14.8 | 345.7 | 344 | 344.9 | 343.2 |  |
| 19896 | 21-Jun-84 | 17.3 | 16.2 | 347.3 | 345.4 | 346.5 | 344.6 |  |
| 19897 | 22-Jun-84 | 17.1 | 16 | 347.1 | 345.2 | 346.3 | 344.4 |  |
| 19898 | 23-Jun-84 | 18.3 | 15.9 | 348.3 | 345.1 | 347.5 | 344.3 |  |
| 19899 | 24-Jun-84 | 17.9 | 16.6 | 347.9 | 345.8 | 347.1 | 345 |  |
| 19900 | 25-Jun-84 | 17.4 | 16.4 | 347.4 | 345.6 | 346.6 | 344.8 |  |
| 19901 | 26-Jun-84 | 16.5 | 15.7 | 346.5 | 344.9 | 345.7 | 344.1 |  |
| 19902 | 27-Jun-84 | 16.9 | 16.1 | 346.9 | 345.3 | 346.1 | 344.5 |  |
| 19903 | 28-Jun-84 | 17.1 | 16.2 | 347.1 | 345.4 | 346.3 | 344.6 |  |
| 19904 | 29-Jun-84 | 17.3 | 16.3 | 347.3 | 345.5 | 346.5 | 344.7 |  |
| 19905 | 30-Jun-84 | 15.7 | 15.4 | 345.7 | 344.6 | 344.9 | 343.8 |  |
| 20241 | 1-Jun-85 | 18.1 | 17 | 348.1 | 346.2 | 347.3 | 345.4 |  |
| 20242 | 2-Jun-85 | 17.7 | 16.4 | 347.7 | 345.6 | 346.9 | 344.8 |  |
| 20243 | 3-Jun-85 | 18.8 | 16.8 | 348.8 | 346 | 348 | 345.2 |  |
| 20244 | 4-Jun-85 | 21.1 | 18.9 | 351.1 | 348.1 | 350.3 | 347.3 |  |
| 20245 | 5-Jun-85 | 21.2 | 19.5 | 351.2 | 348.7 | 350.4 | 347.9 |  |
| 20246 | 6-Jun-85 | 18.9 | 17.6 | 348.9 | 346.8 | 348.1 | 346 |  |
| 20247 | 7-Jun-85 | 18.1 | 16.9 | 348.1 | 346.1 | 347.3 | 345.3 |  |
| 20248 | 8-Jun-85 | 16.7 | 15.9 | 346.7 | 345.1 | 345.9 | 344.3 |  |
| 20249 | 9-Jun-85 | 16.5 | 15.7 | 346.5 | 344.9 | 345.7 | 344.1 |  |
| 20250 | 10-Jun-85 | 16.7 | 16 | 346.7 | 345.2 | 345.9 | 344.4 |  |
| 20251 | 11-Jun-85 | 17.7 | 16.8 | 347.7 | 346 | 346.9 | 345.2 |  |
| 20252 | 12-Jun-85 | 21.1 | 19.1 | 351.1 | 348.3 | 350.3 | 347.5 |  |
| 20253 | 13-Jun-85 | 21.2 | 19.5 | 351.2 | 348.7 | 350.4 | 347.9 |  |
| 20254 | 14-Jun-85 | 20.6 | 18.9 | 350.6 | 348.1 | 349.8 | 347.3 |  |
| 20255 | 15-Jun-85 | 21 | 19.1 | 351 | 348.3 | 350.2 | 347.5 |  |
| 20256 | 16-Jun-85 | 20.8 | 19 | 350.8 | 348.2 | 350 | 347.4 |  |
| 20257 | 17-Jun-85 | 19.2 | 17.9 | 349.2 | 347.1 | 348.4 | 346.3 |  |
| 20258 | 18-Jun-85 | 17.5 | 16.6 | 347.5 | 345.8 | 346.7 | 345 |  |
| 20259 | 19-Jun-85 | 16.1 | 15.7 | 346.1 | 344.9 | 345.3 | 344.1 |  |
| 20260 | 20-Jun-85 | 15.4 | 14.9 | 345.4 | 344.1 | 344.6 | 343.3 |  |
| 20261 | 21-Jun-85 | 15.5 | 15.2 | 345.5 | 344.4 | 344.7 | 343.6 |  |
| 20262 | 22-Jun-85 | 15.1 | 15 | 345.1 | 344.2 | 344.3 | 343.4 |  |
| 20263 | 23-Jun-85 | 14.6 | 14.4 | 344.6 | 343.6 | 343.8 | 342.8 |  |
| 20264 | 24-Jun-85 | 14.7 | 14.5 | 344.7 | 343.7 | 343.9 | 342.9 |  |
| 20265 | 25-Jun-85 | 15.3 | 14.9 | 345.3 | 344.1 | 344.5 | 343.3 |  |
| 20266 | 26-Jun-85 | 14.4 | 14.3 | 344.4 | 343.5 | 343.6 | 342.7 |  |
| 20267 | 27-Jun-85 | 14.7 | 14.7 | 344.7 | 343.9 | 343.9 | 343.1 |  |
| 20268 | 28-Jun-85 | 13.6 | 14 | 343.6 | 343.2 | 342.8 | 342.4 |  |
| 20269 | 29-Jun-85 | 13.2 | 13.5 | 343.2 | 342.7 | 342.4 | 341.9 |  |
| 20270 | 30-Jun-85 | 14.1 | 14.2 | 344.1 | 343.4 | 343.3 | 342.6 |  |
| 20606 | 1-Jun-86 | 15.6 | 15.3 | 345.6 | 344.5 | 344.8 | 343.7 |  |
| 20607 | 2-Jun-86 | 16.9 | 15.4 | 346.9 | 344.6 | 346.1 | 343.8 |  |
| 20608 | 3-Jun-86 | 14.1 | 14.4 | 344.1 | 343.6 | 343.3 | 342.8 |  |
| 20609 | 4-Jun-86 | 13.6 | 13.8 | 343.6 | 343 | 342.8 | 342.2 |  |
| 20610 | 5-Jun-86 | 13.4 | 13.9 | 343.4 | 343.1 | 342.6 | 342.3 |  |
| 20611 | 6-Jun-86 | 14.2 | 14.3 | 344.2 | 343.5 | 343.4 | 342.7 |  |
| 20612 | 7-Jun-86 | 15.5 | 14.3 | 345.5 | 343.5 | 344.7 | 342.7 |  |
| 20613 | 8-Jun-86 | 17.4 | 14.4 | 347.4 | 343.6 | 346.6 | 342.8 |  |
| 20614 | 9-Jun-86 | 19.2 | 17.4 | 349.2 | 346.6 | 348.4 | 345.8 |  |
| 20615 | 10-Jun-86 | 20.3 | 18.6 | 350.3 | 347.8 | 349.5 | 347 |  |
| 20616 | 11-Jun-86 | 19.5 | 17.6 | 349.5 | 346.8 | 348.7 | 346 |  |


| 20617 | 12-Jun-86 | 18.6 | 17.2 | 348.6 | 346.4 | 347.8 | 345.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20618 | 13-Jun-86 | 18.9 | 17.3 | 348.9 | 346.5 | 348.1 | 345.7 |
| 20619 | 14-Jun-86 | 19.7 | 17.9 | 349.7 | 347.1 | 348.9 | 346.3 |
| 20620 | 15-Jun-86 | 20 | 18.1 | 350 | 347.3 | 349.2 | 346.5 |
| 20621 | 16-Jun-86 | 20.8 | 18.7 | 350.8 | 347.9 | 350 | 347.1 |
| 20622 | 17-Jun-86 | 20.7 | 18.6 | 350.7 | 347.8 | 349.9 | 347 |
| 20623 | 18-Jun-86 | 19 | 17.4 | 349 | 346.6 | 348.2 | 345.8 |
| 20624 | 19-Jun-86 | 17 | 16.9 | 347 | 346.1 | 346.2 | 345.3 |
| 20625 | 20-Jun-86 | 17.1 | 16.9 | 347.1 | 346.1 | 346.3 | 345.3 |
| 20626 | 21-Jun-86 | 17.6 | 16.9 | 347.6 | 346.1 | 346.8 | 345.3 |
| 20627 | 22-Jun-86 | 16.4 | 16.9 | 346.4 | 346.1 | 345.6 | 345.3 |
| 20628 | 23-Jun-86 | 15.6 | 16.9 | 345.6 | 346.1 | 344.8 | 345.3 |
| 20629 | 24-Jun-86 | 15.5 | 15.6 | 345.5 | 344.8 | 344.7 | 344 |
| 20630 | 25-Jun-86 | 14.5 | 14.3 | 344.5 | 343.5 | 343.7 | 342.7 |
| 20631 | 26-Jun-86 | 14.8 | 13.9 | 344.8 | 343.1 | 344 | 342.3 |
| 20632 | 27-Jun-86 | 14.4 | 14.3 | 344.4 | 343.5 | 343.6 | 342.7 |
| 20633 | 28-Jun-86 | 12.8 | 13.4 | 342.8 | 342.6 | 342 | 341.8 |
| 20634 | 29-Jun-86 | 14.2 | 14.2 | 344.2 | 343.4 | 343.4 | 342.6 |
| 20635 | 30-Jun-86 | 14.7 | 14.5 | 344.7 | 343.7 | 343.9 | 342.9 |
| 20971 | 1-Jun-87 | 16.901 | 16 | 346.901 | 345.2 | 346.101 | 344.4 |
| 20972 | 2-Jun-87 | 16.409 | 15.4 | 346.409 | 344.6 | 345.609 | 343.8 |
| 20973 | 3-Jun-87 | 16.361 | 15.6 | 346.361 | 344.8 | 345.561 | 344 |
| 20974 | 4-Jun-87 | 16.321 | 15.8 | 346.321 | 345 | 345.521 | 344.2 |
| 20975 | 5-Jun-87 | 16.282 | 16.2 | 346.282 | 345.4 | 345.482 | 344.6 |
| 20976 | 6-Jun-87 | 16.243 | 16.4 | 346.243 | 345.6 | 345.443 | 344.8 |
| 20977 | 7-Jun-87 | 16.203 | 16.2 | 346.203 | 345.4 | 345.403 | 344.6 |
| 20978 | 8-Jun-87 | 16.164 | 15.8 | 346.164 | 345 | 345.364 | 344.2 |
| 20979 | 9-Jun-87 | 16.125 | 14.4 | 346.125 | 343.6 | 345.325 | 342.8 |
| 20980 | 10-Jun-87 | 16.086 | 14.2 | 346.086 | 343.4 | 345.286 | 342.6 |
| 20981 | 11-Jun-87 | 16.046 | 14.8 | 346.046 | 344 | 345.246 | 343.2 |
| 20982 | 12-Jun-87 | 16.007 | 14 | 346.007 | 343.2 | 345.207 | 342.4 |
| 20983 | 13-Jun-87 | 15.968 | 14.9 | 345.968 | 344.1 | 345.168 | 343.3 |
| 20984 | 14-Jun-87 | 15.928 | 14.8 | 345.928 | 344 | 345.128 | 343.2 |
| 20985 | 15-Jun-87 | 15.889 | 14.8 | 345.889 | 344 | 345.089 | 343.2 |
| 20986 | 16-Jun-87 | 15.85 | 14.6 | 345.85 | 343.8 | 345.05 | 343 |
| 20987 | 17-Jun-87 | 15.81 | 14.6 | 345.81 | 343.8 | 345.01 | 343 |
| 20988 | 18-Jun-87 | 15.771 | 14.7 | 345.771 | 343.9 | 344.971 | 343.1 |
| 20989 | 19-Jun-87 | 15.732 | 15.3 | 345.732 | 344.5 | 344.932 | 343.7 |
| 20990 | 20-Jun-87 | 15.692 | 13.8 | 345.692 | 343 | 344.892 | 342.2 |
| 20991 | 21-Jun-87 | 15.653 | 14.3 | 345.653 | 343.5 | 344.853 | 342.7 |
| 20992 | 22-Jun-87 | 15.614 | 14.1 | 345.614 | 343.3 | 344.814 | 342.5 |
| 20993 | 23-Jun-87 | 15.574 | 15.5 | 345.574 | 344.7 | 344.774 | 343.9 |
| 20994 | 24-Jun-87 | 15.535 | 15.1 | 345.535 | 344.3 | 344.735 | 343.5 |
| 20995 | 25-Jun-87 | 15.496 | 15 | 345.496 | 344.2 | 344.696 | 343.4 |
| 20996 | 26-Jun-87 | 15.456 | 15.7 | 345.456 | 344.9 | 344.656 | 344.1 |
| 20997 | 27-Jun-87 | 15.417 | 15.4 | 345.417 | 344.6 | 344.617 | 343.8 |
| 20998 | 28-Jun-87 | 15.378 | 14.5 | 345.378 | 343.7 | 344.578 | 342.9 |
| 20999 | 29-Jun-87 | 15.339 | 13.9 | 345.339 | 343.1 | 344.539 | 342.3 |
| 21000 | 30-Jun-87 | 15.299 | 14.7 | 345.299 | 343.9 | 344.499 | 343.1 |
| 21337 | 1-Jun-88 | 13.186 | 13.6 | 343.186 | 342.8 | 342.386 | 342 |
| 21338 | 2-Jun-88 | 13.8 | 14 | 343.8 | 343.2 | 343 | 342.4 |
| 21339 | 3-Jun-88 | 13.7 | 13.9 | 343.7 | 343.1 | 342.9 | 342.3 |
| 21340 | 4-Jun-88 | 13.549 | 13.7 | 343.549 | 342.9 | 342.749 | 342.1 |
| 21341 | 5-Jun-88 | 13.184 | 13.6 | 343.184 | 342.8 | 342.384 | 342 |
| 21342 | 6-Jun-88 | 12.9 | 13.4 | 342.9 | 342.6 | 342.1 | 341.8 |
| 21343 | 7-Jun-88 | 12.675 | 13.3 | 342.675 | 342.5 | 341.875 | 341.7 |
| 21344 | 8-Jun-88 | 12.917 | 13.1 | 342.917 | 342.3 | 342.117 | 341.5 |
| 21345 | 9-Jun-88 | 13.428 | 13.8 | 343.428 | 343 | 342.628 | 342.2 |


| 21346 | 10-Jun-88 | 13.175 | 13.8 | 343.175 | 343 | 342.375 | 342.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21347 | 11-Jun-88 | 12.716 | 13.3 | 342.716 | 342.5 | 341.916 | 341.7 |
| 21348 | 12-Jun-88 | 13.4 | 13.7 | 343.4 | 342.9 | 342.6 | 342.1 |
| 21349 | 13-Jun-88 | 13.4 | 13.9 | 343.4 | 343.1 | 342.6 | 342.3 |
| 21350 | 14-Jun-88 | 12.9 | 13.5 | 342.9 | 342.7 | 342.1 | 341.9 |
| 21351 | 15-Jun-88 | 12.8 | 13.4 | 342.8 | 342.6 | 342 | 341.8 |
| 21352 | 16-Jun-88 | 12.8 | 13.3 | 342.8 | 342.5 | 342 | 341.7 |
| 21353 | 17-Jun-88 | 12.6 | 13.2 | 342.6 | 342.4 | 341.8 | 341.6 |
| 21354 | 18-Jun-88 | 13 | 13.6 | 343 | 342.8 | 342.2 | 342 |
| 21355 | 19-Jun-88 | 13 | 13.6 | 343 | 342.8 | 342.2 | 342 |
| 21356 | 20-Jun-88 | 12.908 | 13.5 | 342.908 | 342.7 | 342.108 | 341.9 |
| 21357 | 21-Jun-88 | 12.988 | 13.6 | 342.988 | 342.8 | 342.188 | 342 |
| 21358 | 22-Jun-88 | 12.7 | 13.3 | 342.7 | 342.5 | 341.9 | 341.7 |
| 21359 | 23-Jun-88 | 12.708 | 13.4 | 342.708 | 342.6 | 341.908 | 341.8 |
| 21360 | 24-Jun-88 | 12.766 | 13.4 | 342.766 | 342.6 | 341.966 | 341.8 |
| 21361 | 25-Jun-88 | 12.508 | 13.1 | 342.508 | 342.3 | 341.708 | 341.5 |
| 21362 | 26-Jun-88 | 12.708 | 13.4 | 342.708 | 342.6 | 341.908 | 341.8 |
| 21363 | 27-Jun-88 | 12.8 | 13.4 | 342.8 | 342.6 | 342 | 341.8 |
| 21364 | 28-Jun-88 | 13.1 | 13.7 | 343.1 | 342.9 | 342.3 | 342.1 |
| 21365 | 29-Jun-88 | 13.108 | 13.7 | 343.108 | 342.9 | 342.308 | 342.1 |
| 21366 | 30-Jun-88 | 13.092 | 13.7 | 343.092 | 342.9 | 342.292 | 342.1 |
| 21702 | 1-Jun-89 | 29.434 | 26.6 | 359.434 | 355.8 | 358.634 | 355 |
| 21703 | 2-Jun-89 | 27.332 | 25 | 357.332 | 354.2 | 356.532 | 353.4 |
| 21704 | 3-Jun-89 | 24.434 | 22.3 | 354.434 | 351.5 | 353.634 | 350.7 |
| 21705 | 4-Jun-89 | 22.475 | 20.4 | 352.475 | 349.6 | 351.675 | 348.8 |
| 21706 | 5-Jun-89 | 21.892 | 19.9 | 351.892 | 349.1 | 351.092 | 348.3 |
| 21707 | 6-Jun-89 | 21.578 | 19.6 | 351.578 | 348.8 | 350.778 | 348 |
| 21708 | 7-Jun-89 | 21.216 | 19 | 351.216 | 348.2 | 350.416 | 347.4 |
| 21709 | 8-Jun-89 | 21.508 | 19.5 | 351.508 | 348.7 | 350.708 | 347.9 |
| 21710 | 9-Jun-89 | 21.6 | 19.5 | 351.6 | 348.7 | 350.8 | 347.9 |
| 21711 | 10-Jun-89 | 22 | 19.8 | 352 | 349 | 351.2 | 348.2 |
| 21712 | 11-Jun-89 | 22.4 | 20.1 | 352.4 | 349.3 | 351.6 | 348.5 |
| 21713 | 12-Jun-89 | 22.426 | 20.4 | 352.426 | 349.6 | 351.626 | 348.8 |
| 21714 | 13-Jun-89 | 21.192 | 19.3 | 351.192 | 348.5 | 350.392 | 347.7 |
| 21715 | 14-Jun-89 | 21.716 | 19.7 | 351.716 | 348.9 | 350.916 | 348.1 |
| 21716 | 15-Jun-89 | 22.115 | 20.3 | 352.115 | 349.5 | 351.315 | 348.7 |
| 21717 | 16-Jun-89 | 23.669 | 21.3 | 353.669 | 350.5 | 352.869 | 349.7 |
| 21718 | 17-Jun-89 | 25.9 | 23.3 | 355.9 | 352.5 | 355.1 | 351.7 |
| 21719 | 18-Jun-89 | 28.731 | 25.6 | 358.731 | 354.8 | 357.931 | 354 |
| 21720 | 19-Jun-89 | 32.264 | 28.7 | 362.264 | 357.9 | 361.464 | 357.1 |
| 21721 | 20-Jun-89 | 35.698 | 31.9 | 365.698 | 361.1 | 364.898 | 360.3 |
| 21722 | 21-Jun-89 | 37.749 | 34.1 | 367.749 | 363.3 | 366.949 | 362.5 |
| 21723 | 22-Jun-89 | 38.484 | 35 | 368.484 | 364.2 | 367.684 | 363.4 |
| 21724 | 23-Jun-89 | 37.526 | 34.9 | 367.526 | 364.1 | 366.726 | 363.3 |
| 21725 | 24-Jun-89 | 35.518 | 32.6 | 365.518 | 361.8 | 364.718 | 361 |
| 21726 | 25-Jun-89 | 33.992 | 31 | 363.992 | 360.2 | 363.192 | 359.4 |
| 21727 | 26-Jun-89 | 33.916 | 30.6 | 363.916 | 359.8 | 363.116 | 359 |
| 21728 | 27-Jun-89 | 34.075 | 30.8 | 364.075 | 360 | 363.275 | 359.2 |
| 21729 | 28-Jun-89 | 32.818 | 29.9 | 362.818 | 359.1 | 362.018 | 358.3 |
| 21730 | 29-Jun-89 | 30.385 | 27.8 | 360.385 | 357 | 359.585 | 356.2 |
| 21731 | 30-Jun-89 | 27.503 | 25.1 | 357.503 | 354.3 | 356.703 | 353.5 |
| 22067 | 1-Jun-90 | 39.3 | 35.9 | 369.3 | 365.1 | 368.5 | 364.3 |
| 22068 | 2-Jun-90 | 40 | 36.8 | 370 | 366 | 369.2 | 365.2 |
| 22069 | 3-Jun-90 | 40 | 37 | 370 | 366.2 | 369.2 | 365.4 |
| 22070 | 4-Jun-90 | 39.5 | 36.5 | 369.5 | 365.7 | 368.7 | 364.9 |
| 22071 | 5-Jun-90 | 38.3 | 35.6 | 368.3 | 364.8 | 367.5 | 364 |
| 22072 | 6-Jun-90 | 35.9 | 33.5 | 365.9 | 362.7 | 365.1 | 361.9 |
| 22073 | 7-Jun-90 | 32.7 | 30.7 | 362.7 | 359.9 | 361.9 | 359.1 |


