



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
WASHINGTON, D.C. 20350

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IN REPLY REFER TO  
Ser 00/500878  
7 September 1976

*V.C.I.*  
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SECOND ENDORSEMENT on Rear Admiral s ltr of  
31 December 1975

From: Chief of Naval Operations  
To: Judge Advocate General

Subj: Investigation to inquire into the circumstances  
surrounding the collision between USS JOHN F.  
KENNEDY (CV 67) and USS BELKNAP (CG 26) which  
occurred on 22 November 1975 (U)

1. Forwarded.

2. The investigation indicates that on the night of 22 November 1975, while operating with the Sixth Fleet in the Ionian Sea, USS JOHN F. KENNEDY (CV 67) and USS BELKNAP (CG 26) collided. KENNEDY was conducting flight operations with BELKNAP assigned as TACAN beacon. As a result of the collision, USS KENNEDY sustained structural and fire damage which did not affect her operational capabilities. USS BELKNAP sustained major damage to the extent that the ship was taken out of commission in order to effect the repairs necessary to return the ship to an operational status. In addition to the physical damage to both ships, eight naval personnel died and forty-eight were injured as a result of this accident. The investigative report has thoroughly examined the various aspects leading to and following the collision, and further restatement of the findings would add nothing that has not already been covered in the investigative report and first endorsement thereto.

3. The Chief of Naval Operations specifically refrains from commenting or taking action at this time on any aspect of the investigative report relating to the ongoing disciplinary actions or the recommendations pertaining thereto. It is reported, however, that, subsequent to the date of the first endorsement, Captain \_\_\_\_\_, USN, Commanding Officer, USS BELKNAP, and *B6* \_\_\_\_\_, USN, USS BELKNAP, were referred by Commander in Chief, U. S. Atlantic Fleet to trial by general court-martial on charges arising from the collision. Captain \_\_\_\_\_ was



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referred to trial on seven specifications alleging violation of Articles 92, 108, and 110, UCMJ, which trial resulted in disposition tantamount to acquittal on all charges and specifications.

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4. A copy of the investigating officer's report is being provided to Type Commanders for utilization in implementing recommendations 3, 4 and 10.
5. In accordance with recommendation 5, Director, Command and Control and Communications (C<sup>3</sup>) Programs is directed to examine the use of NUCO Tables in order to determine whether their continued use is warranted.
6. A copy of the investigating officer's report is being provided to the Fleet Commanders in order to effect recommendation 6. With respect to recommendation 8, Fleet Commanders may consider it advisable to reiterate from time to time, the general prudential nature of the 3-2-1 rule when maneuvering in the vicinity of carriers.
7. By copy of this endorsement, Commander in Chief, U. S. Atlantic Fleet is directed to cause the implementation of recommendation 7 of the investigating officer's report, if that action has not already been accomplished.
8. By copy of this endorsement, Commander, Naval Safety Center is directed to effect recommendations 11, 14, 15 and 16.
9. A copy of the investigating officer's report has been provided to the Chief of Naval Material for implementation of recommendations 13, 17, 18, 19, 20 and 21. Concerning recommendation 12, Shipalt (CG 26-218K) will replace the existing Jupiter gas turbine prime movers with the more reliable Saturn. Space and weight constraints, however, preclude use of a diesel prime mover.
10. The opinion expressed in paragraph 8 of the first endorsement is specifically concurred in. Recent Naval Sea Systems Command studies of fleet requests and complaints of potential navigation hazards associated with task light arrays on a variety of ships indicate the need for a thorough examination

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of current lighting requirements, for all ships as well as aircraft carriers and other air capable ships. Accordingly, in accordance with recommendation 9, the Chief of Naval Material is directed to conduct a review of current lighting requirements and practices on all ships including the potential conflict or confusion associated with such lighting as it affects safety of flight or ship handling and institute such changes deemed necessary to enhance operational safety.

11. Although not included as a recommendation by the investigative officer, Fact 12 of the investigative report indicated that KENNEDY radar could not track units close-in due to sea return on the surface search radar. This fact was supported by testimony of several KENNEDY personnel. Commander in Chief, U. S. Atlantic Fleet is directed to cause corrective action to be taken concerning ship's radars in order to provide close-in tracking capabilities to the designed minimum range of the surface search radar. The Chief of Naval Material will provide assistance in correcting radar ranging if a class design problem is determined to exist.

12. Subject to the foregoing, the proceeding, findings of fact, opinions and recommendations of the investigating officer, as modified and approved by the convening authority, are approved.

- B6

Copy to:  
CINCLANTFLT  
CINCUSNAVEUR  
COMSIXTHFLT  
COMNAVSURFLANT  
COMNAVSAFECEN  
INVESTIGATING OFFICER  
CAPT W. R. SHAFER, USN  
                    USN

CHNAVMAT (w/cy basic ltr, 1st end, and pp 704-763 of encl (1) only)  
CINCPACFLT ( " " " " )  
COMNAVAIRLANT ( " " " " )  
COMNAVAIRPAC ( " " " " )  
COMNAVSURFPAC ( " " " " )  
COMSUBLANT ( " " " " )  
COMSUBPAC ( " " " " )  
COMINWARFOR ( " " " " )  
CO, USS JOHN F. KENNEDY ( " " " " )  
PRESINSURV ( " " " " )  
OP-094 ( " " " " )

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COMMANDER IN CHIEF  
UNITED STATES NAVAL FORCES, EUROPE  
FPO NEW YORK 09510

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FIRST ENDORSEMENT on Rear Admiral <sup>BY</sup> s ltr of  
31 December 1975

From: Commander in Chief, U. S. Naval Forces, Europe  
To: Judge Advocate General  
Via: Chief of Naval Operations

Subj: Investigation to inquire into the circumstances  
surrounding the collision between USS JOHN F.  
KENNEDY (CV 67) and USS BELKNAP (CG 26) which  
occurred on 22 November 1975

1. Readdressed and forwarded.

2. Opinions 16(e), 16(g), and 35 are not fully supported  
by facts, are too speculative to be of assistance in  
analysing the causes of the collision and are not concurred  
in. Although EXHIBIT D establishes that BELKNAP's turn

<sup>Bi</sup>  
(left full) and facts contained in the Investigation indicate  
that BELKNAP's range to J. F. KENNEDY was between 1500 and  
2000 yards at about 2156A when LT(JG) Knull ordered left  
full rudder, the conclusion that a constant left full  
rudder from that time on, without the left, right, left  
rudder shift at about 2159A, could have opened BELKNAP's  
range to J. F. KENNEDY could only be supported if there  
was clear evidence establishing the exact time BELKNAP's  
head had come full left in response to the rudder order  
and the speed BELKNAP was actually making through the water  
during that turn and thereafter. In any event, the question  
of whether or not a constant left full rudder would have  
avoided the collision is not considered germane to issues  
raised by the Investigation. Even if that maneuver had  
succeeded, it was in violation of the most basic rules  
of prudent seamanship and would have resulted in a poten-  
tially more catastrophic collision than that which did occur.

3. Similarly, whether or not a collision would have been  
avoided if both ships' rudders had been ordered "hard right"  
instead of "full right" immediately before the collision  
cannot be determined due to the inexactitude of evidence  
as to the time the rudders of each ship responded to the  
orders and the speed of each ship through the water at the  
time.

CLASSIFIED BY: CINCUSNAVER  
DATE: 10/10/01  
AUTHORITY: 31 CFR 101-11.6  
EXEMPTION CODE: ONE (1)  
DECLASSIFY ON: \_\_\_\_\_

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4. To the extent that Opinion 20 can be interpreted to mean that the determination of BELKNAP's courses and speeds to accomplish the 2149A turn was solely dependent on <sup>to</sup> personal appraisal of the tactical situation, it is not concurred in. There were other sources of tactical information available to <sup>to</sup> to plan and execute BELKNAP's turn. The essence of his shortcoming was his failure to effectively utilize these other potential sources such as CIC, the bridge SPS-10 radar repeater, and his own bridge watch team which proved to be a poor information source because of a lack of proper training and/or <sup>to</sup> reticence to solicit necessary information during the initial phases of the CORPEN J PORT maneuver.

5. The apparent degree of <sup>to</sup> culpability as a contributing cause of the collision warrants consideration of his trial by General Court-Martial on the charges and specifications signed by the Investigating Officer as accuser. Accordingly, the original charge sheet (enclosure 6) and 2 copies of the Record of Proceedings have been forwarded by separate letter to Commander Surface Force, U. S. Atlantic Fleet as the officer exercising general court-martial jurisdiction over <sup>to</sup> with a recommendation for trial by General Court-Martial. One copy of the Record of Proceedings is to be provided to <sup>to</sup> and the other is to be retained by COMNAV-SURFLANT for possible use as a pre-trial investigation required by Article 32(c), UCMJ.

6. The degree of Captain <sup>to</sup> culpability warrants the issuance of a punitive Letter of Reprimand as recommended by the Investigating Officer. Contrary to the recommendation of the Investigating Officer, however, I do not consider that Captain <sup>to</sup> culpability extends to his failure to be present on BELKNAP's bridge during the operations in close proximity with J. F. KENNEDY on the night of 22 November. In my estimation, given BELKNAP's station 4000 yards from J. F. KENNEDY, the type of station keeping maneuvering required of BELKNAP, the fact that <sup>to</sup> had proven highly reliable and effective as Officer of the Deck in the past, and the fact that the Captain had been apprised of and approved two previous successful CORPEN J STARBOARD maneuvers executed by <sup>to</sup> during the 2000-2400 watch, Captain Shafer reasonably and prudently assumed that <sup>to</sup> would have discussed with him his proposed maneuver to accomplish the CORPEN J PORT turn and that <sup>to</sup> was competent enough under normal circumstances to avoid the series of egregious violations of

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basic, fundamental rules of prudent seamanship which he did commit prior to the collision. There was nothing inherently unreasonable in Captain [redacted] ; procedure of discussing proposed station keeping maneuvers from the wardroom with the Officer of the Deck. I do, however, concur in the Investigating Officer's assessment that, given Captain Shafer's knowledge that none of his Officers of the Deck [redacted] had experienced operating in close proximity to aircraft carriers, he should have required a more precise explanation of the Officer of the Deck's proposed station keeping maneuvers than simply, "I intend to slow and follow the carrier around." Captain [redacted] failure to require more precise information concerning LT(JG) [redacted] intended CORPEN J STARBOARD maneuvers, which very probably would have given him better insight into [redacted] true understanding of the various maneuvering requirements, including a CORPEN J PORT maneuver with BELKNAP on the inside of the carrier's turn, and his failure to assure himself that his Officers of the Deck clearly understood the more difficult maneuvering requirements for BELKNAP in the event J. F. KENNEDY executed a CORPEN J PORT turn, constituted a culpable violation of his responsibilities under U. S. Navy Regulations for the safety and well-being of his ship.

7. Similarly, I concur with the opinion of the Investigating Officer that inadequate training and qualifications of various members of BELKNAP's 2000 to 2400 bridge watch team was a contributing cause of the collision, and that Captain Shafer failed to fulfill his responsibilities under U. S. Navy Regulations to ensure the adequacy and efficiency of BELKNAP's bridge watch team training and qualification programs. Accordingly, I have this date issued a Letter of Reprimand to Captain [redacted] in accordance with Article 15, UCMJ, chapter XXVI of the Manual for Courts-Martial, and section 0102 of the Manual of the Judge Advocate General as a result of the showing in this Investigation that he abrogated his responsibilities under Articles 0702 and 0728, U. S. Navy Regulations. That Letter, along with a copy of the Record of Proceedings for Captain [redacted] personal use, has been forwarded to COMNAVSURFLANT for delivery.

8. VLA General Service Bulleting #38, referred to in Recommendation 10, requires 220 degree shielding (inward) of red deck edge lights on aircraft carriers only aft of the LSO platform. The difficulty in gaining an accurate visual aspect of a carrier at night from off either the starboard or port bow, as evidenced in testimony before the Investigation, dictates, in my opinion, a requirement to examine the

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feasibility of requiring 220 degree shielding of all red deck edge lighting on carriers which would tend to obscure navigational lights.

9. The Record of Proceedings is an exceedingly precise, thorough, and professional examination into a disaster which would seem almost incomprehensible in an age of modern warships and navigational aids. The Investigating Officer has succeeded in assembling, distilling, and lucidly summarizing into a readable and usable document a mass of evidence which can be of considerable value to the Navy. The Investigating Officer is hereby commended for his contribution to the Navy's fund of knowledge about a subject we cannot know too much about -- safe navigation of Naval ships at sea.

10. Subject to the foregoing, the findings of fact, opinions, and recommendations of the Investigating Officer are approved.

*Bk.*

Copy to:  
CINCLANTFLT  
COMSIXTHFLT  
COMNAVSURFLANT  
COMNAVSAFETYCEN  
INVESTIGATING OFFICER  
CAPTAIN W. R. SHAFER, USN  
                    USN

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COMMANDER IN CHIEF  
UNITED STATES NAVAL FORCES, EUROPE  
FPO NEW YORK 09510  
London, England

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5830  
Ser 2400/131  
23 NOV 1975

From: Commander in Chief, U. S. Naval Forces, Europe  
To: RADM <sup>Bk</sup> USN, <sup>68</sup> /1310

Subj: Investigation to inquire into the circumstances surrounding the collision between USS JOHN F. KENNEDY (CV-67) and USS BELKNAP (CG-26) which occurred at sea on 22 November 1975

Ref: (a) JAG Manual

1. In accordance with section 0512 of reference (a), a formal investigation is hereby appointed to inquire into the circumstances surrounding the collision between USS JOHN F. KENNEDY (CV-67) and USS BELKNAP (CG-26) which occurred at sea on 22 November 1975. The investigation will convene in USS JOHN F. KENNEDY at 1500, 23 November 1975, or as soon thereafter as practicable.
2. The investigation will consist of yourself alone. Captain <sup>Bk</sup>, JAGC, USN, <sup>68</sup> /2500, a lawyer qualified in the sense of article 27(b) of the Uniform Code of Military Justice, is hereby designated counsel for the investigation.
3. The investigation is directed to inquire into all the facts and circumstances connected with the collision; the damage resulting therefrom including damage incurred by other vessels rendering assistance, particularly USS CLAUDE V. RICKETTS (DDG-5); and death of and injuries to naval personnel; as appropriate, to perform the duties of an inquest; and to fix individual responsibilities for the incident. At the conclusion of your proceedings and deliberations you will submit your findings of fact, opinions and recommendations. You will express your opinion as to the line of duty and misconduct status of any injured personnel and will recommend disciplinary action, as appropriate.
4. You are authorized and directed to designate parties to the investigation as you determine proper and in accordance with chapter 3 of reference (a).



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USS JOHN F. KENNEDY PERSONNEL

|   |                                                       |                 |    |                             |
|---|-------------------------------------------------------|-----------------|----|-----------------------------|
| 1 | COMMANDING OFFICER<br>RADM V                          | USN             | BK | 659-690                     |
|   | EXECUTIVE OFFICER<br>CAPT                             | , USN,          | BK | 550-554                     |
|   | NAVIGATOR<br>CDR                                      | , USN,          | BK | 421-434, 554-558<br>594-610 |
|   | ENGINEERING OFFICER<br>CDR                            | , USN,          | BK | 492-504                     |
|   | AIR OFFICER<br>CDR                                    | Jr., USN,       | BK | 562-569                     |
|   | SUPPLY OFFICER<br>CDR                                 | , Jr., SC, USN, | BK | 569-571                     |
|   | MEDICAL OFFICER<br>CDR                                | , MC, USN,      | BK | 579-586                     |
| ✓ | OFFICER OF THE DECK<br>LCDR                           | , Jr., USN,     | BK | 612-626                     |
|   | ASSISTANT NAVIGATOR<br>LCDR                           | , USN,          | BK | 435-437                     |
|   | ESCORT OFFICER (ON BRIDGE)<br>LCDR                    | , USN,          | BK | 451-457                     |
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|   | CIC WATCH OFFICER<br>LCDR                             | , USN,          | BK | 479-483                     |
| ✓ | JUNIOR OFFICER OF THE DECK<br>LT                      | , USN,          | BK | 363-382                     |
|   | MAIN PROPULSION ASSISTANT<br>LT                       | , USN,          | BK | 505-511                     |
|   | AVIATION FUELS OFFICER<br>LT                          | H, Jr., USN,    | BK | 558-561                     |
|   | ENGINEERING OFFICER OF THE WATCH<br>LT                | , USN,          | BK | 519-522                     |
|   | SHIP'S AUXILIARIES OFFICER<br>LT                      | , USN,          | BK | 525-530                     |
| ✓ | JUNIOR OFFICER OF THE WATCH (RADAR)<br>LTJG           | , USNR,         | BK | 392-399                     |
|   | JUNIOR OFFICER OF THE WATCH (COMMUNICATIONS)<br>ENS 1 | USN,            | BK | 382-392<br>483              |

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COMMANDER DESTROYER SQUADRON TWENTY TWO PERSONNEL

|                             |        |    |         |
|-----------------------------|--------|----|---------|
| COMMODORE<br>CAPT           | , USN, | B6 | 93-117  |
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USS CLAUDE V. RICKETTS PERSONNEL

|                                      |             |    |                             |
|--------------------------------------|-------------|----|-----------------------------|
| COMMANDING OFFICER<br>CDR            | , USN,      | B6 | 128-130, 184-187<br>405-421 |
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USS BORDELON PERSONNEL

|                               |        |    |                             |
|-------------------------------|--------|----|-----------------------------|
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|                      |         |    |         |
|----------------------|---------|----|---------|
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|----------------------|---------|----|---------|

COMMANDER CARRIER GROUP TWO PERSONNEL

|                        |        |    |         |
|------------------------|--------|----|---------|
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|                             |                                    |
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| At sea, 25 Nov 1975:        | 0950-1200, 1305-1645               |
| Augusta Bay, 26 Nov 1975:   | 0835-1155, 1340-1650,<br>1900-2200 |
| Augusta Bay, 27 Nov 1975:   | 1015-1155, 1310-1615               |
| Augusta Bay, 28 Nov 1975:   | 0818-1135                          |
| Naples, Italy, 30 Nov 1975: | 1910-2215                          |
| Naples, Italy, 1 Dec 1975:  | 1004-1157, 1310-1753,<br>1910-2200 |
| Naples, Italy, 2 Dec 1975:  | 0900-1142, 1334-1720,<br>1900-2210 |
| Naples, Italy, 3 Dec 1975:  | 0800-1140, 1315-1645               |
| At sea, 4 Dec 1975:         | 0930-1204, 1303-1755,<br>1940-2212 |
| At sea, 5 Dec 1975:         | 0830-0930                          |

As noted, J.F. KENNEDY remained underway in the scheduled operating area until the morning of 26 November 1975. The session on 27 November was started late to accommodate a memorial service at 0900 on board BELKNAP. The afternoon session on that day was terminated at 1615 to permit all involved to observe Thanksgiving. On Friday afternoon, 28 November, J.F. KENNEDY departed for Naples, Italy. BELKNAP departed the same date under tow. Sessions of the investigation were interrupted until Sunday evening, 30 November, when BELKNAP arrived and was moored in Naples. No evening session was scheduled for 3 December at the request of counsel for parties in order to enable them to prepare for parties' testimony and final argument.

