**Legend:**

Black and white text – Original summary from the Shipyard staff.

**Bold red text** – Added information from Matt Bell (Port)

Highlighted text – Emphasis added by Matt Bell

Commented text – Comments added to shipyard’s text, by Matt Bell

**Explanation:**

Dry Dock #2 is certified by the Navy in order to perform certain US Military ship repair work. This document is a summary of the 21 official transmittals between the Shipyard and the Navy between July 2011 and December 2016. During this time period the dock was certified twice by the Navy, the expiration date of the certification was extended a few times.

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July 12-13th  2011 NAVSEA conducted inspection Audit

NAVSEA Letter SER 04XQ2/083 27 July 11

* During the audit it was discovered that the dock was overdue for a docking or careening. NAVSEA required the dock be docked or careened by 31 January 2012 per letter SER 04XQ2/083 27 July 11. The letter also stated some other repairs and revisions to paperwork that needed to be made. Most notably a repair to the mooring keepers. Enclosed Cert expiring July 31, 2014
* **See “110727 NAVSEA 27JUL11c” Folder**

BAE SFSR Letter # 079-11 October 31, 2011

* Because DD 2 is too large to be docked or careening is prohibited, divers were contracted to conduct UT readings, screen cleaning and an underwater hull survey. This is referred to as the deviation to dock the dock. The mooring keeper repairs were also completed.

1. Global Diving and Salvage August 2011 Report
2. Mooring Keeper Repair Power Point

* **See “111031 BAE 31OCT11” Folder**

NAVSEA Letter SER 04XQ2/016 2 February 12

* NAVSEA requested a few more minor repairs be completed along with paperwork.
* The main focus was the low shell plating thickness taken by divers in the Global Diving and Salvage August 2011 Report.
* **See “120202 NAVSEA 2FEB12” Folder**

BAE SFSR Letter # 048-12 July 27, 2012

* All outstanding minor repairs and paperwork was submitted for review.
* BAE had engaged International Inspectors, C and W Diving to do shell and structural thickness surveys and BSR Bruce Rosenblatt and Associates to conduct a FEA to satisfy any concerns about the shell plate thicknesses.
* A 3 month extension was requested for the FEA as it would not be completed by the required date of 31 August 2012.
* **See “120727 BAE 27JUL12c” Folder**

NAVSEA Letter SER 04XQ2/091 14 August 12

* NAVSEA accepted all documentation for repairs and paperwork.
* Extension for FEA to satisfy docking deviation was granted until 30 November 2012
* **See “120814 NAVSEA 14AUG12c” Folder**

BAE SFSR Letter # 062-12 December 12, 2012

* FEA and UT readings were sent to NAVSEA for Review. Note request to downgrade the dock from 56,690LT to 54,800LT was made.

1. BSR Drydock No. 2 FEA dated 11-02-2012
2. International Inspectors UT Readings dated June 2012
3. C and W Diving UT Readings dated July 30, 2012 Revision 2

* **See ”121212 BAE 12DEC12c” Folder**

NAVSEA Letter SER 04XQ2/010 30 January 13

* NAVSEA accepted all outstanding information from the July 2011 Audit
* NAVSEA issued downgraded certificate
* NAVSEA accepted the deviation from the drydocking until August 2016
* **See “130130 NAVSEA 30JAN13c” Folder**

BAE SFSR Letter # 040-13 September 20, 2013

* Due to repair work on the dock, a 6 month certification extension was requested

NAVSEA Letter SER 04XQ2/076 09 October 13

* 1. **See “130920 BAE 20SEP13c” Folder**
* NAVSEA granted certification extension until 31 July 2004
  1. **See “131009 NAVSEA 09OCT13c” Folder**

NAVSEA Letter SER 04XQ2/040 09 June 14

* NAVSEA scheduled audit dates for 9-10 July 2014
* **See “140609 NAVSEA 09JUN14c” Folder**

NAVSEA Letter SER 04XQ2/044 18 July 14

* NAVSEA issued certificate
* NAVSEA required some minor repairs and paperwork updates

1. Drydock Certificate expiring 31 January 2016

* **See “140718 NAVSEA 18JUL14c” Folder**

BAE SFSR Letter # 002-15 January 16, 2015

* All minor repairs and paperwork were completed with exception of maintenance program.
* Extension was requested for maintenance program
* **See “150116 BAE 16JAN15c” Folder**

NAVSEA Letter SER 04XQ2/013 10 Feb 15

* All documentation and repairs were accepted
* Extension granted to 30 April 2015 for preventive maintenance program
* **See “150210 NAVSEA 10FEB15c” Folder**

BAE SFSR Letter # 019-15 April 22, 2015

* Preventive maintenance program matrix was submitted to NAVSEA

1. Preventive maintenance program

* **See “150422 BAE 22APR15c” Folder**

NAVSEA Letter SER 04XQ2/034 29 Apr 15

* NAVSEA accepted all repairs and documentation from the 2014 Audit
* **See “150429 NAVSEA 29APR15c” Folder**

January of 2016 began the required UT readings and reports for the 2016 Deviation to dock the dock. Here is a brief summary of what transpired.