| 22074 | 8-Jun-90 | 30.9 | 28.3 | 360.9 | 357.5 | 360.1 | 356.7 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 22075 | 9-Jun-90 | 30.6 | 27.9 | 360.6 | 357.1 | 359.8 | 356.3 |  |
| 22076 | 10-Jun-90 | 25.4 | 24.1 | 355.4 | 353.3 | 354.6 | 352.5 |  |
| 22077 | 11-Jun-90 | 22.2 | 20.3 | 352.2 | 349.5 | 351.4 | 348.7 |  |
| 22078 | 12-Jun-90 | 24.1 | 21 | 354.1 | 350.2 | 353.3 | 349.4 |  |
| 22079 | 13-Jun-90 | 26.9 | 23.6 | 356.9 | 352.8 | 356.1 | 352 |  |
| 22080 | 14-Jun-90 | 27.9 | 24.9 | 357.9 | 354.1 | 357.1 | 353.3 |  |
| 22081 | 15-Jun-90 | 26.5 | 24.2 | 356.5 | 353.4 | 355.7 | 352.6 |  |
| 22082 | 16-Jun-90 | 23.4 | 21.2 | 353.4 | 350.4 | 352.6 | 349.6 |  |
| 22083 | 17-Jun-90 | 22.1 | 20 | 352.1 | 349.2 | 351.3 | 348.4 |  |
| 22084 | 18-Jun-90 | 23.9 | 20.9 | 353.9 | 350.1 | 353.1 | 349.3 |  |
| 22085 | 19-Jun-90 | 24.4 | 21.9 | 354.4 | 351.1 | 353.6 | 350.3 |  |
| 22086 | 20-Jun-90 | 21.6 | 19.9 | 351.6 | 349.1 | 350.8 | 348.3 |  |
| 22087 | 21-Jun-90 | 18.1 | 17 | 348.1 | 346.2 | 347.3 | 345.4 |  |
| 22088 | 22-Jun-90 | 16.1 | 15.4 | 346.1 | 344.6 | 345.3 | 343.8 |  |
| 22089 | 23-Jun-90 | 15.4 | 14.6 | 345.4 | 343.8 | 344.6 | 343 |  |
| 22090 | 24-Jun-90 | 16.2 | 15.5 | 346.2 | 344.7 | 345.4 | 343.9 |  |
| 22091 | 25-Jun-90 | 15.8 | 15.1 | 345.8 | 344.3 | 345 | 343.5 |  |
| 22092 | 26-Jun-90 | 15.4 | 15 | 345.4 | 344.2 | 344.6 | 343.4 |  |
| 22093 | 27-Jun-90 | 14.8 | 14.5 | 344.8 | 343.7 | 344 | 342.9 |  |
| 22094 | 28-Jun-90 | 13.3 | 13.6 | 343.3 | 342.8 | 342.5 | 342 |  |
| 22095 | 29-Jun-90 | 14.5 | 14.3 | 344.5 | 343.5 | 343.7 | 342.7 |  |
| 22096 | 30-Jun-90 | 13.7 | 13.7 | 343.7 | 342.9 | 342.9 | 342.1 |  |
| 22432 | 1-Jun-91 | 15.7 | 15 | 345.7 | 344.2 | 344.9 | 343.4 |  |
| 22433 | 2-Jun-91 | 15.4 | 14.9 | 345.4 | 344.1 | 344.6 | 343.3 |  |
| 22434 | 3-Jun-91 | 15.2 | 14.7 | 345.2 | 343.9 | 344.4 | 343.1 |  |
| 22435 | 4-Jun-91 | 15.8 | 15.1 | 345.8 | 344.3 | 345 | 343.5 |  |
| 22436 | 5-Jun-91 | 15.3 | 14.6 | 345.3 | 343.8 | 344.5 | 343 |  |
| 22437 | 6-Jun-91 | 15.3 | 14.9 | 345.3 | 344.1 | 344.5 | 343.3 |  |
| 22438 | 7-Jun-91 | 14.4 | 14.2 | 344.4 | 343.4 | 343.6 | 342.6 |  |
| 22439 | 8-Jun-91 | 14.8 | 14.4 | 344.8 | 343.6 | 344 | 342.8 |  |
| 22440 | 9-Jun-91 | 13.3 | 13.4 | 343.3 | 342.6 | 342.5 | 341.8 |  |
| 22441 | 10-Jun-91 | 13.5 | 13.7 | 343.5 | 342.9 | 342.7 | 342.1 |  |
| 22442 | 11-Jun-91 | 13.1 | 13.4 | 343.1 | 342.6 | 342.3 | 341.8 |  |
| 22443 | 12-Jun-91 | 12.7 | 12.9 | 342.7 | 342.1 | 341.9 | 341.3 |  |
| 22444 | 13-Jun-91 | 13.6 | 13.6 | 343.6 | 342.8 | 342.8 | 342 |  |
| 22445 | 14-Jun-91 | 13.6 | 13.5 | 343.6 | 342.7 | 342.8 | 341.9 |  |
| 22446 | 15-Jun-91 | 13.4 | 13.6 | 343.4 | 342.8 | 342.6 | 342 |  |
| 22447 | 16-Jun-91 | 12.8 | 13.2 | 342.8 | 342.4 | 342 | 341.6 |  |
| 22448 | 17-Jun-91 | 13.5 | 13.6 | 343.5 | 342.8 | 342.7 | 342 |  |
| 22449 | 18-Jun-91 | 13.7 | 13.5 | 343.7 | 342.7 | 342.9 | 341.9 |  |
| 22450 | 19-Jun-91 | 15 | 14.6 | 345 | 343.8 | 344.2 | 343 |  |
| 22451 | 20-Jun-91 | 13.8 | 13.9 | 343.8 | 343.1 | 343 | 342.3 |  |
| 22452 | 21-Jun-91 | 13.5 | 13.7 | 343.5 | 342.9 | 342.7 | 342.1 |  |
| 22453 | 22-Jun-91 | 14.2 | 14 | 344.2 | 343.2 | 343.4 | 342.4 |  |
| 22454 | 23-Jun-91 | 14.5 | 14.3 | 344.5 | 343.5 | 343.7 | 342.7 |  |
| 22455 | 24-Jun-91 | 14.1 | 13.9 | 344.1 | 343.1 | 343.3 | 342.3 |  |
| 22456 | 25-Jun-91 | 14.2 | 14 | 344.2 | 343.2 | 343.4 | 342.4 |  |
| 22457 | 26-Jun-91 | 13.1 | 13.4 | 343.1 | 342.6 | 342.3 | 341.8 |  |
| 22458 | 27-Jun-91 | 13.9 | 13.2 | 343.9 | 342.4 | 343.1 | 341.6 |  |
| 22459 | 28-Jun-91 | 14.2 | 14.3 | 344.2 | 343.5 | 343.4 | 342.7 |  |
| 22460 | 29-Jun-91 | 14.4 | 14.5 | 344.4 | 343.7 | 343.6 | 342.9 |  |
| 22461 | 30-Jun-91 | 13.3 | 13.5 | 343.3 | 342.7 | 342.5 | 341.9 |  |
| 22798 | 1-Jun-92 | 18.1 | 17.2 | 348.1 | 346.4 | 347.3 | 345.6 |  |
| 22799 | 2-Jun-92 | 18.5 | 17.6 | 348.5 | 346.8 | 347.7 | 346 |  |
| 22800 | 3-Jun-92 | 17.9 | 17.1 | 347.9 | 346.3 | 347.1 | 345.5 |  |
| 22801 | 4-Jun-92 | 17.8 | 17 | 347.8 | 346.2 | 347 | 345.4 |  |
| 22802 | 5-Jun-92 | 17.428 | 16.7 | 347.428 | 345.9 | 346.628 | 345.1 |  |
|  |  |  | C-24 |  | EXHIBIT 3 <br> AVERAGE JUNE,FLOWS <br> Appendix F-1, page 559 |  |  |  |


| 22803 | 6-Jun-92 | 18.147 | 17.24 | 348.147 | 346.44 | 347.347 | 345.64 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 22804 | 7-Jun-92 | 18.865 | 17.78 | 348.865 | 346.98 | 348.065 | 346.18 |
| 22805 | 8-Jun-92 | 19.583 | 18.32 | 349.583 | 347.52 | 348.783 | 346.72 |
| 22806 | 9-Jun-92 | 20.301 | 18.86 | 350.301 | 348.06 | 349.501 | 347.26 |
| 22807 | 10-Jun-92 | 21 | 19.4 | 351 | 348.6 | 350.2 | 347.8 |
| 22808 | 11-Jun-92 | 21.1 | 19.4 | 351.1 | 348.6 | 350.3 | 347.8 |
| 22809 | 12-Jun-92 | 19.194 | 17.9 | 349.194 | 347.1 | 348.394 | 346.3 |
| 22810 | 13-Jun-92 | 18.657 | 17.6 | 348.657 | 346.8 | 347.857 | 346 |
| 22811 | 14-Jun-92 | 18.121 | 17.5 | 348.121 | 346.7 | 347.321 | 345.9 |
| 22812 | 15-Jun-92 | 17.585 | 17.3 | 347.585 | 346.5 | 346.785 | 345.7 |
| 22813 | 16-Jun-92 | 15.794 | 15.1 | 345.794 | 344.3 | 344.994 | 343.5 |
| 22814 | 17-Jun-92 | 15.375 | 15.2 | 345.375 | 344.4 | 344.575 | 343.6 |
| 22815 | 18-Jun-92 | 15.954 | 14.5 | 345.954 | 343.7 | 345.154 | 342.9 |
| 22816 | 19-Jun-92 | 19.9 | 17.6 | 349.9 | 346.8 | 349.1 | 346 |
| 22817 | 20-Jun-92 | 20.733 | 18.833 | 350.733 | 348.033 | 349.933 | 347.233 |
| 22818 | 21-Jun-92 | 21.567 | 20.067 | 351.567 | 349.267 | 350.767 | 348.467 |
| 22819 | 22-Jun-92 | 22.4 | 21.3 | 352.4 | 350.5 | 351.6 | 349.7 |
| 22820 | 23-Jun-92 | 19.6 | 18.4 | 349.6 | 347.6 | 348.8 | 346.8 |
| 22821 | 24-Jun-92 | 16.7 | 16.4 | 346.7 | 345.6 | 345.9 | 344.8 |
| 22822 | 25-Jun-92 | 14.6 | 14.7 | 344.6 | 343.9 | 343.8 | 343.1 |
| 22823 | 26-Jun-92 | 13.9 | 14.3 | 343.9 | 343.5 | 343.1 | 342.7 |
| 22824 | 27-Jun-92 | 14.8 | 14.8 | 344.8 | 344 | 344 | 343.2 |
| 22825 | 28-Jun-92 | 14.8 | 14.8 | 344.8 | 344 | 344 | 343.2 |
| 22826 | 29-Jun-92 | 13.8 | 14.2 | 343.8 | 343.4 | 343 | 342.6 |
| 22827 | 30-Jun-92 | 14.7 | 14.6 | 344.7 | 343.8 | 343.9 | 343 |
| 23163 | 1-Jun-93 | 14 | 14.1 | 344 | 343.3 | 343.2 | 342.5 |
| 23164 | 2-Jun-93 | 13.8 | 13.8 | 343.8 | 343 | 343 | 342.2 |
| 23165 | 3-Jun-93 | 14.4 | 14.6 | 344.4 | 343.8 | 343.6 | 343 |
| 23166 | 4-Jun-93 | 12.3 | 15.2 | 342.3 | 344.4 | 341.5 | 343.6 |
| 23167 | 5-Jun-93 | 16.2 | 15.7 | 346.2 | 344.9 | 345.4 | 344.1 |
| 23168 | 6-Jun-93 | 18.7 | 17 | 348.7 | 346.2 | 347.9 | 345.4 |
| 23169 | 7-Jun-93 | 19 | 17.8 | 349 | 347 | 348.2 | 346.2 |
| 23170 | 8-Jun-93 | 19.4 | 17.8 | 349.4 | 347 | 348.6 | 346.2 |
| 23171 | 9-Jun-93 | 17.5 | 17.9 | 347.5 | 347.1 | 346.7 | 346.3 |
| 23172 | 10-Jun-93 | 19.5 | 18.1 | 349.5 | 347.3 | 348.7 | 346.5 |
| 23173 | 11-Jun-93 | 19.7 | 18 | 349.7 | 347.2 | 348.9 | 346.4 |
| 23174 | 12-Jun-93 | 19.6 | 17.925 | 349.6 | 347.125 | 348.8 | 346.325 |
| 23175 | 13-Jun-93 | 21.2 | 17.85 | 351.2 | 347.05 | 350.4 | 346.25 |
| 23176 | 14-Jun-93 | 20.5 | 17.775 | 350.5 | 346.975 | 349.7 | 346.175 |
| 23177 | 15-Jun-93 | 19.2 | 17.7 | 349.2 | 346.9 | 348.4 | 346.1 |
| 23178 | 16-Jun-93 | 21.4 | 19.3 | 351.4 | 348.5 | 350.6 | 347.7 |
| 23179 | 17-Jun-93 | 19.9 | 18.9 | 349.9 | 348.1 | 349.1 | 347.3 |
| 23180 | 18-Jun-93 | 16.4 | 15.7 | 346.4 | 344.9 | 345.6 | 344.1 |
| 23181 | 19-Jun-93 | 16.3 | 15.6 | 346.3 | 344.8 | 345.5 | 344 |
| 23182 | 20-Jun-93 | 13.5 | 13.8 | 343.5 | 343 | 342.7 | 342.2 |
| 23183 | 21-Jun-93 | 14.5 | 14.2 | 344.5 | 343.4 | 343.7 | 342.6 |
| 23184 | 22-Jun-93 | 14.1 | 14.4 | 344.1 | 343.6 | 343.3 | 342.8 |
| 23185 | 23-Jun-93 | 14 | 14 | 344 | 343.2 | 343.2 | 342.4 |
| 23186 | 24-Jun-93 | 14.2 | 14.1 | 344.2 | 343.3 | 343.4 | 342.5 |
| 23187 | 25-Jun-93 | 15 | 14.5 | 345 | 343.7 | 344.2 | 342.9 |
| 23188 | 26-Jun-93 | 14.5 | 14.4 | 344.5 | 343.6 | 343.7 | 342.8 |
| 23189 | 27-Jun-93 | 14.8 | 14.4 | 344.8 | 343.6 | 344 | 342.8 |
| 23190 | 28-Jun-93 | 13.8 | 14 | 343.8 | 343.2 | 343 | 342.4 |
| 23191 | 29-Jun-93 | 13.9 | 13.8 | 343.9 | 343 | 343.1 | 342.2 |
| 23192 | 30-Jun-93 | 14.4 | 14.3 | 344.4 | 343.5 | 343.6 | 342.7 |
| 23528 | 1-Jun-94 | 15.3 | 15.4 | 345.3 | 344.6 | 344.5 | 343.8 |
| 23529 | 2-Jun-94 | 14.17 | 14.18 | 344.17 | 343.38 | 343.37 | 342.58 |
| 23530 | 3-Jun-94 | 13.8 | 14.2 | 343.8 | 343.4 | 343 | 342.6 |


