26 February 2010

From: Vice Admiral Phillip M. Balisle, USN-Ret
To: Commander, U.S. Fleet Forces Command
Commander, U.S. Pacific Fleet

Subj: FLEET REVIEW PANEL OF SURFACE FORCE READINESS

Ref: (a) Your Joint letter 1000 Ser N00/1025 of 1 September 2009

Encl: (1) Final Report

1. Reference (a) directed that I convene and lead a Fleet Review Panel to assess surface force readiness across the man, train, equip domain areas, and provide recommended corrective actions. Enclosure (1) contains the required support.

2. The Panel reviewed the impact of Navy-wide manning (Fit and Naval Education and Training Command (NETC) fill), training (NETC and Fleet), equipping, and maintenance decisions that have been made over the past decade. The relative impact of each such change upon surface force readiness was adjudged in the three perspectives of structure, process and cultural barriers.

3. The Panel conducted multiple site visits, record reviews, and interviews, and reviewed numerous related studies conducted by other activities. The Panel received outstanding support from all organizations.

4. Given the nature of our recommendations, I recommend that this report be shared with OPNAV, NMPC and NAVSEA at a minimum, and others as you feel appropriate.

Phillip M. Balisle

Final Report

Fleet Review Panel
of
Surface Force Readiness

26 February 2010

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Section 1 – Executive Summary

1.1 Historical Context
1.2 Systemic Recommendations
1.3 Singular Recommendations
1.4 Other Specific Tasks
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On 1 September 2009, Commander, U.S. Pacific Fleet and Commander, U.S. Fleet Forces directed VADM (RET) Phillip M. Balisle to convene and lead a Fleet Review Panel ("Panel") to assess Surface Force readiness across the man, train, and equip domain areas, and to provide recommended corrective actions. The Panel appointment letter is included as Appendix 001. This report provides the assessment of Surface Force readiness.

1.1 Historical Context. The Panel concluded that Surface Force readiness has degraded over the last ten years. This degradation has not been due to a single decision or policy change, but the result of many independent actions. The panel produced a chronology (Appendix 018) that identified changes across the man, train, equip, and command and control domains since 1992, and identified the impacts of those changes on Surface Force readiness. Highlights of the chronology include:

1.1.1 Manpower and Manning. The Optimum Manning (OM) initiative was introduced in 2001. Shipboard manning requirements were assessed primarily against shipboard watch standing/operational requirements. This approach did not consider other factors such as maintenance requirements. As a result, shipboard manning requirements were reduced to levels well below the requirements identified in ship design and, particularly, below the levels required to support material readiness requirements. Additionally, Optimum Manning Billets Authorized (BA) did not account for an average 8.4 percent loss of available shipboard personnel due to legal, medical, Individual Augmentation requirements, and other issues that removed these people from the ship. The primary principles of Optimum Manning were that ships would be manned to the BA requirement and that shore support facilities would assume some portion of shipboard work. These principles were never achieved. Further exacerbating shipboard material readiness was the decreased capability and capacity of shore intermediate repair capability. The cumulative effect of these actions is a surface force posture where OM ships cannot maintain an acceptable level of shipboard material readiness, especially corrosion control.

1.1.2 Training. Significant changes in training affected the surface force from 1992 - 2009. Some changes resulted in the misalignment of authority and accountability which negatively affected surface force readiness. Readiness Squadrons (READRONs) were

disestablished and Regional Support Organizations (RSOs) were developed to fill the functional void created by READRON disestablishment. In 2007 RSOs were replaced with the stand-up of Class Squadrons (CLASSRON), which have no line authority over the ships they support. Also, inspections and certifications were markedly reduced by the Fleet Review Board beginning in 1999 which in turn significantly reduced "third party" training and readiness assessments (41% for some ship classes). The Afloat Training Group assumed responsibility for surface ship conventional engineering certifications. The Senior Officer Ship Material Readiness Course (SOSMRC) was transitioned from a four week stand alone school to a training module resident in Prospective Commanding Officer pipeline training in Newport, Rhode Island. The six month in-resident SWOS Division Officer Course was cancelled pushing the burden to ship commanding officers to provide junior officers surface warfare theory and fundamentals.

1.1.3 Equip. Coupled with decreased shipboard manning and training, CNO maintenance availabilities were shortened from 15 weeks to 9 weeks and the material maintenance management (3-M) program was scaled back. Preventive maintenance requirements were reduced in an effort to ease the burden on ship crews through actions by the Fleet Review Board. The Board of Inspections and Survey (INSURV) periodicities changed from an average of 44 months to over 60 months. Decreased waterfront maintenance capability and capacity have negatively impacted the readiness of the force. In PR99 the maintenance requirement and associated funding for DDG's was reduced by 44% based on projected savings from a shift from Conditioned Based Maintenance (CBM) to Continuous Maintenance (CM). The projected savings from the shift to CM did not materialize, in part because of near simultaneous cuts to the shore infrastructure critical for condition assessments and a concurrent declining organic shipboard ability to self-assess. As a result, there is evidence that this maintenance reduction has adversely affected surface ship material readiness. There is also evidence that Continuous Maintenance Availabilities (CMAVs) are being executed well below their full capacity.

1.1.4 Command and Control. The surface chain of command has become complicated on the waterfront. There has been a blurring of lines of authority and accountability among units, Type Commanders (TYCOM), and Numbered Fleet Commanders concerning Operational Control (OPCON) and Administrative Control (ADCON). Introduction of the Type Commander lead/follow relationship and the implementation of the Navy Enterprise Model, and in particular the creation of the Surface Warfare Enterprise (SWE), have provided advantages but also presented challenges to the surface force. The Panel believes there is vital need for clear and unambiguous TYCOM authority, accountability, and responsibility, with appropriately aligned resources, such that the Type Commanders can sufficiently execute their Title 10 ADCON responsibilities.

1.1.5 Material Readiness. Documented deferred ship's-force capable repairs (TA-4 screened 2 Kilos) have grown significantly. Equipment casualty reports (CASREPs) are increasing. There is also a growing backlog of off-ship repair requirements; this represents a large deep maintenance requirement that has not been adequately identified or resourced. Shipboard distributed systems such as chilled water systems and firemain, structure, tanks and voids are in wide disrepair throughout the surface force. As previously noted, over the past 15 years there has been a 41% decline in the number of third party assessments, inspections and audits in the surface force. These reductions were implemented with the good intention of easing the burden on our "optimally manned" Sailors. However, when combined with other manning initiatives (Top Six Roll-Down, reduced C-schools, reduced waterfront maintenance capability and capacity, and reduced Afloat Training Group (ATG) training capacity), a situation has been created wherein ships can no longer sufficiently assess their readiness and training shortfalls. The Panel feels there is a need to formalize a recurring, third party led assessment process to properly and fully identify and manage the deferred maintenance requirement of the surface force.

1.2 Systemic Findings and Recommendations. The body of systemic findings and recommendations in Section 3 of this report may be seen as falling into one or more of seven areas: Material Readiness, Manpower and Manning, Training, Organization, Command, Culture, and Financials. Each area should not, however, be considered or addressed in isolation, and all must be considered part of a contiguous ***"Circle of Readiness"***. A recommendation in one area may affect other areas and even other recommendations, thus all must be completed if a lasting reversal in surface readiness is to be achieved. This Circle of Readiness concept served to ground the Panel in the discovery, analysis, and recommendation phases of the study. Section 3 of this report sets forth 36 systemic recommendations, of which 25 should collectively be considered as a single Priority One action. This collective action provides a balanced, interoperable material readiness infrastructure, at sea and ashore, capable of consistently documenting and executing material readiness requirements.

1.3 Singular Recommendations. The findings and recommendations in Section 4 are considered singular in nature and, while important to surface force readiness, are not considered part of the interdependent "Circle of Readiness" collective recommendations and may be evaluated as independent actions.

1.4 Other Specific Tasks. The findings and recommendations in Section 5 address the Panel's response to the specific tasks included in the tasking letter, or verbally tasked during In-Process Reviews provided to CFFC and CPF. They include an evaluation of the Surface Warfare Enterprise (SWE), and recommendations to improve INSURV performance in the near-term.

Also included are a review of ships force work profile while underway; the level of knowledge and adequacy of manning of various organizations responsible for assessment, maintenance and training; and a review of surface warfare officer career management.

1.5 Conclusion. In the last decade there have been many changes that have impacted surface force readiness. It appears the effort to derive efficiencies has overtaken our culture of effectiveness. In the late 1990s, the Navy undertook an effort to reduce the workload burden on Sailors. The Fleet Review Board examined Fleet processes and practices that were thought to be burdensome and without perceived affect on readiness and training. Further the Fleet Review Board reduced or eliminated workload activities such as preventive maintenance. In FY99 some surface ship maintenance transitioned from condition based maintenance to continuous maintenance and resources were reduced in surface ship maintenance. There has been an appreciable reduction in waterfront intermediate maintenance capability and capacity, particularly in Norfolk, Virginia. The implementation of the Fleet Response Plan (FRP) as Navy's force generation model has required the Navy to generate unit readiness sooner and maintain unit readiness over a longer period of time in order to meet Combatant Commander demand for forces since 9/11. Concurrently, Navy implemented an Enterprise Model to produce and deliver a force within the most efficient allocation of Navy resources.

The material readiness of the surface force is well below acceptable levels to support reliable, sustained operations at sea and preserve ships to their full service life expectancy. Moreover, the present readiness trends are down. This situation has developed as the result of numerous, well intentioned changes in material readiness related organizations, policies and processes over the last decade. Resolution of the material readiness problems facing the force today and reversal of the downward trends will require enduring commitment in terms of people, funding, policies, organizational realignment and command clarification.

Material readiness trends develop and evidence themselves over years vice months. The causes and effects, bad or good, are not quickly realized. Accordingly, the most effective material readiness program is one that is consistently followed with small, evolutionary improvements made to it vice dramatic changes. The recommendations presented in this report are intended to establish this consistent, enduring material readiness infrastructure.

Section 2 – Methodology and Timeline

2.1 Scope of Review
2.2 Methods of Review
2.3 Fleet Review Panel
2.4 Pertinent Chains of Command
2.5 Timeline

2.1 Scope of Review. The Panel reviewed and assessed the impact of Navy-wide manning (Fit and Naval Education and training Command (NETC) FILL), training (NETC and Fleet), equipping, and maintenance decisions that have been made over the past decade with a view toward how each individual decision affected the overall readiness of the surface force. Further, the Panel was tasked in the original tasking letter and with additional taskings coincident with two In Process Reviews to evaluate the effectiveness of individual remedies initiated in the past year by the surface force to address specific problem areas. Major areas that the Panel was tasked to review include:

2.1.1 Assess and, if appropriate, recommend ***structural*** changes to the current waterfront maintenance organization including the Type Commanders (TYCOM); the shore infrastructure that provides for Sea-Shore (S/S) rotation and the growth of maintenance expertise; and the potential of various newly initiated programs such as Senior Officer Ship Material Readiness Course (SOSMRC), Surface Warfare Officer, Division Officer (SWO DIVO) courses, etc., to contribute to an effective overarching response to surface ship readiness .

2.1.2 Assess and, if appropriate, recommend ***process*** changes to the current force-wide shipboard maintenance practices and training processes to maintain surface ships effectively. Process review also included the Panel's assessment of shipboard, Immediate Superior in Command (ISIC), TYCOM, and maintenance support organizational alignments and accompanying command and control relationships. Finally, review the sufficiency and timeliness of I-level maintenance delivery and its responsiveness to the Force Generation Model.

2.1.3 Assess and identify ***cultural barriers*** to surface force readiness to include areas such as the lead-TYCOM construct focus on the waterfront; the SURFPAC "redlines" initiative to combat the "underway at all costs" mentality; and the surface force support for developing maintenance expertise including detailing and promotion results.

2.1.4 In addition to the formal written tasks (Appendix 001), the Panel received the following specific tasks:

2.1.4(a) What is the role of ship's force while U/W beyond PMS, e.g. drills, training, etc.?

2.1.4(b) What is the Panel's assessment of oversight organizations' level of knowledge, e.g. Afloat Training Group (ATG), Class Squadron (CLASSRON), TYCOM, ISIC, and SOSMRC? Are they educated, trained and staffed properly?

2.1.4(c) In surface force officer career management, do our officers value engineering assignments? What are the engineering prerequisites to command?

2.1.4(d) Provide recommendations to improve surface force Inspection and Survey (INSURV) performance.

2.1.4(e) Evaluate the Surface Warfare Enterprise (SWE) and provide findings and recommendations for the future.

2.2 Methods of Review. The Panel received reading materials in advance of travel and throughout the review period. That material has been archived electronically on a CD enclosed with this report. The Panel traveled extensively to Norfolk, VA; Washington, D.C.; Hawaii; and San Diego, CA. At each of these locations the Panel received briefings from and conducted interviews with waterfront, shipboard, TYCOM and Fleet personnel. In or from Washington, DC, the Panel interviewed personnel from NAVSEA, SEA 21, SEA 05, SEA 07, NPC, OPNAV N13/15, N43, and N86. Personnel involved included flag and senior officers, commanding officers, junior officers, and senior enlisted, plus significant government/contractor personnel, e.g. Port Engineers and private shipyards. Commands at all levels were cooperative and personnel interactions candid. Where empirical analysis became necessary and was beyond the Panel's capability, the cognizant command responded promptly and thoroughly.

2.3 Appendices. Appendix folders referenced in this report are numbered, e.g. Appendix 001, 002....009, etc., and are attached in the electronic media accompanying this report. Each Appendix folder may contain numerous related files on the same subject. This has been done to reduce the size of the report while providing the reviewer with the full reference detail should it be needed. Section 7, Appendices, provides a complete listing of all Appendix folders and the specific file names and general subjects of material contained in each folder.

2.4 **Fleet Review Panel.** Lead Panel member was VADM (RET) Phillip M. Balisle. Senior Panel members were Rear Admiral Arnie Lotring (NETC), Mr. Joseph Murphy (USFF N4/N7), Rear Admiral (SEL) Thomas Carney (CPF N5/N8). Additional Panel members were Captain (RET) Robert Crawshaw, Captain (RET) David MacKinnon and LCDR Michael Gunther.

2.5 **Pertinent Chains of Command.** The Panel was briefed by and interviewed the following chains of command: COMPACFLT, USFFC, CNSF, CNSP, CNSL, DDGRON, LSDRON, CGRON, LCSRON, SUBRON 11, ATG PAC, SWE PRT, MARMC, SERMC, SWRMC, PHNSY, BAE Shipyards, COMNAVSEA, SEA 21, SEA 05, SEA 07, OPNAV N11/N13, N86, N43, DNS, NPC/PMO, CNP, SUBMEPP, CO SWOS, C3F, PERS 41, CNE, Port Engineers, and NSSA. The Panel toured several ships incident to this task plus toured the waterfronts in San Diego and Norfolk, and some A and C-schools in San Diego.