Counsel were provided to each of the parties in advance of the first formal session. Navy Legal Service Office, Naples, provided counsel to each of the two BELKNAP parties, responding to a request by the Investigating Officer early afternoon 24 November by having counsel on board BELKNAP early evening the same day. On 25 November 1975, Lieutenant (junior grade)

Be BELKNAP Officer of the Deck at the time of collision, requested counsel of his own selection from a list of five officers of the Judge Advocate General's Corps. This request is attached as enclosure (2). As noted in the record, Captain Kenneth K. Bridges, JAGC, U.S. Navy, was made available in response to this request. Captain Bridges could not meet with his client in Augusta Bay prior to departure of BELKNAP and J.F. KENNEDY for Naples because of his transportation arrangements. After the investigation recessed on 28 November, ~~PO~~ and his provided counsel proceeded by air to meet Captain Bridges in Naples in order to be prepared for the 30 November session. After the request for selected counsel was received from in spite of his objection, the investigation proceeded

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calling, insofar as possible, witnesses whose testimony would not bear on any possible culpability of the parties. After the arrival of Captain <sup>De</sup>

was afforded the opportunity to recall any of the earlier witnesses for further cross-examination, an opportunity he exercised as to some of the witnesses. Also prior to his first appearance as counsel, Captain Bridges had been provided a complete rough transcript of the prior proceedings.

Reporters were provided by KENNEDY's Legal Office and by Navy Legal Service Office, Naples. Each of the reporters had been previously sworn. Additional clerical service was generously supplied by USS J.F. KENNEDY.

Compliance with the Privacy Act of 1974 and with pertinent Navy directives in implementation thereof was achieved by furnishing each witness, prior to his being called, a statement of "Data Required by the Privacy Act of 1974." Two variations were used. Enclosure (3) was furnished to non-party witnesses and enclosure (4) to party witnesses. In both cases, immediately after the oath was administered to the witness, he was asked if he had read and understood the statement. After his affirmative reply, he was informed by Counsel for the Investigation that the document had been furnished to him in accordance with the Act, that the Act required that he be advised of the authority which authorizes solicitation of personal information, the major purposes of which the information is used, a brief summary of those routine uses to be made of the information as published in the Federal Register, and whether disclosure is mandatory or voluntary. It was confirmed by each witness that he understood and that he retained a copy of the statement for his personal records.

The Investigating Officer considered only sworn testimony in reaching his findings of fact, opinions, and recommendations. As noted in the record, a verbatim record of the testimony of SA <sup>De</sup>, SA <sup>De</sup>, SA <sup>De</sup>, SA <sup>De</sup>, OSSA <sup>De</sup>, and USS <sup>De</sup> of USS J.F. KENNEDY is not included because of reporter error. The sworn statements of Commanding Officer, USS HART; his Executive Officer, and his Officer of the Deck at the time of the collision are included as exhibits and have been considered. Their views were helpful, and the operating schedules of the ships made it impossible to call them as witnesses. With the exception of the lost testimony mentioned above and these sworn statements, all testimony is reported verbatim in the Record of Proceedings.

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Findings of Fact

THE TACTICAL SITUATION.

1. That on the evening of 22 November 1975, elements of TG 60.1 were operating in the Ionian Sea in accordance with CTF 60 OPOD 4000, Annex B, Appendix I, Tab A 025. Units present were: USS JOHN F. KENNEDY (CV 67), USS BELKNAP (CG 26), USS DALE (CG 19), USS CLAUDE V. RICKETTS (DDG 5), USS BORDELON (DD 881), USS THOMAS C. HART (FF 1092), and USS PHARRIS (FF 1094). USNS WACCAMAW (TAO 109) was in the vicinity but not an integral part of the Task Group 60.1 formation. A Soviet KOTLIN Class ship, hull number 383, was located east about 15 NM from formation. (Soviet unit was not within visual range at the time of the collision.) Tactical description of the formation at 2200A, 22 November 1975 is as follows:

SOPA: CTF 60/CTG 60.1 embarked J.F. KENNEDY  
OTC: CTU 60.1.9, CO, J.F. KENNEDY  
SCR CDR: CTU 60.1.5 (COMDESRON 22) embarked C.V. RICKETTS  
FORMATION: 40V  
GUIDE: Station Zero: J.F. KENNEDY  
SCREEN: Sector Stations

| <u>UNIT</u>   | <u>STATIONS</u>                                                           |
|---------------|---------------------------------------------------------------------------|
| J.F. KENNEDY  | Guide (Station Zero)                                                      |
| BELKNAP       | Assigned to CTU 60.1.9 by CTU 60.1.5 Station 16 Port 2 NM of J.F. KENNEDY |
| T.C. HART     | Sector 100T-150T 5K-8K YDS<br>(Time 2158A: 136T/7.1K YDS)                 |
| PHARRIS       | Sector 200T-250T 5K-8K YDS<br>(Time 2158A: 233T/6.7K YDS)                 |
| C.V. RICKETTS | Sector 330T-020T 5K-8K YDS<br>(Time 2158A: 353T/7.3K YDS)                 |
| BORDELON      | Sector 020T-070T 5K-8K YDS<br>(Time 2158A: 040/7K)                        |
| DALE          | Sector 150T-200T 5K-8K YDS<br>(Time 2158A: 173T/7K YDS)                   |

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2. That the weather as of 2200A, 22 November 1975 was (EXH UU):

|                       |                                |
|-----------------------|--------------------------------|
| Sunset:               | 1639A, 22 November             |
| Visibility:           | 10 miles                       |
| Cloud cover:          | Scattered, Broken 2000-7000 ft |
| Barometer:            | 29.61 Steady                   |
| Temperature:          | 56.2° F                        |
| Dew Point:            | 42° F                          |
| Wind Direction/Speed: | 040/10 KTS                     |
| Sea Temperature:      | 20° C                          |
| Sea Waves:            | 6 FT                           |

3. That no significant TG 60.1 EMCON restrictions were in effect (R 399, 477) and uncovered primary tactical communications between J.F. KENNEDY and BELKNAP were satisfactory prior to the collision (R 95, 96, 387). Watch personnel of each ship held the other ship visually from 2130A through the collision (R 6, 378, 384, 456). J.F. KENNEDY was preparing for its last recovery of aircraft, scheduled for 2200A and was displaying flight deck lighting for aircraft operations. (See Findings of Fact 201 and following.) (R 364, 562, EXH LLL).

THE SHIPS

USS JOHN F. KENNEDY

4. That the recent operating tempo for J.F. KENNEDY was 37 days at sea during the previous 90 days (R 668). The Commanding Officer and OOD had no physical disabilities and were not fatigued (R 620, 666).

5. That J.F. KENNEDY bridge watch and key personnel consisted of the following (Various):

|                 |      |      |        |
|-----------------|------|------|--------|
| OOD:            | LCDR | W.P. | , USN  |
| JOOD:           | LT   |      | USN    |
| JOOW (RADAR):   | LTJG |      | , USNR |
| JOOW (COMM):    | ENS  |      | , USN  |
| COTP OFFICER:   | ENS  |      | , USNR |
| QM:             | QM2  |      | , USN  |
| NAVIGATOR:      | CDR  |      | , USN  |
| ASST NAVIGATOR: | LCDR |      |        |

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6. That J.F. KENNEDY bridge watch officers on the 2000 to 2400, 22 November 1975, watch had each completed the training required for his respective duty and had been qualified under ship's procedures (R 363, 364, 383, 393, 619).

7. That the JOOD, LT I <sup>BY</sup> was conning the ship prior to the Commanding Officer's assuming the conn at 2158A, some three minutes before the collision (R 365, 613).

8. That J.F. KENNEDY navigational lights were checked prior and subsequent to the collision and were found to be burning bright (R 555). No major navigational equipment was inoperative (R 619, 666).

9. That J.F. KENNEDY Commanding Officer's Tactical Plot (COTP), located aft of the bridge on the 09 level, is considered a part of the CIC organization and is normally charged with maintaining the surface plot out to 20 NM (R 400, 482, 668). During the watch preceding the collision, the NTDS console in COTP was without an NTDS surface track capability, and COTP did not plot units in company nor make an individual effort to monitor the surface plot to the limits of the sea return, which extended to 8,000 to 10,000 yards (R 400, 401).

10. That prior to the collision no time check had been conducted between the clocks on J.F. KENNEDY's bridge used for keeping the PRITAC Log and Deck Log and the respective times varied about 3 minutes (R 492, EXH 00, SS).

11. That J.F. KENNEDY SSSC area in CIC had been assigned additional surface tracking responsibilities. No major equipment was inoperative. The CIC Watch Officer was not aware of a developing collision situation until just before the collision alarm sounded (R 401, 480).

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linking with BELKNAP, but the link was unreliable be-

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13. That the CIC Officer of J.F. KENNEDY had initiated action to reduce the sea return on the

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beyond the Screen (R 413, 416).

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15. That on a previous aircraft recovery on 22 November, J.F. KENNEDY had experienced a TACAN failure on both A and B Channels resulting in a requirement for a substitute TACAN beacon (R 684, 685).

16. That the engineering status in J.F. KENNEDY prior to the collision was as follows: Boilers 1B, 2A, 3B and 4A were steaming. Main Engines 1, 2, 3, and 4 were on the line. The Plant was split with Generators 1A, 1B, 2A, 2B, 3A, and 3B operating (R 493, EXH CCC). Sufficient boilers were on the line to meet all operational requirements (R 667). One electric fire pump was out of commission (R 518). Material Condition YOKE was set throughout the ship with no discrepancies reported (R 517, EXH CCC), and there were no equipment malfunctions on the Flight Deck (R 565).

USS BELKNAP

17. That USS BELKNAP had been underway in company with TG 60.1 since 11 November, with an intervening training anchorage at Augusta Bay, Sicily, and with 31 days at sea within the past 90 days (R 644, 645). BELKNAP had no occasion in over a year to exercise in-close station-keeping with a carrier until just prior to the collision (R 443, 444).

18. That the Commanding Officer, USS BELKNAP, had no physical disabilities, nor was he excessively tired (R 642).

19. That the BELKNAP bridge watch consisted of the following (Various):

|                |                 |            |
|----------------|-----------------|------------|
| OOD:           | LTJG <i>hio</i> | USN        |
| JOOD:          | ENS             | , Jr., USN |
| BMOW:          | BMSN            | , USN      |
| QUARTERMASTER: | QMSN            | , USN      |
| HELM:          | SA              | USN        |
| LEE HELM:      | SA              | , USN      |
| LOOK OUTS (P): | SA              | , USN      |
| LOOK OUTS (S): | SR              | USN        |

20. That *hio* had appeared in good physical condition and had been officially qualified for OOD watches underway by his prior and current Commanding Officers (R 328, 629, 630, 631). He had a reputation for being the best OOD in BELKNAP, was the General Quarters OOD, and was recognized by his Commanding Officer as an aggressive trainer of JOODs (R 316, 645).

21. That ENS *hio* JOOD in BELKNAP, had reported for duty 2 September 1975 (R 5). He was the Conning Officer prior to the time the Commanding Officer assumed the conn about 2159A and had no experience in close maneuvering situations (R 24).

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22. That all BELKNAP's navigational lights were burning brightly prior to and at the time of the collision (R 615, 660). The only navigational equipment inoperative on BELKNAP bridge prior to the collision was the Pathfinder radar and this unit was not used regularly (R 27, 642).

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23. That the Commanding Officer of BELKNAP had issued his 22 November night orders, but neither the OOD nor the CIC Watch Officer had initialed these orders signifying acknowledgment (EXH XXX).

24. That BELKNAP's 2000 to 2400, 22 November, CIC watch consisted of (Various):

|      |    |          |                                                                 |
|------|----|----------|-----------------------------------------------------------------|
| LTJG | Bp | , USN    | CIC Watch Officer                                               |
| OS3  |    | , USN    | Surface Watch Supervisor<br>(on maneuvering board)              |
| OS3  |    | , USN    | Under Instruction                                               |
| OS3  |    | , USN    | Rotationally unassigned<br>at the time, but present             |
| OSSN |    | Jr., USN | 1JL Talker, Surface<br>Console                                  |
| OSSA |    | USN      | Publications Checker                                            |
| OSSA |    | , USN    | PRITAC Log                                                      |
| OSSA |    | , USN    | Secure Voice/CIC<br>Watch Log                                   |
| OS2  |    | USN      | Visiting, had assumed<br>duties as Surface<br>Plotter at SPA-25 |

The enlisted personnel were in port and starboard watch sections with six hours on and six hours off duty (R 643).

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26. That BELKNAP Engineering status prior to the collision was: Boilers 1A and 2A steaming, #1 and #2 Main Turbines on the line, Main Plant split, Main Feed Pumps 1A and 1B and #3 Fire Pump on the line (EXH II). Sufficient boiler power was available to meet all normal operational requirements (R 643). Material Condition YOKE was set throughout the ship with no major exceptions (R 204). No major propulsion machinery was out of commission. All fire pumps were operational (R 197, 237).

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EVENTS LEADING TO THE COLLISION

OVERVIEW

27. That TG 60.1 had not conducted a time check on the night of 22 November or prior to events leading up to the collision (R 125, 127). That BELKNAP log times for tactical communications received from J.F. KENNEDY were generally one minute prior to time J.F. KENNEDY logged the same transmission (EXH OO, NNN). NUCO Tables were being used to encode course and speed changes (R 29). Correlation of the times of events, changes of course and speed, and radio transmissions displays the following discrepancies in recorded times in the two ships: J.F. KENNEDY Captain's (PRITAC) clock was slow 3 minutes with the Quartermaster's (Deck Log) clock. BELKNAP's PRITAC clock was 1 minute slow with J.F. KENNEDY PRITAC. BELKNAP's Deck Log clock coincided in time with KENNEDY's Deck Log. For the purpose of relating events in proper relationship, the Deck Log times of J.F. KENNEDY (guide and OTC) have arbitrarily been chosen as standard and all other times relate to them.

28. That immediately prior to 1845A, 22 November 1975, BELKNAP had been assigned station to provide TACAN services for J.F. KENNEDY aircraft. Originally her station was starboard 170 degrees relative, 4000 yards, from J.F. KENNEDY. As BELKNAP assumed station, J.F. KENNEDY was on F CORPEN. During the following turn downwind at approximately 1920A, which turn was directed by a CORPEN J PORT signal, BELKNAP's station was changed to port 150 degrees relative, 4000 yards. This station was subsequently altered to port 160 degrees relative, 4000 yards. At 2001A, KENNEDY executed a CORPEN J STARBOARD to a new F CORPEN and at 2115A, executed a CORPEN J STARBOARD to a downwind course (R 6, 7, 314, 646, 684, 685, EXH C, SS, NNN).

29. That with the exception of the period 1845A to the collision on 22 November 1975, and one brief station as Rescue Destroyer on 19 November 1975, BELKNAP had not had occasion to work in the body of a formation with a carrier as guide since June 1974 (R 317, 443-5).

USS J. F. KENNEDY

30. That at 2130A, J.F. KENNEDY was on course 200 degrees, speed 10 knots (EXH SS). At about 2144A and while in his sea cabin, the Commanding Officer approved the OOD's request to transmit the signal "CORPEN J PORT 025-12" to BELKNAP (R 614, 659).

31. That the requirement for J.F. KENNEDY to turn at 2148A to 025 degrees was dictated by the last scheduled recovery of aircraft at 2200A (R 613, EXH LLL).

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the shortest way (ATP 1(B), Vol II, para 702).

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35. That at 2152A, Commanding Officer, J.F. KENNEDY, came to the bridge (EXH SS).

36. That at 2152A, J.F. KENNEDY eased her rudder from left 20 degrees to left 15 degrees and continued the turn toward the ordered course 025 degrees (EXH SS). As the relative bearing to BELKNAP came around to 300, she displayed an estimated target angle of 015 degrees (R 615). When BELKNAP was on the port bow of J.F. KENNEDY, 310 degrees relative, and her true bearing was 030 degrees, range 3200 yards, the OOD alerted the Commanding Officer regarding his concern for BELKNAP's movements (R 615, 660). At 2155A, the JOOD ordered rudder eased to left 10 degrees; BELKNAP masthead, range, and starboard running lights were observed 15-20 degrees off J.F. KENNEDY's port bow (R 364, 422, EXH C, SS). At 2800 yards, the Commanding Officer noted BELKNAP in a good starboard turn, showing first a starboard and a port running light, then only a port running light (R 660). The JOOD and Navigator also observed a port running light, with BELKNAP displaying a target angle of approximately 340 degrees (R 365, 384, 422, 660). Following the starboard turn, BELKNAP appeared to be on a reciprocal course of about 215T degrees or possibly greater (R 660).

37. That after BELKNAP's turn to starboard, the Commanding Officer, J.F. KENNEDY, noted a left bearing drift and decreasing ranges as follows:

024/2800

021/2200 (R 660)

The OOD estimated BELKNAP CPA to be 1000 to 1200 yards to port (R 615).

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38. That the Commanding Officer ordered the Conning Officer to put J.F. KENNEDY's rudder amidships, to check the swing, and to steady on course 035 (R 615, 660). The JOOD ordered "Rudder amidships" as the ship's head passed 040, at about 2156A (R 364, EXH SS). J.F. KENNEDY was steady on 035 when range to BELKNAP was noted to be 1500 yards (R 463). The decision to steady J.F. KENNEDY on course 035 was made when range to BELKNAP was 2200 yards (R 615). The Commanding Officer cautioned the JOOD not to come further left until BELKNAP was approximately 290 degrees true or on the beam (R 365, 661). The Commanding Officer also cautioned the OOD and JOOD to watch BELKNAP until she had passed CPA (R 660).

39. That LCDR FLETCHER, a visitor on J.F. KENNEDY bridge and a qualified OOD, noted a bearing to BELKNAP of 021 degrees, range 1600 yards, as he saw a port and starboard running light simultaneously (R 452, 455, 456). BELKNAP's port turn and starboard running lights were noted by the OOD when she was bearing 018, range 1800 yards (R 615, 616). The JOOD estimates she started coming left at 2000 yards range (R 376). The JOOD, JOOW (COMM) and Navigator noted BELKNAP's left turn to show a starboard running light (R 365, 384, 422).

40. That about 2157A (J.F. KENNEDY bridge time - see Finding of Fact 10), when BELKNAP was showing a starboard running light, the Commanding Officer directed the JOOW (COMM) to transmit to BELKNAP "Interrogative your intentions" (R 365, 384, 422, 616, EXH OO). There was a slight hesitation before BELKNAP responded to J.F. KENNEDY's transmission and she continued to show a starboard running light (R 616).

