From: Pollman, Howard[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F5AE3DB4599B4DC59BC7DC67E755AF40-HPOLLMAN]

Sent: Wed 1/10/2024 4:25:42 PM (UTC-05:00)

To: Mann, Melissa[redacted]

Subject: Flagship Niagara Cap Project Announcement May 2014

Attachment: Flagship Niagara Cap Project Announcement May 2014.docx

Thought you'd find the attached interesting. It's the briefing from Governor Corbett's 2014 Niagara refit announcement. That event was a circus.

Enjoy!

Howard

Howard M. Pollman | Director, External Affairs
Pennsylvania Historical and Museum Commission
300 North Street, 5th Floor | Harrisburg, PA 17120-0024
Phone:[redacted] | Cell: [redacted]

PUBLIC EVENT BRIEFING

PREPARED FOR GOVERNOR TOM CORBETT

By: Kirsten Page

Contact Information: [redacted]

NAME OF EVENT: Flagship Niagara Capitol Project Announcement

DATE OF EVENT: May 22, 2014

TIME OF EVENT: 4:30 p.m.

TIME OF ARRIVAL: 4:20 p.m.

TIME OF REMARKS: 4:38 p.m.

TIME ALLOTED FOR REMARKS: 3 – 5 mins

LOCATION: Erie Maritime Museum
Dock in front of Brig Niagara
150 East Front St.
Erie, PA
Erie County

ORGANIZATION: Flagship Niagara League

ORGANIZATION CONTACT OFFICE & CELL: Shawn Waskiewicz; [redacted]

GOVERNOR'S STAFF CONTACT OFFICE & CELL: Kirsten Page; [redacted]

SYNOPSIS OF EVENT

OTHER DIGNITARIES IN ATTENDANCE: TBD

DISTRICT LEGISLATORS:

ATTENDANCE (approximate #): TBD

PODIUM: Yes

MEDIA INVITED: Yes

DRESS ATTIRE: Business Suit

AUDIENCE: Members of the Flagship Niagara League and other supporters of the Brig Niagara. The Flagship Niagara League is hoping to have approximately 50 people in the audience. The list of those confirmed in the audience is attached below:

Marlene Mosco	PNC Bank
Vickei Lampe	PNC Bank
John Buchna	Erie Downtown Partnership
Mike Bathchelor	Erie Community Foundation
Tom Brennan	Erie Federal Credit Union
Bob Mazza	Mazza Wineries
Mark Bilentkoff	First Amendment Tees
Perry Wood	Erie County Gaming Revenue Authority (ECGRA)
Jeff Plyler	Plyer Overhead Door Co.
Rhonda Plyler	Plyer Overhead Door Co.
Jim Berlin	Logistics Plus
Jim Riley	Cumulus Radio
Charlie Ingram	Eriez Magnetics
Carol Nicotra	FMC Technologies
Amanda Brown Sissem	Erie Arts and Culture
Dr. William Garvey	Jefferson Education Society
Ferkie Ferati	Jefferson Education Society
Tim Dunst	WJET/Fox 66
Almi Clerkin	Erie Playhouse

DETAILED TIMELINE:

4:20 p.m. Arrive at Maritime Museum

4:30 p.m. Press Event Begins – Shawn Waskeiwicz provides opening remarks – Introduces PHMC Commissioner Craige Pepper.

4:33 p.m. Craige Pepper speaks on behalf of PHMC. Talks about the importance of preserving the Flagship Niagara.

4:36 p.m. Craige Pepper introduces First Lady Susan Corbett

4:38 p.m. First Lady Susan Corbett Speaks; Introduces **YOU**

4:41 p.m. YOU speak – Talk about funding release - YOUR experience sailing the Niagara and why it is such an historical treasure for not only Erie, but the entire Commonwealth.

4:45 p.m. YOU recognize the fact that **YOU** are joined by the Niagara Captain Walter Rybka who can also answer questions about the Brig.
Media Q and A

4:51 p.m. Photo Op with Press Event Principals.

5:00 p.m. Press Event Ends.

EVENT DETAILS:

YOU are announcing $4.8 Million in Capitol Project funding via DGS that is being released to repair the Flagship Niagara. The ship is in need of multiple repairs to improve safety and stability. The summary of the repairs is listed below:

Summary

The wooden ship Niagara is due for a refit. In the upcoming reconstruction, the depth of the vessel will be increased by twenty inches and approximately sixteen tons of internal ballast will be added. These changes will greatly improve its safety, allow it to meet stability regulations and improve its capabilities.

New wooden structures will be added to the ship to make it stronger and more fully meet federal requirements. The proposed change will not adversely affect the vessel's historic

appearance or a visitor's perception of its authenticity. The cost of the structural modifications alone is estimated to be approximately two million dollars.

The Press event will be outside on the walkway with the Flagship Niagara behind you, just as we have done in the past.

YOU will be joined by Jean Craige Pepper who will be representing PHMC and Shawn Waskiewicz who will represent the Flagship Niagara League.