2.6 **Timeline** – The Panel followed the general timeline below, with specific activities during each period highlighted in Appendix 002. Appendix 002 also contains the briefings the Panel received during each of the discovery visits that grounded the Panel in a particular area, e.g. current fleet organization, but did not bear directly or indirectly on the final report. Those briefings that did bear directly on the findings and observations of the Panel are separately referenced throughout the report in other Appendix folders. Two In Process Reviews (IPR) were conducted in October and November and a final briefing was conducted in December with the presentations for each contained in Appendices 032, 033 and 004 respectively.

Phase I:	Discovery (August 21, 2009 through October, 2009)
Phase II:	Analysis (October, 2009, through November, 2009)
Phase III:	Probes (November, 2009)
Phase IV:	Conclusions (January, 2010, through February 2010)

Section 3 – Systemic Findings and Recommendations

3.1 Historical Timeline and Chronology
3.2 Circle of Surface Force Readiness
3.3 Material Readiness
3.4 Manpower and Manning
3.5 Training
3.6 Organization
3.7 Chain of Command
3.8 Culture
3.9 Financials
3.10 Listing of all Systemic Recommendations

3.1 Historic Timeline and Chronology. The surface force experienced significant changes across the man, train and equip domains since the end of the Persian Gulf War in 1992. Navy force structure was reduced from 574 ships in 1992 to 283 ships in 2009 and Navy manning was reduced from 500K to 330K. The surface force implemented many changes intended to improve efficiency. Each of the individual initiatives carried a certain level of risk, dependant on assumptions made during the planning phase. The Panel produced a chronology that identified changes across the man, train, equip, and maintain domains. When examined in the aggregate, the historical data enabled identification of first order effects and unintended consequences that have impacted surface force readiness.

3.1.1 Manning and Manpower. Shipboard manning and manning levels at shore maintenance and training activities have been reduced to a level such that the surface force is no longer able to meet minimum standards of material readiness. The most significant change introduced to the surface force was the Chief of Naval Operations optimum manning (OM) initiative in 2001. This initiative cut 4,052 Sailors from surface ships. The average DDG that mustered 317 personnel in 1998 musters 254 personnel in 2009. The optimum manning initiative was intended to improve efficiency across the Fleet by providing the right people, with the right skills, at the right place, at the right time. Optimum manning was envisioned to provide the correct number of personnel to perform assigned operational missions.

Optimum manning levels were derived based on shipboard watch standing requirements; other requirements such as preservation and maintenance were not major drivers in determining optimum manning levels. In response to the optimum manning initiative, ship ROC /POEs were revised in 2001 and the Ship Manning Documents were updated to reflect ROC/POE changes. As an example, the requirement for battle station phone talkers and stretcher bearers was

reduced, and as a result, ten deck seaman billets were removed from the ships. However, the maintenance responsibilities (e.g.. corrosion control, housekeeping, deck division PMS) were not decreased or eliminated, rather the maintenance requirements shifted to other on board personnel. In 2002, the equation used to calculate minimum shipboard manpower requirements, and reflected in a Ship Manning Document, changed. The Navy Standard Work Week Afloat increased from 67 to 70 productive hours per Sailor which reduced shipboard manning by up to 4 percent. The revised equation also reduced the time allotted for Sailors to conduct preventive maintenance actions and reduced the productivity allowance applied for environmental fatigue and interruptions. These changes provided a justification for additional manning reductions.

Additional optimum manning initiatives were introduced to further improve efficiency and remove more personnel from ships. Pay and Personnel Afloat (PAPA) was implemented in 2004 which moved personnel and functions from ship to shore. However, responsibility for routine maintenance (e.g., damage control), housekeeping, underway watch standing requirements (e.g., special evolutions), and inport requirements (e.g., force protection watches) were not decreased or eliminated. Responsibility simply shifted to other on board personnel. Numerous rating mergers further diminished operational watch stander requirements afloat leading to more shipboard manning reductions. The optimum manning initiative resulted in an 18% reduction in DDG manning and 12% reduction in CG manning. Additional specifics for each ship class are contained in Appendix 018.

The fight against radical extremists has been an all hands effort. Navy has supported combat support and combat service support missions in Iraq and Afghanistan with individual augmentees (IA). IA support is vital to the war effort, but it has contributed to reduced shipboard manning. IA contributions coupled with unplanned manning losses due to legal, medical, school, and pregnancy have reduced shipboard manning below optimum manning targets by an average of 8.4% percent.

There were many assumptions and intended actions that accompanied the decision to implement optimum manning that never materialized. Optimum manning was underpinned by the assumptions that supporting initiatives to improve training and develop effective material readiness processes ashore would be realized. The optimum training initiative would have ensured Sailors arrived on board having received sufficient training to step into their job. The maintenance and material readiness initiatives would have shifted a significant amount of the maintenance and material readiness workload ashore. Additionally improved technology, (e.g. paint applications), was expected to ease shipboard workload. When manpower was removed from ships, and attending initiatives not realized, surface ships were challenged to maintain the customary Navy standards for maintenance readiness and preservation. While there have been a

few recent actions to compensate for these realities, there has not yet been the comprehensive changes required to reverse downward material readiness trends.

Shore facility manning that supported the Fleet was reduced to a level that could not support the optimum manning initiative. One of the critical assumptions in optimum manning was that a portion of preventive and corrective maintenance would be moved ashore. However, four years after optimum manning was initiated, intermediate maintenance capability and capacity was significantly reduced; SIMAs began closing and, by 2006, Regional Support Organizations were disestablished. This loss of responsive intermediate repair capability and capacity caused some amount of maintenance work to revert to ship's force for accomplishment. Therefore, as we were downsizing ship crews, we were pushing more repair work back to the ship. Moreover, there was an assumption that the Type Commander would have a pool of personnel with the right qualifications and skills available to augment the ship's crew when a ship experienced an unplanned loss. The pool of personnel replacements never materialized and as the ships experienced unplanned losses, ships were left with gapped billets and insufficiently skilled Sailors to complete required work. Corrosion control teams were another initiative that failed to support optimum manning. Corrosion control teams were expected to go aboard ships to arrest corrosion topside and inside the skin of the ship. Corrosion control teams did not materialize, thus the workload burden was not eased on the optimum manned ship. Rather, over time, it has actually increased.

3.1.2 Training. Over-the-shoulder training that was once the foundation of surface force training has vanished. Significant changes in training have adversely affected the ability of the surface force to maintain readiness standards. Readiness Squadrons (READRONs) were disestablished in 1995, eliminating a critical path for the professional development and training of the surface force. The elimination of the REDRONS removed a clear line of accountability for the material readiness of the ships. 1997 brought an end to the Senior Officer Ship Material Readiness Course (SOSMRC) in Newport, Rhode Island (Appendix 021). SOSMRC was an integral component of the surface Prospective Commanding Officer (PCO) course of instruction, teaching PCOs the art of material management. Further exacerbating surface force readiness was the decision in 1999 to eliminate external command inspections and the implementation of self-assessment policies. In 1994 there were 73 material readiness and maintenance assist visits and inspections available to ships. These inspections and assist visits brought system experts on board and provided over-the-shoulder training to the crews. By 2001 there were only 35 of these inspections and assist visits available to the ships, drastically reducing the professional development and hands-on training of our Sailors. Eliminating the course of instruction that taught commanding officers how to assess and manage the material readiness of their ship at the same time ships were expected to self-assess their material readiness contributed to the downward glideslope surface force readiness is on today. At nearly the same time period,

Tactical Training Commands Atlantic and Pacific were disestablished in 1998, closing yet another ship-to-shore professional development path.

The Revolution in Training (RIT) (Appendix 027) was introduced in 2001. This led to promulgation of the Surface Force Training Manual in 2002; creation of learning centers in 2003; disestablishment of SWOS Division Officer Course and introduction of the self-taught SWOS Division Officer Course using a computer based program in 2003; training transformation in 2004; and the introduction of Computer Based Training (CBT) Basic Engineering Common Core (BECC) in 2005. Self taught SWOS did not enable officers to arrive on board ships with the correct baseline knowledge of surface warfare fundamentals. This placed an added training burden on Wardroom Officers and the Chief Petty Officer Mess to train new officers. Officer qualifications, experience, and proficiency were negatively impacted and may have reached a critical level that could affect a generation of Surface Warfare Officers and adversely affect the overall readiness of the future Navy. At the enlisted level, it was the general consensus of Chief Petty Officers that the Panel interviewed that Sailors are being trained to an established standard, but they are not arriving on board ready to do what is needed of them to address existing material readiness demands. The Chiefs feel the additional responsibility to get new Sailors up to a basic level of knowledge aggravates an already strained workload.

The Top Six Roll-Down initiative (Appendix 035) was introduced in 2006 to align the E-4 through E-9 billet structure to match the actual funded enlisted workforce. Since then, through this program 25,000 plus billets Navy-wide have now rolled down one pay grade. Within the surface force there have been 4,768 billets affected. At the deckplate level, Top Six Roll-Down allowed assignment of a junior Sailor to a billet normally occupied by a more senior Sailor. An intended result of the roll down was the creation of better overall Sea-Shore (S/S) rotations, thus enabling the Navy to provide more accurate Fits to current billets. That same year, however, the BRAC actions on intermediate level maintenance divestment began the reduction of RMC/IMA billets where today the number of technical S/S billets ashore are insufficient for those rotating from sea duty. Shipboard, the net result has been a diminution of on board level-of-knowledge and experience to provide leadership and qualified technical oversight of the work of more junior Sailors. Additional decisions and initiatives that affected training are provided in Appendices 008, 018 and 020.

3.1.3 Material Readiness. The material readiness of the surface force has been in a steady decline, and the current processes and resources in place are insufficient to arrest the downward trend. Independent reports indicate that if the surface force stays on the course that it is presently on, DDGs will achieve 25-27 years of service life instead of the 30 years planned and the 40 years of extended service life desired. The downward trend can be partially attributed to a lack of Class Maintenance Plans (and inadequate resourcing of them), and to the removal of supporting

maintenance activities and assistance programs on board and ashore. The Planning and Engineering for Repairs and Alterations (PERA) organization that was responsible for executing and maintaining the class maintenance plan (CMP), the plan to ensure each class of ship is maintained to meet or exceed its designed service life, was disestablished in 1995. Upon PERA closure, surface class maintenance plan stewardship shifted to SUPSHIP, an organization neither manned nor prepared to execute class maintenance oversight. A new integrated class maintenance plan (ICMP) for surface ships was developed in 2000. The expectation was that class maintenance requirements would be properly addressed by the individual ship's maintenance teams; the ship's maintenance team is comprised of the port engineer, chief engineer, and commanding officer. In reality, each ship's maintenance team, led by the ship Commanding Officer, has a unique perspective on readiness priorities. Usually near term priorities dominate when deciding which maintenance items should be accomplished.

BRAC forced base closures and caused realignment of maintenance support activities along the waterfronts, negatively impacting maintenance support to the ships. BRAC closures started in 1993 and continued into the next decade forcing the closure of many shore intermediate maintenance activities (SIMA) across the United States. Regionalizing maintenance centers and eliminating the regional support organizations complicated maintenance support and availability of resources to the surface force. Chief of Naval Operations availabilities were shortened from 15 weeks to 9 weeks in 1996. All destroyer tenders were decommissioned by 1996. INSURV unit material inspections remain a consistent source to gather historical information on ship material readiness. In 2006, the INSURV Board was administratively reassigned from the Chief of Naval Operations to U.S. Fleet Forces Command. The average periodicity between INSURVs on surface ships increased from 44 months in 1992 to over 60 months in 2009.

Reduced manning prevented ships from performing the minimum required level of preventive maintenance. To compensate for this misalignment, the Material Maintenance and Management (3M) program was revamped in 2001 to reduce the Preventive Maintenance System (PMS) requirements on board ships to alleviate some of the workload and accommodate reduced crew sizes. A predominance of the preventive maintenance requirements did not shift to shore facilities as envisioned due to reductions ashore such as SIMA. Instead the periodicity between checks was extended, changed to a situational requirement or eliminated. The motivating driver in PMS reductions appears to be easing the workload to accommodate the smaller workforce with little emphasis on material readiness. Removing waterfront maintenance capacity compounded the problem and has negatively impacted the readiness of the surface force. There are insufficient resources currently available on board or ashore to improve the material condition of the ships or even maintain the surface force in its current condition. Additional

decisions and initiatives that affected the material readiness of the force are provided in Appendix 018.

3.1.4 Summary. Interpretation of the historical data reveals that the totality of changes in manpower and manning; training; material readiness; and chain of command oversight caused unintended consequences that have been detrimental to the overall readiness of the surface force. Reduced manning on board ships and at shore support facilities placed an unmanageable workload burden on smaller, less trained crews, and, consequently, the ships have not been maintained to required standards. To alleviate the workload, maintenance requirements were reduced, shipboard inspections and assist visits were reduced or eliminated, underway watches were eliminated, intermediate level maintenance opportunities were reduced, and self-assessments were introduced. Further, it appears that changes in training, compounded by the reduced manning on the ships, further reduced the capabilities of the crew to maintain and repair equipment.

Each decision to improve efficiency may well have been an appropriate attempt to meet Navy priorities at the time. However, there is limited evidence to identify any changes that were made with surface force readiness as the top priority – efficiency was sought over effectiveness. The cumulative effects of the changes over the past two decades have resulted in reduced surface force material readiness. Detailed information is provided in Appendix 018.

3.1.5 Conclusion. Systemic events created the decline in surface force readiness we are witnessing today. It will take a multi-faceted, systemic solution to stop the decline and begin recovery. For this reason, this Section 3, Systemic Findings and Recommendations, has its basis in a "Circle of Readiness" wherein the Panel believes key systemic recommendations must be treated as an interdependent group and are collectively essential to the restoral of surface force readiness.

3.2 Circle of Surface Force Readiness. The systemic findings and recommendations in this section fall into one or more of these seven areas: Material Readiness, Manpower and Manning, Training, Financials, Organization, Command and Culture. Each area should not, however, be considered or addressed in isolation, and all must be considered part of a contiguous ***"Circle of Readiness"***. A recommendation in one area may also affect other areas and even other recommendations, thus all must be completed if a reversal in surface force readiness is to be achieved. The Panel used this Circle of Readiness concept depicted in Figure 3.2-1 to ground us in the discovery, analysis, and recommendation phases of the study.