| 23531 | 4-Jun-94 | 15.4 | 15 | 345.4 | 344.2 | 344.6 | 343.4 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 23532 | 5-Jun-94 | 13.8 | 13.8 | 343.8 | 343 | 343 | 342.2 |  |
| 23533 | 6-Jun-94 | 13.7 | 13.7 | 343.7 | 342.9 | 342.9 | 342.1 |  |
| 23534 | 7-Jun-94 | 14.3 | 14.4 | 344.3 | 343.6 | 343.5 | 342.8 |  |
| 23535 | 8-Jun-94 | 14 | 14.2 | 344 | 343.4 | 343.2 | 342.6 |  |
| 23536 | 9-Jun-94 | 13.9 | 14.1 | 343.9 | 343.3 | 343.1 | 342.5 |  |
| 23537 | 10-Jun-94 | 14.5 | 14.5 | 344.5 | 343.7 | 343.7 | 342.9 |  |
| 23538 | 11-Jun-94 | 13.8 | 14 | 343.8 | 343.2 | 343 | 342.4 |  |
| 23539 | 12-Jun-94 | 13.8 | 13.9 | 343.8 | 343.1 | 343 | 342.3 |  |
| 23540 | 13-Jun-94 | 13.8 | 13.8 | 343.8 | 343 | 343 | 342.2 |  |
| 23541 | 14-Jun-94 | 13.7 | 14.1 | 343.7 | 343.3 | 342.9 | 342.5 |  |
| 23542 | 15-Jun-94 | 14 | 14.2 | 344 | 343.4 | 343.2 | 342.6 |  |
| 23543 | 16-Jun-94 | 14.7 | 14.6 | 344.7 | 343.8 | 343.9 | 343 |  |
| 23544 | 17-Jun-94 | 14.8 | 14.7 | 344.8 | 343.9 | 344 | 343.1 |  |
| 23545 | 18-Jun-94 | 16.1 | 14.6 | 346.1 | 343.8 | 345.3 | 343 |  |
| 23546 | 19-Jun-94 | 16.6 | 14.5 | 346.6 | 343.7 | 345.8 | 342.9 |  |
| 23547 | 20-Jun-94 | 14.8 | 14.5 | 344.8 | 343.7 | 344 | 342.9 |  |
| 23548 | 21-Jun-94 | 14.4 | 14.4 | 344.4 | 343.6 | 343.6 | 342.8 |  |
| 23549 | 22-Jun-94 | 15.5 | 15.2 | 345.5 | 344.4 | 344.7 | 343.6 |  |
| 23550 | 23-Jun-94 | 14 | 14.2 | 344 | 343.4 | 343.2 | 342.6 |  |
| 23551 | 24-Jun-94 | 14.7 | 14.6 | 344.7 | 343.8 | 343.9 | 343 |  |
| 23552 | 25-Jun-94 | 14.2 | 14.3 | 344.2 | 343.5 | 343.4 | 342.7 |  |
| 23553 | 26-Jun-94 | 14.1 | 14.2 | 344.1 | 343.4 | 343.3 | 342.6 |  |
| 23554 | 27-Jun-94 | 14.2 | 14.2 | 344.2 | 343.4 | 343.4 | 342.6 |  |
| 23555 | 28-Jun-94 | 15.6 | 15.3 | 345.6 | 344.5 | 344.8 | 343.7 |  |
| 23556 | 29-Jun-94 | 15 | 14.8 | 345 | 344 | 344.2 | 343.2 |  |
| 23557 | 30-Jun-94 | 15.1 | 14.7 | 345.1 | 343.9 | 344.3 | 343.1 |  |
| 23893 | 1-Jun-95 | 30.5 | 29.5 | 360.5 | 358.7 | 359.7 | 357.9 |  |
| 23894 | 2-Jun-95 | 28 | 26.8 | 358 | 356 | 357.2 | 355.2 |  |
| 23895 | 3-Jun-95 | 25.7 | 24.4 | 355.7 | 353.6 | 354.9 | 352.8 |  |
| 23896 | 4-Jun-95 | 25.2 | 23.4 | 355.2 | 352.6 | 354.4 | 351.8 |  |
| 23897 | 5-Jun-95 | 24.7 | 22.9 | 354.7 | 352.1 | 353.9 | 351.3 |  |
| 23898 | 6-Jun-95 | 23.6 | 21.7 | 353.6 | 350.9 | 352.8 | 350.1 |  |
| 23899 | 7-Jun-95 | 23.8 | 21.7 | 353.8 | 350.9 | 353 | 350.1 |  |
| 23900 | 8-Jun-95 | 23.3 | 21.4 | 353.3 | 350.6 | 352.5 | 349.8 |  |
| 23901 | 9-Jun-95 | 21.4 | 20.1 | 351.4 | 349.3 | 350.6 | 348.5 |  |
| 23902 | 10-Jun-95 | 19.2 | 18.3 | 349.2 | 347.5 | 348.4 | 346.7 |  |
| 23903 | 11-Jun-95 | 19.2 | 18 | 349.2 | 347.2 | 348.4 | 346.4 |  |
| 23904 | 12-Jun-95 | 20.6 | 19 | 350.6 | 348.2 | 349.8 | 347.4 |  |
| 23905 | 13-Jun-95 | 20.9 | 19.4 | 350.9 | 348.6 | 350.1 | 347.8 |  |
| 23906 | 14-Jun-95 | 22.3 | 20.2 | 352.3 | 349.4 | 351.5 | 348.6 |  |
| 23907 | 15-Jun-95 | 25.5 | 22.9 | 355.5 | 352.1 | 354.7 | 351.3 |  |
| 23908 | 16-Jun-95 | 26.7 | 24 | 356.7 | 353.2 | 355.9 | 352.4 |  |
| 23909 | 17-Jun-95 | 25.9 | 23.9 | 355.9 | 353.1 | 355.1 | 352.3 |  |
| 23910 | 18-Jun-95 | 21.6 | 20.4 | 351.6 | 349.6 | 350.8 | 348.8 |  |
| 23911 | 19-Jun-95 | 15.2 | 14.9 | 345.2 | 344.1 | 344.4 | 343.3 |  |
| 23912 | 20-Jun-95 | 15.5 | 15.2 | 345.5 | 344.4 | 344.7 | 343.6 |  |
| 23913 | 21-Jun-95 | 15.2 | 15.2 | 345.2 | 344.4 | 344.4 | 343.6 |  |
| 23914 | 22-Jun-95 | 17 | 15.8 | 347 | 345 | 346.2 | 344.2 |  |
| 23915 | 23-Jun-95 | 15.2 | 15.1 | 345.2 | 344.3 | 344.4 | 343.5 |  |
| 23916 | 24-Jun-95 | 15.5 | 15.1 | 345.5 | 344.3 | 344.7 | 343.5 |  |
| 23917 | 25-Jun-95 | 15.5 | 15.1 | 345.5 | 344.3 | 344.7 | 343.5 |  |
| 23918 | 26-Jun-95 | 17.3 | 16.3 | 347.3 | 345.5 | 346.5 | 344.7 |  |
| 23919 | 27-Jun-95 | 15.6 | 15.3 | 345.6 | 344.5 | 344.8 | 343.7 |  |
| 23920 | 28-Jun-95 | 16.6 | 15.9 | 346.6 | 345.1 | 345.8 | 344.3 |  |
| 23921 | 29-Jun-95 | 16.9 | 16.1 | 346.9 | 345.3 | 346.1 | 344.5 |  |
| 23922 | 30-Jun-95 | 17.3 | 16.1 | 347.3 | 345.3 | 346.5 | 344.5 |  |
| 24259 | 1-Jun-96 | 39.5 | 36 | 369.5 | 365.2 | 368.7 | 364.4 |  |


| 24260 | 2-Jun-96 | 39.7 | 36.5 | 369.7 | 365.7 | 368.9 | 364.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 24261 | 3-Jun-96 | 38.7 | 36.4 | 368.7 | 365.6 | 367.9 | 364.8 |
| 24262 | 4-Jun-96 | 35.7 | 33.7 | 365.7 | 362.9 | 364.9 | 362.1 |
| 24263 | 5-Jun-96 | 31.2 | 29.8 | 361.2 | 359 | 360.4 | 358.2 |
| 24264 | 6-Jun-96 | 26.4 | 25.3 | 356.4 | 354.5 | 355.6 | 353.7 |
| 24265 | 7-Jun-96 | 23.7 | 22 | 353.7 | 351.2 | 352.9 | 350.4 |
| 24266 | 8-Jun-96 | 24.5 | 21.9 | 354.5 | 351.1 | 353.7 | 350.3 |
| 24267 | 9-Jun-96 | 27.2 | 24.1 | 357.2 | 353.3 | 356.4 | 352.5 |
| 24268 | 10-Jun-96 | 31.1 | 27.5 | 361.1 | 356.7 | 360.3 | 355.9 |
| 24269 | 11-Jun-96 | 33.3 | 30 | 363.3 | 359.2 | 362.5 | 358.4 |
| 24270 | 12-Jun-96 | 34.7 | 31.7 | 364.7 | 360.9 | 363.9 | 360.1 |
| 24271 | 13-Jun-96 | 34.6 | 31.9 | 364.6 | 361.1 | 363.8 | 360.3 |
| 24272 | 14-Jun-96 | 34.22 | 31.5 | 364.22 | 360.7 | 363.42 | 359.9 |
| 24273 | 15-Jun-96 | 33.44 | 30.8 | 363.44 | 360 | 362.64 | 359.2 |
| 24274 | 16-Jun-96 | 31.62 | 29.2 | 361.62 | 358.4 | 360.82 | 357.6 |
| 24275 | 17-Jun-96 | 29.07 | 26.9 | 359.07 | 356.1 | 358.27 | 355.3 |
| 24276 | 18-Jun-96 | 26.2 | 24.5 | 356.2 | 353.7 | 355.4 | 352.9 |
| 24277 | 19-Jun-96 | 22.94 | 21.1 | 352.94 | 350.3 | 352.14 | 349.5 |
| 24278 | 20-Jun-96 | 20.5 | 19 | 350.5 | 348.2 | 349.7 | 347.4 |
| 24279 | 21-Jun-96 | 20.9 | 19.1 | 350.9 | 348.3 | 350.1 | 347.5 |
| 24280 | 22-Jun-96 | 22.1 | 19.9 | 352.1 | 349.1 | 351.3 | 348.3 |
| 24281 | 23-Jun-96 | 23.8 | 21.4 | 353.8 | 350.6 | 353 | 349.8 |
| 24282 | 24-Jun-96 | 24.6 | 22.2 | 354.6 | 351.4 | 353.8 | 350.6 |
| 24283 | 25-Jun-96 | 24.3 | 21.9 | 354.3 | 351.1 | 353.5 | 350.3 |
| 24284 | 26-Jun-96 | 22.8 | 21 | 352.8 | 350.2 | 352 | 349.4 |
| 24285 | 27-Jun-96 | 20.4 | 18.6 | 350.4 | 347.8 | 349.6 | 347 |
| 24286 | 28-Jun-96 | 19.9 | 17.9 | 349.9 | 347.1 | 349.1 | 346.3 |
| 24287 | 29-Jun-96 | 20.4 | 18.6 | 350.4 | 347.8 | 349.6 | 347 |
| 24288 | 30-Jun-96 | 18.3 | 17.2 | 348.3 | 346.4 | 347.5 | 345.6 |
| 24624 | 1-Jun-97 | 31.3 | 28.5 | 361.3 | 357.7 | 360.5 | 356.9 |
| 24625 | 2-Jun-97 | 34 | 30.5 | 364 | 359.7 | 363.2 | 358.9 |
| 24626 | 3-Jun-97 | 38.4 | 34.4 | 368.4 | 363.6 | 367.6 | 362.8 |
| 24627 | 4-Jun-97 | 39.9 | 36.4 | 369.9 | 365.6 | 369.1 | 364.8 |
| 24628 | 5-Jun-97 | 39.8 | 36.6 | 369.8 | 365.8 | 369 | 365 |
| 24629 | 6-Jun-97 | 39.5 | 36.4 | 369.5 | 365.6 | 368.7 | 364.8 |
| 24630 | 7-Jun-97 | 39.2 | 36.2 | 369.2 | 365.4 | 368.4 | 364.6 |
| 24631 | 8-Jun-97 | 38.3 | 35.4 | 368.3 | 364.6 | 367.5 | 363.8 |
| 24632 | 9-Jun-97 | 37.6 | 34.9 | 367.6 | 364.1 | 366.8 | 363.3 |
| 24633 | 10-Jun-97 | 37.3 | 34.4 | 367.3 | 363.6 | 366.5 | 362.8 |
| 24634 | 11-Jun-97 | 37.6 | 34.6 | 367.6 | 363.8 | 366.8 | 363 |
| 24635 | 12-Jun-97 | 35.9 | 33.5 | 365.9 | 362.7 | 365.1 | 361.9 |
| 24636 | 13-Jun-97 | 32.5 | 30.6 | 362.5 | 359.8 | 361.7 | 359 |
| 24637 | 14-Jun-97 | 28.6 | 26.9 | 358.6 | 356.1 | 357.8 | 355.3 |
| 24638 | 15-Jun-97 | 27.3 | 25.2 | 357.3 | 354.4 | 356.5 | 353.6 |
| 24639 | 16-Jun-97 | 27.5 | 25.2 | 357.5 | 354.4 | 356.7 | 353.6 |
| 24640 | 17-Jun-97 | 28.6 | 26.1 | 358.6 | 355.3 | 357.8 | 354.5 |
| 24641 | 18-Jun-97 | 30.8 | 27.814 | 360.8 | 357.014 | 360 | 356.214 |
| 24642 | 19-Jun-97 | 32 | 29.199 | 362 | 358.399 | 361.2 | 357.599 |
| 24643 | 20-Jun-97 | 33.8 | 30.585 | 363.8 | 359.785 | 363 | 358.985 |
| 24644 | 21-Jun-97 | 34.1 | 31.3 | 364.1 | 360.5 | 363.3 | 359.7 |
| 24645 | 22-Jun-97 | 31 | 29.1 | 361 | 358.3 | 360.2 | 357.5 |
| 24646 | 23-Jun-97 | 28 | 26.1 | 358 | 355.3 | 357.2 | 354.5 |
| 24647 | 24-Jun-97 | 21.8 | 21.5 | 351.8 | 350.7 | 351 | 349.9 |
| 24648 | 25-Jun-97 | 20.4 | 18.7 | 350.4 | 347.9 | 349.6 | 347.1 |
| 24649 | 26-Jun-97 | 18.1 | 17 | 348.1 | 346.2 | 347.3 | 345.4 |
| 24650 | 27-Jun-97 | 16.8 | 16 | 346.8 | 345.2 | 346 | 344.4 |
| 24651 | 28-Jun-97 | 16 | 15.4 | 346 | 344.6 | 345.2 | 343.8 |
| 24652 | 29-Jun-97 | 17.5 | 16.5 | 347.5 | 345.7 | 346.7 | 344.9 |