Brig Niagara Captain Walter Rybka will also be present to answer questions about the ship, but he will not have a formal speaking role. (As a reminder, you gave him a proclamation last year honoring his many years of service to teaching maritime students and his dedication to the Flagship Niagara.)

When will they receive the Capitol Project funds? Is it released immediately once the Gov. makes the announcement on Thursday?

Not likely. The Request for Project Action form for release of the capital project was submitted to DGS last week. They review/process it in their office and send it to the Governor's Budget Office for review and the Governor (or his designee) will sign for his approval and then the notification goes back to DGS that the project is officially released.

How soon will the work begin?

Once the project is released, then professional selection will begin. In this case, because the ship was originally designated an exhibit by DGS for purposes of defining the procedures for procurement of services, PHMC has requested delegation of authority to procure professional design services.

If DGS agrees, PHMC will prepare an RFP for professional marine design services and issue the RFP and receive proposals and then contract with the selected professional. This whole process typically takes about 6-9 months.

Then design work can begin and will probably take another 9 months to complete. Then we will likely also follow an RFP process for construction. So it will probably take about two years until we begin construction. Construction would probably take about 15 to 18 months.

In reading the report it sounds like there are areas of concern that would make the ship not as safe as it could be?

Yes, that is a good way to put it. (That is a quote directly from the Captain)

How much of a concern for the Maritime folks? Is it a safety risk for people to sail on the Niagara until it is fixed?

The ship, both in terms of design and condition is not unsafe, or it would not have obtained the USCG certificate as a sailing school vessel, since 2005. This certificate requires annual renewal by USCG inspectors visiting the ship and accompanying them on a demonstration sail, which includes fire drill, man overboard recovery drill, etc.

This year that inspection is scheduled for next Tues. and Wed. The captain expects to pass and continue operations this summer. With that said, it is also true that in terms of design Niagara is minimally acceptable and barely passes. In terms of condition Niagara crew have performed required maintenance for all critical systems, yet they have been deferring renewals that could wait every year since about 2008. As the ship ages the need for replacement will increase. Eventually it will lose our USCG certificate, although the Captain cannot put a firm date on that.

How long have they known this was a concern?

Since the beginning they have known Niagara's design deficiencies, and have taken steps to mitigate them through careful attention to crew training and conservative operational doctrine.

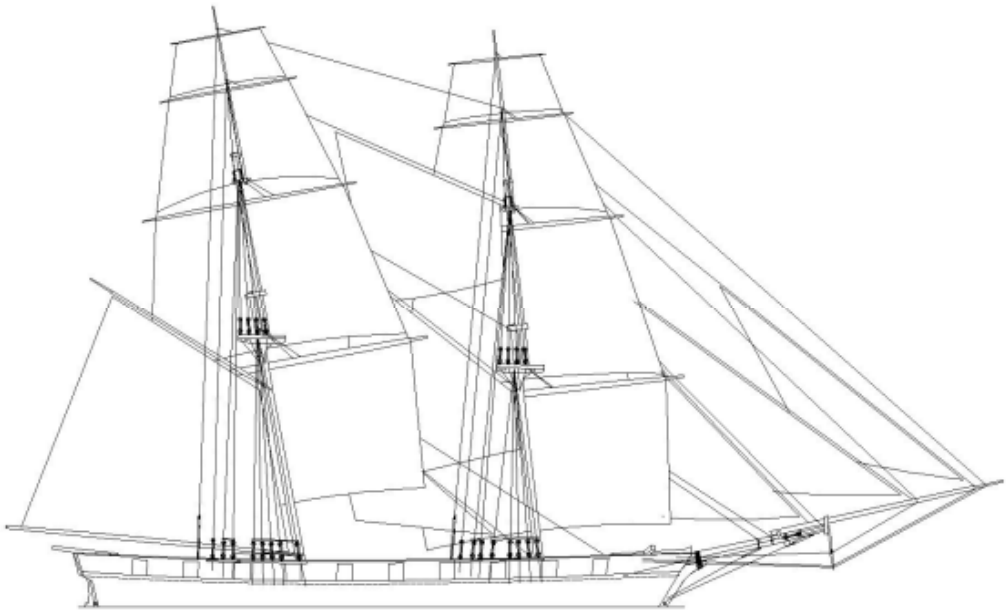
In terms of condition, they have always treated the ship like a crate of eggs. Until recent years there was more money available and the ship was newer. The line graphing maintenance funding and the ship's needs were on parallel tracks and some distance apart. As the ship ages the need for repairs increases, and the funds available have not kept pace. The two lines, the funds coming down and the needs going up are slowly converging. The Captain would like to take action before they meet.

From Captain Walter Rybka:

- Sailing Niagara is like driving an antique car. Carefully maintained and carefully driven, it is no more likely to have a wreck than a modern car. However if you do have a wreck in a car with no collapsible steering column, inflatable air bags, seatbelts, padded dash, etc. The consequences are likely to be far more dire.