Figure 3.2-1

3.3 Material Readiness.

3.3.1 Observations/Findings. The Panel is in full agreement that surface force material readiness is in decline: From CASREPs to INSURVs to specific issues such as main drainage, SPY radar, and DC closures, the message is clear: the trend is in the wrong direction. (See Section 4, and Appendices 010, 011, 017, 023, 030, and 037.) For example, Figure 3.3-1 shows the rise in INSURV failures over the past 14 years. The failure rate for the past five years is over double that of the previous five years. Yet, the average age of our ships over the same periods declined. In the past five years, surface force ships undergoing an INSURV have on average scored marginal or unsatisfactory in 5 of the 12 areas inspected. In 2008, ships taking an INSURV scored marginal or unsatisfactory in 8 of the 12 areas inspected. The results are not good and the trend is worsening. But, more alarming is the amount of effort, money, time, and outside assistance required to make a ship ready for the INSURV certification. Figure 3.3-2 shows that ships' TA4 maintenance backlog (Appendix 011) is growing steadily, indicating crews cannot keep up with the maintenance requirement, whether for training, time demands, or operations. The historic source of support for shipboard maintenance, the SIMAs and RMCs, have undergone dramatic cuts in the past 7 years, as can be seen in Figure 3.3-3, from nearly 8,000 billets to just over 2,500 billets today (Appendix 018).

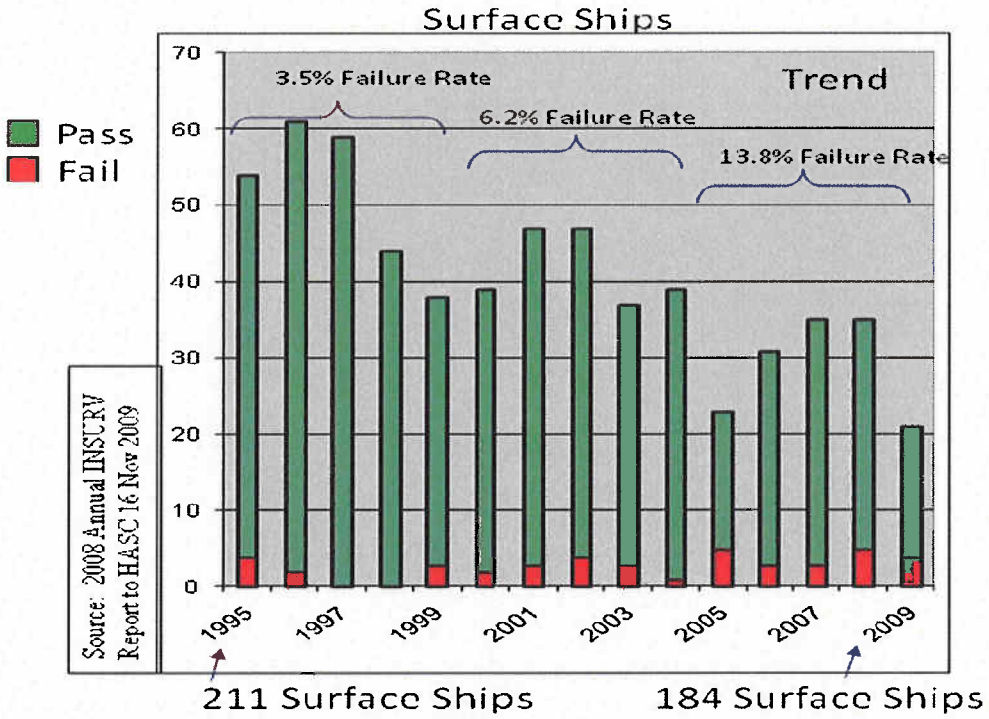

Figure 3.3-1

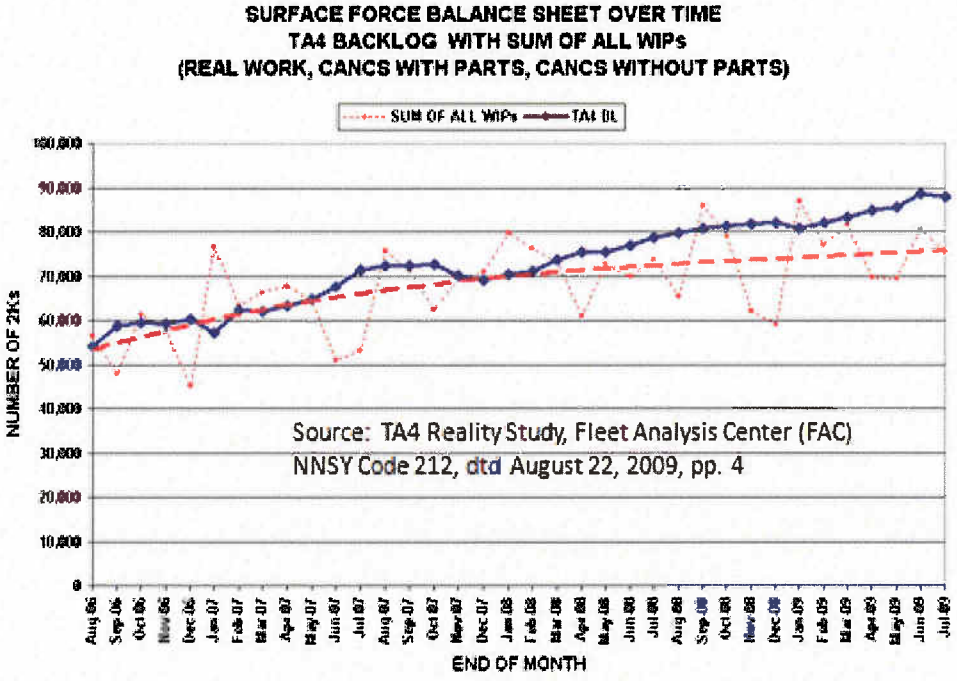

Figure 3.3-2

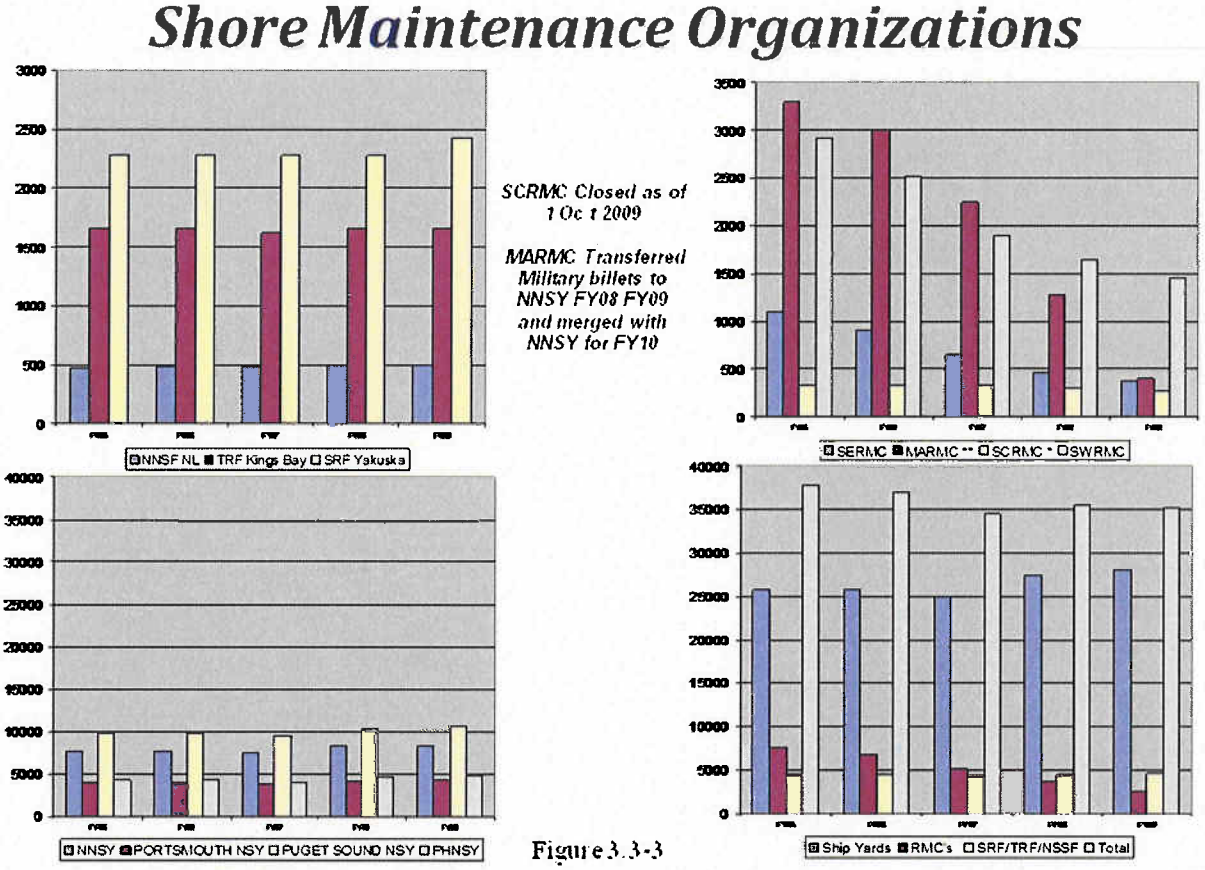

Figure 3.3-3

The organizational move of RMCs to the Naval Shipyards has further reduced intermediate repair responsiveness, as evidenced by their performance during the last five CMAVs at each of the RMCs (Appendix 007) as shown in Figure 3.3-4. If you eliminate the special case RMCs at Bahrain, Japan, and Pearl Harbor, the RMCs have performed an average of only 16.8 jobs at an average of only 349 man-hours per ship per CMAV. More notable, the work that is accomplished is often weight tests or similar activities that contribute little to the long term material readiness of a ship. Another cause of this poor CMAV utilization and return on investment may be attributable to the Joint Forces Maintenance Manual (JFMM) requirement that five calendar days is all the time allowed to plan and generate the work package and provide an accurate, fair and reasonable cost proposal for a CMAV. "Contractors have been challenged for some time trying to meet these requirements. In fact, to be successful it often requires working much of the specification development on premium time. When AWRs are brokered on the 100% lock date, each planned work package incurs, at a minimum, approximately 48% premium time to accomplish. Moreover, this impacts CNO availabilities that are being planned concurrently, adding as much as 18% in premium costs." (Appendix 007 which includes the

RMC	TA-2 Recs	TA-2 MH	AVG Jobs per ship per CMAV	AVG MH per ship per CMAV
Bahrain	22	4	4.4	0.8
JRMC	1	0	0.2	0.0
MARMC	63	1239	12.6	247.8
NWRMC	114	2288	22.8	457.6
PHRMC	259	2550	51.8	510.0
SERMC	72	2085	14.4	417.0
SWRMC	87	1364	17.4	272.8

Source: CNSF N43 Data E-mail TA2 data by RMC 090929

Figure 3.3-4

CNSF Hot Wash Newsletter, Issue 7, 25 June 2009 as quoted above). The best time outside of CNO availabilities for ships to do maintenance is during CMAVs, yet work accomplishment during these periods remains low. Only 45% of DDG CMAVs were fully executed in the past two years. 50 DDGs had only one CMAV per year for the past two years.

Finally, the 9 week CNO availability schedule, begun in 1996 and fully implemented by late 1997, has proven to be of insufficient duration to accomplish required maintenance, in some measure contributing to the backlog of deep maintenance requirements. The recent recommendation of CNSF to OPNAV N43 of 25 August 2009 (Appendix 011) to extend the CNO Availability lengths is strongly supported by the Panel. Moreover, availability length may need to be further extended once the full extent of the deep maintenance requirement is completely identified.

Ship tours, interviews and briefings to the Panel support the above findings. Poor performance on INSURV certifications (Appendix 030) and low CMAV loading (Appendix 007) point to another cause of declining material readiness: a lack of assessment capability, third party and self-assessment, throughout the surface force, a capability central to effective continuous maintenance (CM). (Appendices 009, 012 and 019.) Further, force readiness in the deep maintenance areas of distributed systems, corrosion and structure is a serious problem, and one not easily quantified by ship's force. (Appendices 017 and 031.) It is clear to the Panel that a rigorous third-party assessment process must be put in place to determine the true extent of maintenance backlog (including distributed systems, structure, corrosion, tanks and voids) such that an accurate total requirement can be identified in the planning, programming, and budgeting process. The implementation of a third party assessment process is considered critical to the overall recovery of surface force material readiness. It is especially desirable that there be consistency in lead assessors across the assessment cycle to understand readiness trends across ship classes and leverage lessons learned across the force. Figure 3.3-5 depicts a proposed

notional assessment process overlaid across two FRTP cycles. The following paragraphs explain the features of this process.

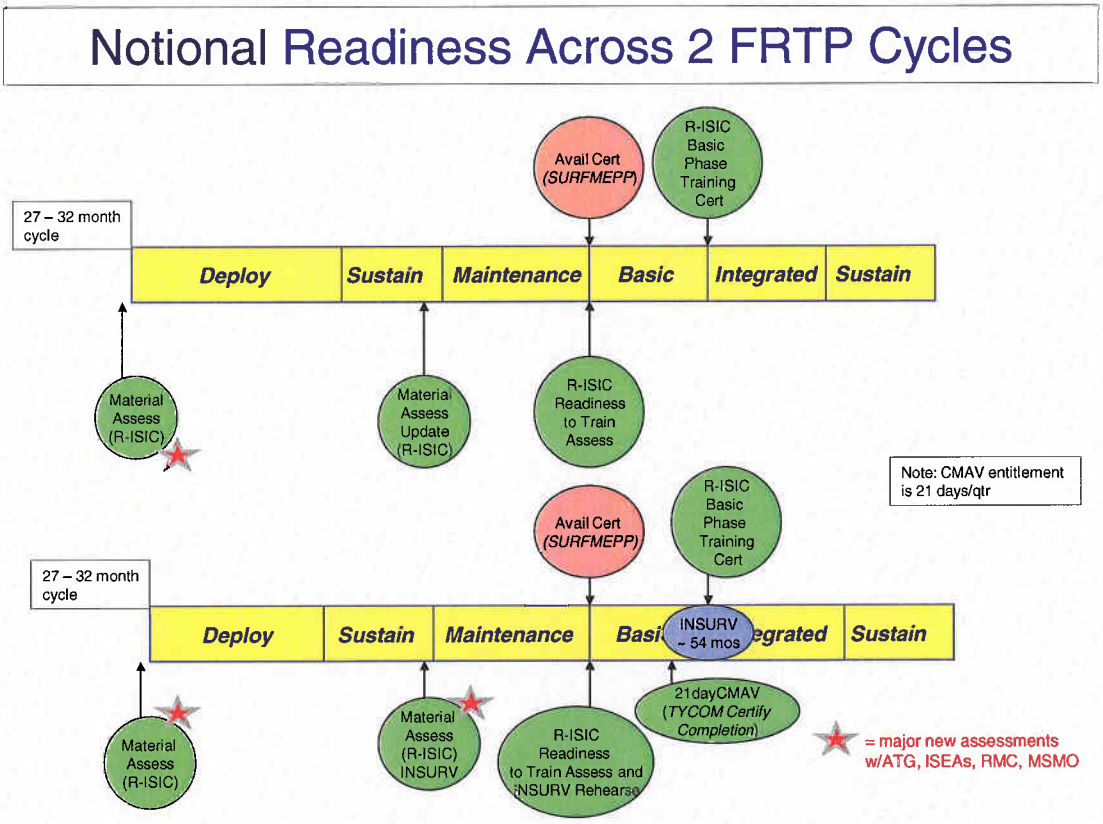

Figure 3.3-5

(Note: Readiness Immediate Superior in Command (R-ISIC) as referred to in this report is more fully explained in Section 3.7 and 3.8)

Clearly the assessment process must be fully integrated into the maintenance, training and deployment cycles of the ships. For efficiency of costs and manpower, and to reduce impact on the ships, it is imperative that the number of assessments be kept to a minimum by ensuring each assessment supports multiple purposes. Specifically, each assessment must occur at the appropriate time and be supported by the necessary personnel and funding to use the event to prepare accurate, fully documented work packages for upcoming availabilities; to serve as a training and technician expertise building opportunity for ships force; to capture the synergy of concurrent equipment and system grooms to support upcoming operations; to contribute to solidifying a culture of ownership and self-sufficiency across the force; and, at appropriate times, to support preparation for key inspections, operational periods and, particularly, INSURV assessments. Whether adopting this particular assessment scheme or a derivation of it, it is important that the assessment process consist of a straight forward, complete and consistently

repeatable series of assessments, virtually eliminating the need to employ expensive, disruptive tiger teams and "band-aid" events. In that regard the assessment process must have the flexibility to support the demands of the Fleet Response Plan (FRP) while preserving the discipline to reconfigure events to meet the process objectives mentioned above. The Panel believes an assessment process like that depicted in Figure 3.3-5 meets these critical tenets and implementation of such a process serves as a vital component of the material readiness solution.