* In January of 2016 C & W Diving Services was contracted to conduct UT readings on the exterior shell platting of Drydock #2, and their divers were used for the underwater portion. All UT readings were taken from the exterior of the drydock.
* In January of 2016 International Inspection (II) was contracted to conduct UT readings of 1/3rd the structural members and conduct shell plate readings from inside on 40’ transverse bands/ girth belts. All II’s readings were taken from inside the drydock.
* Upon receiving the reports, it was determined that C & W’s report showed a much more significant steel loss that II’s report. For example, C & W report shows losses of >50% while II’s would show <20% in the same areas. See attached pages from frame 2.5 or 25’ on dock from both reports.
* It was decided to have both teams come back and conduct a survey on a 5’ x 5’ grid pattern the bottom wing of tank #36. International came on April 9th independently and shot from the inside. Both C & W and International came April 22nd concurrently and took UT readings together.
  + **See “160510 UT Inspection - International Inspection” Folder for commented documents on II’s work.**
* It was found that all three times the readings were taken from internally they showed the steel in much better condition than the original C and W readings.
* Instead of reshooting the UT readings from the inside on a 5’ grid pattern which would cost in excess of $250K, Andrew Lachtman from BSR requested that only a 50’ wide band be shot on a 5’ grid pattern the entire 800’ length of the dock.
* After months of deliberation it was finally decided to have C & W shoot 0 to 10’ off centerline from inside the buoyancy chamber and DRS Marine to shoot 15’, 20’ and 25’ from underwater.
* Although the results from DRS’s underwater were not as good as the ones taken from inside, it was determined they were acceptable.
* For the bottom the 50’ band and II’s transverse bands every 40’ were incorporated into the model and the original C &W readings were discarded.

By redoing the Bottom UT readings the dock’s rating was raised from 49K to 55K+

**The final documents related to the above work can be found in “160829 UT and Analysis to Justify No Dry Inspection” Folder. These were the documents sent to NAVSEA, so they do not include any interim reports with bad readings.**

BAE SFSR Letter # 010-16 May 10, 2016

* Documentation for the UTs of 1/3rd the structural members was submitted.

1. International Inspector’s Reported January 2016

Heger Performed DD#2 Required NAVSEA Control Inspection August 2016

* See FDD Inspection Report August 2016
* **See “160812 Heger Control Inspection per MIL-STD-1625D” Folder for commented documents**

BAE SFSR Letter # 018-16 August 29, 2016

* Documentation and request for deviation to dock Dry Dock #2 was submitted.

1. DRS Report dated January 5, 2016 Divers Report on the screen cleaning of Dry Dock #2
2. DRS Report dated July 19, 2016 Dry Dock 2 ULTRA SONIC Thickness Gauging (Underwater Hull Survey Included in this Report)
3. C & W Diving Services, Inc BAE San Francisco Dry Dock 2 UT Readings Inspection Report dated August 3, 2016
4. BSR Dry Dock No. 2 Finite Element Analysis Dated August 17, 2016

* **See “160829 UT and Analysis to Justify No Dry Inspection” Folder for commented documents**

BAE SFSR Letter # 020-16 September 20, 2016

* Request was submitted for a certification extension

NAVSEA Letter SER 04XQ2/068 18 Oct 16

* NAVSEA accepted Deviation to dock Dry Dock #2 **and provided a revised certification to reflect the 6 month extension of the previous certification (54,800 LT)**
* They required more documentation to raise the lift capacity as defined in BSR’s FEA
* **See “161019 NAVSEA Extends Certification till July 2017” Folder for commented documents**

NAVSEA Letter SER 04XQ2/073 19 Oct 16

* NAVSEA accepted Certification Extension Request
  1. Certification issued that expires July 31, 2017
* **See “161019 NAVSEA Extends Certification till July 2017” Folder for commented documents**

BAE SFSR Letter # 025-16 November 14, 2016

* BAE provided supporting documentation for the increase in lift capacity

In November of 2016 BAE Corporate ship repair commissioned Heger to conduct a study to understand what repairs would need to be made to DD2 for them to Commercially Certify it.

* See Heger Leter 16-87L
* **See “161207 Heger Commercial Cert Requirements” Folder for commented documents**

The Heger Letter identified that there may be areas of the exterior shell that may experience higher than rated yields due to head pressure. BSR was again commissioned to conduct an FEA and required more UTs that were done by DRS Marine.

* See BSR Report regarding Head Pressures
* **See “161230 BSR Analysis In Response to Heger” Folder for commented documents**

Triton Engineering Conducts an Annual survey of the concrete dolphins and a 5 Year of the Pilings. They were also commissioned to conduct a wind loading study.

* See **“Triton”** Folder **for this report, and other past reports on the hard structures that serve Dry Dock #2.**