***Attached below is the design plan for the Flagship Niagara submitted by Tri-Coastal Marine out of Richmond, CA.

Niagara Refit Design



Post refit profile

TRI-COASTAL MARINE

570 W. Cutting Blvd., Richmond, CA 94804 510.235.7770 www.tricoastal.com April 2, 2014

Background for the Refit

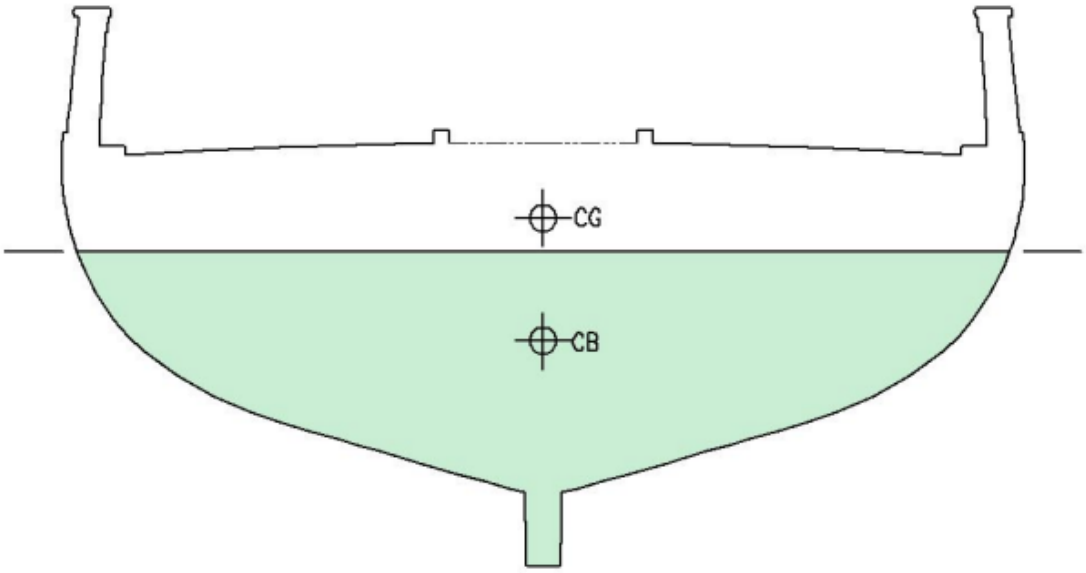
Wooden ships normally require an extensive refit and rehabilitation at twenty years or so age. In particular, regardless of how well they are maintained, fresh water seeps in through the deck, causing the wood of the topsides to soften and decay, and the fasteners to corrode. The deck and topside wooden structures are often completely renewed -- traditionally, this is called "retopping". The vessel's managers believe this structural rebuild provides an opportunity to improve its safety and capabilities, while retaining its historic appearance and authenticity.

Structural Modifications

Increase in stability Niagara, in its current form does not meet the stability requirements for a vessel of its use, type and route. Intact stability depends on the hull shape and the vertical position of the center of gravity (VCG). From the point of view of the stability regulations, the ship has too little volume above the waterline. The center of gravity is also too high.

Niagara Refit Design Report

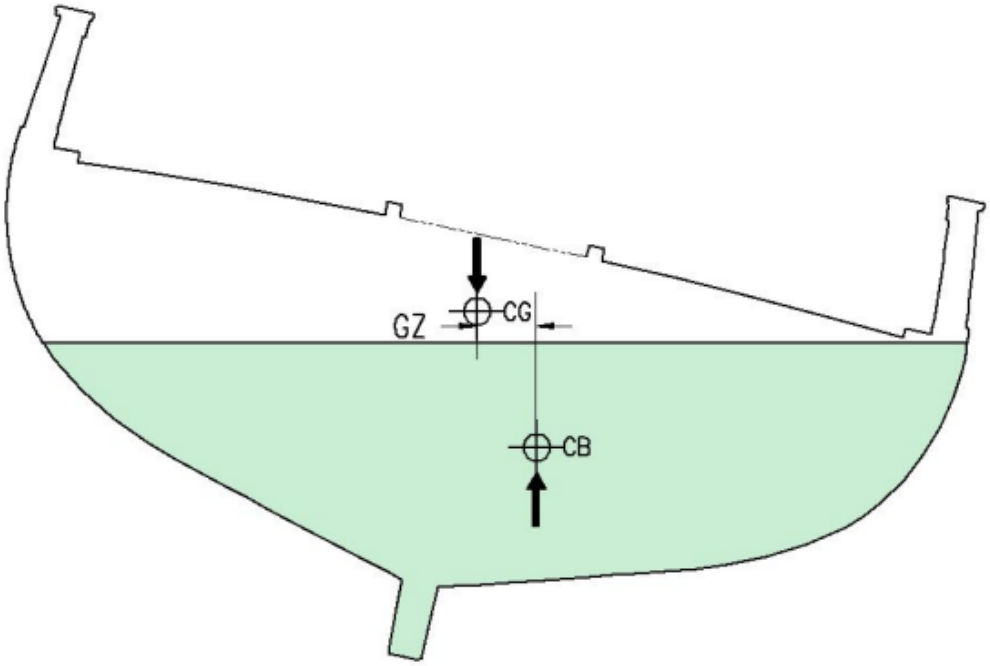
Here are some illustrations of how watertight volume above the waterline and the center of gravity control transverse stability. When upright, the weight of the vessel and the buoyancy force are in line and balance each other (Archimedes' Principle).