Specifically, a two FRTP Cycle such as the one outlined in Figure 3.3-5 above should consider the following guiding principles with regard to scheduling:

- Notionally incorporate three "robust" assessments within a two FRTP cycle period. Each of these robust assessments would include a team comprised of MSMO, RMC, ATG, ISEA and R-ISIC/TYCOM representatives with the R-ISIC assigned as Chief Assessor. The estimated cost for all three assessments for DDG/CG class ships is approximately $.75M. Other class specific estimates need to be determined. For background and planning assessments, Appendix 029 provides the team sizes that INSURV typically uses for each ship class. Appendix 034 provides manning for TYCOM staff and all direct reports.

-The intent of the two robust assessments scheduled just prior to deployments is to solidify the CNO availability work packages identifying any new work at A-240 when additions to the availability work package are at the least cost. Issues such as water tight closures, main drain systems and SPY systems should be highlighted as they are recurring INSURV problem areas and also major items in extending the life of a ship or class from both a material and mission readiness perspective. Additionally, the ship can be provided a test plan that is to be conducted during the "return from deployment timeframe" that would assist the follow-on assessment as discussed below.

- Essential equipment grooms can be included in these pre-deployment assessments as well, readying the ship for deployed operations while synergistically adding to the quality of the assessment.

-The "robust" assessment in the second FRTP cycle, just prior to the Maintenance Phase, provides an opportunity for identification of any major convergent work for inclusion in the upcoming CNO Availability, and, significantly, focus on preparing the ship for the upcoming INSURV certification.

3.3.2 Recommendations.

3.3.2(a) Implement a recurring, notional third party assessment, audit and certification process integrated into the FRTP cycle as presented in Figure 3.3-5. See Section 5.2 of this report for a detailed explanation of a near term assessment process to quickly improve INSURV performance.

3.3.2(b) Increase ATG manning to support their portion of recommended third party assessments. ATG manning in general is addressed separately in this report in Section 3.4 Manpower and Manning.

3.3.2(c) Use in-service engineering agent (ISEA) and multi-ship multi-option (MSMO) contractor assets to augment assessment teams. Use of MSMO in assessments including pre-INSURV assessments is also included in Section 5.2.

3.3.2(d) Increase CMAV funding to optimize work loading during these critical, dedicated maintenance periods.

3.3.2(e) Require certification of work completion for all availabilities: SURFMEPP for CNO availabilities, and TYCOM/R-ISIC for CMAVs. Use availability completion certifications in concert with an expanded version of CNSF "redline" initiative.

3.3.2(f) Extend CNO Availability lengths as recommended by CNSF ltr, August 25, 2009.

3.4 Manpower and Manning.

3.4.1 Observations and Findings. Figures 3.4-1a and 3.4-1b outline the major manning decisions and actions initiated in the past two decades. The net effect of these decisions has been a 14% average reduction in personnel afloat and much greater reduction ashore, particularly in those technical areas where historically we have grown technical expertise, such as the Shore Intermediate Maintenance Activities (SIMA). Specifically, over this period, Regional Maintenance Center (RMC) manning dropped from nearly 8,000 to just over 2,500 (Appendix18).

Historical Chronology of Major Navy Decisions/Issues affecting Manning

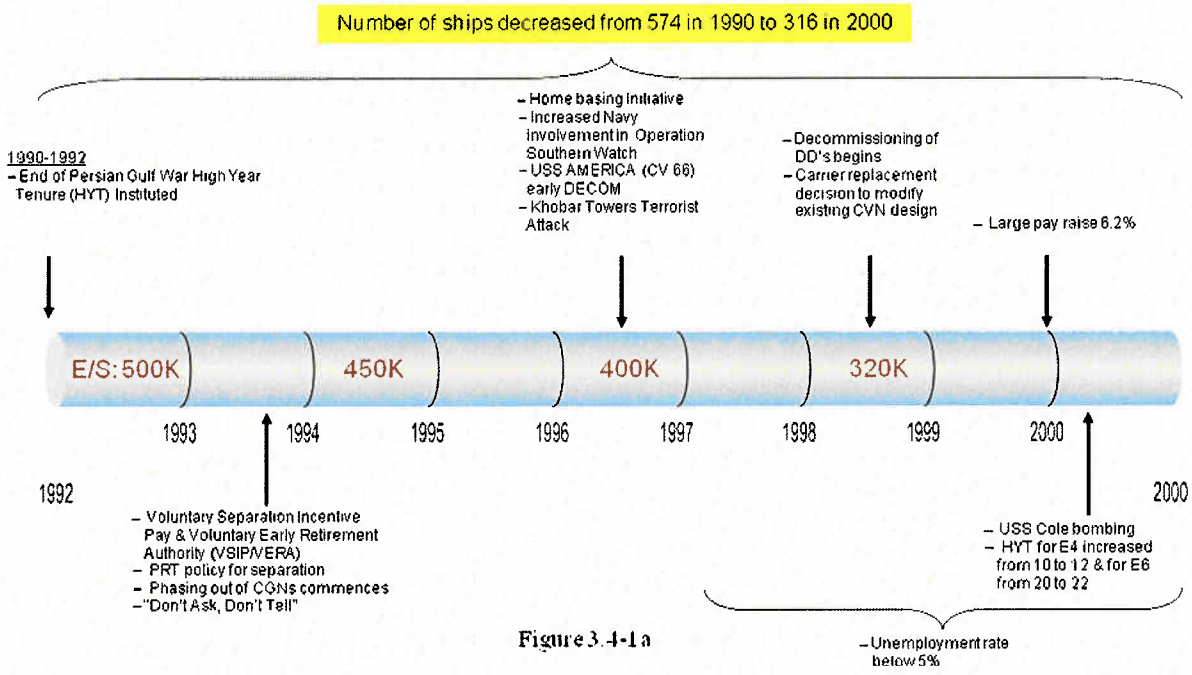

Figure 3.4-1a

Historical Chronology of Major Navy Decisions/Issues affecting Manning

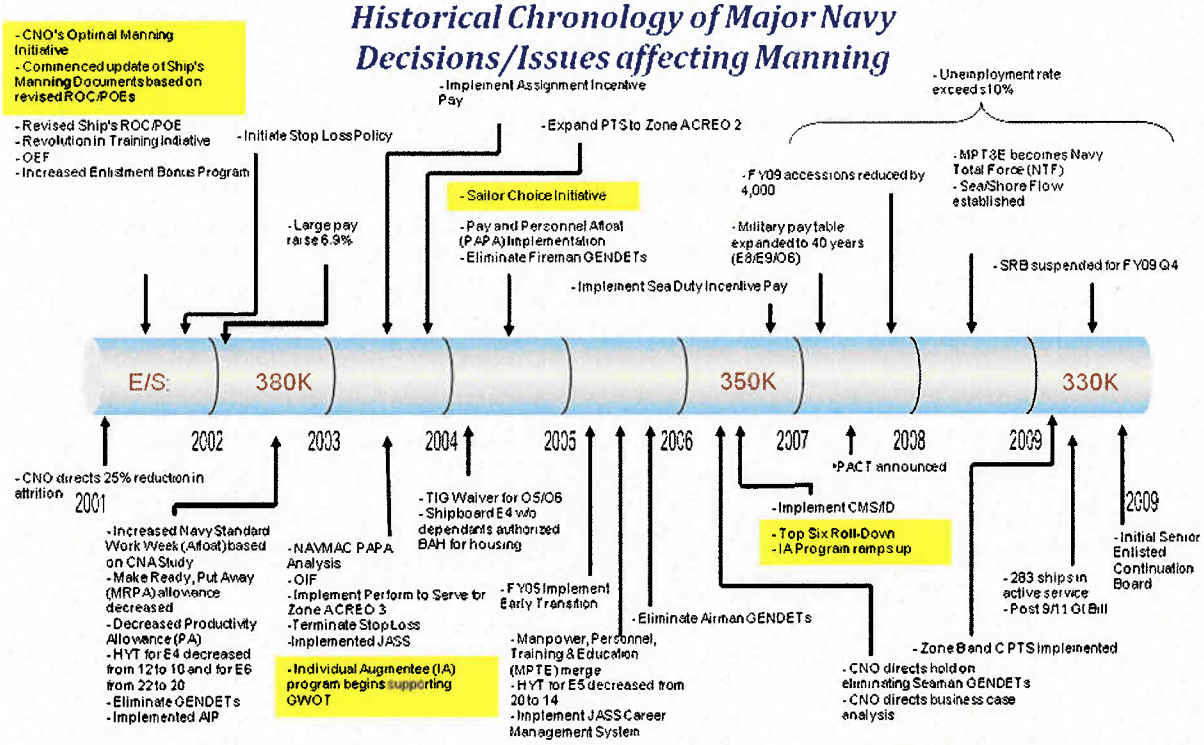

Figure 3.4-1b

Figure 3.4-2 depicts the manning reductions over the past eight years by ship class. Manning assigned to ship's designated as Optimum Manned Ships (OMS) has continued to decline since 2001. This reduction in work force was centered on analysis of operational watch standing requirements. Conversely, manpower required for corrective maintenance and intermediate level repairs has not been adequately considered. Further, current NAVMAC algorithms for determining crew sizing do not account for corrective maintenance, and the validation of the Ships Manning Documents remains on a seven year cycle, making resolution of manpower deficiencies unresponsive to the needs of a surface force facing significant material readiness challenges (Appendix 008).

CLASS	BILLETS AUTHORIZED (FUNDED)								LOST
	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	BILLETS
DDG 51 FLT I	294	272	264	264	247	247	247	247	47
DDG 51 FLT II	304	304	306	290	290	280	255	256	48
DDG 51 FLT IIA PTI	291	291	294	294	291	274	247	254	37
DDG 51 FLT IIA PT II	291	291	294	294	292	268	247	252	39
DDG 51 FLT IIA PT III	293	293	275	275	275	275	247	252	41
CG NON-SMART	332	332	326	326	310	310	304	298	34
CG SMART	321	321	310	300	297	297	291	291	30
FFG 7	201	201	193	199	199	199	199	172	29
LHA 1	1023	1023	1023	1023	1023	1023	981	981	42
LHD 1	1069	1069	1069	1069	1069	1069	984	984	85
LPD 4	347	347	347	347	347	347	352	337	10
LPD 17							328	316	12
LSD 41							291	280	11
LSD 49							295	284	11
LCC 19	687	687	687	687	687	561	561	561	126
LCC 20				148	148	148	161	148	0

Source: SWE Manpower Change, Fy02-FY09 dtd 11 October 2009 pp. 2-3

Figure 3.4-2

One consequence of the reduced manning is an increased backlog in ship's force capable (TA4) repair requirements. Figure 3.4-3 shows the rise in TA4 backlog across the surface force (Appendix 011).

Optimum Manned Ships, combined with the additional effect of reducing grade levels of selected billets via the Top Six Roll-Down initiative (Appendix 035), has caused a diminution of on board level-of-knowledge, experience, and oversight of the work force across the ship. Additionally, the requirement to man ships to a billets authorized (BA) level was a major tenet of

the Optimum Manned Ships, yet this tenet has never been attained as ships continue to only receive "fair share", or Navy Manning Plan (NMP) manning levels. Finally, in addition to these historic manning reductions, there is a perpetual concurrent personnel loss of approximately 8.4% of BA due to IA contributions and unplanned manning losses due to legal, medical, school, and pregnancy, etc. (Figure 3.4-4). Not shown, but further adding to the manpower dilemma is the requirement for the ship to continuously fulfill around-the-clock force protection security watches, even in homeport.