41. That BELKNAP's response to J.F. KENNEDY's "Interrogative your intentions?" transmission was "Roger, my rudder is left, coming to course 190." BELKNAP JOOD believed he added to this, "Speed 5 knots," although no one in J.F. KENNEDY heard BELKNAP's speed as a part of the transmission. CO, J.F. KENNEDY, thought he heard additionally, "What is your CORPEN?" (R 577, 661, EXH QQQ, RRR). BELKNAP's reply prompted Commanding Officer, J.F. KENNEDY, to transmit personally to BELKNAP, "Right full rudder, right full rudder now" at 2158A (R 119, 365, 384, 385, 422, 661, EXH OO). BELKNAP had closed to approximately 1500 to 1200 yards range, with a target angle of 020 degrees (R 616, 621).

42. That at 2159A, immediately after ordering BELKNAP's rudder full right, Commanding Officer, J.F. KENNEDY, having noted a near constant bearing to BELKNAP and desiring to direct the bow of KENNEDY away in order to increase the available time for BELKNAP to maneuver, judged J.F. KENNEDY in extremis and ordered "Right full rudder, all engines emergency back full," and in so doing acknowledged he assumed the Conn (R 661, 662, 667). The Navigator paralleled the Emergency Back Full Bell to Main Control on the 25 MC stating that they would sound the collision alarm shortly and that collision was imminent (R 520).

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43. That at 2159A, JOOW (COMM) transmitted to BELKNAP, "My rudder is right full, my engines are backing full" (R 384, 385, 616, EXH Y, OO, ZZ). Range to BELKNAP: 900 to 600 yards (R 616, 662).

44. That J.F. KENNEDY Engines #1, #2, #3, and #4 answered all back emergency and attained RPM's for the backing bell from Ahead Two-thirds in an estimated 60 to 90 seconds (R 512, 521, 523, EXH BBB).

45. That at 600 yards, BELKNAP's turn to starboard was noted; however, the Commanding Officer ordered the collision alarm sounded (R 616, 662). At 2200A, as BELKNAP began to pass down the port side of J.F. KENNEDY and prior to impact, Commanding Officer ordered, "Left full rudder" in an attempt to swing the stern away from BELKNAP. In addition, he ordered KENNEDY to General Quarters (R 365, 371, 423, 616, EXH SS). Moments before the collision, the Air Officer announced on the flight deck 5 MC: "Standby for a collision," and "Remain clear of the port catwalk" (R 562).

46. That the collision between J.F. KENNEDY and BELKNAP occurred about 2201A (Investigating Officer's conclusion from all pertinent evidence).

47. That prior to the collision, J. F. KENNEDY lookouts called the bridge on 1JL sound-powered phones twice but received no acknowledgment (R 468).

48. That COTP of J.F. KENNEDY was not aware of the events leading up to the collision (R 401). COTP neither asked for information nor offered information to the bridge (R 402). JOOD was receiving no information on BELKNAP's movements from either COTP or CIC (R 369, 378).

#### USS BELKNAP

49. That at 2132A, BELKNAP course was 192 degrees, speed 10 knots (EXH C). BELKNAP's OOD, *bw* had been informed of BELKNAP's assigned duties and station (R 314, 315, 646). The Commanding Officer knew the station and assignment and had received a call from the bridge inquiring as to BELKNAP's assignment as a TACAN beacon (R 315, 646).

50. That Commanding Officer BELKNAP was in the Wardroom watching a movie and had been informed by *bw* of the previous CORPEN J signals at 2001 and 2115 (R 633, 639, 640, EXH NNN). At 2137A, BELKNAP came to course 200 degrees and at 2142A adjusted speed to 12 knots, both minor adjustments to maintain station (EXH C).

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52. That at 2149A, BELKNAP acknowledged to OTC the execution of CORPEN J PORT 025-12 signal (EXH NNN). For a short time BELKNAP maintained given base course of 200 degrees (R 7). JOOD indicated that "they" sketched a maneuvering board solution, not a precise solution (R 340). The OOD's proposed maneuver was to slow to 5 knots and permit the carrier to pass in front of BELKNAP's bow, then come left to station (R 7, 345, EXH LL). The JOOD suggested coming to the new course immediately, and then slowing to allow J.F. KENNEDY to overtake BELKNAP, passing BELKNAP to starboard, and allowing BELKNAP to slide back into station (R 342, 347, EXH KK, LL). <sup>B6</sup> solution prevailed. CIC was informed that the bridge intended to come to 025 at 5 knots and let the carrier overtake BELKNAP (R 29, 84). CIC initially concurred in the solution; however, upon being informed shortly thereafter of the bridge's intention to steady up on 185 vice 025, CIC recommended over the JL circuit to come right to the new course (R 29, 84).

53. That about 2149A, after execution of the CORPEN J PORT signal, BELKNAP JOOD ordered all engines ahead one-third, rudder left 5 degrees to come to course 025 degrees (R 75, EXH C). BELKNAP tactical data does not exist to determine a track using 5 degrees of rudder at 5 knots (EXH D). CIC supervisors began marking BELKNAP's track relative to the guide (R 84).

54. That subsequent to the CORPEN J PORT signal, BELKNAP JOOD and Conning Officer, ENS HOWE, relied on and accepted recommended courses and speeds from the OOD, <sup>B6</sup> (R 7, 14, 15, 72), and at 2151A, on the OOD's recommendation, JOOD came left and steadied on course (about) 185 degrees (R 7, EXH C). As J.F. KENNEDY was turning port, the OOD queried several personnel of the bridge watch as to what they thought the target angle of J.F. KENNEDY to be (R 7, 41, 56, 283). Upon steadying on 185 degrees, the BELKNAP OOD and JOOD could not determine the target angle or course of J.F. KENNEDY (R 7).

55. That CIC recognized that the course 185 would have a close CPA to J.F. KENNEDY. Over the JL sound-powered phone, CIC recommended coming right with full rudder (R 32, 84, 85). CIC did not pass radar ranges to J.F. KENNEDY to the OOD or JOOD (R 32).

56. That the port lookout reported J.F. KENNEDY's bearing 3 or 4 times as the ships approached and the target angle as 350 degrees over the JL sound-powered

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phones 5-10 minutes before the collision (R 292, 294, 295). The port lookout could see J.F. KENNEDY's masthead and range lights, and the port side light when J.F. KENNEDY was about 10 degrees on BELKNAP's starboard bow (R 294).

57. That the OOD was going from one side of the bridge to the other trying to determine target angle of J.F. KENNEDY (R 590).

58. That about 2154A, BELKNAP engines increased speed

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SN <sup>BC</sup>, recalled in this time frame, an order for left standard rudder to come to course 130, but upon reaching a heading of 145, he recalled a right standard rudder order to come to course 200 (R 281, 284). At 2156A, BELKNAP came right to course 220 (EXH C).

59. That at 2156A, immediately after the order to come to 220, the BMOW, BMSN BAKER, was directed by the OOD to pass the word on the LMC "Captain to the bridge" (R 16, 45, 281). The Commanding Officer was in the Wardroom when "CAPTAIN TO THE BRIDGE" was announced and was alerted to the announcement by the Supply Officer (R 634). At about the same time, BELKNAP's rudder was turned to left full (R 29, 77, 84).

60. That after the BMOW, BMSN BAKER, passed the word he returned to the bridge, went to the helm, where he observed the left rudder, and could not understand how the rudder was left moving slowly right (R 51). BMSN BAKER relieved SN POWERS on the helm for failure to respond quickly enough to what he thought was <sup>BC</sup> right full rudder order (R 45, 50, 449). BMSN BAKER relieved the helm without permission of the Conning Officer (R 281).

61. That the Commanding Officer, BELKNAP, arrived on the bridge at 2157A within a few seconds after BMSN BAKER relieved the helm, but a few seconds prior to the J.F. KENNEDY transmission "Interrogative your intentions" (R 45, 365, 384, 616, 634, EXH 00).

62. That at approximately 1800 yards from J.F. KENNEDY, BELKNAP CIC noted a left rudder deflection, a right full rudder then a return to a left rudder deflection at about 1300 yards (R 32, 77, 310). When left full rudder was noted, CIC recognized that left full rudder was opposite to that necessary to open the CPA to J.F. KENNEDY (R 77, 85, 87). The CIC Watch Officer emphatically recommended on the 21 MC right full rudder (R 29, 30, 77, 84). This recommendation occurred at 2157A at the same time J.F. KENNEDY queried BELKNAP on PRITAC as to her "Intentions" (R 29, 30, 77, 84). CTU 60.1.5 states that transmission "INTERROGATIVE YOUR INTENTIONS" was made when distance between BELKNAP and J.F. KENNEDY was about 1800 yards (R 96). The bridge did not acknowledge CIC's recommendation (R 310). BELKNAP's EOOW noted a "30 to 30" degree rudder change from right to left to right between a full and a later flank bell (R 253, 260, 261, 264, 265). BELKNAP port lookout's observation of J.F. KENNEDY's relative positions and speed confirms a change of BELKNAP's heading

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and speeds (R 291, 292, 294, 295).

63. That the Commanding Officer was unsuccessful in his attempts to obtain a concise evaluation of the situation when he reached the bridge (R 634). The OOD informed him that J.F. KENNEDY had crossed BELKNAP's bow, had turned into BELKNAP, and that the OOD did not know what the aspect was (R 634). The Commanding Officer typified the situation on the bridge as confusion (R 634). He personally observed J.F. KENNEDY's relative position. He understood the reply from BELKNAP to J.F. KENNEDY's "Interrogative your intentions" to be a course of 194 (R 634). The reply was transmitted at 2158A (Finding of Fact 40, 41, supra). His information on ship's speed consisted of a memory of 10 knots most recently officially conveyed to him, someone's statement after his arrival on the bridge that speed was 5 knots, and his passing glance at the engine order telegraph of a speed rung up further down than one-third (R 634, 647). He secured from the OOD a course to which J.F. KENNEDY was coming of 025 (R 635).

64. That prior to giving rudder and engine orders Commanding Officer of BELKNAP did not determine range to J.F. KENNEDY, or bearing drift, or BELKNAP's or J.F. KENNEDY's respective course and speed (R 635, 647). At 2158A the Commanding Officer did not take note of J.F. KENNEDY's PRITAC transmission ordering BELKNAP's rudder right full (R 634, 635).

65. That prior to the collision the bridge did not use surface radar to determine ranges to J.F. KENNEDY nor were visual bearings taken to determine KENNEDY's bearing drift (R 66). CIC did not pass radar ranges to J.F. KENNEDY to the OOD (R 32). According to CIC, bearing to J.F. KENNEDY became constant at about 1200-900 yards from J.F. KENNEDY (R 77, 78, EXH J). BELKNAP's CIC marked the following bearings and ranges to J.F. KENNEDY prior to the collision (R 336, 337):

|     |                        |
|-----|------------------------|
| 218 | - 3800 yards           |
| 189 | - less than 1000 yards |
| 189 | - 850 yards            |
| 189 | - 700 yards            |

66. That prior to the collision the QMOW was occupied in an attempt to determine a radar ship's position fix. The QMOW did not hear all rudder and engine orders and consequently the BELKNAP Deck Log is incomplete (R 73, 74, EXH C).

67. That the BELKNAP lee helmsman could not recall engine orders or his response to any speed changes ordered prior to the collision (R 285, 286).

68. That no general quarters or collision alarms were sounded on BELKNAP prior to collision (R 639). Because of collision damage no alarms could be sounded subsequent to the collision (EXH WWW).

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69. That BELKNAP's OOD ordered Left Full Rudder, All Ahead Flank at 2159A (R 589, 635). That BELKNAP EOOW answered a Flank Bell at 2159A (R 247, 248, 274, EXH HH). Bridge lee helm did not relay the "Flank Bell" via LJV phones (R 266). Flank Bell was answered but RPMs were not achieved prior to the subsequent Emergency Back Full Bell (R 258, 261, 264). The EOOW observed "999" rung up by the bridge between 2159A and 2200A (R 248, 261).

70. That the Commanding Officer concluded at 2159A that he was observing a port aspect of J.F. KENNEDY on his right and that the ships were in extremis (R 635, 654). He concluded that the rudder and engine orders given by <sup>By</sup> would risk BELKNAP's being struck amidships by the carrier (R 635). The Commanding Officer countermanded <sup>By</sup> order "Left full rudder, all ahead flank," with the orders "Right full rudder, all back emergency full" (R 57, 65, 635). Commanding Officer acknowledged assuming the conn. (R 654). The order was "right full," not hard rudder (R 51, 654). The BELKNAP emergency back bell was answered as quickly as boiler pressures permitted; steam pressures fell to 1000-1020 PSI (R 261). The lee helmsman relayed the emergency backing bell to Main Control via LJV phones (R 266).

71. That at the moment of collision, BMSN <sup>By</sup> helmsman, had put on hard rudder (35 degrees) just prior to contact with J.F. KENNEDY [R 449, EXH WWW (12)]. The last rudder position prior to the collision is verified as hard right (EXH WWW).

72. That Commanding Officer BELKNAP stated that he would not have gone to the bridge at the delayed executive signal CORPEN J PORT, had he been notified and had he concurred in the OOD's plan. He stated this was based on his feeling that his most reliable OOD was on watch (R 652). The Commanding Officer felt that the CORPEN J PORT signal did not require a maneuvering board solution (R 645, 646). No maneuvering board solution was solved by any BELKNAP bridge or CIC watch officers (R 311, 340).

73. CIC was marking guide to J.F. KENNEDY in order to determine CPA to the guide while BELKNAP maneuvered to regain station (R 84, 85). The JOOD recalled no recommendations to station, or any other assistance from CIC during the period leading up to the collision (R 341). The JOOD did not request assistance from CIC subsequent to execution of the CORPEN J PORT signal (R 341). During the period leading up to the collision, CIC was having trouble with the JL talker on bridge not responding. (R 332, 334).

74. That in conversation with BELKNAP's Executive Officer, following the collision, <sup>By</sup> revealed that he recognized his action, when he initially came left to turn with the carrier, was in error. In addition, he reported his belief that J.F. KENNEDY had come left sufficiently to present her starboard side to BELKNAP, and that by also coming left to regain station, he would pass astern of the carrier (R 444).

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UNIT RELATIONSHIP AT COLLISION

75. That the collision between BELKNAP and J.F. KENNEDY occurred at approximately 2201A, 22 November, at position latitude 37-35.75N, longitude 016-52.10E (EXH C, N, P, Y, Z, HH, TT). Initial contact occurred port side of J.F. KENNEDY at the flight deck extension, vicinity Frame 78 (EXH EEE), and port side of BELKNAP bridge, 03 level and SPG-55B Fire Control Director platform, 04 level Frame 73 (EXH WWW). Estimated heading of J.F. KENNEDY at moment of collision was 041 degrees, estimated speed 3 to 4 knots (R 379, 380, 663). The relative speed of J.F. KENNEDY to BELKNAP was estimated to be 10-12 knots (R 617).

76. That at the moment of collision, J.F. KENNEDY's engines were backing, rudder had been shifted left full (R 663, EXH SS). BELKNAP engines were backing full, rudder hard right, 35 degrees (R 78, 449, EXH WWW). BELKNAP's heading at the time of collision was approximately 250 degrees (R 647, EXH KKK). BELKNAP was heeled to port when contact was made (R 292, 293). It was reported that the ships were in physical contact for an estimated 7 seconds to 3 minutes (R 565, Various).

ACTION FOLLOWING COLLISION

USS J.F. KENNEDY

77. That General Quarters (GQ) was sounded in J.F. KENNEDY as the two ships collided (R 616) and Condition ZEBRA was set in the area of the fire within 7-10 minutes (R 514).

78. That following the collision Commanding Officer, J.F. KENNEDY, ordered all engines ahead one-third and then ahead two-thirds to clear BELKNAP (R 663). Only number one shaft responded because of engineering problems generated by heavy smoke ingestion in other engineering spaces (R 494).

79. That as BELKNAP slid down the port side of J.F. KENNEDY, her superstructure severed three external JP-5 fuel risers at stations 8, 10 and 12 in J.F. KENNEDY. Stations 8 and 12 were charged with fuel (R 559). One after JP-5 fuel pump was on the line at the time and had the capability to deliver approximately 1100 gallons per minute. Fuel poured from these breaks at the total rate of 1045 gallons per minute onto BELKNAP and the surrounding water (R 559, 560, EXH HHH, III, JJJ).

80. Within two minutes following the collision, J.F. KENNEDY Fuels Officer, upon observing fires on the port side of the flight deck, portside, ordered an emergency drain-back of the fuel system. The pressure cut-off is immediate. Drain back commenced immediately (R 558, 559).

81. There were no fires on the hangar deck of J.F. KENNEDY (R 564).

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82. That as the collision was occurring, J.F. KENNEDY personnel located at about Frame 115 were directing water onto BELKNAP superstructure (R 532). The flight deck MB-5 fire truck was applying light water to J.F. KENNEDY port catwalk area and BELKNAP by moving aft while BELKNAP slid down the port side (R 562, 563, 663). The port side, aft flight deck sprinklers were activated by the OOD from the bridge (R 617). The aircraft located on the flight deck, port side aft, were towed away, thus preventing damage to them (R 664).

83. That J.F. KENNEDY lost fires in 2A and 3B boilers between 2201A and 2210B and secured 4A boiler because of heavy smoke in the main spaces. Consequently, 3A, 3B, 2A and 2B turbogenerators were lost due to lack of steam. The equipment left operating was: 1B boiler, 1A, 1B Ship's Service Turbogenerator, No. 2 Emergency Generator, and No. 1 Main Engine (R 493, 494, 507). Following the collision, J.F. KENNEDY came to all stop when 6000 yards from the scene to permit engineering casualties to be restored (R 664).

84. That during the period following the collision, J.F. KENNEDY experienced fires in compartments from the Main Deck to 03 level between Frames 97 to 157, port side, in the angle deck overhang between 2200A and 0031A (R 495, EXH SS, 000). The boiler and ventilation intakes, port side, ingested heavy smoke from BELKNAP and J.F. KENNEDY into the main engineering, living, and office spaces below the Main Deck (R 493, 494). The main engineering spaces were evacuated in the order 3 Main, 4 Main and 2 Main (R 506, 507). The Engineering Operating Stations in these spaces were relatively free of smoke because they were air-conditioned by recycled air. They remained manned (R 509).

85. That following the collision, J.F. KENNEDY's Executive Officer coordinated firefighting efforts inside the ship (R 551). The Air Officer coordinated casualty control on the flight deck; fires on the flight deck and port side catwalks were extinguished in 10 minutes (R 563). At 2231A, CTU 60.1.5 dispatched USS PHARRIS to assist in fighting fires in J.F. KENNEDY (R 107). Initially all fires were reported out about 0031A, 23 November (R 495). But numerous reflash fires occurred within established fire boundaries, Main Deck to 03 level until 0952A (R 495, 496, EXH SS, 000). No fire main pressure drop was experienced while the fires were being fought (R 533). Fire main pressures remained at 150-175 PSI (R 518). Despite loss of use of Main Machinery Rooms 2, 3 and 4, J.F. KENNEDY retained power to all vital machinery (R 494).