| 24653 | 30-Jun-97 | 18 | 16.9 | 348 | 346.1 | 347.2 | 345.3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 24989 | 1-Jun-98 | 18.2 | 17 | 348.2 | 346.2 | 347.4 | 345.4 |  |
| 24990 | 2-Jun-98 | 18.1 | 16.8 | 348.1 | 346 | 347.3 | 345.2 |  |
| 24991 | 3-Jun-98 | 16.8 | 16 | 346.8 | 345.2 | 346 | 344.4 |  |
| 24992 | 4-Jun-98 | 17.9 | 16.9 | 347.9 | 346.1 | 347.1 | 345.3 |  |
| 24993 | 5-Jun-98 | 16.9 | 16 | 346.9 | 345.2 | 346.1 | 344.4 |  |
| 24994 | 6-Jun-98 | 17.6 | 16.9 | 347.6 | 346.1 | 346.8 | 345.3 |  |
| 24995 | 7-Jun-98 | 15.5 | 15 | 345.5 | 344.2 | 344.7 | 343.4 |  |
| 24996 | 8-Jun-98 | 17.4 | 16.7 | 347.4 | 345.9 | 346.6 | 345.1 |  |
| 24997 | 9-Jun-98 | 16.2 | 15.8 | 346.2 | 345 | 345.4 | 344.2 |  |
| 24998 | 10-Jun-98 | 16.5 | 15.5 | 346.5 | 344.7 | 345.7 | 343.9 |  |
| 24999 | 11-Jun-98 | 19.9 | 18.6 | 349.9 | 347.8 | 349.1 | 347 |  |
| 25000 | 12-Jun-98 | 23.2 | 20.1 | 353.2 | 349.3 | 352.4 | 348.5 |  |
| 25001 | 13-Jun-98 | 28.2 | 25.2 | 358.2 | 354.4 | 357.4 | 353.6 |  |
| 25002 | 14-Jun-98 | 33.7 | 29.6 | 363.7 | 358.8 | 362.9 | 358 |  |
| 25003 | 15-Jun-98 | 33.7 | 30.8 | 363.7 | 360 | 362.9 | 359.2 |  |
| 25004 | 16-Jun-98 | 34.3 | 31.7 | 364.3 | 360.9 | 363.5 | 360.1 |  |
| 25005 | 17-Jun-98 | 35.4 | 32.5 | 365.4 | 361.7 | 364.6 | 360.9 |  |
| 25006 | 18-Jun-98 | 37.1 | 34 | 367.1 | 363.2 | 366.3 | 362.4 |  |
| 25007 | 19-Jun-98 | 37.8 | 35 | 367.8 | 364.2 | 367 | 363.4 |  |
| 25008 | 20-Jun-98 | 37.3 | 34.6 | 367.3 | 363.8 | 366.5 | 363 |  |
| 25009 | 21-Jun-98 | 36 | 33.6 | 366 | 362.8 | 365.2 | 362 |  |
| 25010 | 22-Jun-98 | 34 | 31.8 | 364 | 361 | 363.2 | 360.2 |  |
| 25011 | 23-Jun-98 | 31.3 | 29.4 | 361.3 | 358.6 | 360.5 | 357.8 |  |
| 25012 | 24-Jun-98 | 32.1 | 29.5 | 362.1 | 358.7 | 361.3 | 357.9 |  |
| 25013 | 25-Jun-98 | 32.8 | 30.3 | 362.8 | 359.5 | 362 | 358.7 |  |
| 25014 | 26-Jun-98 | 30.3 | 28.7 | 360.3 | 357.9 | 359.5 | 357.1 |  |
| 25015 | 27-Jun-98 | 24.5 | 24 | 354.5 | 353.2 | 353.7 | 352.4 |  |
| 25016 | 28-Jun-98 | 19.3 | 18.7 | 349.3 | 347.9 | 348.5 | 347.1 |  |
| 25017 | 29-Jun-98 | 17.7 | 16.5 | 347.7 | 345.7 | 346.9 | 344.9 |  |
| 25018 | 30-Jun-98 | 21.3 | 19.3 | 351.3 | 348.5 | 350.5 | 347.7 |  |
| 25354 | 1-Jun-99 | 13.7 | 14.1 | 343.7 | 343.3 | 342.9 | 342.5 |  |
| 25355 | 2-Jun-99 | 14 | 14.4 | 344 | 343.6 | 343.2 | 342.8 |  |
| 25356 | 3-Jun-99 | 14 | 14.4 | 344 | 343.6 | 343.2 | 342.8 |  |
| 25357 | 4-Jun-99 | 12.8 | 13.5 | 342.8 | 342.7 | 342 | 341.9 |  |
| 25358 | 5-Jun-99 | 14.1 | 14.4 | 344.1 | 343.6 | 343.3 | 342.8 |  |
| 25359 | 6-Jun-99 | 12.2 | 13.2 | 342.2 | 342.4 | 341.4 | 341.6 |  |
| 25360 | 7-Jun-99 | 14.2 | 14.6 | 344.2 | 343.8 | 343.4 | 343 |  |
| 25361 | 8-Jun-99 | 12.4 | 13.4 | 342.4 | 342.6 | 341.6 | 341.8 |  |
| 25362 | 9-Jun-99 | 13.6 | 14 | 343.6 | 343.2 | 342.8 | 342.4 |  |
| 25363 | 10-Jun-99 | 12.8 | 13.4 | 342.8 | 342.6 | 342 | 341.8 |  |
| 25364 | 11-Jun-99 | 12.7 | 13.7 | 342.7 | 342.9 | 341.9 | 342.1 |  |
| 25365 | 12-Jun-99 | 12.2 | 13.1 | 342.2 | 342.3 | 341.4 | 341.5 |  |
| 25366 | 13-Jun-99 | 12.61 | 13.3 | 342.61 | 342.5 | 341.81 | 341.7 |  |
| 25367 | 14-Jun-99 | 13.1 | 14.4 | 343.1 | 343.6 | 342.3 | 342.8 |  |
| 25368 | 15-Jun-99 | 12.8 | 13.5 | 342.8 | 342.7 | 342 | 341.9 |  |
| 25369 | 16-Jun-99 | 13.5 | 13.9 | 343.5 | 343.1 | 342.7 | 342.3 |  |
| 25370 | 17-Jun-99 | 12.8 | 13.6 | 342.8 | 342.8 | 342 | 342 |  |
| 25371 | 18-Jun-99 | 12.3 | 13.3 | 342.3 | 342.5 | 341.5 | 341.7 |  |
| 25372 | 19-Jun-99 | 13.8 | 14.1 | 343.8 | 343.3 | 343 | 342.5 |  |
| 25373 | 20-Jun-99 | 12.4 | 13.2 | 342.4 | 342.4 | 341.6 | 341.6 |  |
| 25374 | 21-Jun-99 | 12.6 | 13.6 | 342.6 | 342.8 | 341.8 | 342 |  |
| 25375 | 22-Jun-99 | 13.2 | 13.3 | 343.2 | 342.5 | 342.4 | 341.7 |  |
| 25376 | 23-Jun-99 | 13.1 | 13.7 | 343.1 | 342.9 | 342.3 | 342.1 |  |
| 25377 | 24-Jun-99 | 13.4 | 13.6 | 343.4 | 342.8 | 342.6 | 342 |  |
| 25378 | 25-Jun-99 | 13.4 | 13.4 | 343.4 | 342.6 | 342.6 | 341.8 |  |
| 25379 | 26-Jun-99 | 12.8 | 13.4 | 342.8 | 342.6 | 342 | 341.8 |  |
| 25380 | 27-Jun-99 | 12.9 | 13.2 | 342.9 | 342.4 | 342.1 | 341.6 |  |


| 25381 | 28-Jun-99 | 13.9 | 14.1 | 343.9 | 343.3 | 343.1 | 342.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25382 | 29-Jun-99 | 15.3 | 14.9 | 345.3 | 344.1 | 344.5 | 343.3 |
| 25383 | 30-Jun-99 | 15.5 | 15.4 | 345.5 | 344.6 | 344.7 | 343.8 |
| 25720 | 1-Jun-00 | 21.6 | 19.5 | 351.6 | 348.7 | 350.8 | 347.9 |
| 25721 | 2-Jun-00 | 22.5 | 20.3 | 352.5 | 349.5 | 351.7 | 348.7 |
| 25722 | 3-Jun-00 | 22 | 19.9 | 352 | 349.1 | 351.2 | 348.3 |
| 25723 | 4-Jun-00 | 19 | 17.9 | 349 | 347.1 | 348.2 | 346.3 |
| 25724 | 5-Jun-00 | 17.1 | 16.3 | 347.1 | 345.5 | 346.3 | 344.7 |
| 25725 | 6-Jun-00 | 15.8 | 15.8 | 345.8 | 345 | 345 | 344.2 |
| 25726 | 7-Jun-00 | 14.8 | 14.5 | 344.8 | 343.7 | 344 | 342.9 |
| 25727 | 8-Jun-00 | 14.2 | 14.1 | 344.2 | 343.3 | 343.4 | 342.5 |
| 25728 | 9-Jun-00 | 15.7 | 14.6 | 345.7 | 343.8 | 344.9 | 343 |
| 25729 | 10-Jun-00 | 16.8 | 15.6 | 346.8 | 344.8 | 346 | 344 |
| 25730 | 11-Jun-00 | 17 | 15.9 | 347 | 345.1 | 346.2 | 344.3 |
| 25731 | 12-Jun-00 | 15.3 | 15.2 | 345.3 | 344.4 | 344.5 | 343.6 |
| 25732 | 13-Jun-00 | 13.8 | 13.9 | 343.8 | 343.1 | 343 | 342.3 |
| 25733 | 14-Jun-00 | 13.9 | 14.2 | 343.9 | 343.4 | 343.1 | 342.6 |
| 25734 | 15-Jun-00 | 14.7 | 14.4 | 344.7 | 343.6 | 343.9 | 342.8 |
| 25735 | 16-Jun-00 | 14.6 | 14.3 | 344.6 | 343.5 | 343.8 | 342.7 |
| 25736 | 17-Jun-00 | 14.8 | 14.1 | 344.8 | 343.3 | 344 | 342.5 |
| 25737 | 18-Jun-00 | 16.9 | 15.5 | 346.9 | 344.7 | 346.1 | 343.9 |
| 25738 | 19-Jun-00 | 18.6 | 16.9 | 348.6 | 346.1 | 347.8 | 345.3 |
| 25739 | 20-Jun-00 | 20.2 | 18.2 | 350.2 | 347.4 | 349.4 | 346.6 |
| 25740 | 21-Jun-00 | 20.4 | 18.6 | 350.4 | 347.8 | 349.6 | 347 |
| 25741 | 22-Jun-00 | 19.8 | 18 | 349.8 | 347.2 | 349 | 346.4 |
| 25742 | 23-Jun-00 | 20 | 18 | 350 | 347.2 | 349.2 | 346.4 |
| 25743 | 24-Jun-00 | 20.2 | 18.3 | 350.2 | 347.5 | 349.4 | 346.7 |
| 25744 | 25-Jun-00 | 20.9 | 18.6 | 350.9 | 347.8 | 350.1 | 347 |
| 25745 | 26-Jun-00 | 21.4 | 19.3 | 351.4 | 348.5 | 350.6 | 347.7 |
| 25746 | 27-Jun-00 | 18.5 | 17.5 | 348.5 | 346.7 | 347.7 | 345.9 |
| 25747 | 28-Jun-00 | 17.4 | 16.8 | 347.4 | 346 | 346.6 | 345.2 |
| 25748 | 29-Jun-00 | 14.9 | 14.7 | 344.9 | 343.9 | 344.1 | 343.1 |
| 25749 | 30-Jun-00 | 16.7 | 15.5 | 346.7 | 344.7 | 345.9 | 343.9 |
| 26085 | 1-Jun-01 | 22.8 | 20.9 | 352.8 | 350.1 | 352 | 349.3 |
| 26086 | 2-Jun-01 | 18.9 | 17.9 | 348.9 | 347.1 | 348.1 | 346.3 |
| 26087 | 3-Jun-01 | 17.8 | 16.5 | 347.8 | 345.7 | 347 | 344.9 |
| 26088 | 4-Jun-01 | 18.5 | 16.9 | 348.5 | 346.1 | 347.7 | 345.3 |
| 26089 | 5-Jun-01 | 19.7 | 18 | 349.7 | 347.2 | 348.9 | 346.4 |
| 26090 | 6-Jun-01 | 20.9 | 18.9 | 350.9 | 348.1 | 350.1 | 347.3 |
| 26091 | 7-Jun-01 | 22 | 20 | 352 | 349.2 | 351.2 | 348.4 |
| 26092 | 8-Jun-01 | 25.1 | 21.9 | 355.1 | 351.1 | 354.3 | 350.3 |
| 26093 | 9-Jun-01 | 26 | 23.2 | 356 | 352.4 | 355.2 | 351.6 |
| 26094 | 10-Jun-01 | 25.8 | 23 | 355.8 | 352.2 | 355 | 351.4 |
| 26095 | 11-Jun-01 | 26.2 | 23.4 | 356.2 | 352.6 | 355.4 | 351.8 |
| 26096 | 12-Jun-01 | 25.9 | 23.3 | 355.9 | 352.5 | 355.1 | 351.7 |
| 26097 | 13-Jun-01 | 21.6 | 20.6 | 351.6 | 349.8 | 350.8 | 349 |
| 26098 | 14-Jun-01 | 17.4 | 16.6 | 347.4 | 345.8 | 346.6 | 345 |
| 26099 | 15-Jun-01 | 16.6 | 15.6 | 346.6 | 344.8 | 345.8 | 344 |
| 26100 | 16-Jun-01 | 15.7 | 15.2 | 345.7 | 344.4 | 344.9 | 343.6 |
| 26101 | 17-Jun-01 | 15.2 | 14.9 | 345.2 | 344.1 | 344.4 | 343.3 |
| 26102 | 18-Jun-01 | 14.4 | 14.3 | 344.4 | 343.5 | 343.6 | 342.7 |
| 26103 | 19-Jun-01 | 14.5 | 14.2 | 344.5 | 343.4 | 343.7 | 342.6 |
| 26104 | 20-Jun-01 | 15 | 14.7 | 345 | 343.9 | 344.2 | 343.1 |
| 26105 | 21-Jun-01 | 14.2 | 14.2 | 344.2 | 343.4 | 343.4 | 342.6 |
| 26106 | 22-Jun-01 | 13.8 | 13.8 | 343.8 | 343 | 343 | 342.2 |
| 26107 | 23-Jun-01 | 14.7 | 14.4 | 344.7 | 343.6 | 343.9 | 342.8 |
| 26108 | 24-Jun-01 | 14.8 | 14.4 | 344.8 | 343.6 | 344 | 342.8 |
| 26109 | 25-Jun-01 | 14.9 | 14.4 | 344.9 | 343.6 | 344.1 | 342.8 |

EXHIBIT 3

| 26110 | 26-Jun-01 | 14.5 | 14.4 | 344.5 | 343.6 | 343.7 | 342.8 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 26111 | 27-Jun-01 | 15.4 | 14.8 | 345.4 | 344 | 344.6 | 343.2 |  |
| 26112 | 28-Jun-01 | 15.3 | 15 | 345.3 | 344.2 | 344.5 | 343.4 |  |
| 26113 | 29-Jun-01 | 13.7 | 13.7 | 343.7 | 342.9 | 342.9 | 342.1 |  |
| 26114 | 30-Jun-01 | 13.2 | 13.4 | 343.2 | 342.6 | 342.4 | 341.8 |  |
| 26450 | 1-Jun-02 | 19.8 | 17.9 | 349.8 | 347.1 | 349 | 346.3 |  |
| 26451 | 2-Jun-02 | 19.3 | 17.7 | 349.3 | 346.9 | 348.5 | 346.1 |  |
| 26452 | 3-Jun-02 | 18.3 | 16.5 | 348.3 | 345.7 | 347.5 | 344.9 |  |
| 26453 | 4-Jun-02 | 18.9 | 17.2 | 348.9 | 346.4 | 348.1 | 345.6 |  |
| 26454 | 5-Jun-02 | 18.3 | 16.7 | 348.3 | 345.9 | 347.5 | 345.1 |  |
| 26455 | 6-Jun-02 | 18.1 | 16.5 | 348.1 | 345.7 | 347.3 | 344.9 |  |
| 26456 | 7-Jun-02 | 21.3 | 18.5 | 351.3 | 347.7 | 350.5 | 346.9 |  |
| 26457 | 8-Jun-02 | 25.6 | 22.1 | 355.6 | 351.3 | 354.8 | 350.5 |  |
| 26458 | 9-Jun-02 | 27.8 | 24.7 | 357.8 | 353.9 | 357 | 353.1 |  |
| 26459 | 10-Jun-02 | 28.7 | 25.3 | 358.7 | 354.5 | 357.9 | 353.7 |  |
| 26460 | 11-Jun-02 | 29 | 25.7 | 359 | 354.9 | 358.2 | 354.1 |  |
| 26461 | 12-Jun-02 | 26.8 | 24.4 | 356.8 | 353.6 | 356 | 352.8 |  |
| 26462 | 13-Jun-02 | 23.4 | 21.2 | 353.4 | 350.4 | 352.6 | 349.6 |  |
| 26463 | 14-Jun-02 | 20.9 | 18.8 | 350.9 | 348 | 350.1 | 347.2 |  |
| 26464 | 15-Jun-02 | 19.8 | 17.8 | 349.8 | 347 | 349 | 346.2 |  |
| 26465 | 16-Jun-02 | 19.2 | 17.3 | 349.2 | 346.5 | 348.4 | 345.7 |  |
| 26466 | 17-Jun-02 | 19.5 | 17.5 | 349.5 | 346.7 | 348.7 | 345.9 |  |
| 26467 | 18-Jun-02 | 18.9 | 17.2 | 348.9 | 346.4 | 348.1 | 345.6 |  |
| 26468 | 19-Jun-02 | 18.7 | 16.9 | 348.7 | 346.1 | 347.9 | 345.3 |  |
| 26469 | 20-Jun-02 | 17.6 | 16.7 | 347.6 | 345.9 | 346.8 | 345.1 |  |
| 26470 | 21-Jun-02 | 15.7 | 15.1 | 345.7 | 344.3 | 344.9 | 343.5 |  |
| 26471 | 22-Jun-02 | 15 | 14.2 | 345 | 343.4 | 344.2 | 342.6 |  |
| 26472 | 23-Jun-02 | 15.2 | 14.6 | 345.2 | 343.8 | 344.4 | 343 |  |
| 26473 | 24-Jun-02 | 14.4 | 14.2 | 344.4 | 343.4 | 343.6 | 342.6 |  |
| 26474 | 25-Jun-02 | 13.8 | 13.6 | 343.8 | 342.8 | 343 | 342 |  |
| 26475 | 26-Jun-02 | 13.3 | 13.3 | 343.3 | 342.5 | 342.5 | 341.7 |  |
| 26476 | 27-Jun-02 | 13.8 | 13.5 | 343.8 | 342.7 | 343 | 341.9 |  |
| 26477 | 28-Jun-02 | 14.3 | 14.1 | 344.3 | 343.3 | 343.5 | 342.5 |  |
| 26478 | 29-Jun-02 | 14.5 | 14.4 | 344.5 | 343.6 | 343.7 | 342.8 |  |
| 26479 | 30-Jun-02 | 15.6 | 14.8 | 345.6 | 344 | 344.8 | 343.2 |  |
| 26815 | 1-Jun-03 | 19.4 | 17.3 | 349.4 | 346.5 | 348.6 | 345.7 |  |
| 26816 | 2-Jun-03 | 19.7 | 17.8 | 349.7 | 347 | 348.9 | 346.2 |  |
| 26817 | 3-Jun-03 | 19.6 | 17.7 | 349.6 | 346.9 | 348.8 | 346.1 |  |
| 26818 | 4-Jun-03 | 21.1 | 18.4 | 351.1 | 347.6 | 350.3 | 346.8 |  |
| 26819 | 5-Jun-03 | 23.5 | 20.1 | 353.5 | 349.3 | 352.7 | 348.5 |  |
| 26820 | 6-Jun-03 | 25.8 | 22.2 | 355.8 | 351.4 | 355 | 350.6 |  |
| 26821 | 7-Jun-03 | 27.8 | 24.2 | 357.8 | 353.4 | 357 | 352.6 |  |
| 26822 | 8-Jun-03 | 29.3 | 25.7 | 359.3 | 354.9 | 358.5 | 354.1 |  |
| 26823 | 9-Jun-03 | 30.4 | 26.7 | 360.4 | 355.9 | 359.6 | 355.1 |  |
| 26824 | 10-Jun-03 | 32.2 | 28.3 | 362.2 | 357.5 | 361.4 | 356.7 |  |
| 26825 | 11-Jun-03 | 33.8 | 30.1 | 363.8 | 359.3 | 363 | 358.5 |  |
| 26826 | 12-Jun-03 | 35 | 31.6 | 365 | 360.8 | 364.2 | 360 |  |
| 26827 | 13-Jun-03 | 34.3 | 31.3 | 364.3 | 360.5 | 363.5 | 359.7 |  |
| 26828 | 14-Jun-03 | 32.1 | 29.5 | 362.1 | 358.7 | 361.3 | 357.9 |  |
| 26829 | 15-Jun-03 | 30 | 27.4 | 360 | 356.6 | 359.2 | 355.8 |  |
| 26830 | 16-Jun-03 | 29.2 | 26.2 | 359.2 | 355.4 | 358.4 | 354.6 |  |
| 26831 | 17-Jun-03 | 30.9 | 27.3 | 360.9 | 356.5 | 360.1 | 355.7 |  |
| 26832 | 18-Jun-03 | 33.6 | 29.8 | 363.6 | 359 | 362.8 | 358.2 |  |
| 26833 | 19-Jun-03 | 35.6 | 31.8 | 365.6 | 361 | 364.8 | 360.2 |  |
| 26834 | 20-Jun-03 | 37.2 | 33.4 | 367.2 | 362.6 | 366.4 | 361.8 |  |
| 26835 | 21-Jun-03 | 38.3 | 34.6 | 368.3 | 363.8 | 367.5 | 363 |  |
| 26836 | 22-Jun-03 | 38.6 | 35 | 368.6 | 364.2 | 367.8 | 363.4 |  |
| 26837 | 23-Jun-03 | 37.6 | 34.3 | 367.6 | 363.5 | 366.8 | 362.7 |  |


