BB-66

24 FEB 1956

From: Senior Member, Fifth Naval District Sub-Board of Inspection and Survey
To: President, Board of Inspection and Survey

Subj: U.S.S. KENTUCKY (BB-66); report of material condition of

Encl: (1) Copy of CNO LTR OP45C/JE BB66 SER 1917P45 of 2 NOV 1955
(2) Copy of INSURV LTR OP45C/JE BB66 SER 1918P45 of 2 NOV 1955

I - LOG

1. Those members of the Sub-Board of Inspection and Survey whose signatures appear on the preceding page and who were designated by the Commandant, Fifth Naval District, conducted the material inspection of the U.S.S. KENTUCKY (BB-66) in compliance with enclosure (1).

2. The Sub-Board met on board that vessel at 0900, 16 January 1956. The vessel was moored to Pier X-1 in Newport News, Virginia.

3. The Sub-Board made a careful inspection of the U.S.S. KENTUCKY (BB-66) and was assisted by representatives of the Commander, Norfolk Naval Shipyard, Portsmouth, Virginia. The U.S.S. KENTUCKY (BB-66) was in a stage of suspended construction which, at the time of this inspection, was estimated to be about 40 per cent complete.

II - GENERAL COMMENT

1. (a) The U.S.S. KENTUCKY (BB-66) is an 887-foot overall, 108-foot beam, 45,000-ton standard displacement, four screws, 200,000 SHP General Electric turbine constructed by the Norfolk Naval Shipyard at Portsmouth, Virginia. The above statistics refer to the vessel in its to-be-completed status. Its present length is 880 feet, its beam 108 feet, and its estimated tonnage 26,737 tons, which includes approximately 1,500 tons of material.

(b) Material stowed on board consists largely of machinery and ship board spares of all types. A complete inventory was not attempted at the time the U.S.S. KENTUCKY (BB-66) was transferred to its present berth because of technical difficulties. Since that time some material has been physically returned to stock. Other material has been transferred to Norfolk Naval Shipyard stock records and made available for re-issue but left on board for storage. In addition, there is widespread evidence of minor pilferage. A large percentage of spare-parts boxes have been broken into, but it appeared that relatively few items had actually been removed from such boxes. The result of the above conditions is that there are no valid inventory lists available, and, also, no effective inventory control

of spare parts. Reconciliation with Norfolk Naval Shipyard records is recommended. If such a project is impracticable, an immediate site survey of spares should be instituted with the objective of return to stock of material which is suitable for re-issue to appropriate requisitioning sources. (See XVII - "B" (1c))

2. (a) The vessel has not previously had an INSURV inspection because of its incomplete stage of construction.

(b) The U.S.S. KENTUCKY (BB-66) has been in a stage of construction since 1947. During that period she has been under partial dehumidification. A miscellaneous availability for drydocking and cleaning of the bottom has been obtained during the period 24 February - 6 May 1955 at Norfolk Naval Shipyard, Portsmouth, Virginia.

3. The U.S.S. KENTUCKY (BB-66), because of its partially completed status, has not received any fleet assignment.

4. (a) This vessel has never been activated.

(b) 1. The vessel was divided into five (5) zones which were placed under dynamic dehumidification. No spaces were placed under static D/H.

2. It is considered that all spaces requiring D/H have been protected by same.

(c) The following data applies to the zones under dynamic D/H:

ZONE NO.	ELAPSED TIME TO REACH 30% HUMIDITY	SIZE MACHINE	VOLUME
1	(30% humidity has not been attained. 50% humidity represents the maximum stage of D/H attained as of the time of the inspection	255/505	500 c.f.m.
2		255/505	500 c.f.m.
3		120-153	150 c.f.m.
4		155/505	500 c.f.m.
5		155/505	500 c.f.m.

(d) D/H machines are operated twelve (12) hours per day on a 4-hour on/4-hour off basis in order to attain 50 per cent relative humidity.

(e) There has been no prolonged or marked deviation from 50 per cent average humidity in any zone.

5. Since the U.S.S. KENTUCKY (BB-66) is in a stage of construction, no personnel have been assigned thereto.

6. The machinery spaces of the U.S.S. KENTUCKY (BB-66) are under dehumidification.

7. The U.S.S. KENTUCKY (BB-66) was being subjected to bi-monthly inspections by representatives of Commander, Norfolk Naval Shipyard. Defects noted were being corrected at the time of such inspections.