Upright stability

When a ship heels from the wind or from passengers shifting to one side, the center of buoyancy moves to the lower side. The separation between the weight and the buoyancy force vectors is the righting arm (GZ). This righting force counteracts the heeling force, trying to bring the vessel back to the upright position.

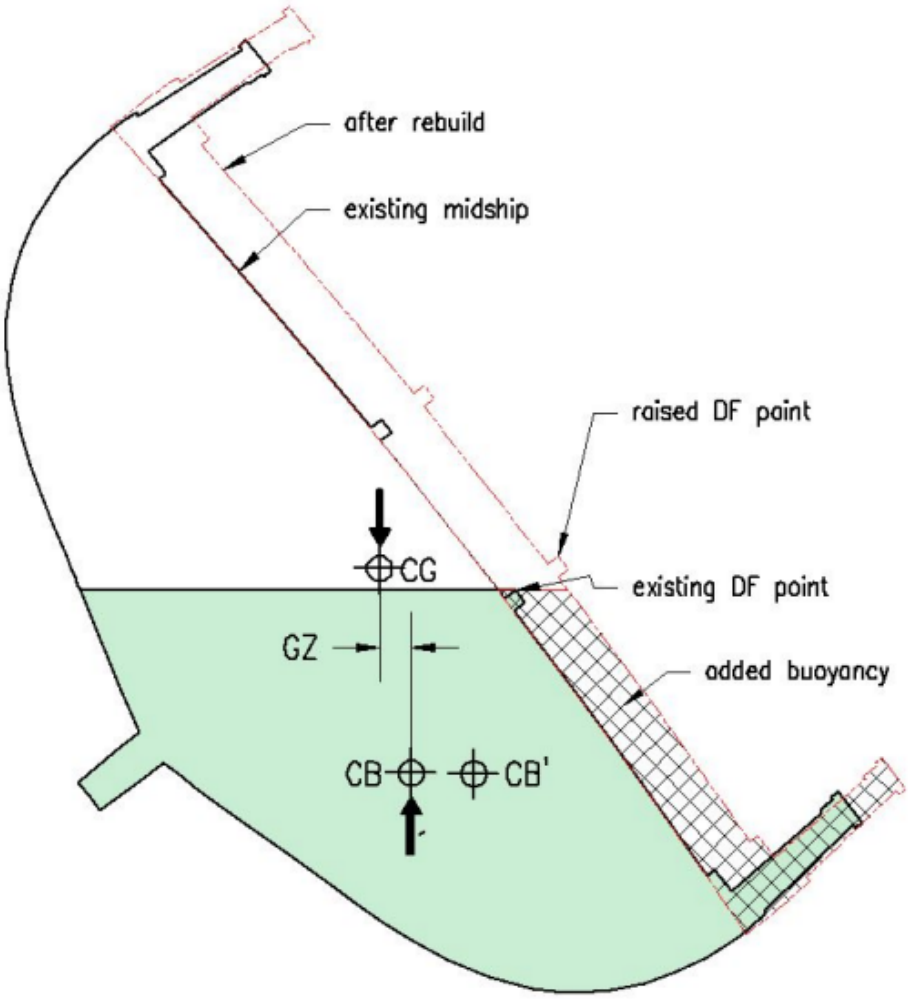
Righting moment when heeled



Righting

At high angles of heel, CB moves farther to the lower side, decreasing GZ. At some point vessels with a low VCG and low freeboard, GZ becomes zero and the vessel will capsize. By federal regulation, the capsizing angle must be greater than 80o. In its current configuration, Niagara's capsizing angle is less than 70o. In addition, the angle at which water begins enter open hatches or vents should be high enough to limit or prevent loss of stability due to downflooding. By regulation, this angle should be greater than 60o. Niagara is currently about 55o. As the illustration shows, raising the vessel's deck can correct both of these deficiencies.

Stability at large heel angles



Unfortunately, for a vessel with inadequate intact buoyancy, simply adding ballast (lowering CG) has the effect of reducing (the already deficient) freeboard of the vessel, thereby decreasing stability. Only by raising the deck and adding freeboard can Niagara be made sufficiently stable. By analysis, the optimal increase in freeboard has been found to be twenty inches, which will correct both deficiencies. The optimal increase in internal ballast is sixteen long tons. The modified vessel will meet the requirements for partially protected waters as a sailing school ship while keeping its existing sail plan. There are no feasible modifications that will enable Niagara to sail on Ocean routes.