86. That #2 Emergency Diesel Generator was placed on the line to supply electrical power aft (R 494).

87. That DC Central did not rely solely on assigned DC Sound-Powered phone talkers, and the ship's Damage Control Training Team (6 men) enhanced communications (R 514, 515).

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88. That J.F. KENNEDY Main Engineering spaces were remanned at 2215A and shafts locked at 2230A in preparation for any further emergencies (R 494, 503). Fires were lighted in 1A boiler at 2225A (R 494, 503).

89. That J.F. KENNEDY organized casualty collection stations on the forward mess decks and forward hangar deck (R 551), and prepared for an influx of mass casualties (R 664).

90. That J.F. KENNEDY supply personnel had difficulty evacuating working spaces in the overhang of the angled deck (R 515).

91. That following the collision all of J.F. KENNEDY's airborne fixed wing aircraft scheduled to land at 2200A were diverted ashore to NAF Sigonella (R 664).

92. That J.F. KENNEDY secured from General Quarters at 1100A, 23 November 1975 (R 496).

#### USS BELKNAP

93. That BELKNAP's backing bell was taking effect prior to the collision (R 30). That BELKNAP's after steering watch was uninformed as to what was happening on the bridge just prior to and after the collision (R 267, 268).

94. That BELKNAP's first fire occurred when the bridge was 40 feet aft of the forward portion of J.F. KENNEDY's angled deck (R 563). The Commanding Officer observed the initial ball of fire and dense black smoke indicating a fire of fuel origin (R 636). The flames were noted to be as high as the bridge level of J.F. KENNEDY (R 663).

95. That BELKNAP boiler fires were extinguished because of heavy black smoke shortly after the backing bell was answered. The B3 and B4 spaces were evacuated just prior to the "stop bell" and B1 and B2 just after the "stop bell" (R 245, 227). The Chief Engineer entered Main Control (B2) at the time the stop bell was "rung up" (R 245). He ordered evacuation of spaces B1 and B2 after losing communications with B3 and B4 (R 150) and because of heavy black smoke (R 237, 275). B3 and B4 were evacuated independently and without orders from the EOOW (R 261). The sequence of main space evacuation was B3 shortly after the collision; B4 and B1 about 2205A; and B2 (R 237, 238, 278).

96. That there were severe explosions in the proximity of BELKNAP spaces B3 and B4 which caused damage to vents and were the direct cause of serious injuries and subsequent deaths (R 199, 200, 203, 209, 211, EXH WWW).

97. That heavy smoke below decks in BELKNAP inhibited the movement of personnel (R 151), and immediately after the collision there was a momentary loss of electrical power and fire main pressure before the emergency generators were started (R 236).

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98. Shortly after the collision, three groups of personnel in BELKNAP were engaged in fighting fires: They were located on the forecastle, fantail and bridge. Until communications were established, each group thought it to be the only group active in fighting the fires (R 201, 203, 638). No personnel fell or elected to leave the ship into the sea (Various; all BELKNAP personnel accounted for).

99. That Material Condition ZEBRA was set below the Main Deck in BELKNAP and specifically between Frames 72 to 116, thus protecting the forward magazine (R 204, 236).

100. That USS BELKNAP Forward Emergency Turbine did not start automatically but was started manually. Subsequently the No. 1 Fire Main Pump was placed on the line but failure of packing glands resulted in water leakage, shorting out the forward turbine cooling water pump (R 153, 236). The Forward Emergency Turbine operated 1 1/2 hours when it failed due to lack of cooling water (R 153). Suction blockage on No. 6 Fire Pump required that pump to be secured (R 155). Subsequently the use of eductors to de-water exceeded the capacity of the fire main pump to sustain fire-fighting efforts (R 153). Loss of fire main pressure again occurred until power could be passed forward to Main Control and Number 3 Fire Pump (R 155).

101. That BELKNAP Main Control was visited and found intact by the Chief Engineer prior to the Forward Emergency Turbine going off the line (R 155).

102. That the after emergency diesel generator did not start automatically but was started by EN2. <sup>By</sup> and No. 6 Fire Pump was placed on the line (R 152, 219). Fire main pressure was regained by electrical power from this generator through the B2 space switchboard to the No. 3 Fire Pump when No. 6 was secured (R 155).

103. That minor flooding was caused by firefighting water being pumped on board. A temporary list of 5 degrees was caused by fire water located above the Main Deck (R 152, 153, 638).

104. That the Commanding Officer of BELKNAP remained on the bridge following the collision to direct fire-fighting aft on the 03 and 04 levels (R 638). The OOD, <sup>by</sup> aggressively fought fires on the 04 level and in the superstructure (R 31, 439). All personnel fighting fires in this area were subject to shrapnel and debris scattered by exploding CHAFFROC, Pyrotechnics, and 3"/50 ammunition from ready service lockers (R 105, 638).

105. That the Executive Officer of BELKNAP searched CIC for survivors but found none (R 439) and all CIC logs and other tactical records were destroyed by fire (R 86).

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106. That the fuel for BELKNAP's P-250 pumps which was stored topside helped feed the superstructure fire. Three P-250 pumps were destroyed. Topside liferafts and lifeboats were destroyed or rendered unusable (R 133, 134).

107. That BELKNAP weapons areas forward and aft were not damaged or otherwise affected by the collision (EXH BBBB). No magazines were flooded (R 646).

108. That subsequent to the collision BELKNAP and RICKETTS established bridge-to-bridge communications through portable radios supplied by C.V. RICKETTS (R 122).

109. That there was a shortage of de-watering equipment in BELKNAP (R 153). The Chief Engineer prevented fire from spreading through the Wardroom to the Main Deck (R 152).

110. That BELKNAP could not cross connect the fire main from No. 6 Forward Fire Pump because exploding ordnance had pierced the ZEBRA split tee in the fire main, starboard side, Main Deck (R 153, EXH U).

#### SEARCH AND RESCUE OPERATIONS

111. That at approximately 2205, CTU 60.1.5 as Screen Commander embarked in C.V. RICKETTS, began maneuvering screen units to provide Search and Rescue (SAR) assistance to BELKNAP. CTU 60.1.5 coordinated and directed the efforts of C.V. RICKETTS, BORDELON, T.C. HART, and DALE as they provided assistance (R 106, 409, EXH R, V). At 2222A, CTG 60.1 ordered CTU 60.1.5 to assume on-scene SAR Commander duties, which he had done (R 105, 106, 109).

112. That J.F. KENNEDY requested firefighting assistance and CTG 60.1.5 ordered USS PHARRIS to provide (R 108). PHARRIS had difficulty maintaining station on the port side of J.F. KENNEDY and provided negligible water on her port side (R 552).

113. That DALE was designated Medical Guard Unit by CTU 60.1.5, who dispatched his staff doctor by boat to DALE when DALE had closed to 800 yards from BELKNAP (R 106, 107).

114. That C.V. RICKETTS was directed and did approach the starboard side of BELKNAP on three separate occasions to render assistance. These were:

Bow to stern about 2212A-2228A

Bow to stern about 2248A-2312A

Bow to bow about 0022A-0220A

(R 106, 107, 108, 109, 409, EXH K, L, M, N, PP).

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115. That while alongside to windward the wind and seas were broad on the starboard beam of BELKNAP (R 410) and C.V. RICKETTS provided firefighting equipment, medical supplies, food and communication equipment (R 108).

116. That C.V. RICKETTS charged her fire main pressure to 150 PSI and applied massive amounts of water through eight 1 1/2 and twelve 2 1/2 inch hoses through the use of six fire pumps (R 128, EXH PP). Commanding Officer, BELKNAP, requested that C.V. RICKETTS remain alongside to assist in fighting the port side fires (R 109). While alongside for the second time BELKNAP lost fire main pressure (R 410, EXH PP).

117. That C.V. RICKETTS and PHARRIS transferred Hospital Corpsmen to BELKNAP forecandle to provide assistance and prepare injured personnel for evacuation (R 108, 145). While alongside BELKNAP for two hours about 0022A to 0220A, injured personnel were transferred from the forecandle of BELKNAP and RICKETTS. The principal damage to C.V. RICKETTS' hull, port side, occurred during this time (R 409). There was very little light on the forecandle but the injured men were removed from BELKNAP to C.V. RICKETTS within an hour and ten minutes after C.V. RICKETTS made up alongside (R 108). Stokes litters with one line at each end of the litter were a hindrance to the safe transfer between ships (R 110, 146). C.V. RICKETTS established a Wardroom Battle Dressing Station to handle the eighteen injured evacuated from BELKNAP's forecandle (R 132, 145) and subsequently transferred sixteen injured personnel to DALE and two injured personnel to J.F. KENNEDY (R 147).

118. That BORDELON was directed to close to 3500 yards and then to 1000 yards off the bow of BELKNAP; and her boats in the water were directed to proceed to take on survivors (R 158). BORDELON was then directed to approach BELKNAP port side, bow-on, to render assistance (R 158, EXH V). Her forward fire pump (Big Bertha) was capable of pumping 750 gallons per minute at 150 PSI (R 169, 172). On BORDELON's second approach, approximately 2338A, her bow was placed on BELKNAP's port side, amidships to address fires in the signal bridge area. She remained alongside for about 25 minutes (R 159, EXH W) and provided OBA cannisters, blankets and lifejackets to BELKNAP and transferred her corpsmen to DALE and T.C. HART (R 170, 171).

119. That exploding ammunition, loose deck gear and intense heat made it unsafe to conduct a helo lift of injured from BELKNAP (R 107, 121).

120. That T.C. HART closed to 300 yards from BELKNAP's stern and launched both her boats to take on survivors. BELKNAP's stern appeared safe and cool. HART's motor whale boat (MWB) took five badly burned men off BELKNAP (EXH PPP). T.C. HART coordinated small-boat operations in the vicinity of BELKNAP's stern (R 106, EXH R, S). C.V. RICKETTS' boat also participated (R 409).

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121. That during the SAR effort the weather became variable with squalls, gusty winds and increasing seas (R 117).

122. That during the SAR effort small boats, coordinated by portable transceivers, and four helicopters, conducted a search under control of C.V. RICKETTS and T.C. HART for possible survivors in the water (R 107, 121, 129, 409).

123. That USNS WACCAMAW (TAO-109) offered assistance and a ready helo deck if required and was assigned to search for survivors in the immediate geographic area (R 107).

124. That specific geographic SAR areas were established two and one half hours after collision. The general area was 1 mile upwind and 2 miles downwind centered at BELKNAP's position at collision (R 124).

125. That at 0230A, 23 November, BORDELON was asked to prepare for tow of BELKNAP at 0400A. BORDELON reported ready at 0355A, but a reflash fire in BELKNAP occurred and BORDELON went to her assistance. The weather was visibility zero with gusty winds to 40 knots as BORDELON made her third approach to BELKNAP. As a result, her firefighting efforts were not effective (R 160, EXH X). BELKNAP extinguished the fire and was ready to receive the tow at 0540A, 23 November. BORDELON commenced her approach at 0606A, was rigged and taking up slack at 0636A and commenced towing BELKNAP at 0639A (EXH BB).

126. That the SAR effort in the immediate area of the collision was concluded about 1800A, 23 November (R 124).

#### SHIPS' DAMAGE

##### USS J.F. KENNEDY

127. That J.F. KENNEDY incurred structural and fire damage to her port side 04 level angled deck and various equipments located in the area from the round-down forward of Frame 79 through Frame 172 on the 02 level (EXH DDD, EEE). Damage was incurred in the flight deck catwalk; the landing visual aid and its system; Numbers Three and Four Catapults and Jet Blast Deflector systems; JP-5 fueling system stations 8, 10 and 12; one of four aircraft starting units; various flight deck lighting; six HF/MF antennae and the Pilot Landing Aid Television (PLAT) system (EXH DDD, EEE, JJJ).

128. That further fire, smoke, or water damage was incurred in J.F. KENNEDY port side from Frame 79 through 172 in compartments on the Main Deck, 01, 02 and 03 levels. A summary listing is contained in Exhibit DDD.

129. That the superstructure of BELKNAP did penetrate the outer port side sheeting of J.F. KENNEDY in the areas of Compartments 02-115-4-Q and 02-123-4-A (EXH EEE). Exhibit EEE (42) shows an aluminum beam of

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BELKNAP's Pilot House impaled in J.F. KENNEDY plating at approximate Frame 83.

130. That there was no damage to any main machinery or vital equipment as a result of losing fires in three of J.F. KENNEDY's boilers (R 495).

131. That material in the form of spare parts and equipment for embarked aircraft stored in supply spaces in the general area of damage in J.F. KENNEDY was damaged or destroyed. Estimates are that the damage approximates \$2,286,214.00 which includes \$445,915.00 worth of equipment belonging to Grumman Aerospace Corporation and Lockheed Aircraft Corporation. In addition, 83 pieces of U.S. Navy material worth \$504,067.00 were damaged to the extent that they must be repaired (EXH MMM).

#### USS BELKNAP

132. That all major equipments, antennae and superstructure from Frames 68 through 158 at the 01 level and above in USS BELKNAP either carried away in the collision or were destroyed or damaged in the subsequent fire. Below the weather deck, significant damage was sustained to various bulkheads and to much cabling, principally between Frames 115 and 165 (EXH AAAA, BBBB). Burning JP-5 fuel was a heavy contributor to the damage sustained (R 662, 663, EXH WWW). The aluminum superstructure carried away and melted in the course of the collision and fire. All boats and most of the liferafts were destroyed (EXH WWW). A summary listing of damage is contained in Exhibit BBBB.

133. That BELKNAP's main hull structure incurred some buckled frames, bulkheads and decks on the starboard side between Frames 45 and 85 from contact with C.V. RICKETTS (EXH BBBB).

134. That BELKNAP main engineering spaces suffered damage principally in the after engine and firerooms. This includes damage to the vent system due to an explosion just after the collision. The main turbines may be bowed due to the emergency securing procedures that were used. The after fireroom was flooded by firefighting water which rose above the main shafts. The forward fire and engine rooms were left relatively undamaged, but the boilers in the forward fireroom could not be lit off due to heavy debris in the forward uptake/economizer area (R 199, EXH WWW, BBBB).

135. That all BELKNAP's three P-250 pumps were located amidships and destroyed (R 153).

#### USS CLAUDE V. RICKETTS

136. That C.V. RICKETTS took precautions to minimize structural damage while alongside BELKNAP through use of good seamanship, fenders and other energy-absorbing materials (R 132, 133). Regardless of the foregoing, winds and seas set C.V. RICKETTS on to BELKNAP resulting in hull damage to C.V. RICKETTS (R 409, 410, EXH Q, R, S, QQ).

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137. That the hull damage sustained by C.V. RICKETTS while alongside BELKNAP was not mission limiting (R 129); and was limited to internal hull frames, decks and bulkheads on the port side between Frames 65-115 and external damage to the superstructure port and starboard side weather break and bulwark (EXH Q, QQ).

USS BORDELON

138. That BORDELON did not sustain any damage as a result of assistance provided to BELKNAP (R 167).

INJURIES AND DEATHS

139. That the following active duty naval personnel died as a result of injuries sustained in the collision and ensuing fires:

A. MM1 James W. Cass, USN, <sup>B6</sup> Found dead in starboard interior passageway, Space 1-136-1-A, USS BELKNAP, early morning hours of 23 November 1975 (R 217, 270, EXH KKKK). Cause of Death (assigned by CO, Naval Regional Medical Center, Naples):

<sup>B6</sup> (EXH CCCC). Identification positive dental comparison of remains and <sup>B6</sup>

Petty Officer Cass was on active duty serving in USS BELKNAP at the time of his death. He was on watch in the After Engine room, USS BELKNAP, at the time of the collision (R 211). He was last seen alive by SN <sup>B6</sup>, USN, shortly after the collision and close to the place his body was later found and just prior to a heavy explosion (R 221).

B. YN2 David A. Chivalette, USN, <sup>B6</sup> Pronounced dead at 2315, 22 November 1975, by CDR <sup>B6</sup> <sup>B6</sup>, MC, USN, USS JOHN F. KENNEDY. Cause of death: Asphyxiation due to smoke inhalation. Identified by recognition of Commanding Officer, Fighter Squadron FOURTEEN (EXH CCCC and GGGG). Petty Officer Chivalette was on active duty at the time of death, serving with VF-14 embarked in USS JOHN F. KENNEDY (EXH GGGG). He was last seen alive by PNSN <sup>B6</sup>, USN, at about 2205, 22 November 1975, when the two departed the VF-14 Personnel Office, Space 03-110-10-Q, for a position of apparently greater safety (R 547). His body was discovered by HTC <sup>B6</sup>, USN, near where he was last seen alive (R 536).

C. MM2 Douglas S. Freeman, USN, <sup>B6</sup> Found dead in starboard interior passageway, Space 1-136-1-A, USS BELKNAP, early morning hours of 23 November 1975 (R 217, 270). Cause of death (assigned by CO, Naval Regional Medical Center, Naples):

<sup>B6</sup> (EXH CCCC). Identification by positive dental comparison of remains (EXH CCCC). Petty Officer Freeman was on active duty serving in USS BELKNAP at the time of his death. He was on watch in the After Engine room at the time of the collision (R 211).

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D. EM2 Michael W. Kawola, USN (Ret), <sup>B6</sup>  
Pronounced dead at 2214, 2 December 1975, at Brooke  
Army Medical Center, Fort Sam Houston, Texas. Cause of  
Death: 73% total body surface burn (33.5% third degree)  
complicated by cardiorespiratory failure and shock.  
Identified by medical record and recognition by parents  
and sister (EXH LLLL). Petty Officer <sup>B6</sup> was on  
active duty serving in USS BELKNAP at the time of  
collision. He was furnished emergency treatment by  
medical personnel in USS J.F. KENNEDY in the early hours  
of 23 November 1975, transferred to Naval Regional  
Medical Center, Naples, and then to U.S. Army General  
Hospital, Landstuhl, Germany, prior to medical evacuation  
to Brooke Army Medical Center (EXH SSS, DDDD, and EEEE).

E. DS3 Gerald A. Ketcham, Jr., USN, <sup>B6</sup>  
Found dead in Computer Control, Space 02-92-2-C, USS  
BELKNAP, under much rubble on 24 November 1975 (R 270,  
EXH KKKK). Cause of Death (assigned by CO, Naval  
Regional Medical Center, Naples): <sup>B6</sup>  
(EXH CCCC). Identification by  
positive dental comparison of remains and clothing  
(EXH CCCC). Petty Officer Ketcham was on active duty  
serving in USS BELKNAP at the time of his death. He  
was in Computer Control, Space 02-92-2-C, at the time  
of the collision (EXH KKKK), and was last seen alive  
by DS3 <sup>B6</sup>, USN, attempting to exit Computer  
Control via a forward door (R 226).

F. STG3 Brent W. Lassen, USN, <sup>B6</sup>  
Found dead in area directly below Sonar Control Space,  
USS BELKNAP, <sup>B6</sup> on 24 November 1975  
(R 270). Cause of Death: Consumption by fire. <sup>B6</sup>  
Identified by  
location of Petty Officer Lassen at time of collision,  
on watch in Sonar Control, and presence of remains of  
chain normally worn by the deceased. Petty Officer  
Lassen was on active duty serving in USS BELKNAP at the  
time of his death (EXH KKKK). He was on watch in Sonar  
Control at the time of the collision and was last seen  
alive by STG3 <sup>B6</sup>, USN, as he was being  
<sup>B6</sup> R 230).