III - FINDINGS

First — The Board finds the U.S.S. KENTUCKY (BB-66) in a satisfactory material condition with respect to the stage of construction in which it presently exists.

Second — There was no navigational installation equipment or spaces, as such, on board the U.S.S. KENTUCKY (BB-66)

Third — There was no operations installation equipment or spaces, as such, on board the U.S.S. KENTUCKY (BB-66)

Fourth — The Board finds the hull structure and hull fittings to be, in general, in satisfactory condition except as noted in individual sections of this report.

Fifth — The Board finds the machinery installation equipment installation and spaces to be, in general, in satisfactory condition.

Sixth — The Boards finds the electrical installation equipment installed and spaces to be, in general, in satisfactory condition.

Seventh — There was no electronic installation equipment or spaces, as such, on board the U.S.S. KENTUCKY (BB-66)

Eighth — There was no damage control installation equipment or facilities on board the U.S.S. KENTUCKY (BB-66)

Ninth — There was no ordnance installation equipment or spaces, as such, on board the U.S.S. KENTUCKY (BB-66).

Tenth — There was no medical installation equipment or spaces, as such, on board the U.S.S. KENTUCKY (BB-66).

Eleventh

There was no supply installation or spaces, as such, on board the U.S.S. KENTUCKY (BB-66). The only supply equipment on board was spare parts which the Board finds to be in an unsatisfactory condition insofar as inventory control of such is concerned.

Twelfth

There was no aviation installation equipment or spaces on board the U.S.S. KENTUCKY (BB-66)

Thirteenth

There were no repair shops and equipment or repair facilities on board the U.S.S. KENTUCKY (BB-66).

VII - HULL STRUCTURE, FITTINGS AND AUXILIARIES

1. The Sub-Board finds the hull structure and fittings to be, in general, in satisfactory condition except as noted in individual sections of this report.

General Comments

2. General

a. The hull structure and hull fittings were found to be, in general, in satisfactory condition except as noted in individual sections of this report.

Hull Maintenance Records

b. Inasmuch as there are no hull auxiliaries installed and the hull structure is only partially complete up to and including the second deck, no records or plans, other than regular drydocking and routine maintenance and inspection of interior spaces are maintained by the Norfolk Naval Shipyard, Portsmouth, Virginia. An estimated 70 per cent of the spare parts are on board. There is no title "B" equipage on board. The last inventory of spare parts and title "B" equipage was conducted in 1950. (1c)

2. Shell Plating, Framing and Inner Bottom

Outside Shell Above Waterline

a. The outside shell above the waterline is complete up to and including the second deck level and is in satisfactory condition, except welding of hull seams not complete.

Outside Shell Below Waterline

b. The U.S.S KENTUCKY (BB-66) was afloat at the time of the inspection. The last regular drydocking was from 3/14/55 to 5/2/55 at the Norfolk Naval Shipyard, Portsmouth, Virginia, during which the following underwater hull work was accomplished.

(1) Inspected, made watertight and painted all tanks.
(2) Installed mooring bitts on starboard side and both sides of bow.
(3) Underwater hull was hand scraped, dry sand blasted and coated with the following. One (1) coat wash primer, formula number F117. Three coats anti-corrosive, formula number F14N. One (1) coat anti-fouling formula number 15 HPN and three (3) coats boot topping, formula number F146. Sea chests were not inspected. There are no propellers, shafting or rudders installed. The underwater hull was in good condition at the time of the last drydocking as reported by shipyard personnel.

Inside Shell and Framing

c. The inside shell and framing are in satisfactory condition except for light to heavy corrosion. Approximately 90 per cent of all spaces require scraping, wire brushing and painting; numerous bulkhead and overhead sections have not been painted. (2c)

Tank Tops and Inner Bottoms

d. Tank tops and inner bottoms are in satisfactory condition except for light to heavy corrosion and unpainted sections. (3c)

3. Decks, Platforms and Flats

Weather Decks

a. The weather deck, consisting of the second deck only is incomplete. It has been determined that the maintenance of absolute water tightness of the incompleted second deck is impracticable. As a result some flooding of compartments occurs occasionally. This flooding is minor in its extent, and pumping out of affected spaces is accomplished immediately. State of preservation is considered satisfactory.