| 26838 | 24-Jun-03 | 35.5 | 32.6 | 365.5 | 361.8 | 364.7 | 361 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 26839 | 25-Jun-03 | 32.6 | 30 | 362.6 | 359.2 | 361.8 | 358.4 |
| 26840 | 26-Jun-03 | 29 | 26.3 | 359 | 355.5 | 358.2 | 354.7 |
| 26841 | 27-Jun-03 | 22.8 | 20.9 | 352.8 | 350.1 | 352 | 349.3 |
| 26842 | 28-Jun-03 | 19.1 | 17.7 | 349.1 | 346.9 | 348.3 | 346.1 |
| 26843 | 29-Jun-03 | 16.3 | 15.3 | 346.3 | 344.5 | 345.5 | 343.7 |
| 26844 | 30-Jun-03 | 16.1 | 15.1 | 346.1 | 344.3 | 345.3 | 343.5 |
| 27181 | 1-Jun-04 | 42.7 | 39.4 | 372.7 | 368.6 | 371.9 | 367.8 |
| 27182 | 2-Jun-04 | 43.6 | 40.5 | 373.6 | 369.7 | 372.8 | 368.9 |
| 27183 | 3-Jun-04 | 44 | 41.1 | 374 | 370.3 | 373.2 | 369.5 |
| 27184 | 4-Jun-04 | 44.1 | 41.3 | 374.1 | 370.5 | 373.3 | 369.7 |
| 27185 | 5-Jun-04 | 43.7 | 41.2 | 373.7 | 370.4 | 372.9 | 369.6 |
| 27186 | 6-Jun-04 | 42.5 | 40.2 | 372.5 | 369.4 | 371.7 | 368.6 |
| 27187 | 7-Jun-04 | 38.9 | 37.7 | 368.9 | 366.9 | 368.1 | 366.1 |
| 27188 | 8-Jun-04 | 34.9 | 34 | 364.9 | 363.2 | 364.1 | 362.4 |
| 27189 | 9-Jun-04 | 32.3 | 30.9 | 362.3 | 360.1 | 361.5 | 359.3 |
| 27190 | 10-Jun-04 | 29.5 | 28.4 | 359.5 | 357.6 | 358.7 | 356.8 |
| 27191 | 11-Jun-04 | 25.1 | 24.4 | 355.1 | 353.6 | 354.3 | 352.8 |
| 27192 | 12-Jun-04 | 20.6 | 19.7 | 350.6 | 348.9 | 349.8 | 348.1 |
| 27193 | 13-Jun-04 | 20 | 18.6 | 350 | 347.8 | 349.2 | 347 |
| 27194 | 14-Jun-04 | 23.3 | 21.3 | 353.3 | 350.5 | 352.5 | 349.7 |
| 27195 | 15-Jun-04 | 25.7 | 23.4 | 355.7 | 352.6 | 354.9 | 351.8 |
| 27196 | 16-Jun-04 | 27.1 | 24.8 | 357.1 | 354 | 356.3 | 353.2 |
| 27197 | 17-Jun-04 | 28.2 | 25.8 | 358.2 | 355 | 357.4 | 354.2 |
| 27198 | 18-Jun-04 | 28.6 | 26.3 | 358.6 | 355.5 | 357.8 | 354.7 |
| 27199 | 19-Jun-04 | 28.9 | 26.4 | 358.9 | 355.6 | 358.1 | 354.8 |
| 27200 | 20-Jun-04 | 29.2 | 26.8 | 359.2 | 356 | 358.4 | 355.2 |
| 27201 | 21-Jun-04 | 28.4 | 26.1 | 358.4 | 355.3 | 357.6 | 354.5 |
| 27202 | 22-Jun-04 | 27.4 | 25.2 | 357.4 | 354.4 | 356.6 | 353.6 |
| 27203 | 23-Jun-04 | 26.5 | 24.5 | 356.5 | 353.7 | 355.7 | 352.9 |
| 27204 | 24-Jun-04 | 24.8 | 22 | 354.8 | 351.2 | 354 | 350.4 |
| 27205 | 25-Jun-04 | 21.2 | 20.2 | 351.2 | 349.4 | 350.4 | 348.6 |
| 27206 | 26-Jun-04 | 18.6 | 17.5 | 348.6 | 346.7 | 347.8 | 345.9 |
| 27207 | 27-Jun-04 | 18.4 | 17.5 | 348.4 | 346.7 | 347.6 | 345.9 |
| 27208 | 28-Jun-04 | 18.6 | 17.6 | 348.6 | 346.8 | 347.8 | 346 |
| 27209 | 29-Jun-04 | 18.3 | 17.2 | 348.3 | 346.4 | 347.5 | 345.6 |
| 27210 | 30-Jun-04 | 18 | 17 | 348 | 346.2 | 347.2 | 345.4 |
| 27546 | 1-Jun-05 | 15.3 | 14.9 | 345.3 | 344.1 | 344.5 | 343.3 |
| 27547 | 2-Jun-05 | 15.1 | 14.7 | 345.1 | 343.9 | 344.3 | 343.1 |
| 27548 | 3-Jun-05 | 15.3 | 15.1 | 345.3 | 344.3 | 344.5 | 343.5 |
| 27549 | 4-Jun-05 | 13.8 | 14.01 | 343.8 | 343.21 | 343 | 342.41 |
| 27550 | 5-Jun-05 | 13.8 | 14 | 343.8 | 343.2 | 343 | 342.4 |
| 27551 | 6-Jun-05 | 13.9 | 14 | 343.9 | 343.2 | 343.1 | 342.4 |
| 27552 | 7-Jun-05 | 13.9 | 14.1 | 343.9 | 343.3 | 343.1 | 342.5 |
| 27553 | 8-Jun-05 | 14.5 | 14.4 | 344.5 | 343.6 | 343.7 | 342.8 |
| 27554 | 9-Jun-05 | 13.7 | 13.9 | 343.7 | 343.1 | 342.9 | 342.3 |
| 27555 | 10-Jun-05 | 14.9 | 14.7 | 344.9 | 343.9 | 344.1 | 343.1 |
| 27556 | 11-Jun-05 | 13.9 | 14.1 | 343.9 | 343.3 | 343.1 | 342.5 |
| 27558 | 13-Jun-05 | 15 | 14.8 | 345 | 344 | 344.2 | 343.2 |
| 27559 | 14-Jun-05 | 16.5 | 15.9 | 346.5 | 345.1 | 345.7 | 344.3 |
| 27560 | 15-Jun-05 | 16.5 | 16 | 346.5 | 345.2 | 345.7 | 344.4 |
| 27561 | 16-Jun-05 | 14.2 | 14.3 | 344.2 | 343.5 | 343.4 | 342.7 |
| 27562 | 17-Jun-05 | 13.8 | 14.1 | 343.8 | 343.3 | 343 | 342.5 |
| 27563 | 18-Jun-05 | 13.9 | 13.96 | 343.9 | 343.16 | 343.1 | 342.36 |
| 27564 | 19-Jun-05 | 14.3 | 14.2 | 344.3 | 343.4 | 343.5 | 342.6 |
| 27565 | 20-Jun-05 | 12.8 | 13.23 | 342.8 | 342.43 | 342 | 341.63 |
| 27566 | 21-Jun-05 | 14 | 14.1 | 344 | 343.3 | 343.2 | 342.5 |
| 27567 | 22-Jun-05 | 13.2 | 13.6 | 343.2 | 342.8 | 342.4 | 342 |


| 27568 | 23-Jun-05 | 13 | 13.6 | 343 | 342.8 | 342.2 | 342 |
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| 27569 | 24-Jun-05 | 13.3 | 13.8 | 343.3 | 343 | 342.5 | 342.2 |
| 27570 | 25-Jun-05 | 13.4 | 13.9 | 343.4 | 343.1 | 342.6 | 342.3 |
| 27571 | 26-Jun-05 | 13.2 | 13.7 | 343.2 | 342.9 | 342.4 | 342.1 |
| 27572 | 27-Jun-05 | 13.2 | 13.7 | 343.2 | 342.9 | 342.4 | 342.1 |
| 27573 | 28-Jun-05 | 13.1 | 13.6 | 343.1 | 342.8 | 342.3 | 342 |
| 27574 | 29-Jun-05 | 12.7 | 13.33 | 342.7 | 342.53 | 341.9 | 341.73 |
| 27575 | 30-Jun-05 | 12.8 | 13.44 | 342.8 | 342.64 | 342 | 341.84 |
| 27911 | 1-Jun-06 | 17.1 | 16.2 | 347.1 | 345.4 | 346.3 | 344.6 |
| 27912 | 2-Jun-06 | 16.7 | 15.9 | 346.7 | 345.1 | 345.9 | 344.3 |
| 27913 | 3-Jun-06 | 20.2 | 18.7 | 350.2 | 347.9 | 349.4 | 347.1 |
| 27914 | 4-Jun-06 | 20 | 18.3 | 350 | 347.5 | 349.2 | 346.7 |
| 27915 | 5-Jun-06 | 20.3 | 18.5 | 350.3 | 347.7 | 349.5 | 346.9 |
| 27916 | 6-Jun-06 | 21.5 | 19.4 | 351.5 | 348.6 | 350.7 | 347.8 |
| 27917 | 7-Jun-06 | 21.9 | 19.2 | 351.9 | 348.4 | 351.1 | 347.6 |
| 27918 | 8-Jun-06 | 21.7 | 19.7 | 351.7 | 348.9 | 350.9 | 348.1 |
| 27919 | 9-Jun-06 | 19.4 | 18.2 | 349.4 | 347.4 | 348.6 | 346.6 |
| 27920 | 10-Jun-06 | 17.1 | 16.3 | 347.1 | 345.5 | 346.3 | 344.7 |
| 27921 | 11-Jun-06 | 15.3 | 14.8 | 345.3 | 344 | 344.5 | 343.2 |
| 27922 | 12-Jun-06 | 15.6 | 14.9 | 345.6 | 344.1 | 344.8 | 343.3 |
| 27923 | 13-Jun-06 | 16.3 | 15.6 | 346.3 | 344.8 | 345.5 | 344 |
| 27924 | 14-Jun-06 | 15.1 | 14.7 | 345.1 | 343.9 | 344.3 | 343.1 |
| 27926 | 16-Jun-06 | 13.9 | 13.8 | 343.9 | 343 | 343.1 | 342.2 |
| 27927 | 17-Jun-06 | 14 | 14.1 | 344 | 343.3 | 343.2 | 342.5 |
| 27928 | 18-Jun-06 | 13.3 | 13.6 | 343.3 | 342.8 | 342.5 | 342 |
| 27929 | 19-Jun-06 | 14.2 | 14.1 | 344.2 | 343.3 | 343.4 | 342.5 |
| 27930 | 20-Jun-06 | 13.7 | 14 | 343.7 | 343.2 | 342.9 | 342.4 |
| 27931 | 21-Jun-06 | 14.1 | 14.1 | 344.1 | 343.3 | 343.3 | 342.5 |
| 27932 | 22-Jun-06 | 12.9 | 13.3 | 342.9 | 342.5 | 342.1 | 341.7 |
| 27933 | 23-Jun-06 | 14.1 | 14.2 | 344.1 | 343.4 | 343.3 | 342.6 |
| 27934 | 24-Jun-06 | 14.7 | 14.6 | 344.7 | 343.8 | 343.9 | 343 |
| 27935 | 25-Jun-06 | 16.2 | 15.3 | 346.2 | 344.5 | 345.4 | 343.7 |
| 27936 | 26-Jun-06 | 15.8 | 15.2 | 345.8 | 344.4 | 345 | 343.6 |
| 27937 | 27-Jun-06 | 16.6 | 15.6 | 346.6 | 344.8 | 345.8 | 344 |
| 27938 | 28-Jun-06 | 17.4 | 16.2 | 347.4 | 345.4 | 346.6 | 344.6 |
| 27939 | 29-Jun-06 | 18.8 | 17.2 | 348.8 | 346.4 | 348 | 345.6 |
| 27940 | 30-Jun-06 | 20.7 | 18.5 | 350.7 | 347.7 | 349.9 | 346.9 |
| 28276 | 1-Jun-07 | 14.1 | 14.1 | 344.1 | 343.3 | 343.3 | 342.5 |
| 28277 | 2-Jun-07 | 12.6 | 13.2 | 342.6 | 342.4 | 341.8 | 341.6 |
| 28278 | 3-Jun-07 | 15.1 | 14.9 | 345.1 | 344.1 | 344.3 | 343.3 |
| 28279 | 4-Jun-07 | 13.5 | 13.9 | 343.5 | 343.1 | 342.7 | 342.3 |
| 28280 | 5-Jun-07 | 13.3 | 13.6 | 343.3 | 342.8 | 342.5 | 342 |
| 28281 | 6-Jun-07 | 14.4 | 14.1 | 344.4 | 343.3 | 343.6 | 342.5 |
| 28282 | 7-Jun-07 | 14.1 | 14.1 | 344.1 | 343.3 | 343.3 | 342.5 |
| 28283 | 8-Jun-07 | 14.2 | 14.28 | 344.2 | 343.48 | 343.4 | 342.68 |
| 28284 | 9-Jun-07 | 13.6 | 13.6 | 343.6 | 342.8 | 342.8 | 342 |
| 28285 | 10-Jun-07 | 13.3 | 13.9 | 343.3 | 343.1 | 342.5 | 342.3 |
| 28286 | 11-Jun-07 | 14.3 | 17.2 | 344.3 | 346.4 | 343.5 | 345.6 |
| 28287 | 12-Jun-07 | 13.9 | 14.1 | 343.9 | 343.3 | 343.1 | 342.5 |
| 28288 | 13-Jun-07 | 12.9 | 13.5 | 342.9 | 342.7 | 342.1 | 341.9 |
| 28289 | 14-Jun-07 | 13.5 | 13.9 | 343.5 | 343.1 | 342.7 | 342.3 |
| 28290 | 15-Jun-07 | 13.5 | 13.8 | 343.5 | 343 | 342.7 | 342.2 |
| 28291 | 16-Jun-07 | 13.3 | 13.6 | 343.3 | 342.8 | 342.5 | 342 |
| 28292 | 17-Jun-07 | 13 | 13.3 | 343 | 342.5 | 342.2 | 341.7 |
| 28293 | 18-Jun-07 | 12.5 | 13 | 342.5 | 342.2 | 341.7 | 341.4 |
| 28294 | 19-Jun-07 | 13 | 13.3 | 343 | 342.5 | 342.2 | 341.7 |
| 28295 | 20-Jun-07 | 13.6 | 13.6 | 343.6 | 342.8 | 342.8 | 342 |
| 28296 | 21-Jun-07 | 13.3 | 13.6 | 343.3 | 342.8 | 342.5 | 342 |