Impact of proposed modifications on historic appearance The changes in exterior appearance will be small. Niagara will retain essentially its full rig. The deck arrangement is expected to remain the same. Although the freeboard will increase twenty inches, the bulwarks and hammock rail will remain a constant seventy inches in height. Therefore, the increase in aspect ratio (hull height above water/hull length) will increase approximately 10%. A visitor standing on deck will not perceive a difference from the current arrangement. The current and proposed outboard profile drawing are attached to this report for comparison (240802 Current Outboard Profile and 1080800 Proposed Outboard Profile).

Impact of proposed modifications on sailing operation

Niagara currently does not meet federal stability regulations for sailing school ships on partially protected routes and is allowed to do so only by special arrangement by an earlier agreement with the Buffalo Marine Safety Office. If the Certificate of Inspection was to lapse, or revoked for some reason, the inspection process would restart, and it is unlikely that the vessel would be granted the previous exemptions.

Even though Niagara is currently allowed to operate, its range of positive stability and downflooding angle are worrisomely low. Increasing stability will increase its safety and ability to survive in extreme conditions

The ship carries a load line (the familiar Plimsoll mark), which, due to its low freeboard, is near immersion in the full departure condition. Niagara has had to put four of its six guns ashore when stored for a long passage. Raising the freeboard (the load line will be reassigned) will allow it to carry the six guns formerly mounted on the vessel, and extend its functional range and allow it to carry more fuel, water and supplies (as well as having larger sewage and grey water capacities), without submerging the Plimsoll mark.

Niagara does not have the current legal minimum for headroom in all habitable space. The interior sole will be raised approximately fourteen inches over the current height, which will allow it to meet the legal headroom requirements while keeping the same historic feeling below deck. This rise in the sole will allow for additional tank capacity. The proposed inboard profile of the vessel is attached to this report (1080400 Proposed Inboard Profile).

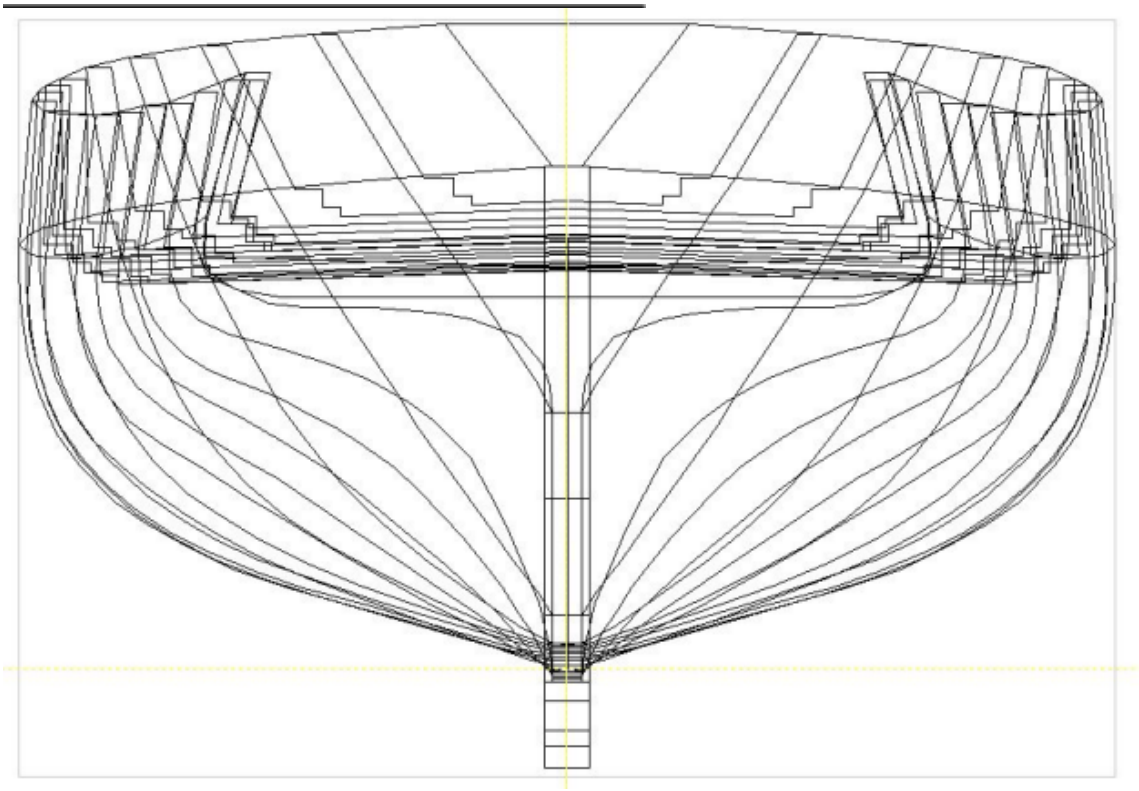
Determining the optimal freeboard increase

The primary effort of this study was directed at determining the optimal way to increase the stability of the ship. Currently, the vessel has relatively too high a center of gravity (CG) and too little reserve buoyancy (above the waterline). Both changes have to be made, and be harmonious with each other. Simply lowering the CG by adding more ballast actually has the adverse effect of decreasing stability by immersing the vessel more deeply and decreasing stability. Just increasing the freeboard also reaches a limit, as when the deck is raised, the center of gravity of the deck loads (passengers, windlass, bowsprit, etc) also is raised.