Non-weather Decks

b. Non-weather decks are in satisfactory condition except for light localized corrosion. (4c)

Deck Coverings

c. There are no deck coverings installed. All decks are coated with a primer coat of red lead or zinc chromate.

4. Bulkheads

Structural Bulkheads

a. Structural bulkheads are not complete. However, the state of preservation is satisfactory.

Non-structural Bulkheads

b. Non-structural bulkheads are not complete; those installed are in satisfactory condition.

5. Tanks, Voids and Cofferdams

Peak Tanks

a. The peak tanks were not open and were not inspected. Peak tanks are coated with preservative, formula number F84/47 and are in satisfactory condition as reported by shipyard personnel.

Fresh Water Tanks

b. There are twenty (20) fresh water tanks; none were open and were not inspected. Fresh water tanks are coated with preservative, formula number F84/47, and are in satisfactory condition as reported by shipyard personnel.

Reserve Feed Water Tanks

c. There are twelve (12) reserve feed water tanks; none were open and were not inspected. The tanks are coated with preservative, formula number F84/47, and are in satisfactory condition as reported by shipyard personnel.

Fuel Tanks — d. There are one hundred thirty one (131) fuel oil and ballast tanks and eight (8) diesel oil tanks; none were open and were not inspected. The condition of all tanks is satisfactory as reported by shipyard personnel.

Cofferdams and Voids — e. Cofferdams and voids are coated with preservative, formula number F84/47 and are in satisfactory condition.

Miscellaneous Tanks — f. Not applicable

6. Miscellaneous Structure

Foundations — a. All installed machinery foundations are in satisfactory condition, except for localized corrosion. (5c)

Deck Erections — b. There are no deck erections installed.

Armor Supports — c. The overall condition of the armor supports is satisfactory.

7. Hull Auxiliaries

Rudders — a. There are no rudders installed.

Steering Gear — b. There is no steering gear installed.

Anchor Windless Cable and other Ground Tackle — c. There is no anchor windlass or other gear installed.

Deck Winches Capstans and Cranes — d. There are none installed.

Special Mechanical and Electrical Auxiliaries — e. There are none installed.

8. Miscellaneous Hull Fittings and Equipment

Sea Chests — a. Sea chests were reported to be in satisfactory condition, by shipyard personnel.

Access Closures — b. Access closures on the weather (second) deck, consisting of dogged hatches, and bolted manholes are in satisfactory condition. Installed access doors and manholes below the weather deck are in satisfactory condition.

Recreation Spaces

c. There are no spaces so designated.

Hull Office

d. There is no place so designated.

Habitability

e. Not applicable for this report.

10. Damage Control

See damage control, Section XI.

Piping Systems	c. Piping systems are partially installed within the main machinery spaces only. Those installed are in satisfactory condition.
Ventilation Heating Insulation	d. There are no ventilation and heating systems installed outside of the main machinery spaces. Those within the machinery spaces are partially complete and are in satisfactory condition.
Access Ladders	e. Ladders are constructed of galvanized stringers with stainless steel treads and are in satisfactory condition, except for localized corrosion. (6c) Vertical access ladders are constructed of galvanized steel bar and are in satisfactory condition except for localized corrosion. (6c)
Masts Spars Standing Rigging	f. None installed.
Boats Life Rafts and Floater Nets	g. None on board.
Miscellaneous Deck Fittings	h. The installed deck fittings are of a temporary nature and are in satisfactory condition.
Labelling	i. Labelling throughout the ship is zero per cent complete.
Miscellaneous Weight Handling Fittings	j. None are installed.
Paravanes and Handling Equipment	k. There is none on board.
Replenishment at Sea Gear	l. There is none on board.
Salvage and Rescue Gear	m. There is none on board.

9. Arrangement of Living Spaces, Equipment and Hull Office

Living Spaces	a. Living spaces are incomplete; preservation satisfactory.
Washrooms and Water Closet Spaces	b. Spaces are incomplete; preservation satisfactory.

VIII - MACHINERY INSTALLATION

1. The general condition of main propulsion units and boilers of the U.S.S. KENTUCKY (BB-66) is considered good. The state of preservation appears to be good. All main propulsion units were in place but main steam piping and drains not completely installed. Boilers were in place. Outer casings not completely installed. Casing not installed has been scrapped.