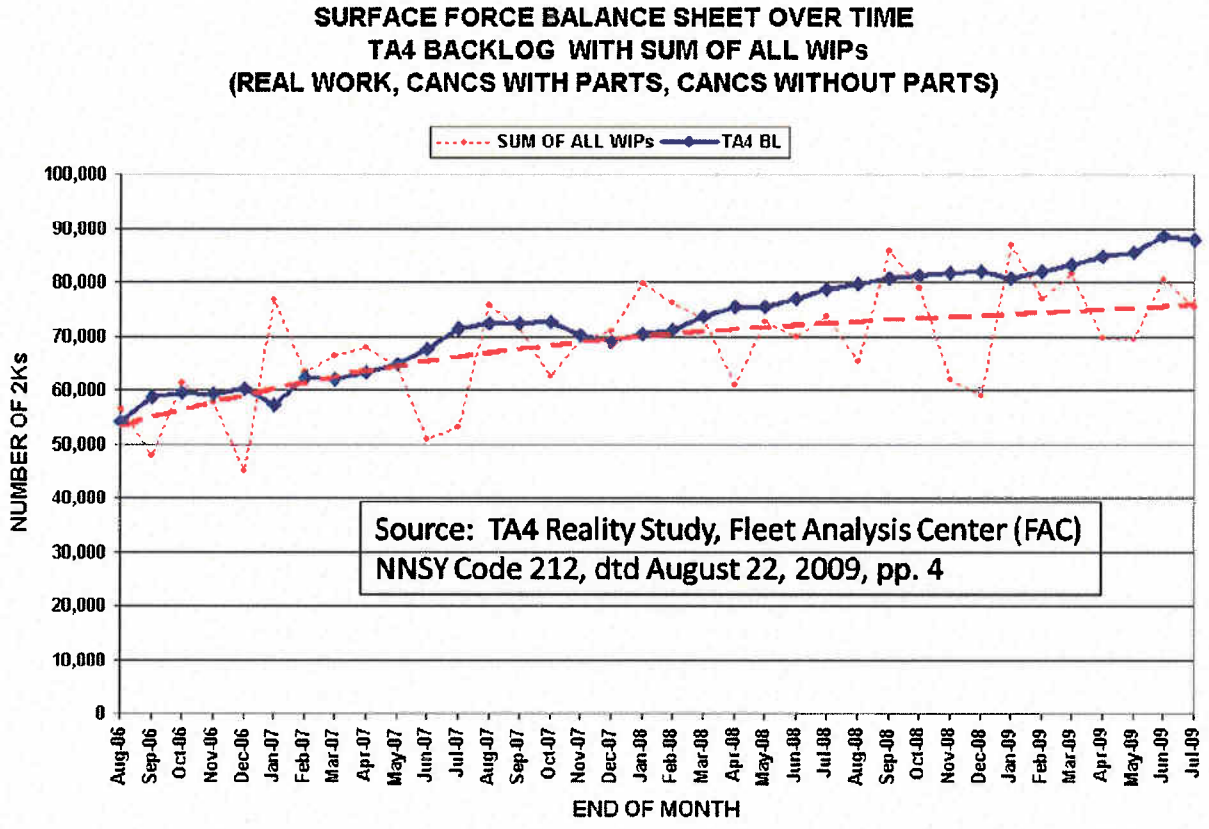

Figure 3.4-3

There are recommendations below that call for increasing manning on Optimum Manned Ships immediately to 110% of BA, and initiating a study to determine additional manning numbers based upon maintenance vice operations. Included in the study should be the added needs of RMC and ATG for Sea-Shore rotation (Appendix 020); RMC for intermediate level maintenance, and ATG for the additional training and assessment tasking recommended in this report. The period allotted the Panel in its tasking was insufficient to conduct a detailed analysis that produced accurate numbers, but a rough estimate was performed that suggests 4,496 billets

are needed at sea (110% BA) and 2,028 ashore (does not include S/S needs). See Appendix 024 for the Panel's calculations, and Appendix 028 for separate IMA calculations.

Limitations to our legacy manning and distribution processes are resulting in low attained values of NEC Fit (rank, rating and NECs) with a current manning average of 61% for at-sea surface units. (Appendix 003.) This situation has resulted in a gap between the actual on board crew, and the required number of Sailors with the needed advanced skills to do the work, including preventive maintenance and repairs. Additionally, fewer journeyman Sailors on board

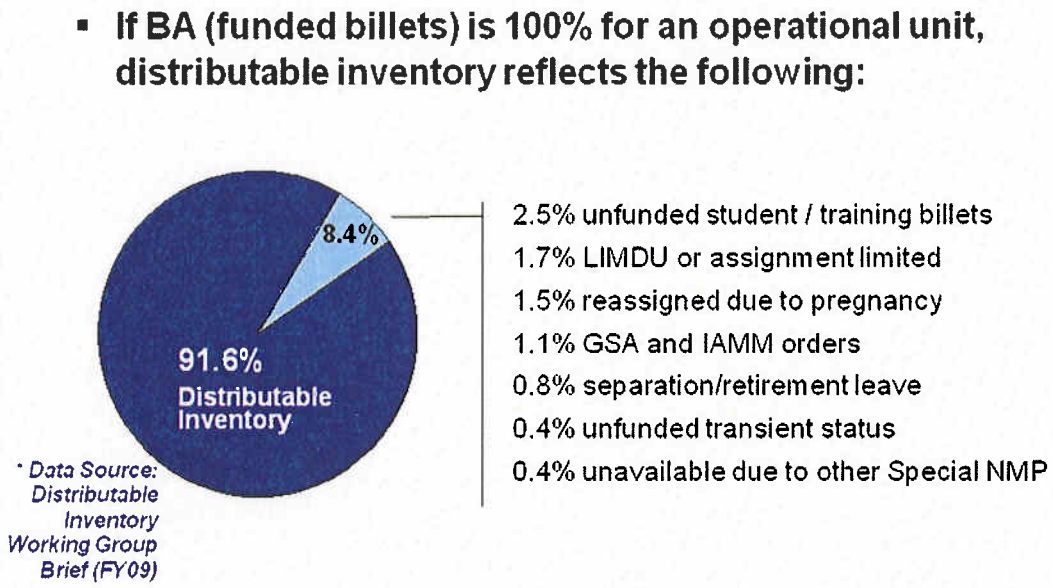

Figure 3.4-4

ship mean fewer skilled teachers for the development of their apprentice Sailors. While the current capacity of the C-Schools appears adequate to meet throughput requirements, the current distribution process results in a significant under-utilization of school seats. The limitations of the Navy-wide distribution process now puts the burden on each ship to obtain the TADTAR resources and send personnel sorely needed on board to attend these off-ship critical schools.

Further compounding this situation, the Top Six Roll-Down initiative created occasions where the reduced seniority of technical personnel makes them ineligible to qualify for C-School attendance.

3.4.2 Recommendations.

3.4.2(a) Increase manpower of Optimum Manned Ships and ATG immediately to 110% of current BA to compensate for the 8.4% perpetual loss of personnel. This in effect restores manning levels to the BA target intended when Optimum manning was instituted.

3.4.2(b) Initiate a study immediately to determine actual shipboard manning requirements based on "maintaining" the ship, in addition to watch standing and operational requirements. The Panel firmly believes, but cannot confirm within the time limits of this review, that it takes more people (numbers and qualifications) to "maintain" the ship than are needed to "operate" the ship, regardless of ship class. See more details and rough estimates in paragraph 3.4.1 above.

3.4.2(c) Establish a coordinated Sea/Shore (S/S) strategy which provides targeted, career enhancing shore duty opportunities where craftsman skills can be grown and developed. Leverage shore maintenance organizations, assessment teams, and advanced skills training staffs to size and shape technical skills capabilities across the Navy.

3.4.2(d) Approve and provide 85% DNEC Fit requirement.

3.4.2(e) Review Top Six Roll-Down criteria, with surface technical ratings as first priority, to determine NEC attainment barriers, (e.g. unrealistic rate requirement for attendance), and for each barrier, provide plan to mitigate. Include within the review the particular role and needs of ATG.

3.5 Training.

3.5.1 Observations/Findings. Figure 3.5-1a and 3.5-1b below show the significant changes to training that have occurred in the past decade. Appendix 018 provides additional information.

Enlisted training must focus on improving the continuum of learning for each Sailor -- shore to sea. The Panel's discovery and feedback from waterfront visits indicate that apprentice or "A" level training must be enhanced to ensure a Sailor is better prepared to participate in basic maintenance and repairs the moment the Sailor crosses the brow of his first ship. Absent this initial level of apprentice training, ships rely on dwindling numbers of on board journeymen level Sailors to train those newly reporting apprentice personnel.

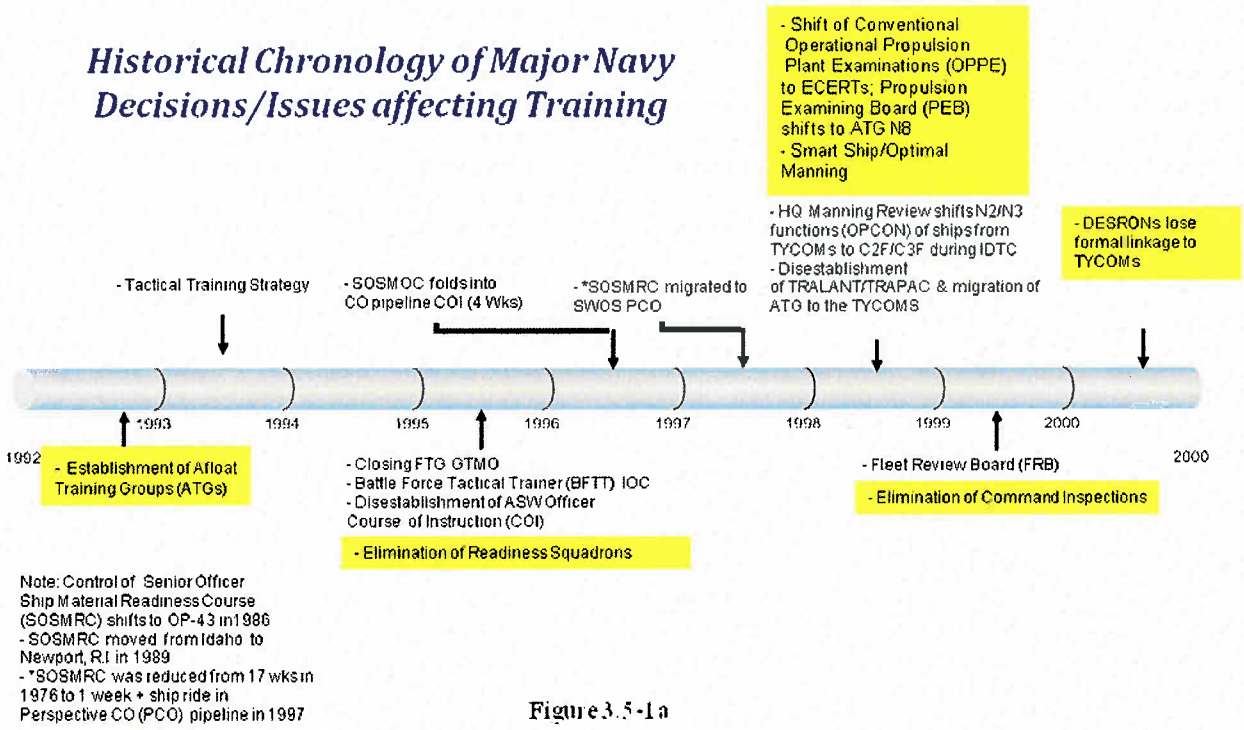

Figure 3.5-1a

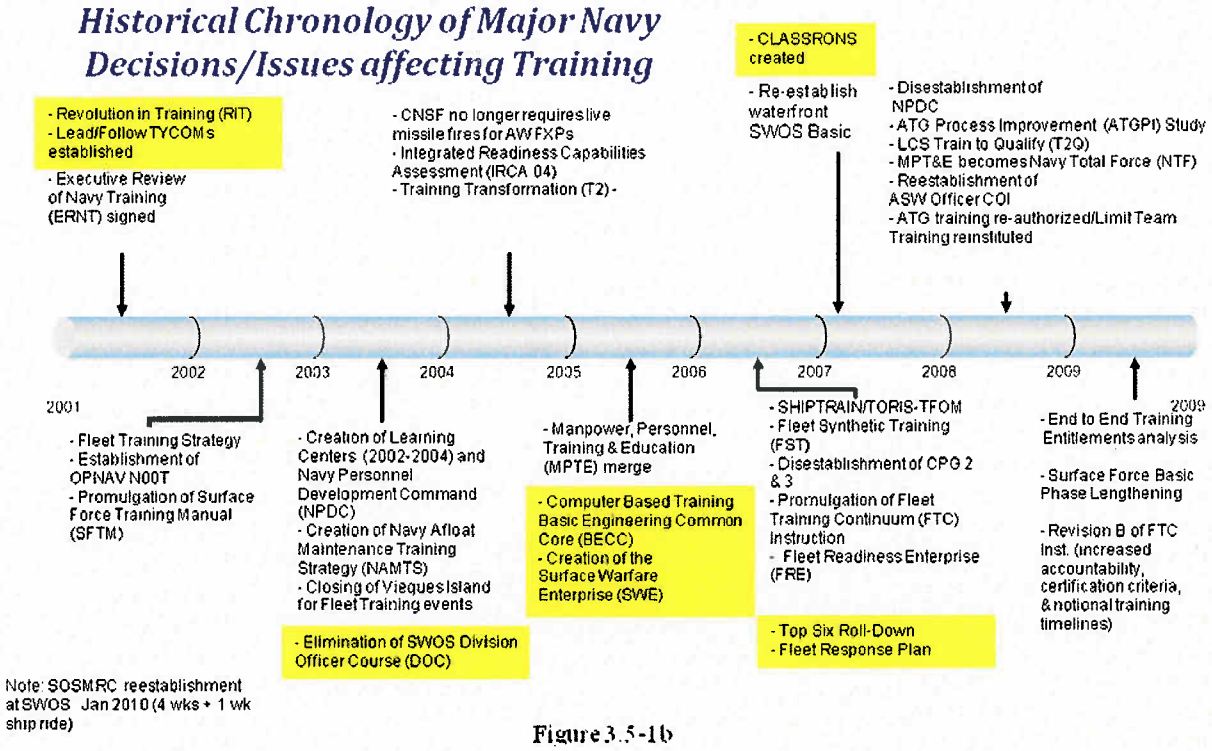

Figure 3.5-1b

There appears to be limited formal in-rate training program requirements, and when in-rate training is in place, there is marginal execution. Personnel Qualification System (PQS) standards observed aboard various units ranged from unsatisfactory to good. Many Sailors, on board for six plus months, reported that they had completed no PQS. On one LSD, PQS entries were at 598 for the year compared to a class average of 16,740. Of interest, this ship also had some significant material readiness issues and failed INSURV. Figure 3.5-2 shows averages, highs and lows by class. These numbers are so widespread that they also suggest there is less discipline in the shipboard PQS program than desired. While PQS largely focuses on watch station qualifications, it does include required follow-up training for A-School graduates upon reporting to their first ship as part of Basic Engineering Common Core (BECC). Lack of time available due to reduced manning, operational demands, and limited journeyman availability also contribute to low PQS accomplishment. Some of our newest ships had a high number of entries, some of our oldest had far fewer entries, attesting that ship age is not a factor. Appendix 006 provides details including the Fleet Review Board Program Review from which this analysis was drawn.

	Ship Class		
PQS Entries	CG	DDG	LSD
Class Avg	21,609	22,303	16,740
Class High	30,127	39,897	37,911
Class Low	10,973	10,813	598

Figure 3.5-2

Findings for advanced skills training revealed that some of those entering C-School had not progressed in their prior assignments to a level that enhanced or supported the advanced training. Additionally, the limits of TADTAR funding and on board manning hampered efforts for ships to "grow their own." The biggest paradox in the Panel's findings on Navy schools is that C-School utilization rate is only 65% while the Fleet NEC (Fit) is 60%-65%. The Fleet needs 35-40% more C School grads while 35% of the available seats for each class go unfilled. See Appendix 015 for background material on A School and C School.