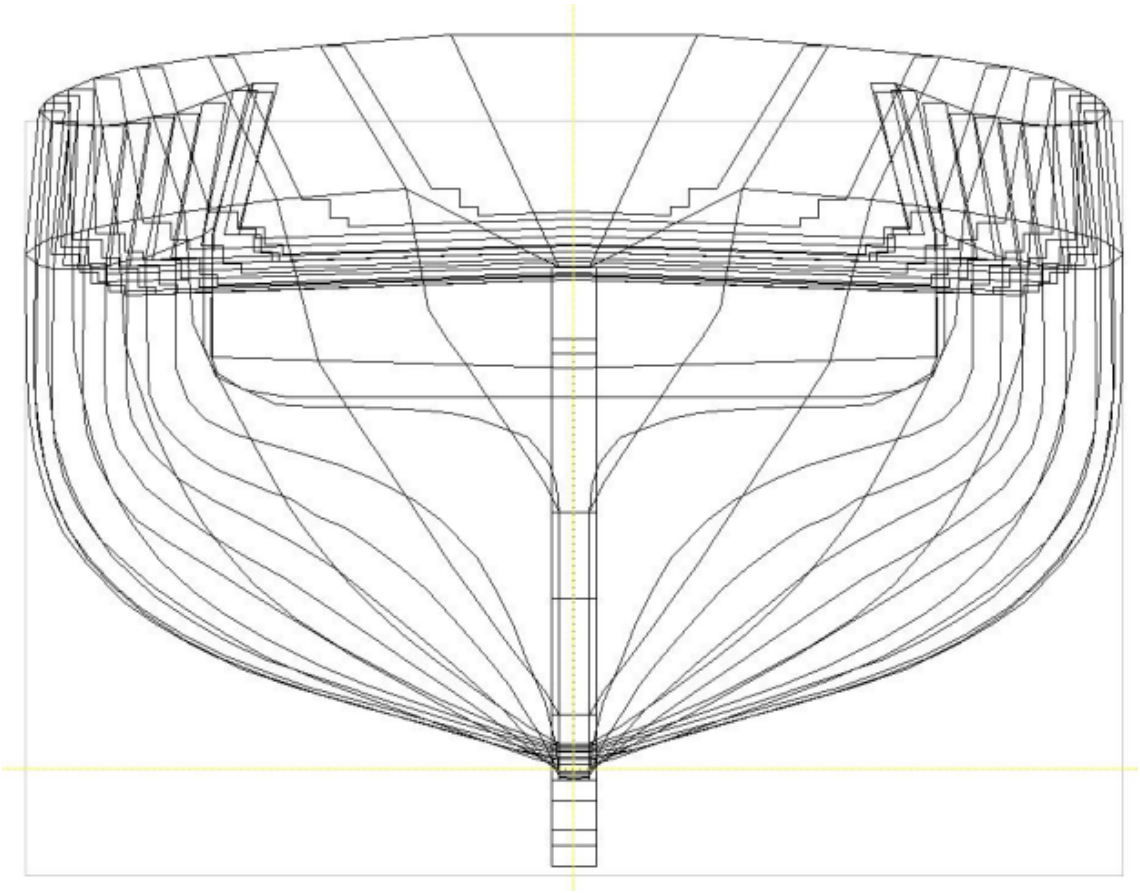
Method

We made five new (virtual) ship models for this study with from 0 ft to 2.5 ft (+ 0.0', 1.0', 1.5', 2.0', 2.5') increase in depth above the existing model, with the rise in depth happening only above the existing projected deck edge at side. Since, due to the current lack of freeboard, Niagara's worst stability occurs in the fully laden, departure condition with a full passenger load; we therefore examined that condition, with zero, twenty and thirty tons of additional internal ballast (fifteen distinct cases). For each case, the weight and VCG of the lightship were both increased parametrically with the increase in depth.