G. MMFN David A. Messmer, USN, <sup>B6</sup>  
Found dead in starboard shaft alley USS BELKNAP in early  
morning hours of 23 November 1975 (R 212, EXH KKKK).  
Cause of Death (assigned by CO, Naval Regional Medical  
Center, Naples): <sup>B6</sup>  
(EXH CCCC). Identified by positive dental  
comparison of remains (EXH CCCC). Fireman Apprentice  
Messmer was on active duty serving in USS BELKNAP at  
the time of his death. He was on watch as throttleman  
in the After Engine room at the time of the collision  
and was ordered to evacuate. He apparently sought  
refuge from dense smoke in the shaft alley  
<sup>B6</sup> 212, 213).

H. DS2 Gordon T. St. Marie, USN, <sup>B6</sup>  
Found dead in Computer Control area, Space 02-92-2-C,  
USS BELKNAP, <sup>B6</sup> on 24 November 1975  
(R 270). Cause of Death: Consumption by fire.  
<sup>B6</sup>

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<sup>BW</sup>  
Petty Officer St. Marie was on active duty serving in USS BELKNAP at his death. He was in Computer Control, Space 02-92-2-C, at the time of the collision (EXH KKKK), and was last seen alive by DS3, USN, attempting to exit Computer Control via a forward door (R 226).

140. That the following active duty naval personnel sustained injuries which might result in permanent disability or resulted in physical disability to perform work for a period exceeding 24 hours:

A. BTFA, USN, <sup>BW</sup>  
Suffered smoke inhalation. Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

B. BT1, USN, <sup>BW</sup>  
Suffered smoke inhalation. Permanent disability not expected (EXH EEEE). Treated at U.S. Army General Hospital, Landstuhl, Germany. Initially diagnosed at Naval Regional Medical Center, Naples (EXH DDDD, EEEE). Petty Officer Bova was on active duty and on watch in the Forward Fireroom, USS BELKNAP, at the time of the collision (R 235).

C. SA, USN, <sup>BW</sup>  
Suffered <sup>BW</sup> Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

D. BMSA, USN, <sup>BW</sup>  
Suffered smoke inhalation. Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

E. ICFA, USN, <sup>BW</sup>  
Suffered <sup>BW</sup> Permanent disability not expected. Treated at Naval Regional Center, Naples. On active duty, USS BELKNAP, at time of injury (EXH DDDD). <sup>BW</sup> by medical personnel in USS J.F. KENNEDY (EXH SSS).

F. BT3, USN, <sup>BW</sup>  
Suffered smoke inhalation. Permanent disability not expected (EXH EEEE). Treated at U.S. Army General Hospital, Landstuhl, Germany. Initially diagnosed at Naval Regional Medical Center, Naples. On active duty, USS BELKNAP, at time of collision (EXH DDDD, EEEE).

G. FA, USN, <sup>BW</sup>  
Suffered smoke inhalation. Permanent disability not expected. Treated and released fit for duty prior

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to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

H. SN \_\_\_\_\_, USN, *BV*  
Suffered \_\_\_\_\_ *BV* Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

I. SN \_\_\_\_\_, USN, *BV*  
Suffered smoke inhalation. Permanent disability not expected. Treated at Naval Regional Medical Center, Naples. Discharged fit for duty 28 November 1975. On active duty, USS BELKNAP, at time of injury (EXH DDDD).

J. MMFA \_\_\_\_\_, USN, *BV*  
Suffered multiple abrasions and contusions (minor); *BV* Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 at Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF). *BV* by medical personnel in USS J.F. KENNEDY (EXH SSS).

K. DKSA \_\_\_\_\_, USN, *BV*  
Suffered \_\_\_\_\_ *BV* and smoke inhalation. Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 at Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

L. SA \_\_\_\_\_, USN, *BV*  
Suffered \_\_\_\_\_ *BV* Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

M. BT2 \_\_\_\_\_, USN, *BV*

*BV*  
(EXH LLLL). Treated at Brooke Army Medical Center, Ft. Sam Houston, Texas, after transfer from U.S. Army General Hospital, Landstuhl, Germany. Initially diagnosed at Naval Regional Medical Center, Naples (EXH DDDD, LLLL). *BV* by medical personnel in USS J.F. KENNEDY (EXH SSS). Petty Officer Gallagher was on active duty and was Top Watch in the After Fireroom, USS BELKNAP, at the time of the collision (R 232, 236) and evacuated via the port ladder (R 237).

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N. BT3 , USN, BV  
Suffered smoke inhalation. Permanent disability not expected. Treated at Naval Regional Medical Center, Naples. Discharged fit for duty 28 November 1975. On active duty, USS BELKNAP, at time of injury (EXH DDDD). BV by medical personnel in USS J.F. KENNEDY (EXH SSS).

O. ADJAN , USN, BV  
BV Permanent disability not expected. Treated and released to light duty after thirty hours in sickbay, USS J.F. KENNEDY. On active duty with Carrier Air Early Warning Squadron 125 at time of injury (EXH GGGG).

P. QMSN , USN, BV  
BV Permanent disability not expected. Treated at Naval Regional Medical Center, Naples. On active duty, USS BELKNAP, at time of injury (EXH DDDD). BV by medical personnel in USS J.F. KENNEDY (EXH SSS).

Q. SR I , USN, BV  
Suffered BV Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

R. FA USN, BV  
Suffered smoke inhalation. Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

S. YN3 , USN, BV  
BV  
1. Treated at U.S. Army General Hospital, Landstuhl, Germany. Initially diagnosed at Naval Regional Medical Center, Naples. On active duty, USS BELKNAP, at time of injury (EXH DDDD, EEEE). BV by medical personnel of USS JOHN F. KENNEDY (EXH SSS).

T. SHSN , USN, BV  
BV noted). Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

U. SK2 , USN, BV  
Suffered BV Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 by Naval Regional Medical Center Branch Dispensary, Sigonella.

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On active duty, USS BELKNAP, at time of injury  
(EXH FFFF). <sup>B6</sup> by medical personnel  
in USS J.F. KENNEDY (EXH SSS).

V. MS1 USN, <sup>B6</sup>

<sup>B6</sup> Permanent disability not  
suspected. Treated and released fit for duty prior to  
1 December 1975 by Naval Regional Medical Center  
Branch Dispensary, Sigonella. On active duty, USS  
BELKNAP, at time of injury (EXH FFFF).

W. BT3 USN, <sup>B6</sup>

Suffered smoke inhalation. Permanent disability not  
expected. Treated and released fit for duty prior to  
1 December 1975 at Naval Regional Medical Center Branch  
Dispensary, Sigonella. On active duty, USS BELKNAP, at  
time of injury (EXH FFFF).

X. MSSA USN, <sup>B6</sup>

<sup>B6</sup> Permanent disability not expected. Treated and released  
fit for duty prior to 1 December 1975 at Naval Regional  
Medical Center Branch Dispensary, Sigonella. On  
active duty, USS BELKNAP, at time of injury (EXH FFFF).

Y. OS2 USN, <sup>B6</sup>

Suffered smoke inhalation, <sup>B6</sup> Permanent  
disability doubtful. Treated at Naval Regional Medical  
Center, Naples. On active duty, USS BELKNAP, at time  
of injury (EXH DDDD).

Z. AN USN, <sup>B6</sup>

<sup>B6</sup> Permanent  
disability not expected. Treated and released to  
light duty after thirty hours in sickbay, USS J.F.  
KENNEDY. On active duty with Attack Squadron 7  
at time of injury (EXH GGGG).

AA. GMG3 USN, <sup>B6</sup>

Suffered smoke inhalation  
<sup>B6</sup> Permanent  
disability not expected. Treated and released fit for  
duty prior to 1 December 1975 by Naval Regional Medical  
Center Branch Dispensary, Sigonella. On active duty,  
USS BELKNAP, at time of injury (EXH FFFF).

BB. BTFN USN, <sup>B6</sup>

Suffered smoke inhalation. Permanent disability not  
expected. Treated at Naval Regional Medical Center,  
Naples. Discharged fit for duty 1 December 1975  
(EXH DDDD). Fireman McAloon was on active duty and  
was on watch in the After Fireroom, USS BELKNAP, at  
the time of the collision (R 232).

CC. DS3 USN, <sup>B6</sup>

Suffered smoke innalation. Permanent disability not  
expected. Treated and released fit for duty prior to  
1 December 1975 by Naval Regional Medical Center Branch  
Dispensary, Sigonella. On active duty, USS BELKNAP,  
at time of injury (EXH FFFF).

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DD. BTFA

r, USN,

*bu*

*bu* Permanent disability not expected (EXH EEEE).  
Treated at U.S. Army General Hospital, Landstuhl,  
Germany. Initially diagnosed at Naval Regional Medical  
Center, Naples (EXH DDDD, EEEE).  
by medical personnel in USS J.F. KENNEDY (EXH SSS).  
Fireman Apprentice Minkler was on active duty and on  
watch in the After Fireroom, USS BELKNAP, at the time  
of the collision (R 239).

EE. SA

, USN,

*bu*

Suffered smoke inhalation. Permanent disability not  
expected. Treated and released fit for duty prior to  
1 December 1975 by Naval Regional Medical Center Branch  
Dispensary, Sigonella. On active duty, USS BELKNAP,  
at time of injury (EXH PFFF).

FF. SA

, USN,

*bu*

Suffered no known injury; examined and observed.  
Permanent disability not expected. Examined and re-  
leased fit for duty prior to 1 December 1975 by Naval  
Regional Medical Center Branch Dispensary, Sigonella.  
On active duty, USS BELKNAP, at time of injury  
(EXH PFFF).

GG. HTFN

, USN,

*bu*

*bu*  
Treated at Brooke Army Medical Center, Ft. Sam  
Houston, Texas, after transfer from U.S. Army General  
Hospital, Landstuhl, Germany. Initially diagnosed at  
Naval Regional Medical Center, Naples. On active duty,  
USS BELKNAP, at time of injury (EXH DDDD, LLLL).  
in USS J.F. KENNEDY (EXH SSS).  
*bu* furnished by medical personnel

HH.

, USN,

*bu*

*bu* smoke in-  
halation. Permanent disability not expected. Treated  
at Naval Regional Medical Center, Naples. On active  
duty, USS BELKNAP, at time of injury (EXH DDDD).

II. HTI

, USN,

*bu*

*bu* Permanent disability not  
expected. Treated at Naval Regional Medical Center,  
Naples. Discharged fit for duty 28 November 1975.  
On active duty, USS BELKNAP, at time of injury  
(EXH DDDD).  
*bu* by medical personnel  
in USS J.F. KENNEDY (EXH SSS).

JJ. MMFA

, USN,

*bu*

Suffered smoke inhalation. Permanent disability not  
expected. Treated and released fit for duty prior to  
1 December 1975 at Naval Regional Medical Center  
Branch Dispensary, Sigonella. On active duty,  
USS BELKNAP, at time of injury (EXH PFFF).

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KK. MM2 , USN, <sup>BW</sup>  
Suffered smoke inhalation. Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 at Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

LL. TM3 , USN, <sup>BW</sup>  
Disability not expected (EXH EEEE). Treated at U.S. Army General Hospital, Landstuhl, Germany. Initially diagnosed at Naval Regional Medical Center, Naples. On active duty, USS BELKNAP, at time of injury (EXH DDDD, EEEE). <sup>BW</sup> by medical personnel of USS J.F. KENNEDY (EXH SSS).

MM. MMFN , USN, <sup>BW</sup>  
Suffered smoke inhalation; <sup>BW</sup> Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 at Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF). <sup>BW</sup> by medical personnel in USS J.F. KENNEDY (EXH SSS).

NN. SN , USN, <sup>BW</sup>  
<sup>BW</sup> Permanent disability doubtful. Treated at Naval Regional Medical Center, Naples. On active duty, USS BELKNAP, at time of injury (EXH DDDD). <sup>BW</sup> by medical personnel in USS J.F. KENNEDY (EXH SSS).

OO. SA , USN, <sup>BW</sup>  
<sup>BW</sup> Permanent disability not expected. Treated at Naval Regional Medical Center, Naples. On active duty, USS BELKNAP, at time of injury (EXH DDDD). <sup>BW</sup> by medical personnel in USS J.F. KENNEDY (EXH SSS).

PP. MM2 , Jr., USN, <sup>BW</sup>  
Suffered smoke inhalation. Permanent disability not expected. Treated at Naval Regional Medical Center, Naples. Discharged fit for duty 28 November 1975. On active duty, USS BELKNAP, at time of injury (EXH DDDD).

QQ. BTFA , USN, <sup>BW</sup>  
Suffered smoke inhalation. Permanent disability not expected. Treated and released fit for duty prior to 1 December 1975 at Naval Regional Medical Center Branch Dispensary, Sigonella. On active duty, USS BELKNAP, at time of injury (EXH FFFF).

RR. MMFN , USN, <sup>BW</sup>  
<sup>BW</sup> (EXH LLLL). Treated at Brooke Army Medical Center, Ft. Sam Houston, Texas, after transfer from U.S. Army General Hospital, Landstuhl, Germany. Initially diagnosed at Naval Regional Medical Center, Naples,

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(EXH DDDD, LLLL).  
personnel in USS J.F. KENNEDY (EXH SSS). Fireman  
was on active duty and was Messenger of the  
Watch in the After Engine room at the time of the  
collision (R 213).

SS. DK1 , USN, <sup>B6</sup>  
Suffered smoke inhalation. Permanent disability not  
expected. Treated and released fit for duty prior to  
1 December 1975 at Naval Regional Medical Center  
Branch Dispensary, Sigonella. On active duty, USS  
BELKNAP, at time of injury (EXH FFFF).

TT. CWO3 , USN, <sup>B6</sup>  
<sup>B6</sup> Permanent disability not ex-  
pected. Treated and released fit for duty prior to  
1 December 1975 at Naval Regional Medical Center  
Branch Dispensary, Sigonella. On active duty, USS  
BELKNAP, at time of injury (EXH FFFF).  
<sup>B6</sup> by medical personnel in USS J.F. KENNEDY  
(EXH SSS).

UU. MMFN , USN, <sup>B6</sup>  
<sup>B6</sup>  
Treated at Brooke Army Medical Center, Ft. Sam Houston,  
Texas, after transfer from U.S. Army General Hospital,  
Landstuhl, Germany. Initially diagnosed at Naval  
Regional Medical Center, Naples. On active duty,  
USS BELKNAP, at time of injury (EXH DDDD, LLLL).  
<sup>B6</sup> by medical personnel of USS J.F.  
KENNEDY (EXH SSS).

VV. SA , USN, <sup>B6</sup>  
<sup>B6</sup> Permanent disability not expected.  
Treated and released fit for duty prior to 1 December  
1975 at Naval Regional Medical Center, Branch Dis-  
pensary, Sigonella. On active duty, USS BELKNAP,  
at time of injury (EXH FFFF).

#### TRAINING

##### USS J.F. KENNEDY

141. That the training and qualification process  
for bridge watches in J.F. KENNEDY requires an orderly  
progression through the various enlisted or officer  
watch stations while achieving qualification before  
proceeding on to the next station (Various). There  
are sufficient qualification milestones to recognize  
progress or failure (R 685). The Commanding Officer  
did impart guidelines to Junior Officers regarding the  
conduct of carrier operating procedures when maneuvering  
with ships in company (R 686).

142. That the training for helmsman consists of 20  
hours at the helm under varying conditions for on-the-  
job training, a written test and a practical qualification  
test (R 462).

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143. That J.F. KENNEDY Damage Control (DC) drills are numerous and held during General Quarters (GQ) (R 516). There are 64 full time Damage Control Petty Officers (DCPOs) used to train and check divisional DC readiness and the proper setting of material conditions (R 517). At least two fire drills are held each month on the Flight Deck. No notice drills are conducted (R 566). Even with the foregoing, enlisted personnel from embarked squadrons received little damage control training while on board J.F. KENNEDY (R 549, 553).

144. That command support existed in J.F. KENNEDY for making available time to conduct engineering casualty control training (R 510, 511). The training associated with the Propulsion Examining Board (PEB) requirements was a definite asset for actions required after the collision (R 510, 511).

#### USS BELKNAP

145. The training and qualification process in BELKNAP for OODs was extensive (R 313, 629, EXH JJ). The current procedure uses the Personnel Qualification Standards (PQS) system (R 442). The Commanding Officer counseled his OODs always to turn away from the carrier (R 653).

146. The enlisted bridge watch standers were qualified through on-the-job training (OJT). The program was aggressive including under instruction periods but <sup>bc</sup> helmsman, while considered qualified, had difficulty remembering the meaning of some commands (R 40, 41, 44, 45). Lookout training consisted of OJT only without formal training (R 298, 299). <sup>bc</sup> bridge talker, possessed marginal qualification as a talker (R 354, 355).

147. That the Commanding Officer, BELKNAP, stated that he felt that his ship needed more time at sea to maintain the overall readiness (R 644).

148. The DC training in BELKNAP was constant (R 205, 206, 207, 208). The Executive Officer was a driving force (R 440, 441). Prior to deployment, over 100 personnel were sent to firefighting school. The DC training prior to the collision had as a goal a successful Operational Readiness Exercise (ORE) in December 1975 (R 641). Damage Control PQS is a requirement for advancement in BELKNAP and realistic training had been conducted 12-13 November (R 205, 206, 207, 251, 641).

149. That engineering casualty control training in BELKNAP was aggressive. GQ drills were used as were casualty control drills that were scheduled by the month. Engineering personnel were confident (R 238, 239). The above training was impacted adversely by Engineering crew PCS rotation (R 246, 257, 258).

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DAMAGE CONTROL PROBLEMS

EQUIPMENT

150. That the BELKNAP forward Emergency turbine generator starter proved unreliable. Although the turbine was tested satisfactorily the day before the collision, it did not start in automatic at the time of collision (R 196, 236). The Chief Engineer, BELKNAP, endorses a diesel vice a turbine forward for a more reliable source of emergency power and commonality of parts support. Diesels have the inherent advantage of reliability through ease of maintenance (R 196).

151. That BELKNAP's three P-250's above the main deck were destroyed by fire in the superstructure (R 209). SAR units transferred seven P-250's to BELKNAP, however these P-250's proved unreliable and difficult to start. (R 129, 209, 412). The total operating time that BELKNAP was able to obtain from seven borrowed P-250 pumps was about one hour (R 202, 209).

152. That inadequate medical stores forward on BELKNAP precluded early availability of drugs for injured collected on BELKNAP's forecastle (R 111). In addition RICKETTS' HMC attending the injured on BELKNAP's forecastle found no oxygen available (R 146). Aft on BELKNAP, the Hospital Corpsman found that one oxygen flow-meter on a bottle of oxygen proved insufficient (R 272).

153. That BELKNAP experienced difficulties controlling Stokes stretchers equipped with only one line on either end when they were passed between ships (R 110).