The level-of-knowledge of newly reporting officers is lacking. There is a surplus of ensigns assigned to each ship which challenges the capacity of the senior officers and Chief Petty Officers to train them. DDG's are mustering approximately 32 officers where ten years ago they mustered 21. On all ships visited by the Panel, the Wardroom outnumbered the Chiefs Mess by two to one. "I barely have the time to assist one new ensign much less two or more" was quoted by one CPO. ATG teaching a SWOS indoctrination course in Fleet concentration areas is a step

in the correct direction. However, ATG isn't resourced to teach this course. The SWOS indoctrination course has pulled ATG personnel from other equally important duties. Additionally, the opportunity to gain ship handling experience and skills is reduced by increased number of junior officers on board and a potential reduction in post deployment sustainment phase underway days due to budget mitigations. The true impact of this situation may manifest itself in a few years when the officers return to sea as Department Heads.

3.5.2 Recommendations.

3.5.2(a) Expand skills level training in the A-Schools, or create an augmenting training capability and capacity on the waterfront to improve A-School graduate repair expertise. Either approach must enhance Sailor initial skills set to allow apprentice level Sailors to participate sooner in activities supporting material readiness.

3.5.2(b) Conduct a comprehensive review of occupational standards for surface technical ratings to support improvement of apprentice level training.

3.5.2(c) Relocate more C-Schools to Fleet concentration areas to provide additional opportunities for advanced skills development. This approach may require traditional lengthy C-Schools to be modularized for accomplishment in yearly increments and for delivery in Fleet concentration areas.

3.5.2(d) Develop formal afloat technical training program. See also Section 5.3.

3.5.2(e) Incorporate into all surface warfare officer training curricula a foundation and understanding of the material readiness standards of the surface force as developed in response to Section 3.8.

3.5.2(f) Concur with the restart of the SOSMRC course of instruction for prospective executive officer and prospective commanding officers. See also Section 5.4.1.

3.6 Organization. This section contains the Panel's observations, findings and recommendations of a systemic nature regarding organizations specifically focused on material readiness of the surface force: Regional Maintenance Center (RMC) and Surface Ship Life Cycle Maintenance Activity (SSLCMA).

3.6.1 The organization and processes for maintenance in Fleet concentration areas varies from those associated with public shipyards to those that are private. Historically the RMCs have provided "quick response" repairs to our ships and have served as an excellent Sea-Shore rotation for Sailors in maintenance ratings. Those Sailors returning to sea duty not only had enhanced technical expertise, but were imbued with a maintenance "culture" that could be imparted to younger Sailors such as recent A-School graduates. Irrespective of local

organizational fit, consistent with all RMCs is the decline in Sailor manning at all locations from that of historic levels. As shown in Appendix 018, Historical Chronology and Timeline, numerous separate actions since 1993 have eroded both manning and organizational response of the RMCs. Figures 3.6-1a and 3.6-1b show many causal factors to declining waterfront maintenance support since 2001.

The net result is depicted in figure 3.6-2 wherein RMC manning has declined from nearly 8,000 to just over 2,500 billets today, with more reductions planned.

This decline in manning and change in organizational realignments have not only impacted shipboard repairs and material readiness, but is detrimental to Sea-Shore rotation. Today the RMCs are located and organized as depicted in Figure 3.6-3.

The Panel has several recommendations regarding waterfront maintenance organization in paragraph 3.6.2 below. The primary goal of these recommendations is to improve the responsiveness of RMCs to shipboard maintenance by relocating and aligning them closer to the waterfront, and manning them sufficiently to address the ship maintenance backlogs and to provide proper Sea-Shore rotation opportunities.

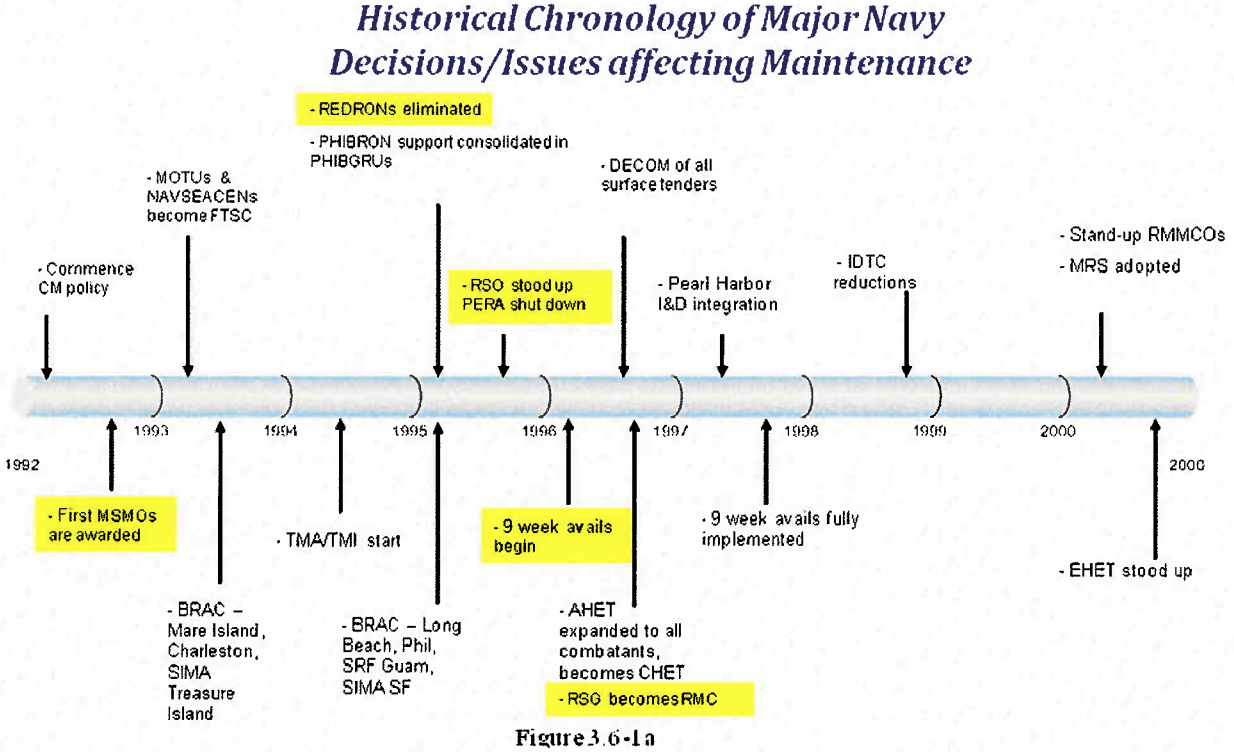

Figure 3.6-1a

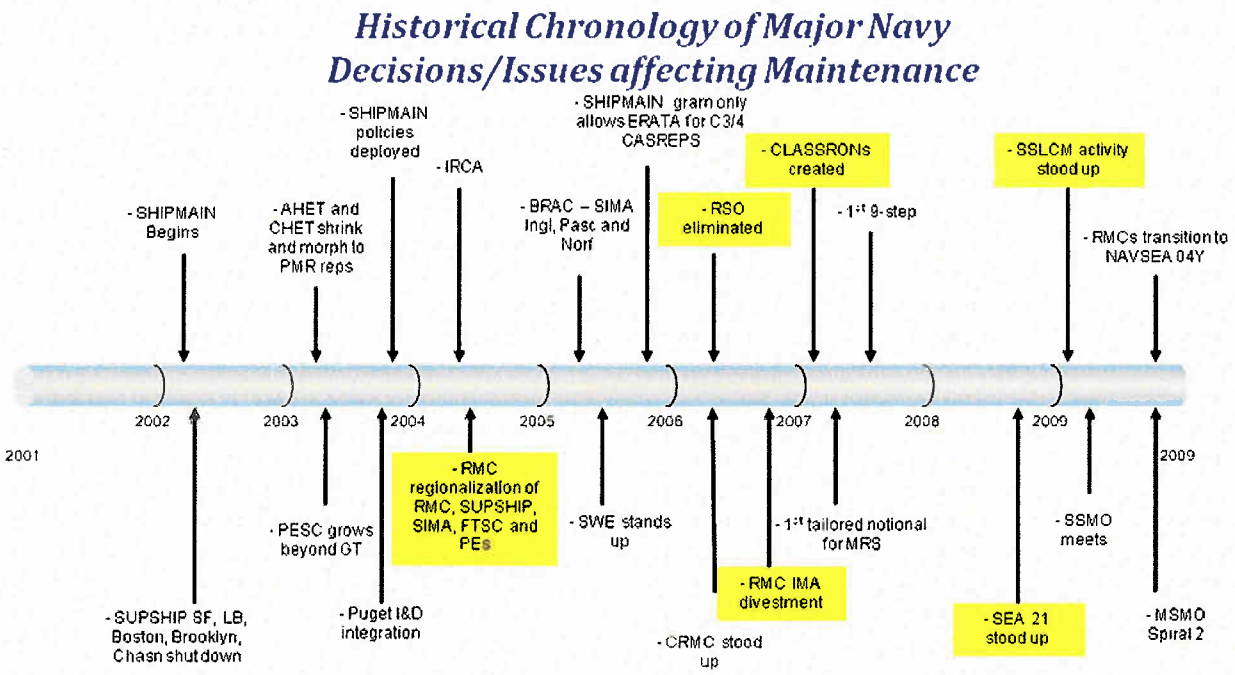

Figure 3.6-1b

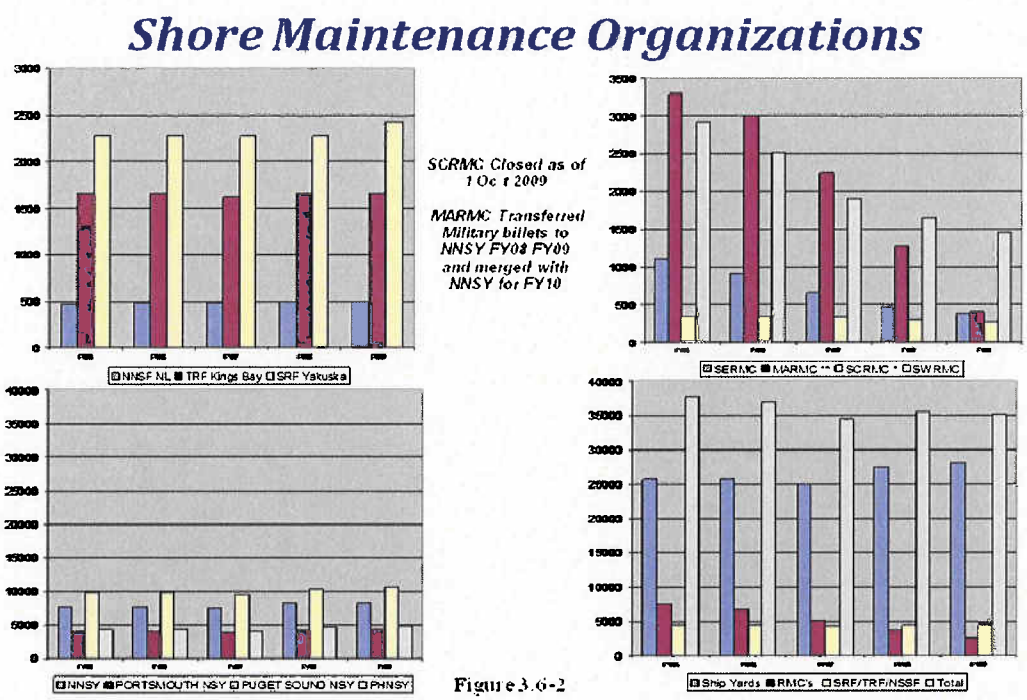

Figure 3.6-2

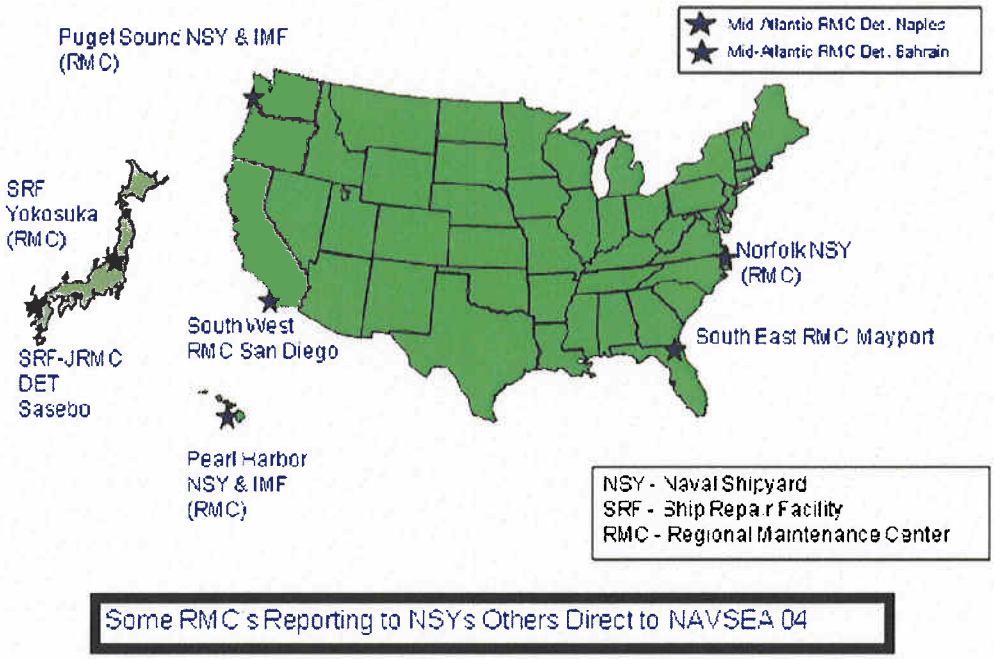

Figure 3.6-3

In San Diego, the RMC has focused the weight of their effort in five functional areas (electronics, engines, corrosion control, machine, and weapons). This has signaled to MSMO contractors that ship repair work in those areas will be assigned to the RMC. This focus by the RMC has allowed MSMO contractors to reduce or eliminate any capital investment in those five areas improving their maintenance costs. San Diego is "right sizing" these functional areas to best manage the historical maintenance workload from the Fleet. The result has been an efficient and effective balance of Fleet support between industry and the RMCs. Japan is a unique environment, more so than most Fleet concentration areas, and will not be addressed in this review. Determination of the most productive and effective manning levels (balancing Sea-Shore rotation and required maintenance for the Fleet) in Fleet concentration areas must be addressed, but is beyond the scope of this review. Appendix 028 provides some sample manning proposals for Southwest RMC and Mid-Atlantic RMC, but these proposals only consider maintenance requirements and not Sea-Shore rotation needs.