Body plan of existing vessel (HECSALV)



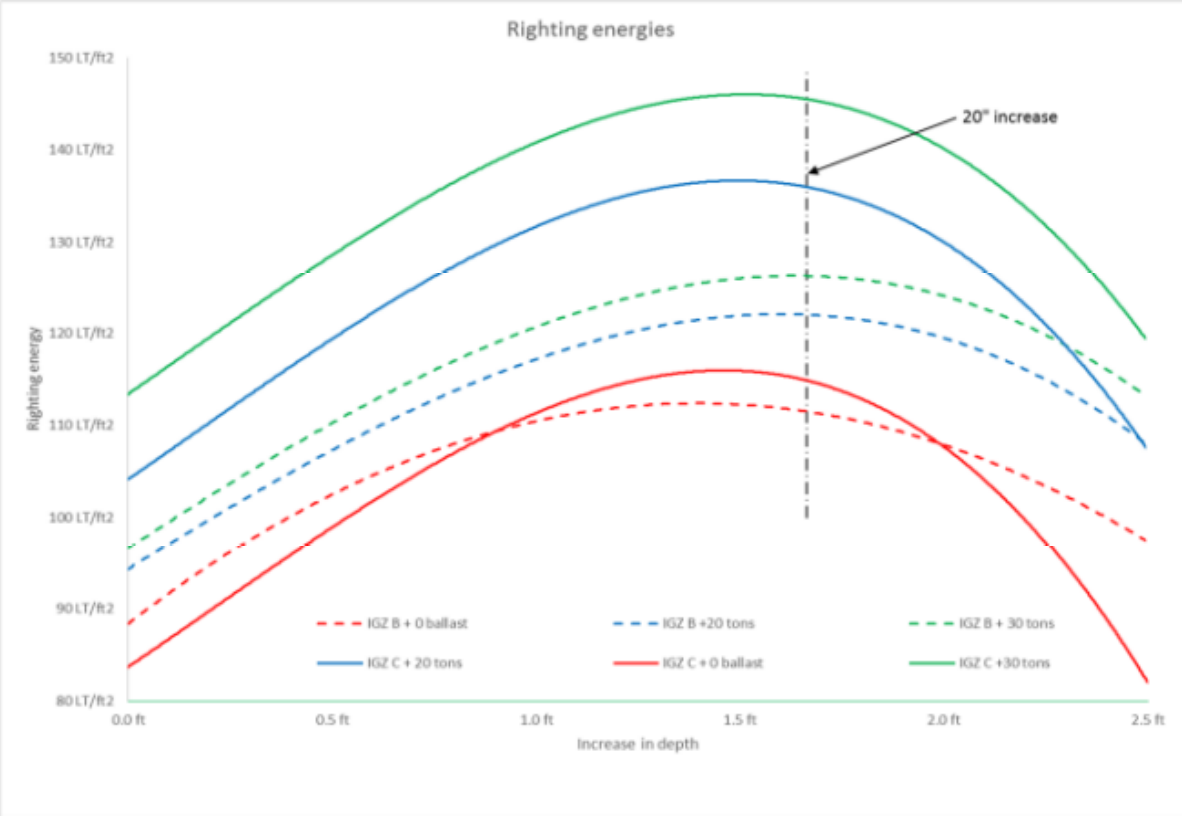
Body plan with 2.5' increase in depth (HECSALV)



Results

The two governing criteria for intact stability under US law involve righting energy to a given angle. Righting energy is a quasi-static measure of the total force required to heel a vessel to an angle. The measures of the force are HZB and HZC, and the integrals of the force are IGZB and IGZC. IGZB is calculated to the critical downflooding angle. IGZC to the capsize angle. The complete results from the fifteen load cases are attached to this report (Niagara HECSALV load cases); however, the results are summarized in this single chart. It is clear that the peak of these "energies" occurs at about twenty inches of increase in freeboard, coupled with about sixteen long tons of ballast:

Niagara Refit Design Report



Damage stability

Damage stability measures a vessel's ability to withstand flooding and remain stable and upright. For Niagara, the requirement is that it must withstand the flooding of single compartment. The ability to survive damage generally increases with reserve buoyancy above the waterline. Currently, the bulkhead separating the engine room from the hold is not watertight. Although Niagara will remain afloat if the engine room/hold compartment is damaged, it does not meet the federal damage stability requirements. After the proposed increase in depth, Niagara's safety and ability to withstand damage increases, and it will meet all the damage requirements.