| 28297 | 22-Jun-07 | 13.4 | 13.5 | 343.4 | 342.7 | 342.6 | 341.9 |  |
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| 28298 | 23-Jun-07 | 13.4 | 13.6 | 343.4 | 342.8 | 342.6 | 342 |  |
| 28299 | 24-Jun-07 | 13 | 13.5 | 343 | 342.7 | 342.2 | 341.9 |  |
| 28300 | 25-Jun-07 | 13.2 | 13.7 | 343.2 | 342.9 | 342.4 | 342.1 |  |
| 28301 | 26-Jun-07 | 13 | 13.4 | 343 | 342.6 | 342.2 | 341.8 |  |
| 28302 | 27-Jun-07 | 13.9 | 14 | 343.9 | 343.2 | 343.1 | 342.4 |  |
| 28303 | 28-Jun-07 | 13.2 | 13.6 | 343.2 | 342.8 | 342.4 | 342 |  |
| 28304 | 29-Jun-07 | 13.7 | 13.9 | 343.7 | 343.1 | 342.9 | 342.3 |  |
| 28305 | 30-Jun-07 | 13.5 | 13.7 | 343.5 | 342.9 | 342.7 | 342.1 |  |
| 28642 | 1-Jun-08 | 16.3 | 15.6 | 346.3 | 344.8 | 345.5 | 344 |  |
| 28643 | 2-Jun-08 | 15.9 | 15.3 | 345.9 | 344.5 | 345.1 | 343.7 |  |
| 28644 | 3-Jun-08 | 16.5 | 15.6 | 346.5 | 344.8 | 345.7 | 344 |  |
| 28645 | 4-Jun-08 | 17.7 | 16.4 | 347.7 | 345.6 | 346.9 | 344.8 |  |
| 28646 | 5-Jun-08 | 20.8 | 18.6 | 350.8 | 347.8 | 350 | 347 |  |
| 28647 | 6-Jun-08 | 25.8 | 22.3 | 355.8 | 351.5 | 355 | 350.7 |  |
| 28648 | 7-Jun-08 | 31.2 | 27.2 | 361.2 | 356.4 | 360.4 | 355.6 |  |
| 28649 | 8-Jun-08 | 34.2 | 30.6 | 364.2 | 359.8 | 363.4 | 359 |  |
| 28650 | 9-Jun-08 | 35.5 | 32.1 | 365.5 | 361.3 | 364.7 | 360.5 |  |
| 28651 | 10-Jun-08 | 34.8 | 31.9 | 364.8 | 361.1 | 364 | 360.3 |  |
| 28652 | 11-Jun-08 | 30.6 | 28.9 | 360.6 | 358.1 | 359.8 | 357.3 |  |
| 28653 | 12-Jun-08 | 22.6 | 21.9 | 352.6 | 351.1 | 351.8 | 350.3 |  |
| 28654 | 13-Jun-08 | 18 | 17 | 348 | 346.2 | 347.2 | 345.4 |  |
| 28655 | 14-Jun-08 | 16.7 | 16 | 346.7 | 345.2 | 345.9 | 344.4 |  |
| 28656 | 15-Jun-08 | 17.1 | 16.1 | 347.1 | 345.3 | 346.3 | 344.5 |  |
| 28657 | 16-Jun-08 | 17.2 | 16.4 | 347.2 | 345.6 | 346.4 | 344.8 |  |
| 28658 | 17-Jun-08 | 16.5 | 15.8 | 346.5 | 345 | 345.7 | 344.2 |  |
| 28659 | 18-Jun-08 | 17.2 | 16.4 | 347.2 | 345.6 | 346.4 | 344.8 |  |
| 28660 | 19-Jun-08 | 15.5 | 15.2 | 345.5 | 344.4 | 344.7 | 343.6 |  |
| 28661 | 20-Jun-08 | 15.2 | 14.9 | 345.2 | 344.1 | 344.4 | 343.3 |  |
| 28662 | 21-Jun-08 | 15.8 | 15.4 | 345.8 | 344.6 | 345 | 343.8 |  |
| 28663 | 22-Jun-08 | 14.2 | 14.2 | 344.2 | 343.4 | 343.4 | 342.6 |  |
| 28664 | 23-Jun-08 | 14.2 | 14.1 | 344.2 | 343.3 | 343.4 | 342.5 |  |
| 28665 | 24-Jun-08 | 13.4 | 13.6 | 343.4 | 342.8 | 342.6 | 342 |  |
| 28666 | 25-Jun-08 | 14.4 | 14.4 | 344.4 | 343.6 | 343.6 | 342.8 |  |
| 28667 | 26-Jun-08 | 14.3 | 14.3 | 344.3 | 343.5 | 343.5 | 342.7 |  |
| 28668 | 27-Jun-08 | 14.7 | 14.7 | 344.7 | 343.9 | 343.9 | 343.1 |  |
| 28669 | 28-Jun-08 | 15 | 14.8 | 345 | 344 | 344.2 | 343.2 |  |
| 28670 | 29-Jun-08 | 16.9 | 15.9 | 346.9 | 345.1 | 346.1 | 344.3 |  |
| 28671 | 30-Jun-08 | 17.2 | 16.2 | 347.2 | 345.4 | 346.4 | 344.6 |  |
| 29007 | 1-Jun-09 | 20.5 | 18.4 | 350.5 | 347.6 | 349.7 | 346.8 |  |
| 29008 | 2-Jun-09 | 20.7 | 18.7 | 350.7 | 347.9 | 349.9 | 347.1 |  |
| 29009 | 3-Jun-09 | 20.8 | 18.6 | 350.8 | 347.8 | 350 | 347 |  |
| 29010 | 4-Jun-09 | 20.4 | 18.3 | 350.4 | 347.5 | 349.6 | 346.7 |  |
| 29011 | 5-Jun-09 | 19.7 | 17.8 | 349.7 | 347 | 348.9 | 346.2 |  |
| 29012 | 6-Jun-09 | 19.8 | 17.6 | 349.8 | 346.8 | 349 | 346 |  |
| 29013 | 7-Jun-09 | 21 | 18.7 | 351 | 347.9 | 350.2 | 347.1 |  |
| 29014 | 8-Jun-09 | 21.3 | 19.1 | 351.3 | 348.3 | 350.5 | 347.5 |  |
| 29015 | 9-Jun-09 | 21.4 | 19.1 | 351.4 | 348.3 | 350.6 | 347.5 |  |
| 29016 | 10-Jun-09 | 20.5 | 18.5 | 350.5 | 347.7 | 349.7 | 346.9 |  |
| 29017 | 11-Jun-09 | 18.2 | 16.7 | 348.2 | 345.9 | 347.4 | 345.1 |  |
| 29018 | 12-Jun-09 | 18.6 | 16.9 | 348.6 | 346.1 | 347.8 | 345.3 |  |
| 29019 | 13-Jun-09 | 21.8 | 19.6 | 351.8 | 348.8 | 351 | 348 |  |
| 29020 | 14-Jun-09 | 23.6 | 21.1 | 353.6 | 350.3 | 352.8 | 349.5 |  |
| 29021 | 15-Jun-09 | 24.4 | 22 | 354.4 | 351.2 | 353.6 | 350.4 |  |
| 29022 | 16-Jun-09 | 24.4 | 22 | 354.4 | 351.2 | 353.6 | 350.4 |  |
| 29023 | 17-Jun-09 | 22.7 | 20.7 | 352.7 | 349.9 | 351.9 | 349.1 |  |
| 29024 | 18-Jun-09 | 20.5 | 18.7 | 350.5 | 347.9 | 349.7 | 347.1 |  |
| 29025 | 19-Jun-09 | 19.4 | 17.5 | 349.4 | 346.7 | 348.6 | 345.9 |  |

EXHIBIT 3

| 29026 | 20-Jun-09 | 21.6 | 19.3 | 351.6 | 348.5 | 350.8 | 347.7 |  |
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| 29027 | 21-Jun-09 | 23 | 20.6 | 353 | 349.8 | 352.2 | 349 |  |
| 29028 | 22-Jun-09 | 23.6 | 21.1 | 353.6 | 350.3 | 352.8 | 349.5 |  |
| 29029 | 23-Jun-09 | 22.2 | 20.5 | 352.2 | 349.7 | 351.4 | 348.9 |  |
| 29030 | 24-Jun-09 | 21.7 | 20.1 | 351.7 | 349.3 | 350.9 | 348.5 |  |
| 29031 | 25-Jun-09 | 20.2 | 18.9 | 350.2 | 348.1 | 349.4 | 347.3 |  |
| 29032 | 26-Jun-09 | 16.8 | 16.3 | 346.8 | 345.5 | 346 | 344.7 |  |
| 29033 | 27-Jun-09 | 17.4 | 16.4 | 347.4 | 345.6 | 346.6 | 344.8 |  |
| 29034 | 28-Jun-09 | 18.5 | 17.5 | 348.5 | 346.7 | 347.7 | 345.9 |  |
| 29035 | 29-Jun-09 | 15.9 | 15.8 | 345.9 | 345 | 345.1 | 344.2 |  |
| 29036 | 30-Jun-09 | 15.1 | 14.8 | 345.1 | 344 | 344.3 | 343.2 |  |
| 29372 | 1-Jun-10 | 16.7 | 15.9 | 346.7 | 345.1 | 345.9 | 344.3 |  |
| 29373 | 2-Jun-10 | 16.5 | 15.7 | 346.5 | 344.9 | 345.7 | 344.1 |  |
| 29374 | 3-Jun-10 | 15.8 | 15.3 | 345.8 | 344.5 | 345 | 343.7 |  |
| 29375 | 4-Jun-10 | 16.5 | 15.6 | 346.5 | 344.8 | 345.7 | 344 |  |
| 29376 | 5-Jun-10 | 17.6 | 16.4 | 347.6 | 345.6 | 346.8 | 344.8 |  |
| 29377 | 6-Jun-10 | 18.5 | 17.2 | 348.5 | 346.4 | 347.7 | 345.6 |  |
| 29378 | 7-Jun-10 | 18.7 | 17.2 | 348.7 | 346.4 | 347.9 | 345.6 |  |
| 29379 | 8-Jun-10 | 18.9 | 17.1 | 348.9 | 346.3 | 348.1 | 345.5 |  |
| 29380 | 9-Jun-10 | 20.8 | 18.8 | 350.8 | 348 | 350 | 347.2 |  |
| 29381 | 10-Jun-10 | 22 | 19.8 | 352 | 349 | 351.2 | 348.2 |  |
| 29382 | 11-Jun-10 | 23 | 20.8 | 353 | 350 | 352.2 | 349.2 |  |
| 29383 | 12-Jun-10 | 22.6 | 20.7 | 352.6 | 349.9 | 351.8 | 349.1 |  |
| 29384 | 13-Jun-10 | 22 | 19.9 | 352 | 349.1 | 351.2 | 348.3 |  |
| 29385 | 14-Jun-10 | 25 | 22.4 | 355 | 351.6 | 354.2 | 350.8 |  |
| 29386 | 15-Jun-10 | 26.6 | 24 | 356.6 | 353.2 | 355.8 | 352.4 |  |
| 29387 | 16-Jun-10 | 26.7 | 24.1 | 356.7 | 353.3 | 355.9 | 352.5 |  |
| 29388 | 17-Jun-10 | 27.3 | 24.5 | 357.3 | 353.7 | 356.5 | 352.9 |  |
| 29389 | 18-Jun-10 | 26.9 | 24.3 | 356.9 | 353.5 | 356.1 | 352.7 |  |
| 29390 | 19-Jun-10 | 24.2 | 22.2 | 354.2 | 351.4 | 353.4 | 350.6 |  |
| 29391 | 20-Jun-10 | 21.4 | 19.6 | 351.4 | 348.8 | 350.6 | 348 |  |
| 29392 | 21-Jun-10 | 17.5 | 16.5 | 347.5 | 345.7 | 346.7 | 344.9 |  |
| 29393 | 22-Jun-10 | 16.3 | 15.6 | 346.3 | 344.8 | 345.5 | 344 |  |
| 29394 | 23-Jun-10 | 16.5 | 15.9 | 346.5 | 345.1 | 345.7 | 344.3 |  |
| 29395 | 24-Jun-10 | 15.9 | 15.4 | 345.9 | 344.6 | 345.1 | 343.8 |  |
| 29396 | 25-Jun-10 | 15.9 | 15.3 | 345.9 | 344.5 | 345.1 | 343.7 |  |
| 29397 | 26-Jun-10 | 14.9 | 14.7 | 344.9 | 343.9 | 344.1 | 343.1 |  |
| 29398 | 27-Jun-10 | 14.4 | 14.3 | 344.4 | 343.5 | 343.6 | 342.7 |  |
| 29399 | 28-Jun-10 | 14.5 | 14.4 | 344.5 | 343.6 | 343.7 | 342.8 |  |
| 29400 | 29-Jun-10 | 17.1 | 15.9 | 347.1 | 345.1 | 346.3 | 344.3 |  |
| 29401 | 30-Jun-10 | 17.3 | 16.1 | 347.3 | 345.3 | 346.5 | 344.5 |  |
| 29737 | 1-Jun-11 | 31.6 | 29.3 | 361.6 | 358.5 | 360.8 | 357.7 |  |
| 29738 | 2-Jun-11 | 29.7 | 27.4 | 359.7 | 356.6 | 358.9 | 355.8 |  |
| 29740 | 4-Jun-11 | 23.6 | 21.9 | 353.6 | 351.1 | 352.8 | 350.3 |  |
| 29741 | 5-Jun-11 | 21.7 | 19.9 | 351.7 | 349.1 | 350.9 | 348.3 |  |
| 29742 | 6-Jun-11 | 20.7 | 18.3 | 350.7 | 347.5 | 349.9 | 346.7 |  |
| 29743 | 7-Jun-11 | 18.5 | 17.2 | 348.5 | 346.4 | 347.7 | 345.6 |  |
| 29744 | 8-Jun-11 | 18 | 16.7 | 348 | 345.9 | 347.2 | 345.1 |  |
| 29745 | 9-Jun-11 | 17.6 | 16.4 | 347.6 | 345.6 | 346.8 | 344.8 |  |
| 29746 | 10-Jun-11 | 16.1 | 15.4 | 346.1 | 344.6 | 345.3 | 343.8 |  |
| 29747 | 11-Jun-11 | 16.4 | 15.3 | 346.4 | 344.5 | 345.6 | 343.7 |  |
| 29748 | 12-Jun-11 | 17.3 | 16.1 | 347.3 | 345.3 | 346.5 | 344.5 |  |
| 29749 | 13-Jun-11 | 17.8 | 16.5 | 347.8 | 345.7 | 347 | 344.9 |  |
| 29750 | 14-Jun-11 | 17 | 15.9 | 347 | 345.1 | 346.2 | 344.3 |  |
| 29751 | 15-Jun-11 | 16.4 | 15.5 | 346.4 | 344.7 | 345.6 | 343.9 |  |
| 29752 | 16-Jun-11 | 15.6 | 14.9 | 345.6 | 344.1 | 344.8 | 343.3 |  |
| 29753 | 17-Jun-11 | 15.9 | 15.2 | 345.9 | 344.4 | 345.1 | 343.6 |  |
| 29754 | 18-Jun-11 | 14.1 | 13.9 | 344.1 | 343.1 | 343.3 | 342.3 |  |


| 29755 | 19-Jun-11 | 17.5 | 16.4 | 347.5 | 345.6 | 346.7 | 344.8 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 29756 | 20-Jun-11 | 19.1 | 17.6 | 349.1 | 346.8 | 348.3 | 346 |  |
| 29757 | 21-Jun-11 | 18.7 | 17.2 | 348.7 | 346.4 | 347.9 | 345.6 |  |
| 29758 | 22-Jun-11 | 21.6 | 19.6 | 351.6 | 348.8 | 350.8 | 348 |  |
| 29759 | 23-Jun-11 | 23.3 | 21.1 | 353.3 | 350.3 | 352.5 | 349.5 |  |
| 29760 | 24-Jun-11 | 24 | 21.7 | 354 | 350.9 | 353.2 | 350.1 |  |
| 29761 | 25-Jun-11 | 20.8 | 19.4 | 350.8 | 348.6 | 350 | 347.8 |  |
| 29762 | 26-Jun-11 | 19.2 | 17.9 | 349.2 | 347.1 | 348.4 | 346.3 |  |
| 29763 | 27-Jun-11 | 20 | 18.4 | 350 | 347.6 | 349.2 | 346.8 |  |
| 29764 | 28-Jun-11 | 20.4 | 19.1 | 350.4 | 348.3 | 349.6 | 347.5 |  |
| 29765 | 29-Jun-11 | 18.4 | 17.3 | 348.4 | 346.5 | 347.6 | 345.7 |  |
| 29766 | 30-Jun-11 | 17.4 | 16.7 | 347.4 | 345.9 | 346.6 | 345.1 |  |
| 30103 | 1-Jun-12 | 15.9 | 15.1 | 345.9 | 344.3 | 345.1 | 343.5 |  |
| 30104 | 2-Jun-12 | 15.7 | 15.1 | 345.7 | 344.3 | 344.9 | 343.5 |  |
| 30105 | 3-Jun-12 | 15.5 | 14.9 | 345.5 | 344.1 | 344.7 | 343.3 |  |
| 30106 | 4-Jun-12 | 15.2 | 14.7 | 345.2 | 343.9 | 344.4 | 343.1 |  |
| 30107 | 5-Jun-12 | 15 | 14.5 | 345 | 343.7 | 344.2 | 342.9 |  |
| 30108 | 6-Jun-12 | 14.6 | 14.5 | 344.6 | 343.7 | 343.8 | 342.9 |  |
| 30109 | 7-Jun-12 | 14.1 | 13.9 | 344.1 | 343.1 | 343.3 | 342.3 |  |
| 30110 | 8-Jun-12 | 14.4 | 14.2 | 344.4 | 343.4 | 343.6 | 342.6 |  |
| 30111 | 9-Jun-12 | 13.8 | 13.8 | 343.8 | 343 | 343 | 342.2 |  |
| 30112 | 10-Jun-12 | 12.7 | 13.1 | 342.7 | 342.3 | 341.9 | 341.5 |  |
| 30113 | 11-Jun-12 | 13.4 | 13.8 | 343.4 | 343 | 342.6 | 342.2 |  |
| 30114 | 12-Jun-12 | 13.5 | 13.8 | 343.5 | 343 | 342.7 | 342.2 |  |
| 30115 | 13-Jun-12 | 13.6 | 13.9 | 343.6 | 343.1 | 342.8 | 342.3 |  |
| 30116 | 14-Jun-12 | 13.7 | 13.8 | 343.7 | 343 | 342.9 | 342.2 |  |
| 30117 | 15-Jun-12 | 14 | 13.9 | 344 | 343.1 | 343.2 | 342.3 |  |
| 30118 | 16-Jun-12 | 13.3 | 13.6 | 343.3 | 342.8 | 342.5 | 342 |  |
| 30119 | 17-Jun-12 | 14.6 | 14.4 | 344.6 | 343.6 | 343.8 | 342.8 |  |
| 30120 | 18-Jun-12 | 13.9 | 13.9 | 343.9 | 343.1 | 343.1 | 342.3 |  |
| 30121 | 19-Jun-12 | 13 | 13.2 | 343 | 342.4 | 342.2 | 341.6 |  |
| 30122 | 20-Jun-12 | 14.9 | 14.6 | 344.9 | 343.8 | 344.1 | 343 |  |
| 30123 | 21-Jun-12 | 13.7 | 13.8 | 343.7 | 343 | 342.9 | 342.2 |  |
| 30124 | 22-Jun-12 | 13.6 | 13.8 | 343.6 | 343 | 342.8 | 342.2 |  |
| 30125 | 23-Jun-12 | 14 | 14 | 344 | 343.2 | 343.2 | 342.4 |  |
| 30126 | 24-Jun-12 |  | 13.4 |  | 342.6 |  | 341.8 |  |
| 30127 | 25-Jun-12 | 13.7 | 13.7 | 343.7 | 342.9 | 342.9 | 342.1 |  |
| 30128 | 26-Jun-12 | 13.8 | 13.9 | 343.8 | 343.1 | 343 | 342.3 |  |
| 30129 | 27-Jun-12 | 13.4 | 13.6 | 343.4 | 342.8 | 342.6 | 342 |  |
| 30130 | 28-Jun-12 | 13.1 | 13.4 | 343.1 | 342.6 | 342.3 | 341.8 |  |
| 30131 | 29-Jun-12 | 13.6 | 13.8 | 343.6 | 343 | 342.8 | 342.2 |  |
| 30132 | 30-Jun-12 | 13.1 | 13.3 | 343.1 | 342.5 | 342.3 | 341.7 |  |
| 30468 | 1-Jun-13 | 14.3 |  | 344.3 |  | 343.5 |  |  |
| 30469 | 2-Jun-13 | 16.08 |  | 346.08 |  | 345.28 |  |  |
| 30470 | 3-Jun-13 | 15.7 |  | 345.7 |  | 344.9 |  |  |
| 30471 | 4-Jun-13 | 15.91 |  | 345.91 |  | 345.11 |  |  |
| 30472 | 5-Jun-13 | 15.28 |  | 345.28 |  | 344.48 |  |  |
| 30473 | 6-Jun-13 | 14.81 |  | 344.81 |  | 344.01 |  |  |
| 30474 | 7-Jun-13 | 14.84 |  | 344.84 |  | 344.04 |  |  |
| 30475 | 8-Jun-13 | 15.15 |  | 345.15 |  | 344.35 |  |  |
| 30476 | 9-Jun-13 | 15.49 |  | 345.49 |  | 344.69 |  |  |
| 30477 | 10-Jun-13 | 15.94 |  | 345.94 |  | 345.14 |  |  |
| 30478 | 11-Jun-13 | 17.16 |  | 347.16 |  | 346.36 |  |  |
| 30479 | 12-Jun-13 | 18.01 |  | 348.01 |  | 347.21 |  |  |
| 30480 | 13-Jun-13 | 18.3 |  | 348.3 |  | 347.5 |  |  |
| 30481 | 14-Jun-13 |  |  |  |  |  |  |  |
| 30482 | 15-Jun-13 | 19.4 |  | 349.4 |  | 348.6 |  |  |
| 30483 | 16-Jun-13 | 22.37 |  | 352.37 |  | 351.57 |  |  |
|  |  |  | C-35 |  | EXHIBIT 3 AVERAGE JUNE FLOWS Appendix P-1, page 570 |  |  |  |