General

2. There are no logs or records, check-off lists, Bureau of Ships Manuals, index, histories, or blueprints on board. There is a considerable amount of spare parts on board but an inventory was not available; therefore, a percentage is not submitted. At the time, work was discontinued. All machinery and equipment on hand not previously set in place was stored in various compartments throughout the ship. No unit of installed equipment except boilers was opened for this inspection. Material condition of the equipment is reported in succeeding paragraphs.

Main Engines

3. The main engines of the U.S.S. KENTUCKY (BB-66) consist of four sets of General Electric Corporation H.P. and L.P. turbines, estimated shaft horsepower 53,000. Turbines considered in good material condition with satisfactory preservation.

Reduction Gears

4. Reduction Gears consisting of four units manufactured by General Electric Corporation, type double reduction, serial numbers 67594, 67595, 67596 and 67597. Reduction gears were opened up and inspected by Planning Department, Norfolk Naval Shipyard, Portsmouth, Va., in April 1955, and found to be in a good material condition and state of preservation. No apparent change in condition since that time.

Lubrication

5. Main lubrication system not completed; however, examination of tanks and piping installed appeared to be in good material condition.

Shafting and Propellers

6. The shafting and propellers are not installed. Shafting is stored on the second deck and preservation is good. The propellers have been turned into stock at the Norfolk Naval Shipyard. Stern glands stored on board; preservation satisfactory except bolts are rusting. Stuffing boxes stored on board; preservation satisfactory except bolts are rusting.

Condensers

7. The four main condensers were manufactured by Foster Wheeler Company, installed, and preservation is good. All piping and related pumps are not installed. The auxiliary condensers consist of eight units manufactured at Norfolk Naval Shipyard, Plan #4603-51; material condition and preservation is good. Related equipment not completely installed.

Pumps

8. Several pumps have been set in place, but very small amount of associated piping has been connected. All pumps inspected appeared to be in good material condition and preservation good. Piston and rods were missing from fire and bilge pumps and emergency feed pumps in each of the fire rooms.

Piping
Valves
Fittings

9. All piping, valves and fittings installed were found to be in good condition as to preservation.

Air
Compressors

10. The air compressors partially installed consist of two high pressure units manufactured by Hardie Tynes Manufacturing Company. Four medium pressure units manufactured by Worthington Pump Company and two ship's service low pressure units manufactured by Gardner Denver Company. All units were in good state of preservation and material condition.

Boilers

11. The eight boilers installed are Babcock and Wilcox Super Heat control. The normal working pressure is 565 psi at 850° F. No hydrostatic test has been conducted. The general condition of the boilers is good as to preservation. The outer casings have not been installed. Casings not installed have been scrapped.

Uptakes and
Smoke Pipes

12. None installed.

Blowers
Forced Draft

13. Forced draft blowers consist of twenty-four B.F. Sturtevant Company turbine driven blowers. The general condition as to material and preservation was good.

Fuel
Apparatus

14. Thirty-two fuel oil heaters, manufactured by Griscom Russel Company, are installed. They appeared in general to be in good state of preservation. No other fuel apparatus installed.

Boiler Feed
Water Equipment

15. The deaerating tanks installed were in a good state of preservation. No other feed water equipment installed.

Distilling Apparatus

16. This apparatus consists of two sets of 40,000 gallon per day triple effect evaporators; one set of 20,000 gallon per day evaporator. Evaporators manufactured by Griscom-Russell Company. The material condition and preservation on all sets was good.

Refrigeration Plant and Air Conditioning Equipment

17. The refrigeration equipment consists of three compressors manufactured by York Ice Machinery Corporation, two condensers, two receivers, two 600-lb. ice makers, condenser circulating pump, and one thawing tank. Preservation and material condition good.

Instruments Mechanical Measuring

18. Not applicable. None on board.

Repair Equipment Lifting Jacking, etc. Portable

19. Not applicable. None on board.

Steam Smothering Apparatus

20. Not applicable. Not installed.

Ship Service Generator Turbine

21. This equipment consists of eight Westinghouse electric turbines, each driving a 1250 KW generator, and two emergency diesel engines driving 250 KW generator. Preservation and material condition is satisfactory.

Repair Shops

22. Not applicable. Not outfitted.

Damage Control

23. Not applicable. See Damage Control, Section XI.

Engineer Offices

24. Not applicable. Not outfitted.

IX - ELECTRICAL INSTALLATION

General

1. No electrical equipment installed except ship's service generators, emergency power generators, and auxiliary motor in engine rooms and machinery spaces.