154. That during the course of fighting fires on both BELKNAP and J.F. KENNEDY, OBA cannisters were found to be unreliable or were found not to provide life-support for the expected period (R 207, 531). The excess rate of cannister use on BELKNAP deprived SAR units of adequate OBA cannisters for their own emergency use (R 110). J.F. KENNEDY personnel found many OBA cannisters lasting only 5-10 minutes (R 531, 537).

155. That DC wet-cell floodlights with white lenses proved to be ineffective to penetrate dense smoke (R 498, 528).

156. That protective asbestos mittens provided damage control personnel were bulky and cumbersome to use and proved unsatisfactory for use when soaked with water (R 499).

157. That the present DC WWII hard helmet and portable DC head-light are unsatisfactory. The helmet was found usually to be bulky, heavy, and a poor fit; the head-light became detached from the helmet and the belt carried battery pack (R 498, 499, 528).

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158. That "red devil" blower capacity proved inadequate to desmoke internal spaces of J.F. KENNEDY in a reasonable length of time (R 498, 528).

159. That due to insufficient allowance of portable life-support, self-breathing devices on J.F. KENNEDY, these equipments were available only in living spaces and not in offices or working areas (R 499).

160. That on J.F. KENNEDY initial communication between DC Central and on-scene leaders was incomplete and slow. Principal method of communications was the dial telephone, subject to all other ship dial-phone vagaries (R 498).

#### COMBUSTIBLE MATERIAL

161. That combustible packing material in supply storerooms, located in the J.F. KENNEDY flight deck overhang spaces, was the principal contributing factor to fires and subsequent reflash fires (R 497, 527). Burning packing material presented additional hazards to firefighting personnel (R 527, 528).

162. That in BELKNAP, the additional personal living accoutrements on board did not adversely affect or hamper firefighting (R 445, 446).

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169. That the formation axis was not rotated prior to, or after, the CORPEN J signal (EXH 00).

170. That the challenging of tactical signals on the basis of correctness or safety had been done previously in TG 60.1 (R 420).

#### INTERNATIONAL RULES OF THE ROAD

171. That International Rules of the Road, Rule 19, Rule 22, Rule 29, Steering and Sailing Rules, and Annex to the Rules, Paragraphs 5 through 8, apply in the maneuvering situation existing prior to the collision of J.F. KENNEDY and BELKNAP.

172. That whistle signals were not sounded by either J.F. KENNEDY or BELKNAP (R 293, 618).

173. That no other shipping had a bearing on the collision (R 97).

#### PRINCIPAL RULES FOR MANEUVERING (ATP 1(B), VOL I)

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U. S. NAVY REGULATIONS, 1973

179. That the senior officer present is responsible for the safety of the units in company and at sea and shall direct the course to be steered and disposition to be employed [Art 0918(3)].

180. That the responsibility of the Commanding Officer for his command is absolute. The authority of the Commanding Officer is commensurate with his responsibility. While he may, at his discretion, and when not contrary to law or regulations, delegate authority to his subordinates for the execution of details, such delegation of authority shall in no way relieve the Commanding Officer of his continued responsibility for the safety, well-being and efficiency of his entire command [Art 0702(1)].

181. That all persons in the naval service responsible for the operation of naval ships, craft and aircraft shall diligently observe the International Rules for Preventing Collisions [Art 1120(1)].

STANDARD ORGANIZATION AND REGULATIONS OF THE U.S. NAVY  
(OPNAVINST 3120.32)

182. That the duties, responsibilities and authority of the Officer of the Deck Underway, are as follows:

(1) Keep himself continually informed concerning the tactical situation and geographic factors which may affect the safe navigation of the ship, and take appropriate action to avoid the danger of grounding or collision in accordance with tactical doctrine, the Rules of the Road, and the orders of the Commanding Officer or other proper authority.

(2) Keep himself informed concerning current operation plans and orders, intentions of the OTC and the Commanding Officer, and such other matters as may pertain to ship or force operations.

(3) Issue necessary orders to the helm and main engine control to avoid danger, to take or keep an assigned station, or to change the course and speed of the ship in accordance with orders of proper authority.

(4) Make all required reports to the Commanding Officer (Art 433).

183. That the duties, responsibilities, and authority of JOOD are to assist the Officer of the Deck in the performance of his duties as the Officer of the Deck may direct (Art 435).

184. That CIC Watch Officer's duties include keeping the Officer of the Deck advised of recommended procedures for maintaining station, avoiding navigational hazards and collisions, and speed or course changes necessary to change or regain station in formation (Art 436).

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STANDING AND NIGHT ORDERS - USS J.F. KENNEDY

185. That Standing Orders for Underway Watches, J.F. KENNEDY, requires the Officer of the Deck to act as the Commanding Officer's representative when he is OTC. In addition, the Commanding Officer requires OODs to inform him when movements of units in the formation are not understood. Normally, the course and speed of KENNEDY cannot be changed without the Commanding Officer's knowledge and consent (EXH GGG).

186. That J.F. KENNEDY Standing Orders state that when in formation and no urgency exists, OODs should avoid crossing ahead of, turning toward, or otherwise embarrassing another ship by setting up a situation where a steering engine casualty or error in judgment in either ship might lead to a collision (EXH GGG).

187. That J.F. KENNEDY Standing Orders specifically state that continuous and accurate exchange of information between the bridge and CIC is essential to both the operation and safety of the ship (EXH GGG).

188. That J.F. KENNEDY Standing Orders state the OOD will alert ships in the force as necessary if danger of collision exists (EXH GGG).

189. That Commanding Officer, J.F. KENNEDY, emphasized that OODs maintain a close watch of other units and own ships during maneuvers to ensure respective units are kept out of trouble (R 686). Junior Officers have been told never to take their eyes off a contact, not to rely on radar, that they should utilize visual bearings for accurate bearing drift. The Commanding Officer, J. F. KENNEDY, had not briefed OODs on special rules when working with small surface units (R 686).

STANDING AND NIGHT ORDERS - USS BELKNAP

190. That BELKNAP's Standing Orders for Officer of the Deck and CIC Watch Officer provide: (a) The Commanding Officer must be notified of all major speed and course changes; (b) Avoid crossing ahead of privileged vessels; (c) Call the Commanding Officer when in doubt of the tactical situation and call the Commanding Officer any time in doubt and not wait until extremis (EXH VVV).

191. That Commanding Officer, BELKNAP, cannot recall being called by the OOD or JOOD prior to collision, notifying him of the CORPEN J PORT signal (R 634, 640).

192. That the OOD,  had called the Commanding Officer of BELKNAP, on two previous CORPEN J STBD maneuvers during the watch and indicated he would "follow the carrier around" (R 640).

193. That the Commanding Officer, BELKNAP, stated that LTJG KNULL told him after the collision that he had notified the Captain of the CORPEN J PORT signal and told him that he would follow the carrier around (R 634, 640).

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194. That Commanding Officer, BELKNAP, on a previous occasion had instructed LT *Bl* while OOD, that when the carrier made a CORPEN movement and BELKNAP was on the inside, he was to proceed toward the carrier's wake, regain the wake, then follow the carrier around to station (R 317).

195. That prior to the collision, Commanding Officer, BELKNAP, had given instructions to his OODs never to turn into a carrier, and give a carrier plenty of room (R 653).

196. That Commanding Officer, BELKNAP, expected CIC to function as an information center supporting the OOD with ranges, bearings, courses, speeds, CPAs, and maneuvering board solutions (R 645, EXH VVV).

USS J.F. KENNEDY'S LIGHTS

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199. Other surface units are:

- a. Red deck edge lights (17) (visible 360 degrees) (5 additional red lights are shielded)
- b. Red vertical bar ramp drop-line light system (1) (visible aft only)
- c. Red, amber, green rotary beacon signal (1) (visible port side, aft-forward)
- d. White overhead floodlights (27) (visible port side, aft-forward)
- e. Red overhead floodlights (40) (visible port-side, aft-forward)

(Visual Landing Aids General Service Bulletin No. 8, Revision E)

200. That red deck edge lights are shielded only on the port side aft of the LSO platform, to shade red lights from the LSO. (VLA General Service Bulletin, No. 8, Rev E)

201. That white and red floodlights, although hooded, are focused by the Air Officer to light the entire flight deck. The location of white and red floods at the 09, 010, 011 levels and 60 feet above the flight deck, respectively, extends their visibility range beyond the carrier. (VLA General Service Bulletin No. 8, Rev E)

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202. That when the hangar bay external doors are open, hangar bay lights are visible to surface units (obvious).

CTF 60 STAFF

203. That CTF 60/Commander Carrier Group Two Staff was embarked in J.F. KENNEDY when the collision occurred (R 587).

204. That CTF 60 does not normally act as OTC of Task Group formations and was not OTC at the time of collision (R 588). The CTF 60 Staff does not have the personnel numbers nor depth of training to assume the burden of tactical watches (R 588).

205. That CTF 60 exercises command and control of the Flagship and other TG 60.1 units by means of publications, directives, messages and personal staff contacts (R 587).

206. That as Flagship, J.F. KENNEDY generally develops and initiates her own training program with concurrence of the CTF 60 Staff (R 588).

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## Opinions

### CAUSE OF COLLISION

1. That the readiness conditions that existed on J.F. KENNEDY prior to collision were normal. There were no restrictions that would have impacted on a normal night of flight operations. No major command and control, navigation, or propulsion equipment was inoperative. Operational PIM was sufficiently close to NAF SIGONELLA, Sicily, to permit emergency divert of J.F. KENNEDY aircraft if circumstances were to require such action.
2. That Commanding Officer, J.F. KENNEDY, was sufficiently rested and alert to fully fulfill the responsibilities of command and safe operation of his ship at the time prior to the collision.
3. That sufficient officers and enlisted personnel were available on the J.F. KENNEDY bridge watch to ensure the safe operation of J.F. KENNEDY in task group evolutions. The Officer of the Deck and Junior Officer of the Deck were qualified. JOOW (COMM) and JOOW (Radar) Officers supporting the Officer of the Deck were qualified to execute their respective responsibilities. The watch officer in COTP was experienced for his assigned duties. The JOOD had been briefed erroneously as to the purpose of BELKNAP's assignment; however, this fact is not considered as influencing the events of the evening. The helmsman was qualified and the lee helmsman, although qualified, was relatively inexperienced due to his length of time on board.
4. That the quality of primary tactical radio communications between BELKNAP and J.F. KENNEDY was satisfactory.
5. That there were no restrictive conditions that precluded BELKNAP from conducting normal peacetime operations with TASK GROUP 60.1 and in support of CTU 60.1.9 (J.F. KENNEDY), the unit to which she was assigned.
6. That despite a shortage of qualified petty officer personnel, sufficient numbers of watch personnel were assigned to BELKNAP's 20-24 underway watch to conduct normal operations. The key operational officers -- the Officer of the Deck and CIC Watch Officer -- were qualified. The Junior Officer of the Deck, ENS HOWE, having been on board less than three months, had been exposed to few actual task group maneuvering situations and could offer little operational support to the Officer of the Deck. As a result, the bridge watch was essentially dependent upon the actions of the Officer of the Deck, LTJG *Bl*. BELKNAP's starboard lookout and bridge JL talker at the time of collision were not qualified for the duties assigned, and the BMOW, helmsman, and QMOW were marginally effective.

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7. That BELKNAP Bridge and CIC enlisted watch personnel, with the exception of those noted in paragraph 6 above, were qualified to meet their respective responsibilities.

8. That while not on the bridge until immediately prior to the collision, the Commanding Officer of USS BELKNAP was in good health and sufficiently rested to fully fulfill the responsibilities of command and the safe operation of his ship.

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11. That BELKNAP's CIC to bridge JL sound-powered phones were marginally effective for communications, owing to the failure of the bridge JL talker, SA LIPPERT, to pass information. This resulted in at least one vital CIC recommendation, to "Come right full rudder" at 2151A, not being received by the OOD or JOOD.

12. That failure of BELKNAP's CIC to communicate ranges and bearings to the CO, OOD, and JOOD while the range closed from 4000 yards to eventually 0 deprived those officers of a source of vital information.

13. That weather was not a factor that contributed to the collision.

14. That the lack of useful DRT traces of BELKNAP and J.F. KENNEDY tracks and the incompleteness of data in general from the units of CTU 60.1.5 can be attributed to their completion about 2130A of a screen maneuvering drill, followed by an inter-ship critique, prior to return to normal steaming conditions.

15. That OODs in both BELKNAP and J.F. KENNEDY understood the relationship of the units prior to the OTC's execution of the delayed executive signal CORPEN J PORT 025-12.

16. That Figure 1 represents the Investigating Officer's calculation of respective J.F. KENNEDY and BELKNAP tracks from 2130 to the time of collision, which occurred at approximately 2201A. The brief narrative which follows

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furnishes a verbal interpretation of Figure 1. The facts and opinions relating to the exact time and events are to be found previous to and subsequent to this narrative and figure.

a. BELKNAP was on station generally maintaining a course of 200 degrees prior to the delayed executive signal CORPEN J PORT 025-12. The signal was given in NUCO and was "broken" properly by BELKNAP bridge and CIC personnel. At the execution of the signal, J.F. KENNEDY came left toward the ordered new course 025 degrees and increased shaft turns for speed 12 KTS. BELKNAP slowed to turns for 5 KTS and placed her rudder left 5 degrees in an initial repositioning effort. This rudder angle was slowly effective and the ship's head came left to 183 degrees where BELKNAP OOD felt that "this was taking too long." BELKNAP steadied on 185 degrees and the OOD evidenced his first doubt as to the target angle of J.F. KENNEDY. BELKNAP CIC recommended Right Full Rudder over the JL sound-powered phone circuit at this time, after realizing that the CPA would be close. The bridge JL talker was not effective in conveying these recommendations.

b. The OOD of BELKNAP was becoming less and less sure of J.F. KENNEDY's target angle. The Commanding Officer was summoned to the Bridge at 2156A after the OOD had increased speed from one-third to standard and then full at 2154 and 2155A. Upon his arrival on the Bridge at about 2157A, the first transmission that Commanding Officer, BELKNAP, heard was J.F. KENNEDY's "Interrogative your intentions." During the two minutes prior to his arrival on the bridge, Right Full Rudder had been ordered and, as the ship's speed increased, the ship's head swung right to steady on 220 degrees. At a point between 2156A and 2157A, immediately prior to the Commanding Officer's arrival, LTJG *B* ordered Left Full Rudder and BELKNAP's head rapidly swung left, showing a starboard aspect to J.F. KENNEDY and prompting the "Interrogative your intentions."

c. Commanding Officer, J.F. KENNEDY, having seen BELKNAP's head swing starboard and then port, and upon receipt of a reply to the Interrogative indicating that BELKNAP was coming left, ordered BELKNAP to come right full rudder at 2158A.

d. Immediately following his direction to BELKNAP, Commanding Officer, J.F. KENNEDY, ordered his own rudder Right Full and engines Emergency Back Full at 2159A.

e. At about 2158A BELKNAP's rudder came momentarily from left full to right full before being put back to left full. This right rudder checked the swing to port, but did not bring BELKNAP's heading sufficiently to the right to be noted as a turn to starboard by J.F. KENNEDY bridge personnel. The rapid left, right, left rudder shift, however, did result in decreasing range/steady bearing at a time when a constant left full rudder would have opened the range.

f. The Commanding Officer, BELKNAP, recognizing at 2159A the target angle of J.F. KENNEDY and that his ship was in extremis, but not being fully aware of all the facts, countermanded *by* final Left Full Rudder, All Ahead Flank, orders with Right Full Rudder, All Back Full. The changing helm orders and the speed of BELKNAP yielded constant bearings until it was too late to miss a collision.

g. There is a possibility that had the rudders of BELKNAP and J.F. KENNEDY been Hard Right as opposed to Full, the ships would have missed.

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17. That the signal CORPEN J PORT 025 TACK 12 was in accordance with Article 348 of ATP 1(B) and appropriate for the situation. At the time the signal was originated, the formation consisted of two units in the main body, J.F. KENNEDY and BELKNAP, and five surface combatants in respective screening sectors. Since formation axis was not rotated, no restrictions were placed on the degree of turn other than J.F. KENNEDY was required to turn the shortest way to the new course. The new course of 025 was 175 degrees left from the previous course of 200.

18. That sufficient time was available for BELKNAP to determine a safe maneuver to regain station without interfering with J.F. KENNEDY's movements under the delayed executive method utilized by the OTC. This allowed approximately three minutes between standby to execute and execution of the signal; which was sufficient considering the signaled speed, the separation of the ships, and their respective turn radii.

19. That BELKNAP Officer of the Deck's solution using left five degrees rudder and slowing to five knots was not satisfactory. Unless BELKNAP's course was altered to the right first, this maneuver would have caused BELKNAP slowly to close J.F. KENNEDY and would not permit J.F. KENNEDY to pass safely ahead as the Officer of the Deck planned. Tactical data does not exist for BELKNAP to determine a track using 5 degrees rudder at 5 knots. No maneuvering board solution was developed by either CIC or the bridge watch.

20. That BELKNAP's courses and speeds to accomplish the turn depended solely upon LTJG *Bk*'s appraisal of KENNEDY's movements and what he alone determined BELKNAP's courses and speeds should be.

21. That the solution to accomplish the turn offered by the JOOD, while not representing an efficient, smart maneuver, did represent a safe maneuver, provided the turn was executed with sufficient rudder.

22. That BELKNAP's OOD, LTJG *Bk*, assumed from his success with incremental changes of course in the direction of the carrier's turn while altering speeds from five to twenty knots in accomplishing the two CORPEN J STBD turns, that he could follow a similar regimen in accomplishing the CORPEN J PORT turn. In so assuming, he ignored BELKNAP's formation displacement of approximately 1380 yards left of J.F. KENNEDY.

23. That subsequent to execution of the CORPEN J PORT signal, BELKNAP's Officer of the Deck attempted to develop a mental picture of the carrier's movements only through visual observations of her navigation and running lights. Flight deck lighting interfered with his attempt to determine the carrier's target angle by lights alone. No radar ranges or accurate visual bearings were taken or recorded by the OOD or other bridge personnel.

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24. That BELKNAP's OOD, *BW* ordered increased speed to 15 knots at 2154A and 20 knots at 2155A with a concurrent change of course to 220 to effect a port to port CPA and to regain station at the earliest possible time.

25. That after steadying up on 220 at 20 knots, at 2156A, BELKNAP's OOD, *BW*, attempting to regain J.F. KENNEDY's visual aspect, erroneously concluded that she had come all the way around past 025, that she had crossed BELKNAP's bow, and that he was seeing her starboard bow aspect. Based upon these erroneous conclusions, *BW* ordered left full rudder to effect a starboard to starboard passage, at the same time calling for the Captain to the bridge.

26. That at 2157A BELKNAP OOD, *BW*, failed to respond to the recommendation of the CIC Watch Officer on the 21MC for right full rudder.