| 30484 | 17-Jun-13 | 25.04 |  | 355.04 |  | 354.24 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30485 | 18-Jun-13 | 26.49 |  | 356.49 |  | 355.69 |  |  |
| 30486 | 19-Jun-13 | 25.03 |  | 355.03 |  | 354.23 |  |  |
| 30487 | 20-Jun-13 | 20.77 |  | 350.77 |  | 349.97 |  |  |
| 30488 | 21-Jun-13 | 18.67 |  | 348.67 |  | 347.87 |  |  |
| 30489 | 22-Jun-13 | 19.02 |  | 349.02 |  | 348.22 |  |  |
| 30490 | 23-Jun-13 | 19.32 |  | 349.32 |  | 348.52 |  |  |
| 30491 | 24-Jun-13 | 16.18 |  | 346.18 |  | 345.38 |  |  |
| 30492 | 25-Jun-13 |  |  |  |  |  |  |  |
| 30493 | 26-Jun-13 | 14.07 |  | 344.07 |  | 343.27 |  |  |
| 30495 | 28-Jun-13 | 20.82 | 18.83 | 350.82 | 348.03 | 350.02 | 347.23 |  |
| 30496 | 29-Jun-13 |  | 19.54 |  | 348.74 |  | 347.94 |  |
| 30497 | 30-Jun-13 |  | 18.61 |  | 347.81 |  | 347.01 |  |
| 30833 | 1-Jun-14 | 19.5 | 18 | 349.5 | 347.2 | 348.7 | 346.4 |  |
| 30834 | 2-Jun-14 | 19.9 | 18.2 | 349.9 | 347.4 | 349.1 | 346.6 |  |
| 30835 | 3-Jun-14 | 17.6 | 17.1 | 347.6 | 346.3 | 346.8 | 345.5 |  |
| 30836 | 4-Jun-14 | 16.3 | 15.8 | 346.3 | 345 | 345.5 | 344.2 |  |
| 30837 | 5-Jun-14 | 13.9 | 14.6 | 343.9 | 343.8 | 343.1 | 343 |  |
| 30838 | 6-Jun-14 | 18.3 | 16.5 | 348.3 | 345.7 | 347.5 | 344.9 |  |
| 30839 | 7-Jun-14 | 18.9 | 17.5 | 348.9 | 346.7 | 348.1 | 345.9 |  |
| 30840 | 8-Jun-14 | 19.3 | 18 | 349.3 | 347.2 | 348.5 | 346.4 |  |
| 30841 | 9-Jun-14 | 18 | 17.1 | 348 | 346.3 | 347.2 | 345.5 |  |
| 30842 | 10-Jun-14 | 15.2 | 15.1 | 345.2 | 344.3 | 344.4 | 343.5 |  |
| 30843 | 11-Jun-14 | 16 | 15.1 | 346 | 344.3 | 345.2 | 343.5 |  |
| 30844 | 12-Jun-14 | 16.2 | 15.6 | 346.2 | 344.8 | 345.4 | 344 |  |
| 30845 | 13-Jun-14 | 18.3 | 16.4 | 348.3 | 345.6 | 347.5 | 344.8 |  |
| 30846 | 14-Jun-14 | 17.4 | 16.1 | 347.4 | 345.3 | 346.6 | 344.5 |  |
| 30847 | 15-Jun-14 | 17.6 | 16.6 | 347.6 | 345.8 | 346.8 | 345 |  |
| 30848 | 16-Jun-14 | 19.2 | 17.6 | 349.2 | 346.8 | 348.4 | 346 |  |
| 30849 | 17-Jun-14 | 19.7 | 18.1 | 349.7 | 347.3 | 348.9 | 346.5 |  |
| 30850 | 18-Jun-14 | 18.7 | 17.9 | 348.7 | 347.1 | 347.9 | 346.3 |  |
| 30851 | 19-Jun-14 | 16.6 | 16.2 | 346.6 | 345.4 | 345.8 | 344.6 |  |
| 30852 | 20-Jun-14 | 15.5 | 15.3 | 345.5 | 344.5 | 344.7 | 343.7 |  |
| 30853 | 21-Jun-14 | 16.7 | 15.2 | 346.7 | 344.4 | 345.9 | 343.6 |  |
| 30854 | 22-Jun-14 | 18.9 | 17.1 | 348.9 | 346.3 | 348.1 | 345.5 |  |
| 30855 | 23-Jun-14 | 20.2 | 18.2 | 350.2 | 347.4 | 349.4 | 346.6 |  |
| 30856 | 24-Jun-14 | 20.3 | 18.7 | 350.3 | 347.9 | 349.5 | 347.1 |  |
| 30857 | 25-Jun-14 | 19.1 | 18 | 349.1 | 347.2 | 348.3 | 346.4 |  |
| 30858 | 26-Jun-14 | 18.2 | 17.05 | 348.2 | 346.25 | 347.4 | 345.45 |  |
| 30859 | 27-Jun-14 | 18 | 16.8 | 348 | 346 | 347.2 | 345.2 |  |
| 30860 | 28-Jun-14 | 19.9 | 17.5 | 349.9 | 346.7 | 349.1 | 345.9 |  |
| 30861 | 29-Jun-14 | 21.6 | 19.2 | 351.6 | 348.4 | 350.8 | 347.6 |  |
| 30862 | 30-Jun-14 | 22.4 | 20.1 | 352.4 | 349.3 | 351.6 | 348.5 |  |
| 31198 | 1-Jun-15 | 14.7 | 14.8 | 344.7 | 344 | 343.9 | 343.2 |  |
| 31199 | 2-Jun-15 | 14.5 | 14.8 | 344.5 | 344 | 343.7 | 343.2 |  |
| 31200 | 3-Jun-15 | 15.3 | 14.6 | 345.3 | 343.8 | 344.5 | 343 |  |
| 31201 | 4-Jun-15 | 16 | 15.6 | 346 | 344.8 | 345.2 | 344 |  |
| 31202 | 5-Jun-15 | 17.2 | 16.3 | 347.2 | 345.5 | 346.4 | 344.7 |  |
| 31203 | 6-Jun-15 | 16.3 | 16.1 | 346.3 | 345.3 | 345.5 | 344.5 |  |
| 31204 | 7-Jun-15 | 14.9 | 14.7 | 344.9 | 343.9 | 344.1 | 343.1 |  |
| 31205 | 8-Jun-15 | 14.5 | 14.5 | 344.5 | 343.7 | 343.7 | 342.9 |  |
| 31206 | 9-Jun-15 | 14.1 | 14.3 | 344.1 | 343.5 | 343.3 | 342.7 |  |
| 31207 | 10-Jun-15 | 13.6 | 13.9 | 343.6 | 343.1 | 342.8 | 342.3 |  |
| 31208 | 11-Jun-15 | 14.1 | 14.1 | 344.1 | 343.3 | 343.3 | 342.5 |  |
| 31209 | 12-Jun-15 | 15 | 14.8 | 345 | 344 | 344.2 | 343.2 |  |
| 31210 | 13-Jun-15 | 13.2 | 13.8 | 343.2 | 343 | 342.4 | 342.2 |  |
| 31211 | 14-Jun-15 | 14.6 | 14.5 | 344.6 | 343.7 | 343.8 | 342.9 |  |
| 31212 | 15-Jun-15 | 15 | 14.8 | 345 | 344 | 344.2 | 343.2 |  |


| 31213 | 16-Jun-15 | 14.8 | 14.8 | 344.8 | 344 | 344 | 343.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 31214 | 17-Jun-15 | 16.4 | 15.4 | 346.4 | 344.6 | 345.6 | 343.8 |
| 31215 | 18-Jun-15 | 19.8 | 18 | 349.8 | 347.2 | 349 | 346.4 |
| 31216 | 19-Jun-15 | 21 | 19.1 | 351 | 348.3 | 350.2 | 347.5 |
| 31217 | 20-Jun-15 | 25.1 | 22 | 355.1 | 351.2 | 354.3 | 350.4 |
| 31218 | 21-Jun-15 | 27.5 | 24.6 | 357.5 | 353.8 | 356.7 | 353 |
| 31219 | 22-Jun-15 | 28.5 | 25.7 | 358.5 | 354.9 | 357.7 | 354.1 |
| 31220 | 23-Jun-15 | 30 | 27.2 | 360 | 356.4 | 359.2 | 355.6 |
| 31221 | 24-Jun-15 | 29.9 | 27.2 | 359.9 | 356.4 | 359.1 | 355.6 |
| 31222 | 25-Jun-15 | 29.6 | 27.1 | 359.6 | 356.3 | 358.8 | 355.5 |
| 31223 | 26-Jun-15 | 28.6 | 26.4 | 358.6 | 355.6 | 357.8 | 354.8 |
| 31224 | 27-Jun-15 | 28.5 | 25.9 | 358.5 | 355.1 | 357.7 | 354.3 |
| 31225 | 28-Jun-15 | 27.7 | 25.5 | 357.7 | 354.7 | 356.9 | 353.9 |
| 31226 | 29-Jun-15 | 26.9 | 24.6 | 356.9 | 353.8 | 356.1 | 353 |
| 31227 | 30-Jun-15 | 26.8 | 24.3 | 356.8 | 353.5 | 356 | 352.7 |
| 31564 | 1-Jun-16 | 17.5 | 16.6 | 347.5 | 345.8 | 346.7 | 345 |
| 31565 | 2-Jun-16 | 17.7 | 16.8 | 347.7 | 346 | 346.9 | 345.2 |
| 31566 | 3-Jun-16 | 15.4 | 15.2 | 345.4 | 344.4 | 344.6 | 343.6 |
| 31567 | 4-Jun-16 | 16.1 | 15.3 | 346.1 | 344.5 | 345.3 | 343.7 |
| 31568 | 5-Jun-16 | 17.1 | 16.3 | 347.1 | 345.5 | 346.3 | 344.7 |
| 31569 | 6-Jun-16 | 17.1 | 16.3 | 347.1 | 345.5 | 346.3 | 344.7 |
| 31570 | 7-Jun-16 | 18.4 | 17.1 | 348.4 | 346.3 | 347.6 | 345.5 |
| 31571 | 8-Jun-16 | 18.4 | 17.2 | 348.4 | 346.4 | 347.6 | 345.6 |
| 31572 | 9-Jun-16 | 17.9 | 16.8 | 347.9 | 346 | 347.1 | 345.2 |
| 31573 | 10-Jun-16 | 17.5 | 16.7 | 347.5 | 345.9 | 346.7 | 345.1 |
| 31574 | 11-Jun-16 | 15.6 | 15.3 | 345.6 | 344.5 | 344.8 | 343.7 |
| 31575 | 12-Jun-16 | 14.4 | 14.3 | 344.4 | 343.5 | 343.6 | 342.7 |
| 31576 | 13-Jun-16 | 14 | 14.2 | 344 | 343.4 | 343.2 | 342.6 |
| 31577 | 14-Jun-16 | 14.8 | 14.6 | 344.8 | 343.8 | 344 | 343 |
| 31578 | 15-Jun-16 | 15 | 14.6 | 345 | 343.8 | 344.2 | 343 |
| 31579 | 16-Jun-16 | 13.5 | 14 | 343.5 | 343.2 | 342.7 | 342.4 |
| 31580 | 17-Jun-16 | 14.2 | 14.2 | 344.2 | 343.4 | 343.4 | 342.6 |
| 31581 | 18-Jun-16 | 14.4 | 14.4 | 344.4 | 343.6 | 343.6 | 342.8 |
| 31582 | 19-Jun-16 | 16.2 | 15.5 | 346.2 | 344.7 | 345.4 | 343.9 |
| 31583 | 20-Jun-16 | 15.4 | 15.2 | 345.4 | 344.4 | 344.6 | 343.6 |
| 31584 | 21-Jun-16 | 14 | 14.5 | 344 | 343.7 | 343.2 | 342.9 |
| 31585 | 22-Jun-16 | 13.8 | 13.9 | 343.8 | 343.1 | 343 | 342.3 |
| 31586 | 23-Jun-16 | 14.8 | 14.4 | 344.8 | 343.6 | 344 | 342.8 |
| 31587 | 24-Jun-16 | 16.2 | 15.5 | 346.2 | 344.7 | 345.4 | 343.9 |
| 31588 | 25-Jun-16 | 18.4 | 16.9 | 348.4 | 346.1 | 347.6 | 345.3 |
| 31589 | 26-Jun-16 | 22.4 | 19.8 | 352.4 | 349 | 351.6 | 348.2 |
| 31590 | 27-Jun-16 | 26.8 | 23.5 | 356.8 | 352.7 | 356 | 351.9 |
| 31591 | 28-Jun-16 | 29 | 25.9 | 359 | 355.1 | 358.2 | 354.3 |
| 31592 | 29-Jun-16 | 27.9 | 25.5 | 357.9 | 354.7 | 357.1 | 353.9 |
| 31593 | 30-Jun-16 | 20.6 | 20 | 350.6 | 349.2 | 349.8 | 348.4 |
| 31929 | 1-Jun-17 | 27.8 | 26.1 | 357.8 | 355.3 | 357 | 354.5 |
| 31930 | 2-Jun-17 | 25.5 | 23.3 | 355.5 | 352.5 | 354.7 | 351.7 |
| 31931 | 3-Jun-17 | 24.3 | 22.3 | 354.3 | 351.5 | 353.5 | 350.7 |
| 31932 | 4-Jun-17 | 22 | 20.7 | 352 | 349.9 | 351.2 | 349.1 |
| 31933 | 5-Jun-17 | 19.8 | 18.6 | 349.8 | 347.8 | 349 | 347 |
| 31934 | 6-Jun-17 | 17.3 | 16.7 | 347.3 | 345.9 | 346.5 | 345.1 |
| 31935 | 7-Jun-17 | 16.3 | 15.7 | 346.3 | 344.9 | 345.5 | 344.1 |
| 31936 | 8-Jun-17 | 19.2 | 17.6 | 349.2 | 346.8 | 348.4 | 346 |
| 31937 | 9-Jun-17 | 19.9 | 18.5 | 349.9 | 347.7 | 349.1 | 346.9 |
| 31938 | 10-Jun-17 |  | 18.5 |  | 347.7 |  | 346.9 |
| 31939 | 11-Jun-17 |  | 17.8 |  | 347 |  | 346.2 |
| 31940 | 12-Jun-17 |  | 15.4 |  | 344.6 |  | 343.8 |
| 31941 | 13-Jun-17 |  | 14.7 |  | 343.9 |  | 343.1 |


| 31942 | 14-Jun-17 |  | 15.5 |  | 344.7 |  | 343.9 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 31943 | 15-Jun-17 |  | 14.8 |  | 344 |  | 343.2 |  |
| 31944 | 16-Jun-17 |  | 14.6 |  | 343.8 |  | 343 |  |
| 31945 | 17-Jun-17 |  | 15.2 |  | 344.4 |  | 343.6 |  |
| 31946 | 18-Jun-17 |  | 16.2 |  | 345.4 |  | 344.6 |  |
| 31947 | 19-Jun-17 |  | 14.9 |  | 344.1 |  | 343.3 |  |
| 31948 | 20-Jun-17 | 16.8 | 15.8 | 346.8 | 345 | 346 | 344.2 |  |
| 31949 | 21-Jun-17 | 17 | 16 | 347 | 345.2 | 346.2 | 344.4 |  |
| 31950 | 22-Jun-17 | 18.9 | 17.1 | 348.9 | 346.3 | 348.1 | 345.5 |  |
| 31951 | 23-Jun-17 | 20.2 | 18.4 | 350.2 | 347.6 | 349.4 | 346.8 |  |
| 31952 | 24-Jun-17 | 21.5 | 18.4 | 351.5 | 347.6 | 350.7 | 346.8 |  |
| 31953 | 25-Jun-17 | 25.7 | 22.6 | 355.7 | 351.8 | 354.9 | 351 |  |
| 31954 | 26-Jun-17 | 29.5 | 25.9 | 359.5 | 355.1 | 358.7 | 354.3 |  |
| 31955 | 27-Jun-17 | 31 | 28 | 361 | 357.2 | 360.2 | 356.4 |  |
| 31956 | 28-Jun-17 | 31.6 | 28.6 | 361.6 | 357.8 | 360.8 | 357 |  |
| 31957 | 29-Jun-17 | 29.9 | 27.5 | 359.9 | 356.7 | 359.1 | 355.9 |  |
| 31958 | 30-Jun-17 | 24.4 | 23 | 354.4 | 352.2 | 353.6 | 351.4 |  |
| AVERAGES |  | 19.62 | 18.50 | 349.62 | 347.70 | 348.82 | 346.90 |  |