Deep maintenance involves those repair items that are the greatest determinant of the service life of a ship. Distributed systems, structure, corrosion, tanks and voids head this list. The surface force does not accurately know the full extent of the current total deep maintenance requirement, either by ship class or for the total force. (There has been a recent assessment of

the deep maintenance requirement for the DDG class, and it may be reviewed in Appendix 017, DDG Service Life N81. Additionally, a detailed engineering assessment of the service life for DDGs by BIW is contained in Appendix 031.) Consequently, until all ship class assessments are complete, an accurate case cannot be made in the planning, programming and budget process to resource surface ship maintenance to the "full requirement". There is an imperative to complete this assessment as soon as possible. Waterfront maintenance decisions in the past favored current readiness maintenance over deep maintenance and lacked a formal, integrated maintenance process. The advent of the Surface Ship Life Cycle Management Activity (SSLCMA) is an excellent first step. Nuclear aircraft carriers have a disciplined maintenance requirements process with the Carrier Planning Activity (CPA). The submarine community has an equally disciplined process with Submarine Maintenance Engineering Planning and Procurement team (SUBMEPP). SSLCMA was established in 2009, and has made modest gains and its efforts are strongly supported by the Panel. However, SSLCMA as configured and resourced falls well short of meeting surface force readiness requirements. The comparisons between SSLCMA and SUBMEPP are highlighted in Figure 3.6-4 and as can be seen, the differences are significant. Appendix 012 provides more detail concerning SSLCMA and SUBMEPP. Appendix 014 contains the related documents for SUBMEPP and the SUBRON (ISIC) relationship pertinent also to the Chain of Command Section 3.7.

During the course of the Panel's deliberations, NAVSEA and SEA 21 expressed recognition of the importance of SSLCMA and SUBMEPP having similar capability. The Panel believes SSLCMA should expeditiously be transformed to a SURFMEPP. Technical papers, ship sheets, and Integrated Class Maintenance Plans (ICMP) need to be developed for every ship class as a matter of priority with DDG and LSD classes having top priority.

SSLCMA/SURFMEPP should support the Type Commander maintenance work definition and budgeting process, develop surface ship availability work packages and perform related logistics support and engineering functions in support of NAVSEA. It is interesting to note that while PERA CRUDES was disestablished in 1995, PERA (SS) which evolved into SUBMEPP is in its 42nd year of operation. In a business where actions taken and resultant effects are often separated by years, consistency is a valuable quality, a quality sorely missing in the surface warfare enterprise.

SURFMEPP should certify the life cycle maintenance plans, validate the work assigned and work completed at the end of any CNO availability and validate that it is of the right quality. SURFMEPP core products should include class maintenance planning (engineering analysis, configuration data, and completion requirements), availability planning, production of

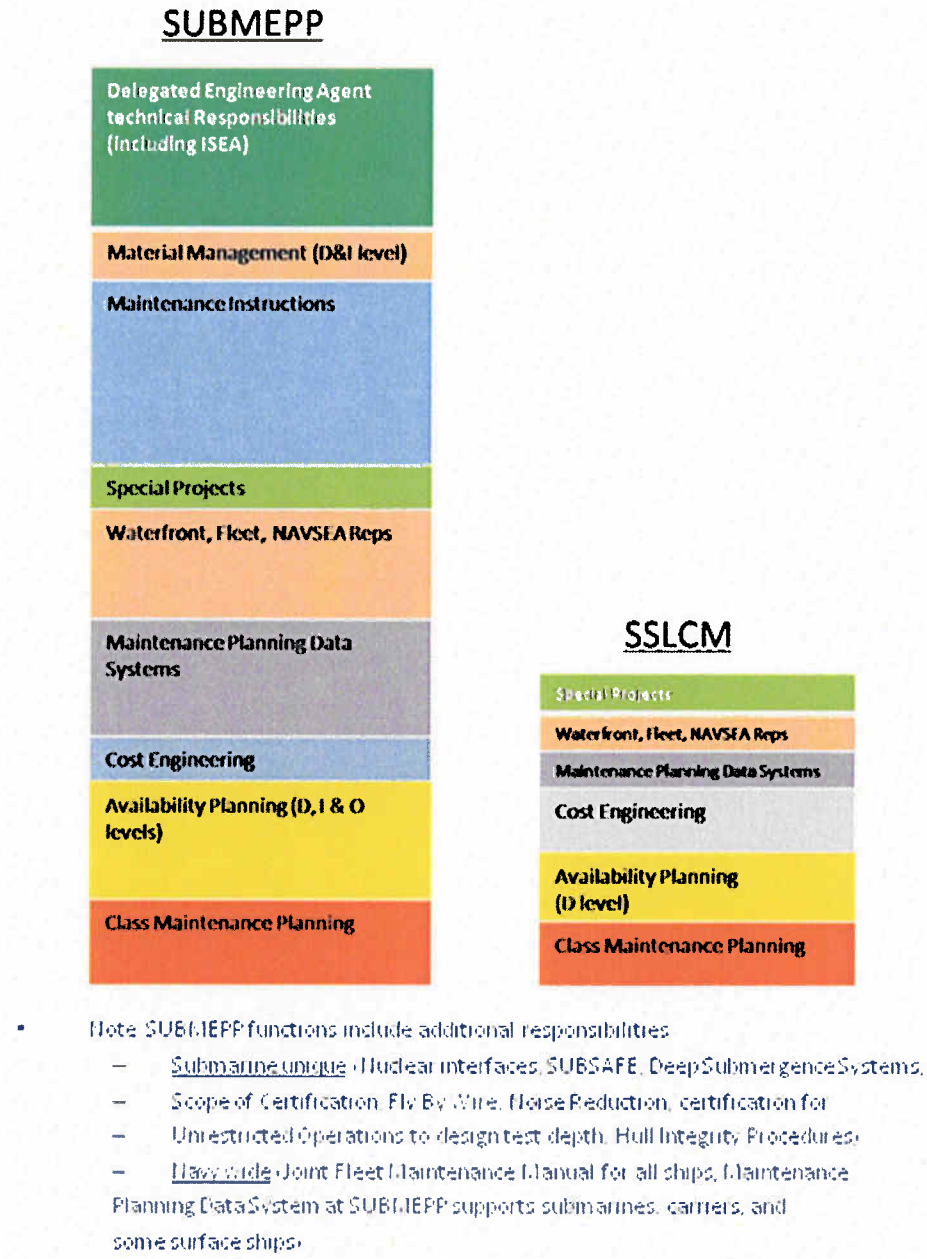

Figure 3.6-4

maintenance instruction documents (specifying technical work requirements) and corporate material support, (coordinating advanced equipment and component repair, material forecasting and long lead time material). With many of our ships at the 10-15 year point of commissioned service, the pace of SURFMEPP activity must proceed with a sense of urgency. Companion to the establishment of SURFMEPP and covered separately under Material Readiness, third party assessment of surface force ships and the activity of SURFMEPP are interdependent.

3.6.2 Recommendations.

3.6.2(a) Move RMCs to the waterfront to improve intermediate level maintenance responsiveness and increase potential Sailor technical training opportunities.

3.6.2(b) Interrupt the current downsizing of RMC Sailors now until the optimum mix of Sea-Shore rotation and ship repair needs can be determined. RMC manning estimates in Section 3.4 of this report consider maintenance needs only and not those of Sea-Shore rotation.

3.6.2(c) Establish core capabilities for each RMC similar to those in San Diego. These do not have to be identical and, in fact, some differences will provide Sailors even more technical opportunities and experience on shore duty.

3.6.2(d) Shift control of RMCs to the surface Type Commanders.

3.6.2(e) Establish common focus among RMCs to reinforce material readiness goals and training of Sailors, creating a culture of proactive maintenance and development of force-wide technical expertise.

3.6.2(f) Expand SSLCMA to a SURFMEPP organization mirroring SUBMEPP in responsibilities, resources and authority. The accelerated plan proffered by SEA 21 in Appendix 012 is considered a great start, but not considered comprehensive enough or fast enough.

3.7 Chain of Command

3.7.1 Observations/Findings. The lines of authority, responsibility, and accountability have become unintentionally blurred in the surface force and have hindered surface force effectiveness. It is important to understand command relationships and the authority and responsibility vested in Type Commanders. Moreover, it is important to understand the concomitant responsibilities that Type Commanders have accreted in the establishment of the Fleet Readiness Enterprise (FRE) as an element of the broader Navy Enterprise. The following paragraphs will provide Type Commander inherent responsibilities and offer a chronology of the establishment of the Fleet Readiness Enterprise and how issues of command relationships have blurred lines of authority, responsibility, and accountability in the surface force. Appendix 016 provides additional detail.

Type Commanders, such as Commander, Naval Surface Force Pacific (CNSP) and Commander, Naval Surface Force Atlantic (CNSL), exercise administrative control (ADCON) over forces assigned under their command. Administrative control is defined by Joint Publication 1-02 as: "direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of

resources, equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations".

In August 2001, the Chief of Naval Operations issued NAVOP 009/01 that announced change to Navy alignment in order to achieve greater unity of effort in fulfilling Title 10 organize, train and equip responsibilities.

In NAVOP 009/01 Commander, U.S. Fleet Forces was assigned responsibility for coordinating, establishing and implementing integrated requirements and policies for manning, equipping and training Atlantic and Pacific Fleet units during the inter-deployment training cycle (IDTC). Lead Type Commanders, in this case Commander Naval Surface Force Pacific assumed concurrent duties as "Fleet Type Commander" (Commander, Naval Surface Forces) and was expected to lead his community and advise Commander, U.S. Fleet Forces of vital issues, e.g., modernization needs, training initiatives, and operational concept development. Commander, Naval Surface Forces was under Commander, U.S. Fleet Forces administrative control (ADCON) for establishing and implementing policies and requirements for IDTC manning, training and equipping.

A joint message authored by Commander, U.S. Fleet Forces and Commander, U.S. Pacific Fleet in September 2004 detailed Carrier Strike Group (CSG) naming and organizational alignment. This 2004 CUSFF/CPF message reaffirmed that Type Commanders such as CNSP and CNSL would exercise administrative control (ADCON) over respective individual units throughout the four phases of the Fleet Response Training Plan (FRTP) and support units with appropriate services (IT, maintenance, materiel, personnel, resources, training, etc). Further, CSG commanders were aligned for additional duty (ADDU) to Type Commanders.

In an effort to further mature the alignment vision articulated in NAVOP 009/01 in August 2001, the Fleet Readiness Enterprise (FRE) was established in November 2005 as an element of the broader Navy Enterprise. According to NAVADMIN 204/06, issued July 2006, the Navy Enterprise framework was described as, "...the Navy Enterprise framework is a behavioral model. It operates within our existing command structure to clarify accountability for Navy-wide efficient use of resources, promote enhance coordination and collaboration among all stakeholders in mission effectiveness, and streamline decision making". At the time, Navy's highest priority was to "produce and deliver the most effective warfighting force to combatant commanders within the most efficient allocation of the Navy's resources".

NAVADMIN 204/06 further described Navy's "primary product" as operational forces ready for tasking by Combatant Commanders worldwide and that the FRE was charged with "optimizing the cost-effective delivery of that product". The most recent FRE Charter dated 18

February 2009 described the FRE's purpose: develop integrated improvement, initiatives, controlled by single process owners at FRE, warfare enterprise or integrated training domain level, dependent on initiative, to increase FRE's effectiveness to deliver operational forces ready for tasking by Navy Component Commanders at required levels at best cost.

The Surface Warfare Enterprise (SWE) is one of five warfare enterprises in the Fleet Readiness Enterprise. NAVADMIN 204/06 designated Commander, Naval Surface Forces as the single process owner for the Surface Warfare Enterprise. The Chief Readiness Officer (CRO) is Commander, Naval Surface Force Atlantic. According to the SWE Charter dated 17 November 2008, the CRO's focus is current readiness of the surface force as it applies to man, train, and equip issues.

On 1 October 2007, in an effort to empower the Warfare Enterprise, with the goal of better aligning resources with authority, Commander, U.S. Fleet Forces and Commander, U.S. Pacific Fleet consolidated Type Commander financial management under a single comptroller with "1517" (Anti-deficiency Act) responsibility at the "Lead" Type Commanders. In this case, Commander, Naval Surface Forces established a single comptroller that would be responsible for resource allocation and financial management for Commander, Naval Surface Force Pacific and Commander, Naval Surface Force Atlantic.

Eight Class Squadrons (CLASSRONs) were established in 2007 for the following ship classes: Patrol Coastal (PCRON), Destroyer (DDGRON), Cruiser (CGRON), Frigate (FFGRON), Littoral Combat Ship (LCSRON), big deck amphibious ship (LHA/LHDRON), Dock Landing Ship (LSDRON), Mine Sweeper (MCMRON). According to CNSF: "CLASSRONs are functional command organizations that represent each major class of surface ship. Appendix 013 provides detail on the Missions, Functions and Tasks of the CLASSRONs. Led by Commander, Naval Surface Force, U.S. Atlantic Fleet, serving as Chief Readiness Officer, each of the eight CLASSRONs is responsible for manning, training, equipping, and maintenance aspects of ships in their class ... CLASSRONs directly drive process improvement, influence fiscal policy across the SWE, manage the financial operating targets of their ship classes, and, as required, engage SWE stakeholders on class-specific recommendations to improve efficiency and effectiveness of delivering Warships Ready for Tasking."

CLASSRONs have demonstrated significant utility in identifying surface force readiness challenges. However, CLASSRON authority has hampered CLASSRON effectiveness. In the extant structure, CLASSRONs derive their authority from the Chief Readiness Officer operating in the Navy Enterprise model which is defined as a behavioral model. CLASSRONs do not possess legitimate authority under ADCON lines of authority. For example, The DDGRON is home ported in Norfolk, VA, reports to the SWE Chief Readiness Officer (Commander, Naval Surface Force Atlantic), and is the TYCOM agent for the manning, training, equipping, and

maintenance aspects of ships around the globe to include San Diego, Pearl Harbor, and Yokosuka, Japan.

Commander, U.S. Pacific Fleet issued a message in September 2009 that detailed his concerns with command relationships in his area of responsibility so his commanders clearly understand the command relationship arrangements in the Pacific Fleet, with a corresponding appreciation for the authorities and responsibilities. Of particular note, Commander, U.S. Pacific Fleet noted the blurring of authority and responsibility between a Force Commander overseeing Enterprise business under his Enterprise title and a Type Commander executing ADCON responsibilities under his Type Commander title.