27. That BELKNAP's OOD, *BW*, by increasing speed to 15 knots at 2154A and 20 knots at 2155A, turning port at approximately 2156A, and subsequently shifting rudder about 2158A, created a crossing situation, placing BELKNAP in extremis with J.F. KENNEDY. Although it is possible that his maneuver of left full rudder at 2156A with a speed of 20 knots might have been successful in avoiding collision, the maneuver was based upon erroneous conclusions and incomplete information and was fundamentally contrary to prudent seamanship and the International Rules of the Road.

28. That up until the moment BELKNAP turned left to show a starboard running light, at approximately 2156-2157A, distance 2000 yards, there was no extraordinary need for concern by J.F. KENNEDY's Commanding Officer or OOD to feel that BELKNAP did not intend to pass down the port side and astern of KENNEDY while proceeding to her station.

29. That at approximately 2157A, after BELKNAP had turned left and created a crossing situation, as evidenced by the reappearance of her starboard side light, Commanding Officer, J.F. KENNEDY, properly queried BELKNAP's intentions. BELKNAP's 20-knot speed was unknown to him. The time available for urgent action to reverse what developed into a situation of closing range and constant bearing was also unknown.

30. That the order of Commanding Officer, J.F. KENNEDY, at 2159A, "Right full rudder, all back full," was proper. He had judged his vessel to be in extremis with rapidly closing range, steady bearing, and heard BELKNAP's transmission relating a left turn.

31. That because Commanding Officer, BELKNAP, considered *BW* to be his most qualified and reliable OOD and because he had been informed of the prior CORPEN J maneuvers during *BW* watch together with proposed solutions which he had approved, he could reasonably have expected to be kept fully informed of subsequent course changes and that proposed actions to effect them would have been submitted to him for approval.

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32. That <sup>PW</sup> did not notify the Commanding Officer of the CORPEN J PORT maneuver or his plan to regain station. The most persuasive evidence in support of this opinion is the specific and unequivocal recollection by the Commanding Officer and the JOOD, ENS HOWE, of the calls on the previous CORPEN J STBD maneuvers without recollection of any call for the maneuver preceding the collision; the Commanding Officer's honest lack of knowledge, upon arriving on the bridge, of J.F. KENNEDY's course, remembering 200 as the last formation course; and, perhaps most importantly, the complete lack of any affirmative evidence that there had been a call. Except for the Commanding Officer's testimony relating a conversation with <sup>OW</sup> after the collision in which <sup>OW</sup> stated that he had called, the Commanding Officer's testimony, as a whole, displays his belief that he was not called.

33. That when Commanding Officer, BELKNAP, arrived on the bridge at 2157A, he was given insufficient information by the OOD with which to determine the tactical relationship and was not able to determine for himself an accurate assessment of course and speed upon which to base a course of action until at about 2159A when he judged BELKNAP to be crossing J.F. KENNEDY's bow and in extremis. He then ordered Right Full Rudder, All Engines Back Emergency Full. His actions to take way off his vessel, and come full right rudder were correct for the situation he judged to exist and were in accordance with Rules of the Road, ATP 1(B), Vol I and accepted practices.

34. That prior to making the emergency orders, Commanding Officer BELKNAP did not query CIC for range or other information, did not determine BELKNAP's course and speed, nor query J.F. KENNEDY for her course and speed. Due to his immediate deep concern for the safety of his vessel and his movements about the bridge, he ignored or did not hear BELKNAP CIC's 2157A transmission over 21MC recommending right full rudder or J.F. KENNEDY's 2158A PRITAC transmission ordering BELKNAP to come right full rudder.

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36. That actions of the Commanding Officer following the collision and his leadership exercised in support of his crew's valiant efforts to save BELKNAP were commendatory, as were <sup>OW</sup> individual efforts.

THE COLLISION

37. That at the moment BELKNAP collided with J.F. KENNEDY, J.F. KENNEDY's heading was approximately 041 degrees. BELKNAP's heading was 222 or more, and estimated to be about 250 degrees.

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38. That the approximate relative speed was between 9 and 13 knots. J.F. KENNEDY's speed was between 3 and 4 knots, and BELKNAP's speed was between 6 and 9 knots.

39. That Figures II, III, IV, and V represent the Investigating Officer's view as to how the units appeared relative to each during the collision.

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Figures II, III, IV, and V follow.

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ALL TIMES ALFA (ZULU +1)  
 ALL TIMES CORRECTED TO  
 J. F. KENNEDY/BELKNAP DECK LOGS

KEY

X̄ - EXECUTE

X̄TF - EXECUTE TO FOLLOW

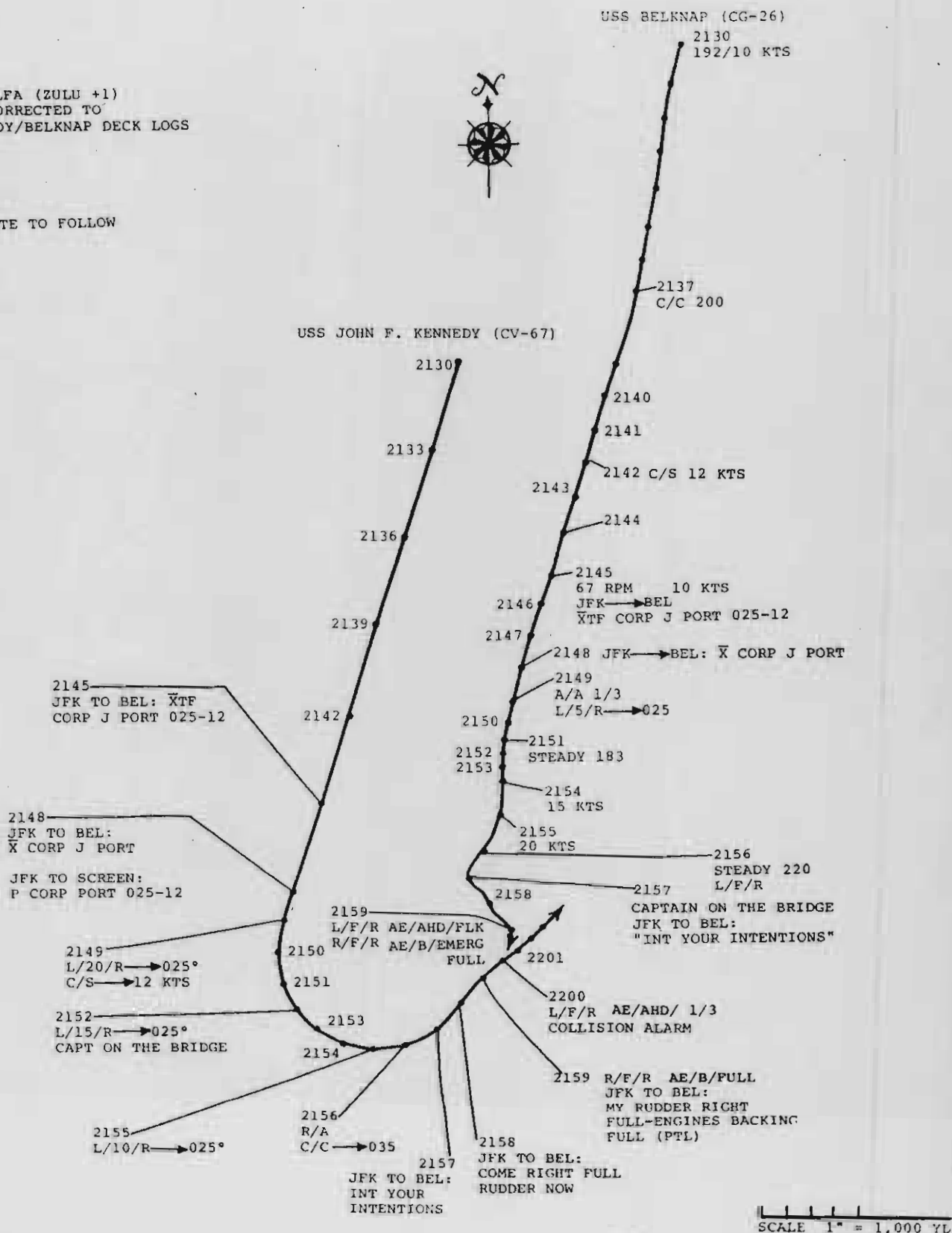
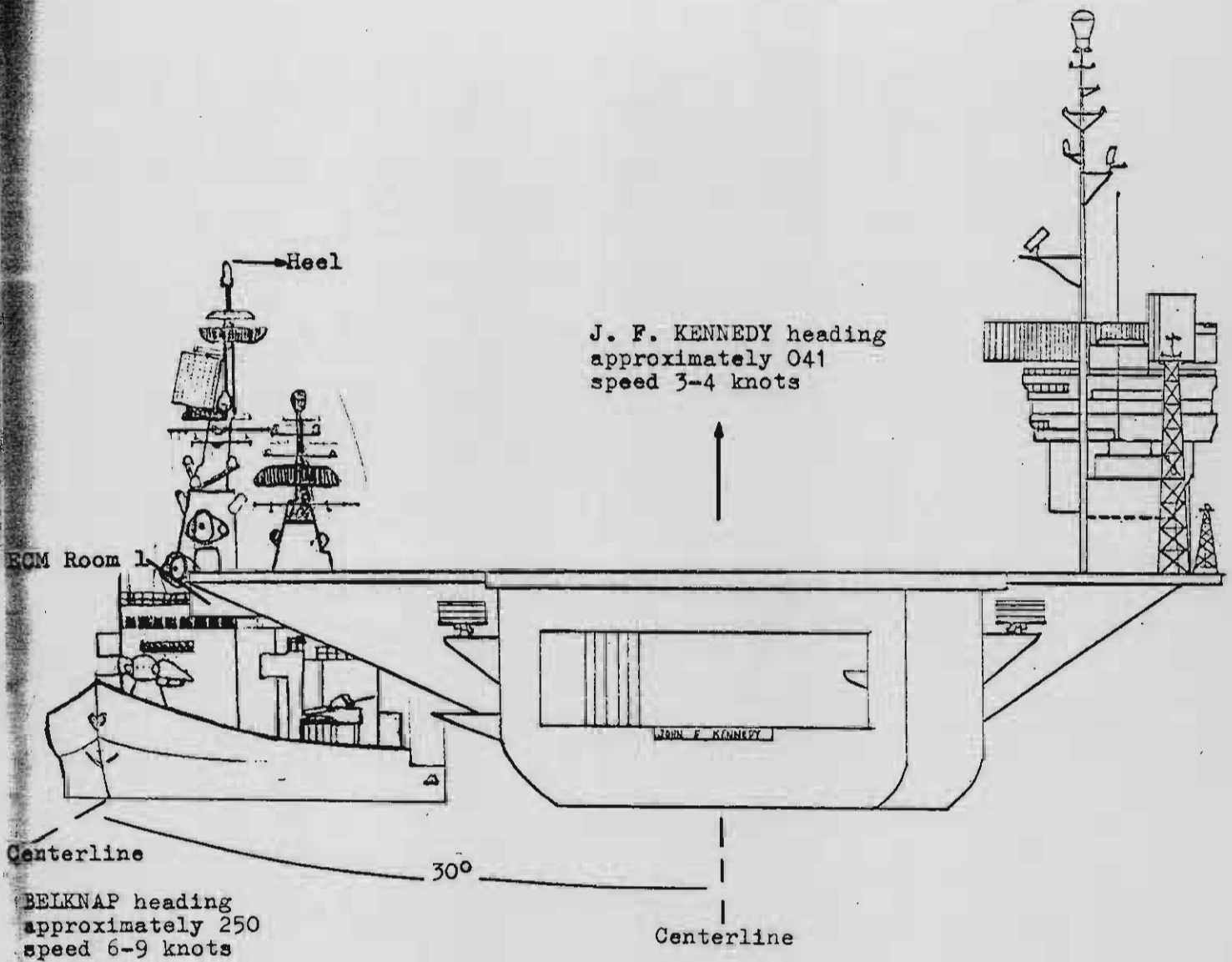


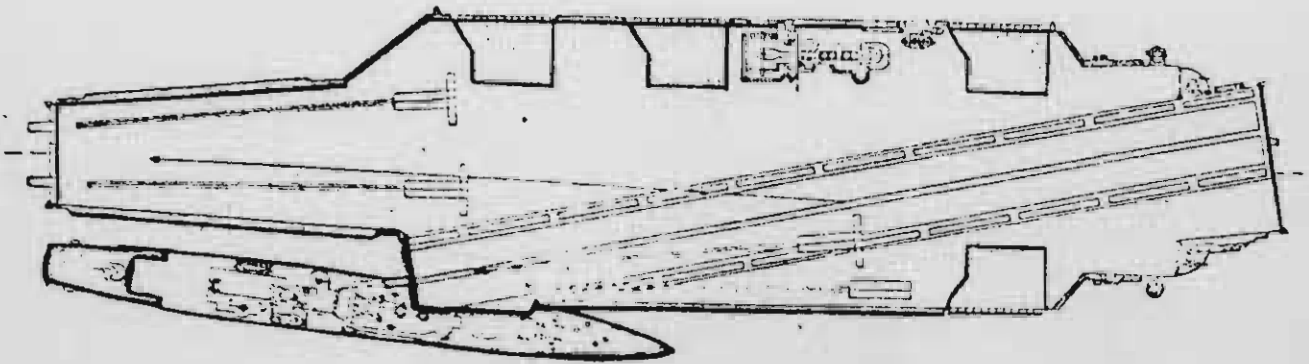
Figure I



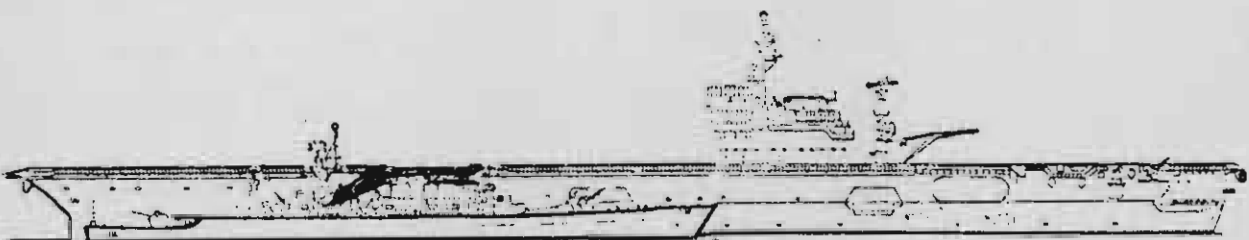
J. F. KENNEDY turning right, stern swinging left  
 BELKNAP turning right, stern swinging left  
 Relative speed 10-12 knots.

Figure II

First flash of fire came from switchbox in BELKNAP CIC as the pilot house and CIC were laid open.



Initial contact occurred at Frame 78 J. F. KENNEDY, Frame 73 BELKNAP, BELKNAP turning hard with angle of incidence of approximately  $30^{\circ}$ .

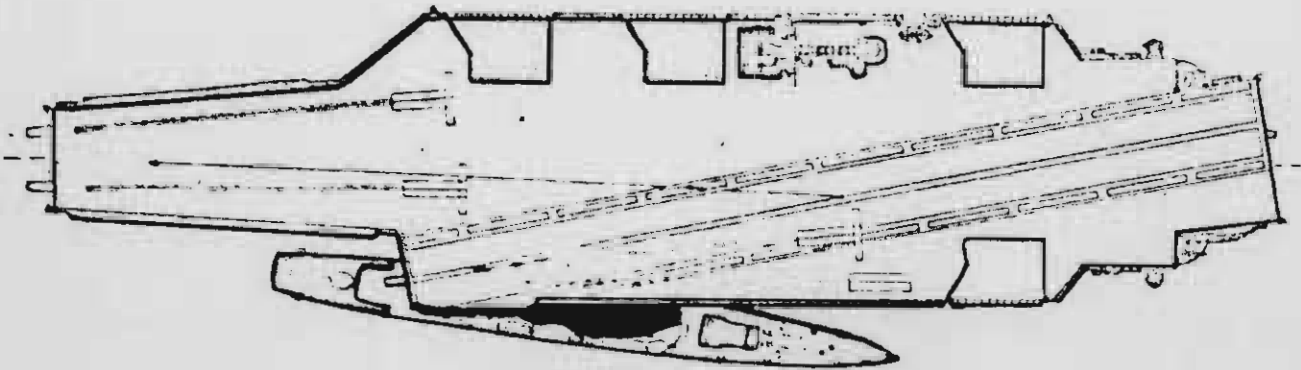


View adjusted to reflect approximate position as determined from line of destruction and coincides with normal swing of BELKNAP.

Figure III

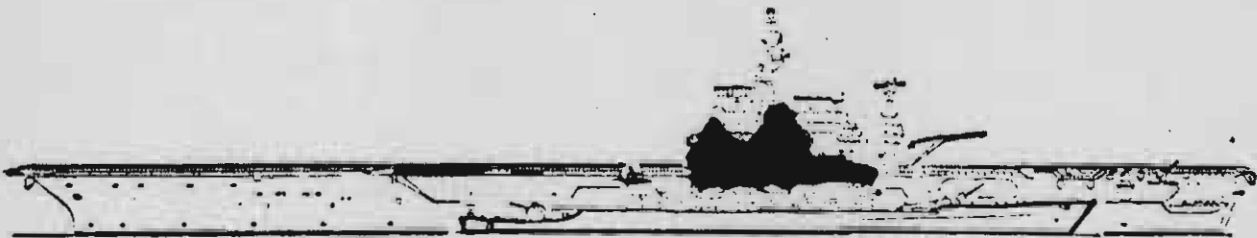


As BELKNAP proceeded down J. F. KENNEDY's port side, JP-5 Stations 8 and 12 poured about 1500 gallons of JP-5 onto BELKNAP, which ignited.



Flight deck crewmen of J. F. KENNEDY were pouring light water from an MB-5 onto BELKNAP.

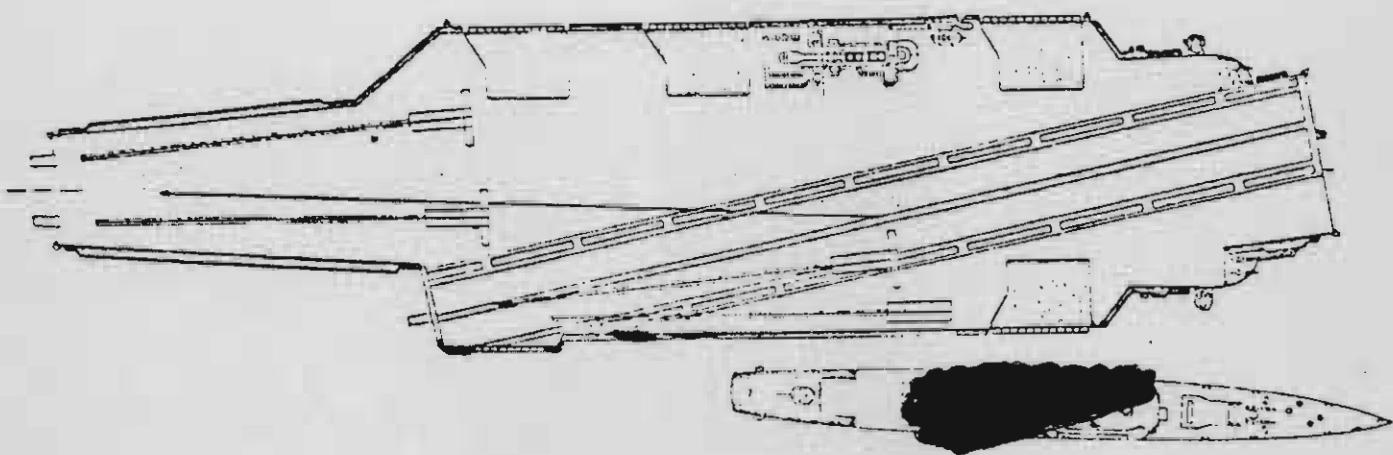
The superstructure of BELKNAP was laid open and JP-5 poured into the uptakes of the forward and after fire rooms.