Records Elec.Dept.

2. Not applicable. Ship under construction.

Ship's Service generators

3. Eight Westinghouse Electric Company 1250 KW 450 volt A.C. turbo gear driven ship's service generators and directly connected Westinghouse Electric Company 16 KW 120 volt D.C. exciters are installed - two in each engine room. Condition of generators and exciters considered excellent, having never been operated and have been constantly under dehumidification. Windings are clean and dry.

Emergency power generators

4. Two (2) Westinghouse Electric Company 250 KW 450 volt A.C. diesel driven generators with directly connected 5.8 KW 120 volt D.C. exciters are installed - one in the forward machinery space and one in the after machinery space. Conditions of emergency generators considered excellent in that only minor rust spots appear on laminations of rotor, and minor mold spots appear on parts of windings.

Motor generators

5. Not (none) installed.

Switchboards

6. None installed.

Protective Devices

7. None installed.

Cable and Wiring

8. None installed.

Auxiliary motors

9. Auxiliary motors are installed in engine rooms and machinery spaces. Condition considered excellent having never been operated and have been constantly under dehumidification.

Controllers

10. None installed.

Lighting systems

11. None installed.

Interior Communication System

12. None installed.

Searchlights

13. None installed.

Fire Control System	14. None installed.
Storage Batteries	15. None installed.
Gyro Compass	16. None installed.
Degaussing	17. None installed.
Damage Control	18. Not applicable.
Electrical Workshop	19. Not applicable.

X - ELECTRONICS INSTALLATION

1. Not installed.

XI - DAMAGE CONTROL

1. Not installed.

XII - GUNNERY AND ORDNANCE INSTALLATION

1. Not installed.

XIII - MEDICAL EQUIPMENT, FACILITIES AND INSTALLATION

1. Not installed.

XIV - SUPPLY DEPARTMENT, FACILITIES AND SPACES

1. There was no supply department, spaces, or facilities, except for spare parts.

Spare Parts

2. There is no existing reliable inventory of material stored on board either for installation or spare parts. A portion of the equipment on board has actually been returned to stock in the Norfolk Naval Shipyard, even though it is physically stored on board the U.S.S. KENTUCKY (BB-66) for convenience. A large percentage of seals have been broken on the spare-parts boxes being carried aboard, and many wooden cases containing spare parts were broken open. The consequence of the above facts in the attempt to determine the actual percentage of equipment or spare parts on board would be impracticable by another means than a complete inventory of material and spare parts and reconciliation with Norfolk Naval Shipyard records.

XV - AVIATION INSTALLATION AND EQUIPMENT

1. Not installed.

XVI - REPAIR SHOPS AND EQUIPMENT

1. Not installed.

X - 1, XI - 1, XII - 1, XIII - 1,
XIV - 1, XV - 1, XVI - 1

XVII - WORK LISTS

BUREAU OF SHIPS (HULL)

"A" - URGENT REPAIRS RECOMMENDED:

Requested:

None

By Sub-Board

None

"B" - DESIRABLE REPAIRS RECOMMENDED

Requested:

None

By Sub-Board:

(1c) Shipyard personnel conduct inventory of title "B" equipage and shipboard spare parts. It is further recommended, that consideration be given to turning in to stock for reissue to the forces afloat, new construction or conversion work, items of machinery and spare parts not now installed, such as air conditioning, refrigeration, ventilation and heating equipment, etc.

(2c) Scale and paint inside shell surfaces throughout.

(3c) Scale and paint corroded and unpainted tank tops.

(4c) Scale and paint all non-weather decks.

(5c) Scale and paint machinery foundations.

(6c) Scale, paint and renew defective and corroded access ladders throughout.

"C" - REPAIRS REQUESTED AND NOT RECOMMENDED:

None

"D" - ALTERATIONS RECOMMENDED AS:

(Class A)

Requested:

None

By Sub-Board:

None

(Class B)

Requested:

None

By Sub-Board:

None

(Class C)

Requested:

None

By Sub-Board:

None

"E" - ALTERATIONS REQUESTED AND NOT RECOMMENDED:

None

"F" - ITEMS OUTSTANDING

Due to the incomplete status of the ship the status of items outstanding is unknown. None were presented to the board.