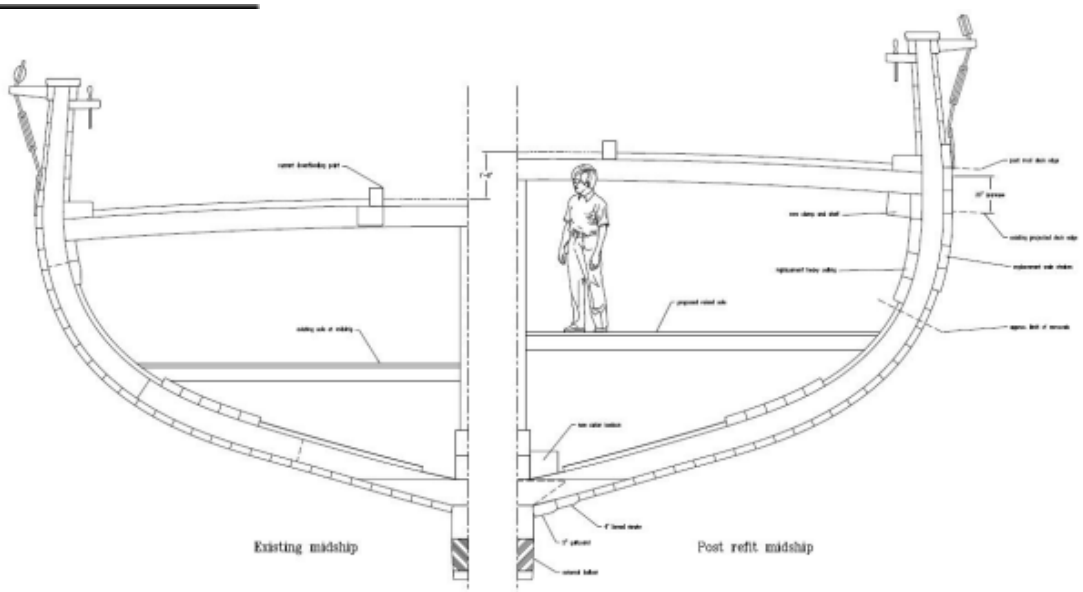
Therefore, the watertight bulkheads can remain in the current position following the refit. However, the scantlings of the bulkhead stiffeners will change due to the increase in pressure head, and all the bulkheads will necessarily be rebuilt. Hence, the positioning of the bulkheads may be changed to optimize use of interior spaces. Complete damage results for are attached (Niagara Damage Stability 1-5).

Structural analysis

Niagara's structure is deficient in many areas in accordance with the national classification societies' building rules. In particular, the keelsons, deck edge, as well as transverse frame

strength are deficient. These weaknesses increase with the increases in depth and draft from the hull modifications. The greatest deficiencies are at the deck edge and the near the keel. In order to compensate for that, some of these structures, which will have to be removed for the reconstruction, will be replaced with larger, heavier structures as shown in the illustration below.

Existing compared to proposed midship section



The strength of transverse framing will remain deficient according to standard, wooden ship, rule base design; however, direct calculation show that those structures and others are sufficiently strong.

Cost Estimate

A cost estimate of the repair was not included in the deliverables for this report. However, to calculate the change in lightship weight and center of gravity of the refit, we are able to estimate, based on our experience with similar wooden ship projects, that the total volume of

wood, including offcuts and wastage, will be approximately 95,000 board feet.

total timber	94635 bd-ft
average cost of timber	$ 5.00 /bd-ft
timber cost	$473,173
unit labor cost	$ 1,276 /man-wk
total labor	1144 man-wks
labor cost	$1,459,744
lumber + labor	$1,932,917

Based on our work on similar wooden ship construction and repair, we believe this figure could be 35% to 40% of the total project cost.

Summary

Raising the deck by twenty inches and adding approximately sixteen tons of internal ballast to Niagara in its upcoming refit is technically feasible. Moreover, this change will substantially enhance the safety and capability of the vessel. It is our belief, based on similar projects, that the proposed work could be achieved in eight months or less, if properly funded and managed.

Further Work

Before the actual refit work begins, we suggest that the following tasks be done:

- 3D model of the new hull surface
- 3D virtual model of all the significant wooden structures in the refit hull
- Specification of timber grades for refit
- Bill of materials for lumber and fasteners for the refit
- Analysis of optimal use of added volume
- Powering and propulsion analysis

Background Information:

Go-To Points

I.

1. The Flagship Niagara is a Commonwealth treasure. It is a symbol of our freedom in the War of 1812. It is our duty to preserve it.

2. The changes to the Brig will greatly improve its safety, allow it to meet stability regulations and improve its capabilities.

3. The Flagship Niagara is not technically "unsafe" but it barely passes US Coast Guard inspections and will eventually lose its USCG certificate if improvements are not made.

4. "Governor Corbett Announces $4.8 Million in Funding to Repair and Improve Flagship Niagara."

Erie County Snapshot

- Current (March) unemployment rate is 6.4%. (April PA is 5.7%.)
  - This is down one-tenth of one percentage point over February 2014.
- 9,000 Erie County residents are unemployed; 131,300 are employed.
- Per capita income is lower than the average for the state ($36,671 vs. $45,083)
- Major employers
  - General Electric Company
  - Erie Indemnity Co
  - UPMC Hamot
  - Saint Vincent Health Center
  - Wal-Mart Associates Inc.
- Population: 280,646
- Notable Layoffs
  - November 2013 – General Electric Company, Erie, affecting approximately 500 employees.
- Positive Economic Indicators:
  - 1.2% drop in over-the-year initial unemployment compensation claims.

Sponsoring Organization: PHMC

II. **Focus of Remarks:** Preserving this Commonwealth Treasure

III. **Policy Background:** N/A

IV. **Legislative Background:** N/A