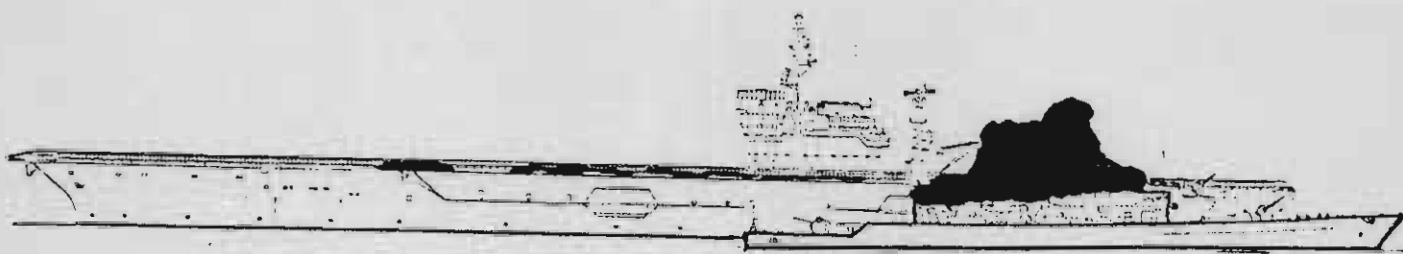
BELKNAP crewmen could look up and see J. F. KENNEDY looming above them.

View reflects the "stopped" position of BELKNAP. The drag of the collision would tend to pull the bow to the left as seen above.

Figure IV



As the ships broke clear  
BELKNAP was already fighting fires  
J. F. KENNEDY engineering spaces were  
inundated with heavy black smoke



BELKNAP had come to all stop  
all engineering spaces were evacuated

Figure V

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APPLICABLE DIRECTIVES

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MANEUVERING

46. That under Rule 19, International Rules of the Road, BELKNAP was obligated not to hamper the Guide who remained in Station ZERO; BELKNAP's safe maneuver was to keep clear of J.F. KENNEDY by turning to starboard and passing J.F. KENNEDY astern.

47. That under Rule 22, International Rules of the Road, general operational tenets for fleet formations rely upon the premise that smaller combatants will stand clear of aircraft carriers. This is implicit in CTF 60 Operation Order 4000. While BELKNAP did not become a burdened vessel until J.F. KENNEDY began her turn,

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Rule 22 does emphasize that any vessel which is burdened is required to take timely action to keep out of the way of the other and avoid crossing ahead of the privileged vessel. Timely action to keep out of way of J.F. KENNEDY was not apparent in any of BELKNAP's maneuvers prior to the collision, with the exceptions of the turn to starboard at 2155A and the final attempt by the Commanding Officer to avoid BELKNAP's crossing ahead of J.F. KENNEDY.

48. That Rule 29, International Rules of the Road, emphasizes the rule of good seamanship and the consequences of neglect. It is the ordinary practice of prudent seamen to determine ranges and bearing to units where risk of collision is deemed to exist. The failure of the Officer of the Deck to use radar to determine range and bearing; his failure to use the information provided by, or to solicit information from, his CIC Watch Officer; his failure to consider maneuvers on the basis of accurate visual bearings; and his failure to solve for a prudent course and speed to regain station by standard maneuvering board procedures were in violation of the tenets of Rule 29.

49. That the information and recommendations provided in the Annex to the Rules of the Road were generally not observed by BELKNAP's OOD; the most critical items that directly contributed as a cause of BELKNAP's collision with J. F. KENNEDY were (1) the failure to alter course substantially to starboard in order to avoid a close CPA; (2) failure to reduce the speed of BELKNAP in order to increase the time available to BELKNAP Watch Officers to determine the correct movements of the Guide and correctly calculate a safe maneuver for his own ship to regain station; and (3) ordering small and numerous course and speed changes which could only serve to confuse as to his intentions.

50. That the fact that whistle signals were not sounded by either vessel during the maneuvers prior to the collision was not a contributing factor.

51. That, in view of BELKNAP's courses and speeds during the period 5 to 10 minutes prior to the collision which were unknown to J.F. KENNEDY, the maneuvers and subsequent actions of J.F. KENNEDY taken in extremis to avoid a collision were in compliance with the Special Maneuvering rules of ATP 1(B), Vol I, Art 351 and 352c.

#### U. S. NAVY REGULATIONS, 1973

52. That the delegation of OTC responsibility by CTG 60.1 to CO, J.F. KENNEDY, under the circumstances was proper and in compliance with Navy Regulations; CTG 60.1 SOPA actions following the collision were appropriate.

53. That under U.S. Navy Regulations, Article 0702(1), CO, BELKNAP, violated his command responsibility to ensure the safety and well-being of his ship

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58. That Commanding Officer, J.F. KENNEDY, acted in accordance with existing regulations, ATP 1(B), and Rules of the Road.

59. That CIC Watch Officer, BELKNAP, acted in substantial accordance with regulations and prudent rules of maneuvering.

60. That the CIC Watch Officer, J.F. KENNEDY, while not required by the J.F. KENNEDY OOD to provide tactical maneuvering support, did not demonstrate the initiative to provide the tactical support that could be requested by the OTC or SOPA in similar situations. A smooth functioning team of OOD-CIC was not apparent in J.F. KENNEDY's watch organization.

#### STANDING AND NIGHT ORDERS

61. That contrary to BELKNAP Standing Orders:

a. The Officer of the Deck, BELKNAP, <sup>PW</sup> did not inform the Commanding Officer of the CORPEN J PORT signal.

b. The Officer of the Deck, BELKNAP, <sup>BW</sup> executed a series of maneuvers which would have caused BELKNAP to cross ahead of J.F. KENNEDY to station.

c. The Officer of the Deck, BELKNAP, <sup>PW</sup> did not call the Commanding Officer in sufficient time to permit his determination of the tactical situation prior to the time the Commanding Officer was required to take action to avoid immediate danger.

d. The Officer of the Deck, BELKNAP, <sup>BW</sup> failed to act on a vital recommendation of the CIC Watch Officer or to request additional assistance when he became unsure of the tactical situation.

62. That the Officer of the Deck, J.F. KENNEDY, complied with the Standing Orders requiring the Commanding Officer to be informed when movements of other units are not understood.

63. That, during flight operations, J.F. KENNEDY's flight deck lighting and light from open hangar bay doors obscured normal navigation lights.

64. That red deck edge lights on J.F. KENNEDY visible 360 degrees, tended to obscure port and starboard side lights.

65. That floodlights, located on the island superstructure of J.F. KENNEDY, obscured masthead and range lights.

66. That when J.F. KENNEDY's lights made it difficult to determine her course and aspect by observation of navigation lights, other means should have been employed by BELKNAP's OOD, such as:

a. Radar tracking.

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- b. Visual tracking.
- c. Combination of radar and visual tracking.

Such methods would have been consistent with EMCON restrictions in effect at the time.

#### STAFF ACTIONS

67. That Staff actions or guidance prior to this collision were not significant and could not have had an impact on the collision.

#### DAMAGE

##### USS J.F. KENNEDY

68. That the initial fires in J.F. KENNEDY were a result of an approximate 1500 gallon JP-5 aviation fuel surge onto BELKNAP. This fuel was the primary cause of fires. Other damage resulted from the collision itself.

69. That fires were contained within established fire boundaries in J.F. KENNEDY. Other areas within the ship offered safe haven for personnel, and equipment with which to fight the fires was easily brought from these other areas.

70. That the engineering spaces in J.F. KENNEDY were evacuated in a timely and proper manner.

71. That although a fire main to the port side flight deck sprinkler system ruptured when a silver soldered copper pipe union separated from intense heat, this was not limiting to the firefighting and was isolated.

72. That the bulk of effort at eliminating flammable fixtures has been in habitable areas; this fire in J.F. KENNEDY has shown that there may be a far greater danger of flammability in supply/packing items than in habitability items.

73. That the fact that there was no list of flammable materials stored by compartment hindered the fire-fighting effort.

74. That had the aviation tires and magnesium wheels located in compartments on the 02 level been ignited, the smoke and fire damage would have been far greater.

75. That damage in Supply compartments would not have been as great had there been compartment sprinkler systems or other manual or automatic fire protection systems installed. The damage caused by fire/smoke was chiefly attributable to flammable packing material.

76. That J.F. KENNEDY can continue her deployment while repairing damaged systems.

##### USS BELKNAP

77. That during the collision the first indication of fire occurred in BELKNAP CIC (Aft of the Pilot House)

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in an electrical switch box which exploded. The Forward Mack of BELKNAP severed two charged JP-5 aviation fuel risers which poured forth fuel at a total rate of 1,045 gallons per minute for about 90 seconds before they were secured and drained back. The fuel poured down on BELKNAP as the Forward Mack passed the risers at J.F. KENNEDY Stations 8 and 12. The fuel poured directly into the uptakes of the After Mack where those hot gasses further ignited the approximate 1,500 gallons of JP-5 that had poured on and into BELKNAP. This accounts for the reported fuel based, blue flame explosion throughout the superstructure, including the explosion in the After Fire-room, and the continuing heavy fire about the upper decks.

78. That evidence shows that no boilers exploded but that there was an explosion in the after uptakes. At the time of this explosion, the After Mack, perhaps weakened by collision, fell to lie at a relative angle of 120 degrees with the fore and aft axis of BELKNAP. The heavy concentration of fuel created the reported fireball and maintained the ensuing heavy fire in BELKNAP.

79. That collision damage in BELKNAP appeared to be limited to the 03 level and above. The relatively soft aluminum superstructure gave way to the steel sheeting on J.F. KENNEDY's side. The remainder of the damage was the result of fire and explosions. The fire was exceedingly hot and caused CHAFFROC, pyrotechnics, and 3"/50 ammunition to explode in many directions, creating further damage. The heat of the fire melted the aluminum superstructure. Molten aluminum in turn poured through overheads creating further fires on the next deck below. It eventually pooled to cool and harden throughout the 01 level.

80. That further damage occurred in the After Engine and Fire Rooms from explosion and subsequent fires. Some damage was incurred from flooding due to fire-fighting water. There may be further damage to the Engineering Plant in view of the rapidity and manner that the spaces had to be secured.

81. That BELKNAP damage has rendered her incapable of continuing operations until extensive repairs can be made.

82. That the firefighting assistance provided by C.V. RICKETTS and BORDELON contributed significantly to the ability of BELKNAP to restrict the fires to the superstructure area, thus aiding materially in saving the ship.

USS C.V. RICKETTS

83. That the hull damage to USS C.V. RICKETTS is relatively moderate and is not mission limiting. The requirement to make-up alongside in order to fight the fires and transfer injured personnel overrode other considerations. The Commanding Officer of C.V. RICKETTS executed his shiphandling in an excellent manner and minimized damage to his ship.



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USS BORDELON

84. That BORDELON did not sustain damage. She was able to avoid damage through the expert shiphandling of her Commanding Officer during firefighting and towing evolutions.

DEATHS AND INJURIES

85. That all injuries reported in Finding of Fact 140 were incurred in the line of duty and were not due to any misconduct on the part of the injured person.

DAMAGE CONTROL

86. That despite the loss of, and general inaccessibility to Damage Control equipment amidships, BELKNAP was able to sustain satisfactory damage control through good leadership, aggressive actions by individuals, and use of equipment from other nearby units.

87. That in BELKNAP reliable sources of emergency power were vital. The unreliability of the Forward Emergency Turbine starter hampered BELKNAP's DC effort. The simplest, most reliable mode of emergency power should be installed in ships.

88. That initially there were poor to no communications between Damage Control Central and Damage Control parties. It is a tribute to the state of training in both ships that the teams functioned well and initially without centralized control.

89. That light water is an effective firefighting agent for small confined spaces containing highly combustible materials.

90. That the following equipments proved unsatisfactory or unreliable in the conflagrations in both J.F. KENNEDY and BELKNAP:

- a. P-250 submersible pump (difficult to start, hard to keep in operation, fuel highly combustible)
- b. Stokes litters (single handling lines for inter-ship transfers are hazardous)
- c. OBA cannisters (usable time varied 5 to 40 minutes)
- d. DC wet-cell white floodlights (in dense smoke created undesirable reflected light)
- e. Protective asbestos mittens (became wet, heavy and unmanageable)
- f. DC hard helmets and associated portable lights (too heavy, fell off)
- g. "Red devil" blowers were ineffective for de-smoking large spaces.

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91. That the distribution of life-support, self-breathing devices for carriers is not sufficient. Ninety-five percent of those in J.F. KENNEDY were in berthing compartments; five percent were in other critical (work) areas.

92. That medical storage forward in ships such as BELKNAP is inadequate. Additional oxygen equipment and drugs should be available forward, aft and amidships on cruisers.

93. That loss of liferafts deprived BELKNAP of the capability to abandon ship safely should this action have proven necessary.

94. That certain packing materials in use aboard ships for protecting and storing equipment proved hazardous for personnel required to combat fires.

#### TRAINING

##### USS J.F. KENNEDY

95. That the bridge team training in J.F. KENNEDY was of high quality. The progression of training to achieve Officer of the Deck qualification was such that formal schools and practical background were required to conform to high standards. Training for duties of helm and lee helm was satisfactory and more complete than that for lookout. The lookout performance for the 2000-2400, 22 November, watch in J.F. KENNEDY indicates that the training program was not as effective as it should be.

96. That damage control training in J.F. KENNEDY was good but like any large organization there appears to have been a diminution of intent and quality at the lower levels of responsibility. The Damage Control Petty Officers (DCPOs) were dedicated and were mainstays in the training program. Typical of aircraft carriers, squadron personnel were not well versed in damage control.

97. That the effectiveness of the firefighting effort is testimony to the training program. Qualified personnel were at hand when needed and were lined up as volunteers. There were more volunteers than could be used.

##### USS BELKNAP

98. That the bridge team training in BELKNAP was in need of greater command attention. There was evidence of individual and uncoordinated action. The Commanding Officer had counseled his Officers of the Deck with regard to shiphandling. The training that <sup>he</sup> had was excellent and his Commanding Officer placed the highest trust in him as OOD.

99. That there was an aggressive damage control training program in effect in BELKNAP. The success of that program can be measured by the fact that the ship was saved.

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100. That the engineering casualty control training was effective and all personnel responded in the proper manner. There is evidence that proper space abandoning procedures were not used in the After Fireroom shortly after the collision. This bears on the adequacy of training in that area.

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Recommendations

1. That Captain Walter Richard SHAFER, USN, be addressed a punitive letter of reprimand for his failure to ensure the safety, well-being, and efficiency of his command, as evidenced by his failure to be present on the bridge of USS BELKNAP during the initial maneuvers in a new station in close proximity to USS J. F. KENNEDY and his failure to assure the proper training of USS BELKNAP bridge team members. A draft of such a letter is forwarded herewith as Enclosure (5).
2. That USN, be brought to trial by <sup>82</sup>general court-martial on charges of violation of Articles 92, 108, 110, and 119, Uniform Code of Military Justice. The appropriate charge sheet, signed by the Investigating Officer as accuser, is forwarded herewith as Enclosure (6).
3. That Type Commanders utilize the various means at their disposal to emphasize to all Commanding Officers the importance of review and update of their standing and daily night orders to ensure that they are, in fact, being used properly and that there is strict compliance.
4. That Type Commanders utilize the various means at their disposal to emphasize to all commands the necessity to continually monitor phone talker procedures and lookout procedures and ensure that individual training programs meet standard requirements.
5. That the use of NUCO Tables be examined to determine if they do, in fact, serve to make intended courses and speeds sufficiently secure to warrant the continued use of these tables.
6. That the procedure for attaining standard times between ships in a Task Group be emphasized and implemented.
7. That Commanding Officer, J.F. KENNEDY, examine the capability and output of information of COTP and CIC with a view toward more complete integration of information by command through total use of the facilities available.
8. That Fleet Commanders in their operations orders require all surface units maneuvering in the vicinity of aircraft carriers at night to observe the 3-2-1 rule; i.e., not pass within 3000 yards of the bow, 2000 yards of the beam, and 1000 yards astern of an aircraft carrier underway.
9. That Naval Air Engineering Center provide a permanent solution to preclude white and red floodlights of an aircraft carrier from obscuring the masthead and range lights.

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10. That Type Commanders require compliance with VLA General Service Bulletin #38, of 28 November 1975, requiring 220° of shielding for red deck edge lights on aircraft carriers.
11. That condensed extracts of this record and report describing the collision between two of our most modern ships, the cause of that collision, and damage control exercised be made available to naval officers as lessons learned.
12. That increased reliability be designed into turbine machinery used as emergency power sources. If this cannot be accomplished, that one standard diesel-type engine be used for all emergency power sources on small combatants.
13. That a new, more reliable, portable emergency pump replace the P-250. P-250 performance in this situation proved to be totally unsatisfactory, which historically was not completely unexpected.
14. That Navy Safety Center investigate improvement of the design for Stokes stretchers. Two lines on each end to permit increased control while transferring patients between units may not be the only improvement possible.
15. That Navy Safety Center conduct an investigation into the reliability of OBA cannisters currently in the fleet inventory by drawing a sufficient sample from several ships, including PACFLT units, and realistically conduct a diagnostic test of each OBA cannister. This is potentially a very serious problem if it is determined that shelf life limits the usefulness of OBA cannisters.
16. That Navy Safety Center conduct an evaluation of all protective clothing for DC personnel. In view of new materials available and potentially serious fires which occur aboard ship, strong emphasis on modern clothing, including lighter-weight helmets that contain a permanent head light, and usable protective mittens should be among established objectives.
17. That DC wet-cell white floodlights be equipped with inexpensive, plastic amber lenses.
18. That an allowance for large capacity commercial smoke eductors be provided large ships such as aircraft carriers and the allowance be increased for additional damage control equipment on cruisers.
19. That the current cannister emergency liferaft program be accelerated to ensure life-saving equipment is provided some "hardness" against fire and explosions.
20. That the use of inflammable packing materials and those materials that burn with toxic fumes or are dangerous to firefighting personnel be reduced; where this is not possible, that containers which have within them inflammable/toxic packing material be distinctively marked or labelled to permit shipboard personnel to

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