## KENTUCKY-INDIANA HIGHWAY (US 41) BRIDGES

RIVER MILE 786.8


| PROJECT POOL STAGE |  |
| :---: | :---: |
| DATUM | ELEV. |
| OHIO RIVER DATUM | 342.00 |
| NGVD 29 | 341.51 |
| NAVD 88 | 341.20 |


| CHANNEL SPAN |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VERTICAL DATUM | OHIO RIVER DATUM (ORD) |  |  | NGVD 29 |  |  | NAVD 88 |  |  |
| LOCATION | $\begin{gathered} \hline \text { KY } \\ \text { PIER } \\ \hline \end{gathered}$ | CENTER | $\begin{gathered} \hline \text { IN } \\ \text { PIER } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { KY } \\ \text { PIER } \\ \hline \end{gathered}$ | CENTER | IN PIER | $\begin{gathered} \hline \text { KY } \\ \text { PIER } \\ \hline \end{gathered}$ | CENTER | $\begin{gathered} \hline \text { IN } \\ \text { PIER } \\ \hline \end{gathered}$ |
| ELEVATION OF LOW STEEL | 425.4 | 427.0 | 426.7 | 424.9 | 426.5 | 426.2 | 424.6 | 426.2 | 425.9 |
| VERT. CLEARANCE AT PROJECT POOL STAGE | 83.4 | 85.0 | 84.7 | 83.4 | 85.0 | 84.7 | 83.4 | 85.0 | 84.7 |
| ALTERNATE SPAN |  |  |  |  |  |  |  |  |  |
| VERTICAL DATUM | OHIO RIVER DATUM (ORD) |  |  | NGVD 29 |  |  | NAVD 88 |  |  |
| LOCATION | $\begin{gathered} \hline \text { KY } \\ \text { PIER } \end{gathered}$ | CENTER | $\begin{gathered} \hline \text { IN } \\ \text { PIER } \end{gathered}$ | KY PIER | CENTER | IN PIER | $\begin{gathered} \hline \text { KY } \\ \text { PIER } \end{gathered}$ | CENTER | $\begin{aligned} & \hline \text { IN } \\ & \text { PIER } \end{aligned}$ |
| ELEVATION OF LOW STEEL | 426.8 | 426.7 | 425.2 | 426.3 | 426.2 | 424.7 | 426.0 | 425.9 | 424.4 |
| VERT. CLEARANCE AT PROJECT POOL STAGE | 84.8 | 84.7 | 83.2 | 84.8 | 84.7 | 83.2 | 84.8 | 84.7 | 83.2 |

EXHIBIT 4 OHIO RIVERR CHART

OUTPUT TABLE FROM USACE HEC-RAS MODEL
THIS IS THE RECORD MODEL FOR THE FLOOD INSURANCE STUDY AND FOR THE FLOOD INSURANCE RATE MAPS FOR HENDERSON COUNTY, KY ALL ELEVATIONS IN NGVD29 DATUM

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude \# Chl | W.S.E. - 0.31' <br> (NAVD88) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | (cfs) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) |  |  |
| Reach-1 | -777.3 | 10\% Event | 646000 | 292.27 | 377.18 | 377.47 | 0.000022 | 4.39 | 202812.7 | 13311.2 | 0.09 |  |
| Reach-1 | -777.3 | 4\% Event | 738000 | 292.27 | 379.35 | 379.68 | 0.000025 | 4.77 | 231790.5 | 13376.34 | 0.1 |  |
| Reach-1 | -777.3 | 2\% Event | 805000 | 292.27 | 380.92 | 381.29 | 0.000026 | 5 | 252887.9 | 13395.51 | 0.1 |  |
| Reach-1 | -777.3 | 1\% Event | 870000 | 292.27 | 382.32 | 382.71 | 0.000028 | 5.23 | 271652.8 | 13410.44 | 0.11 |  |
| Reach-1 | -777.3 | 0.2\% Event | 1017000 | 292.27 | 385.73 | 386.22 | 0.000034 | 5.83 | 268940.5 | 9960 | 0.12 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -777.7 | 10\% Event | 646000 | 292.27 | 377.13 | 377.42 | 0.000022 | 4.4 | 202187.2 | 13309.79 | 0.09 |  |
| Reach-1 | -777.7 | 4\% Event | 738000 | 292.27 | 379.29 | 379.63 | 0.000025 | 4.77 | 231078.2 | 13374.75 | 0.1 |  |
| Reach-1 | -777.7 | 2\% Event | 805000 | 292.27 | 380.87 | 381.23 | 0.000026 | 5.01 | 252122.6 | 13394.9 | 0.1 |  |
| Reach-1 | -777.7 | 1\% Event | 870000 | 292.27 | 382.26 | 382.65 | 0.000028 | 5.24 | 270836.3 | 13409.79 | 0.11 |  |
| Reach-1 | -777.7 | 0.2\% Event | 1017000 | 292.27 | 385.66 | 386.15 | 0.000034 | 5.84 | 268347.4 | 9970 | 0.12 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -778.2 | 10\% Event | 646000 | 313.8 | 376.98 | 377.34 | 0.000035 | 4.92 | 177949.5 | 13055.02 | 0.12 |  |
| Reach-1 | -778.2 | 4\% Event | 738000 | 313.8 | 379.13 | 379.54 | 0.000039 | 5.29 | 206073.2 | 13063.64 | 0.12 |  |
| Reach-1 | -778.2 | 2\% Event | 805000 | 313.8 | 380.7 | 381.14 | 0.000041 | 5.52 | 226582.3 | 13124.71 | 0.13 |  |
| Reach-1 | -778.2 | 1\% Event | 870000 | 313.8 | 382.09 | 382.56 | 0.000043 | 5.74 | 244893.8 | 13192.49 | 0.13 |  |
| Reach-1 | -778.2 | 0.2\% Event | 1017000 | 313.8 | 385.46 | 386.03 | 0.00005 | 6.33 | 245454.6 | 9835 | 0.14 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -778.7 | 10\% Event | 646000 | 304.47 | 376.89 | 377.25 | 0.000033 | 4.95 | 201260.9 | 12691.79 | 0.11 |  |
| Reach-1 | -778.7 | 4\% Event | 738000 | 304.47 | 379.04 | 379.44 | 0.000037 | 5.31 | 228531.1 | 12706.5 | 0.12 |  |
| Reach-1 | -778.7 | 2\% Event | 805000 | 304.47 | 380.6 | 381.03 | 0.000039 | 5.54 | 248404.6 | 12717.2 | 0.12 |  |
| Reach-1 | -778.7 | 1\% Event | 870000 | 304.47 | 381.99 | 382.44 | 0.00004 | 5.75 | 266058.4 | 12726.7 | 0.13 |  |
| Reach-1 | -778.7 | 0.2\% Event | 1017000 | 304.47 | 385.32 | 385.9 | 0.000049 | 6.47 | 251637.8 | 9220 | 0.14 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -779.2 | 10\% Event | 646000 | 311.7 | 376.59 | 377.12 | 0.000055 | 6.04 | 169465.2 | 11773.49 | 0.14 |  |
| Reach-1 | -779.2 | 4\% Event | 738000 | 311.7 | 378.71 | 379.3 | 0.000059 | 6.45 | 194513.3 | 11807.55 | 0.15 |  |
| Reach-1 | -779.2 | 2\% Event | 805000 | 311.7 | 380.27 | 380.88 | 0.000062 | 6.69 | 212864.4 | 11832.44 | 0.15 |  |
| Reach-1 | -779.2 | 1\% Event | 870000 | 311.7 | 381.64 | 382.29 | 0.000064 | 6.93 | 229171.6 | 11854.52 | 0.16 |  |
| Reach-1 | -779.2 | 0.2\% Event | 1017000 | 311.7 | 384.92 | 385.72 | 0.000075 | 7.68 | 225269.3 | 9080 | 0.17 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -780.2 | 10\% Event | 646000 | 301.38 | 376.2 | 376.8 | 0.000061 | 6.46 | 162157.8 | 12050.68 | 0.15 |  |
| Reach-1 | -780.2 | 4\% Event | 738000 | 301.38 | 378.3 | 378.96 | 0.000066 | 6.89 | 187405.5 | 12086.31 | 0.16 |  |
| Reach-1 | -780.2 | 2\% Event | 805000 | 301.38 | 379.83 | 380.53 | 0.000069 | 7.15 | 206008.8 | 12113.52 | 0.16 |  |
| Reach-1 | -780.2 | 1\% Event | 870000 | 301.38 | 381.19 | 381.92 | 0.000071 | 7.39 | 222515.5 | 12127.08 | 0.17 |  |
| Reach-1 | -780.2 | 0.2\% Event | 1017000 | 301.38 | 384.37 | 385.29 | 0.000084 | 8.27 | 217674.6 | 9510 | 0.18 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -782.8 | 10\% Event | 646000 | 324.68 | 375.65 | 375.98 | 0.000048 | 5.01 | 242073.3 | 17330 | 0.13 |  |
| Reach-1 | -782.8 | 4\% Event | 738000 | 324.68 | 377.73 | 378.08 | 0.000049 | 5.25 | 278166.4 | 17330 | 0.13 |  |
| Reach-1 | -782.8 | 2\% Event | 805000 | 324.68 | 379.27 | 379.63 | 0.00005 | 5.38 | 304854.3 | 17330 | 0.14 |  |
| Reach-1 | -782.8 | 1\% Event | 870000 | 324.68 | 380.63 | 381 | 0.00005 | 5.51 | 328438.2 | 17330 | 0.14 |  |
| Reach-1 | -782.8 | 0.2\% Event | 1017000 | 324.68 | 383.76 | 384.21 | 0.000057 | 6.08 | 322644.9 | 13470 | 0.15 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -784.5 | 10\% Event | 708000 | 316.1 | 374.91 | 375.46 | 0.000066 | 6.17 | 193476.1 | 16460 | 0.15 | 374.60 |
| Reach-1 | -784.5 | 4\% Event | 785000 | 316.1 | 377 | 377.55 | 0.000066 | 6.32 | 227878.5 | 16460 | 0.15 |  |
| Reach-1 | -784.5 | 2\% Event | 853000 | 316.1 | 378.53 | 379.1 | 0.000066 | 6.48 | 253056.3 | 16460 | 0.15 |  |
| Reach-1 | -784.5 | 1\% Event | 920000 | 316.1 | 379.88 | 380.46 | 0.000068 | 6.65 | 275224.1 | 16460 | 0.16 |  |
| Reach-1 | -784.5 | 0.2\% Event | 1080000 | 316.1 | 382.86 | 383.58 | 0.000079 | 7.45 | 266039 | 12300 | 0.17 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -785.5 | 10\% Event | 708000 | 316.9 | 374.67 | 375.1 | 0.000057 | 5.55 | 216527.2 | 16038.9 | 0.14 | 374.36 |
| Reach-1 | -785.5 | 4\% Event | 785000 | 316.9 | 376.76 | 377.2 | 0.000057 | 5.69 | 250231 | 16120.63 | 0.14 |  |
| Reach-1 | -785.5 | 2\% Event | 853000 | 316.9 | 378.29 | 378.74 | 0.000057 | 5.84 | 274826.4 | 16120.88 | 0.14 |  |
| Reach-1 | -785.5 | 1\% Event | 920000 | 316.9 | 379.63 | 380.09 | 0.000059 | 6 | 296443.8 | 16121.11 | 0.14 |  |
| Reach-1 | -785.5 | 0.2\% Event | 1080000 | 316.9 | 382.54 | 383.15 | 0.000071 | 6.82 | 276573.5 | 11710 | 0.16 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -787.3 | 10\% Event | 708000 | 300.81 | 374.17 | 374.6 | 0.000051 | 5.77 | 262084.3 | 18750 | 0.14 | 373.86 |
| Reach-1 | -787.3 | 4\% Event | 785000 | 300.81 | 376.28 | 376.7 | 0.00005 | 5.86 | 301676.3 | 18750 | 0.14 |  |
| Reach-1 | -787.3 | 2\% Event | 853000 | 300.81 | 377.81 | 378.24 | 0.000051 | 5.98 | 330337.5 | 18750 | 0.14 |  |
| Reach-1 | -787.3 | 1\% Event | 920000 | 300.81 | 379.15 | 379.58 | 0.000052 | 6.12 | 355442.4 | 18750 | 0.14 |  |
| Reach-1 | -787.3 | 0.2\% Event | 1080000 | 300.81 | 381.9 | 382.53 | 0.000067 | 7.17 | 312455.1 | 13150 | 0.16 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reach-1 | -788.7 | 10\% Event | 496000 | 313.02 | 374.03 | 374.24 | 0.000029 | 3.99 | 234698.4 | 15890.2 | 0.1 | 373.72 |


| Reach-1 | -788.7 | 4\% Event | 539000 | 313.02 | 376.15 | 376.36 | 0.000027 | 3.98 | 268443.1 | 15890.49 | 0.1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Reach-1 | -788.7 | 2\% Event | 554000 | 313.02 | 377.71 | 377.89 | 0.000024 | 3.85 | 293148 | 15890.69 | 0.1 |  |
| Reach-1 | -788.7 | 1\% Event | 555000 | 313.02 | 379.08 | 379.24 | 0.000021 | 3.66 | 314925.1 | 15890.88 | 0.09 |  |
| Reach-1 | -788.7 | 0.2\% Event | 556000 | 313.02 | 381.93 | 382.1 | 0.000019 | 3.58 | 290371.3 | 11774 | 0.08 |  |
| Reach-1 | -790.9 | 10\% Event | 496000 | 297.02 | 373.57 | 373.9 | 0.000028 | 4.83 | 162588.2 | 7801.18 | 0.11 | 373.26 |
| Reach-1 | -790.9 | 4\% Event | 539000 | 297.02 | 375.68 | 376.02 | 0.000028 | 4.96 | 179059.3 | 7801.45 | 0.11 |  |
| Reach-1 | -790.9 | 2\% Event | 554000 | 297.02 | 377.26 | 377.58 | 0.000027 | 4.89 | 191361.6 | 7801.65 | 0.11 |  |
| Reach-1 | -790.9 | 1\% Event | 555000 | 297.02 | 378.67 | 378.97 | 0.000024 | 4.72 | 202345.7 | 7801.83 | 0.11 |  |
| Reach-1 | -790.9 | 0.2\% Event | 556000 | 297.02 | 381.54 | 381.85 | 0.000022 | 4.66 | 180240 | 5257 | 0.1 |  |
| Reach-1 | -793.2 | 10\% Event | 496000 | 304.02 | 373.21 | 373.55 | 0.00003 | 4.75 | 139051.8 | 6946.12 | 0.12 | 372.90 |
| Reach-1 | -793.2 | 4\% Event | 539000 | 304.02 | 375.32 | 375.67 | 0.00003 | 4.89 | 153678.9 | 6953.25 | 0.12 |  |
| Reach-1 | -793.2 | 2\% Event | 554000 | 304.02 | 376.91 | 377.25 | 0.000028 | 4.83 | 164787.1 | 6959.62 | 0.11 |  |
| Reach-1 | -793.2 | 1\% Event | 555000 | 304.02 | 378.35 | 378.66 | 0.000026 | 4.67 | 174807.4 | 6965.35 | 0.11 |  |
| Reach-1 | -793.2 | 0.2\% Event | 556000 | 304.02 | 381.21 | 381.56 | 0.000025 | 4.75 | 124395.3 | 2189.84 | 0.11 |  |
| Reach-1 | -795.8 | 10\% Event | 496000 | 306.04 | 372.85 | 373.15 | 0.000026 | 4.57 | 170794.8 | 8300 | 0.11 |  |
| Reach-1 | -795.8 | 4\% Event | 539000 | 306.04 | 374.96 | 375.27 | 0.000026 | 4.69 | 188291.5 | 8300 | 0.11 |  |
| Reach-1 | -795.8 | 2\% Event | 554000 | 306.04 | 376.58 | 376.88 | 0.000024 | 4.61 | 201763 | 8300 | 0.11 |  |
| Reach-1 | -795.8 | 1\% Event | 555000 | 306.04 | 378.06 | 378.33 | 0.000022 | 4.44 | 214001 | 8300 | 0.1 |  |
| Reach-1 | -795.8 | 0.2\% Event | 556000 | 306.04 | 380.95 | 381.23 | 0.00002 | 4.42 | 186251 | 5567.04 | 0.1 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

## EXHIBIT 5 HEC-RAS OUTPUT TABLE




[^0]:    Appendix B
    Run tracking snapshots
    Run Questionnaires
    Final Questionnaires
    Simulator Files - These are not readable-text files and are not distributed with PDF report

[^1]:    
    