The Fleet Review Panel has observed confusion and frustration throughout the surface force, including at the unit level, concerning the authority and responsibility of CLASSRONs, ISICs, and Type Commanders. From Commanding Officers to Chief Petty Officers, it was unclear who is responsible and accountable to deliver surface force readiness.

Further, it is clear to the Fleet Review Panel that the CLASSRON organization chartered within the surface force to drive surface ship readiness are not correctly credentialed and resourced to do their work, and as a result, CLASSRON effectiveness has been limited.

3.7.2 Recommendations.

3.7.2(a) Create from current waterfront manning resources a Readiness ISIC (R-ISIC). Figure 3.7-1 is a diagram of the recommended ADCON and OPCON command relationships for the surface force. This recommendation is consistent with ADCON principles and is consistent with the joint message authored by U.S. Fleet Forces and Commander, U.S. Pacific Fleet in September 2004 detailing Carrier Strike Group (CSG) naming and organizational alignment. Appendix 036 provides current Fleet organizations for both coasts. Current CLASSRON and ISIC manning are depicted in Appendix 013 and 034 respectively.

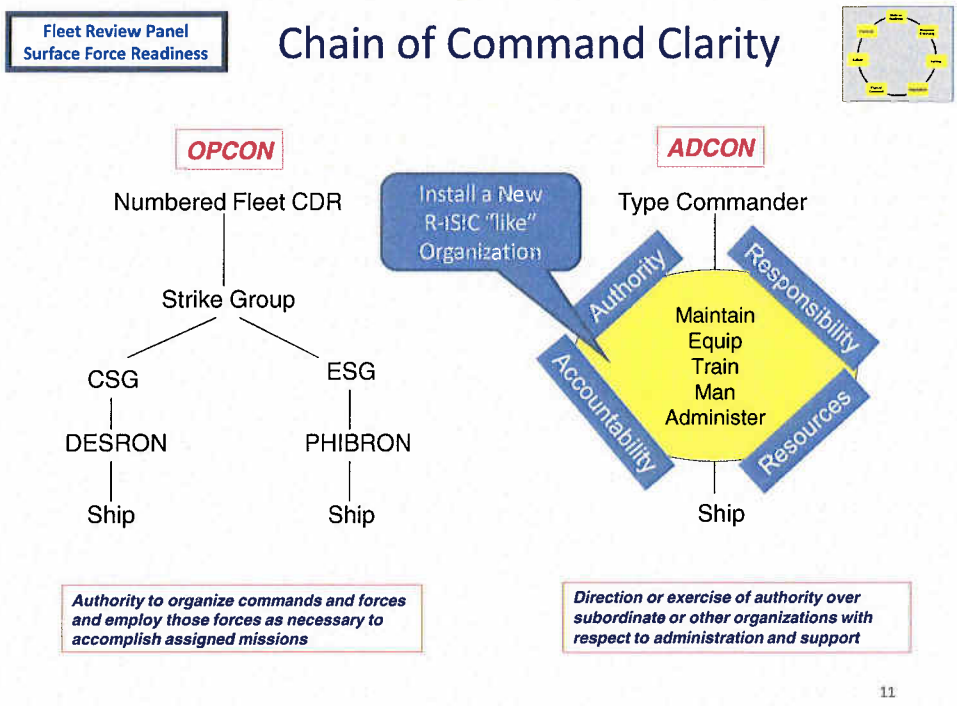

Figure 3.7-1

3.7.2(b) Retain the SWE as a collaborative body, but only so long as it does not encroach upon the Chain of Command.

3.8 Culture.

3.8.1 Observations and Findings. The Culture of the surface force, its officers, chiefs and enlisted, is so complex and broad that no single empirical measure exists. At the top and for nearly a decade global Navy policy has been to achieve greater efficiency. That policy, however, has worked its way down the chain of command to the Sailors on the deckplates in a variety of messages such as this notice to the surface force: SHIPMAIN GRAM # 11 (Appendix 025), *"5. D. Response to C2 CASREPs. As noted in the above discussion of emergent maintenance spending, C2 CASREPs requiring off-ship assistance are expected to be corrected using the continuous maintenance process. It is understood that CASREPs may age until the appropriate repair opportunity arrives. Measures of command efficiency used in the past, such as sailing "CASREP free", are no longer appropriate. The TYCOM staff will not use this metric. SURFOR ISICs also need to modify their approach to pre-underway readiness assessments to ensure no mixed signals are being transmitted."* This greater-Navy policy has succinctly translated to the surface force as, "the right maintenance, at the right time, at the right cost."

This has served to steadily reinforce the notion that less readiness is acceptable. Aside from these top level policy messages, the Panel is left more to its observations than it is to findings, but there are some snapshots that do provide insight to the current culture of the surface force. PQS (Appendix 006) and SPY radar (Appendix 023) are provided below as two of these snapshots, but main drainage (Appendix 037) and DC Closure (Appendix 010) readiness are two more that can be reviewed to similar effect.

PQS is one method that seniors use to train juniors on our ships, and it is the path to watch station qualification. It's how A-School graduates complete their Basic Engineering Common Core (BECC) requirements once reporting aboard and are trained in basic maintenance tasks commonly performed during watches. Measuring PQS completion entries provides some insight into the training discipline aboard our ships. Figure 3.8-1 summarizes the results of looking at three of our most populous ship classes as contained in Appendix 006. Of note is the wide spread of PQS entries in each ship class from the class high to the class low.

	Ship Class		
PQS Entries	CG	DDG	LSD
Class Avg	21,609	22,303	16,740
Class High	30,127	39,897	37,911
Class Low	10,973	10,813	598

Figure 3.8-1

The number of PQS entries does ***not*** correspond with the age of the ship as one would suspect, but are random. For example, the high DDG is DDG 70, the low DDG 51, the first of the class. Some of the newest CGs have more entries than many of the older ones. Two of the troubled CGs that were specifically mentioned in the Panel's tasking letter (PORT ROYAL and CHANCELLORSVILLE) fall below the average for the class. Similarly, the LSD with the lowest number of PQS entries, 598, was also the one mentioned in the Panel's tasker (FORT MCHENRY). It is recognized that there are hundreds of variables behind this data, but those variables exist for all ships. Thus, it appears that a significant portion of the surface force is lacking in PQS completions, and this in turn suggests that many of our ships leaders are at worst not dedicated to training their Sailors, or, more likely, simply are more tolerant of non-completion of PQS. Recent incident reports wherein non-qualified watch standers made critical errors tend to provide further confirmation.

Many of our systems have redundancies designed into them to ensure operational capability is sustained in casualty situations or critical evolutions. There is some evidence to suggest that our ships are consciously accepting degradation in these redundancies in deciding to not replace expensive repair parts or pay for maintenance during availabilities. For example, a

recent deep dive assessment on the SPY radar revealed that replacement voltage regulators were not being ordered. Voltage regulators have historically been a top SPY cost driver, but loss of one would not typically warrant C3/C4 CASREP categorization, tripping a "must order" criteria. Operating in a degraded condition is further evidenced by the declining SPY performance during INSURV AAW DTE. Figure 3.8-2 shows CG results. Appendix 023 provides more detailed background.

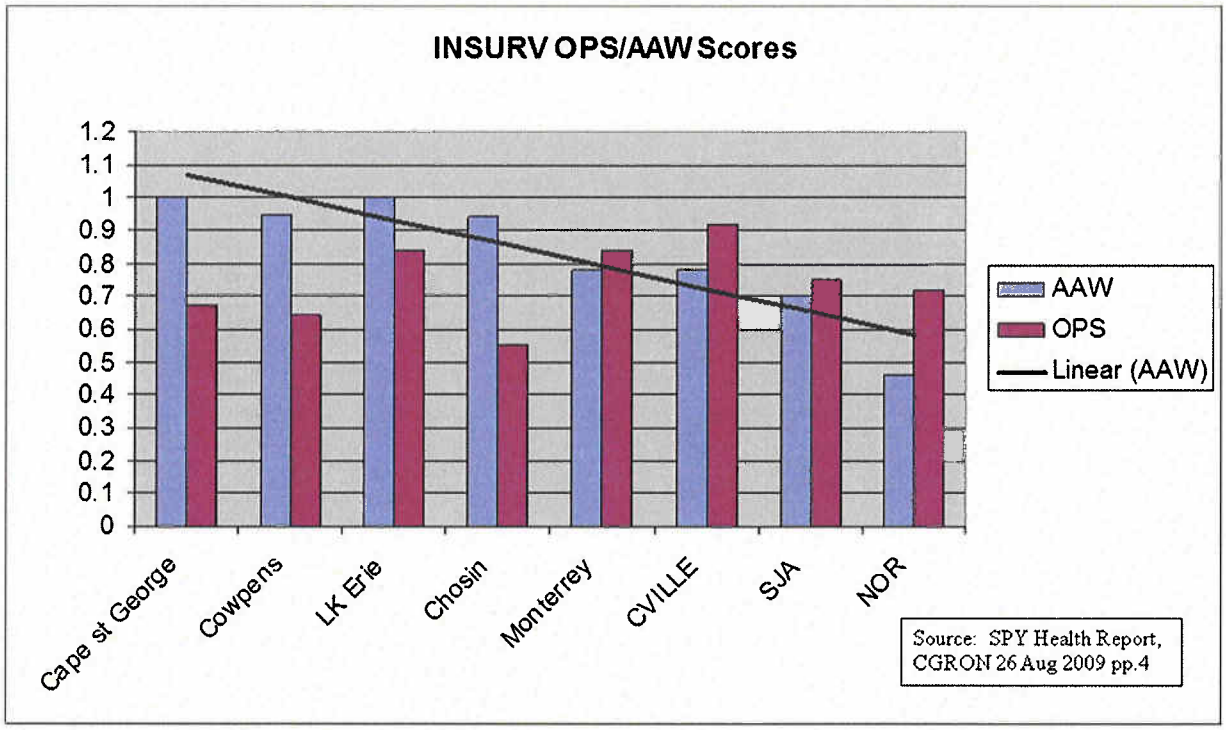

Figure 3.8.2

SPY radar is one of the Navy's best supported systems. Yet, CASREPs are up 41% from FY04 for a variety of reasons, most notably 45% requiring technical assistance. Interpreting Appendix 023, the technicians can't get the money to buy spare parts. They haven't been trained to the requirement. They can't go to their supervisor because, in the case of the DDGs, they likely are the supervisor. They can't repair the radar through no fault of their own, but over time, the non-responsiveness of the Navy system, the acceptance of SPY degradation by the Navy system and their seniors, officers and chiefs alike, will breed (if not already) a culture that tolerates poor system performance. The fact that requests for technical assistance are up Navy-wide suggests there is a diminished self-sufficiency in the surface force. Sailors perhaps are losing their sense of ownership of their equipment and are more apt to want others to fix it.

There are more examples similar to the foregoing, but the point remains the same. Recognizing the risks with any subjective assessment, and while we may have erred somewhat in our interpretation, our observations on the ships, on the waterfront, and in group and individual

interviews substantiate the foregoing interpretations on culture. From the most senior officers to the most junior petty officer, the culture reveals itself in personal attitudes ranging from resignation to frustration to toleration. The downward spiral of the culture is seen throughout the ship, in the long standing acceptance of poor housekeeping, preservation, and corrosion control. Over time, the ignored standard becomes the new norm. Sailors watching their Commanding Officer, Department Head, Division Officer, and Chief Petty Officer step over running rust, peeling non-skid or severe structure damage long enough, associate this activity as the standard. Ships are operating at higher levels of risk by getting underway, whether to deploy or for training, with degraded propulsion equipment and reduced system redundancies. While the severity of current culture climate may be debated, its decline cannot. If left unchecked, a declining culture can only generate a worsening level of surface force readiness. That said, it will take a long, hard pull to turn around attitudes that have developed over an extended period of time. It is the considered opinion of this Panel that we must vigorously reinforce recent efforts to clarify and instill standards aboard our ships.

Among the most fundamental standards is that of "readiness for sea", the failure of which has led to several recent surface force incidents. COMNAVSURFOR's Redline Initiative (Appendix 038) is considered an excellent means to address the "underway at all costs" mentality, and it is strongly supported by the Panel. This initiative has several potential benefits. Specifically, redlines could be applied to completion criteria for CMAVs and CNO availabilities. For example, formal letters could be required from the TYCOM/R-ISIC to certify a ships readiness for sea or satisfactory completion of CMAVs; and from SURFMEPP to certify completion of CNO availabilities. The Redline initiative also serves to further reinforce desired culture in many aspects of ship operation, especially where compliance is critical to safety, life and operations.

3.8.2 Recommendations.

3.8.2(a) Promulgate a clear message on standards promoting the importance of ownership and self-sufficiency.

3.8.2(b) Near term: Rebalance ships' daily work routine to permit attacking the TA4 backlog (Appendix 007), and improve damage control closure readiness to "Satisfactory" (Appendix 010). The recognized initiatives to improve readiness will require more effort and more time on the part of our crews. The incongruence between the oft-stated need for resources and requirements at the shipboard level, and the physical observations of ships' current workday suggests consideration should be given to daily work routine changes for accomplishing more ships maintenance.

3.8.2(c) Insert on the waterfront, a commander and staff (nominally a Readiness ISIC), responsible for communicating, inspecting, and maintaining material standards on the assigned ships. This staff should be accountable, responsible and have the authority to fully complete these tasks. The Panel believes that with some restructurings within Surface Warfare assets, this staff could be formed without addition of either "flagpoles" or people. See recommendations for R-ISIC in Section 3.7.2.

3.8.2(d) Adjust the curricula of all A-Schools, C-Schools, and officer schools to include a clear and unequivocal message on standards, ownership and self-sufficiency.

3.8.2(e) Use the proposed two FRTP cycle assessment proposal recommended in Section 3.3 to reinforce the standards at all levels of every ship assessed.

3.8.2(f) Expand the current CNSF Redlines Initiative to quantify and qualify the message on standards where compliance is critical to safety, life, and operations. Consider completion redlines and formal certification for CMAVs (TYCOM), CNO availabilities (SURFMEPP) and readiness for sea (TYCOM).

3.8.2(g) Include in assessments, inspections, audits and certifications by third party teams, a formal review of ship compliance with established standards. The R-ISIC should be the Chief Assessor for each activity and oversee this review.

3.9 Financials.

3.9.1 Observations/Findings. Surface ship maintenance has been significantly underfunded for over ten years. This is manifesting itself in the degraded material condition of the ships as reflected in recent INSURV reports, corrosion audits, and CASREP data. The decision to transition to condition based maintenance from engineered operating cycle maintenance resulted in the reduction of over 500 man days per month of depot level maintenance from DDG 51 class ships alone and a corresponding reduction in programmed operations and maintenance dollars for ship depot level maintenance. See Figure 3.9-1 and Appendix 022.

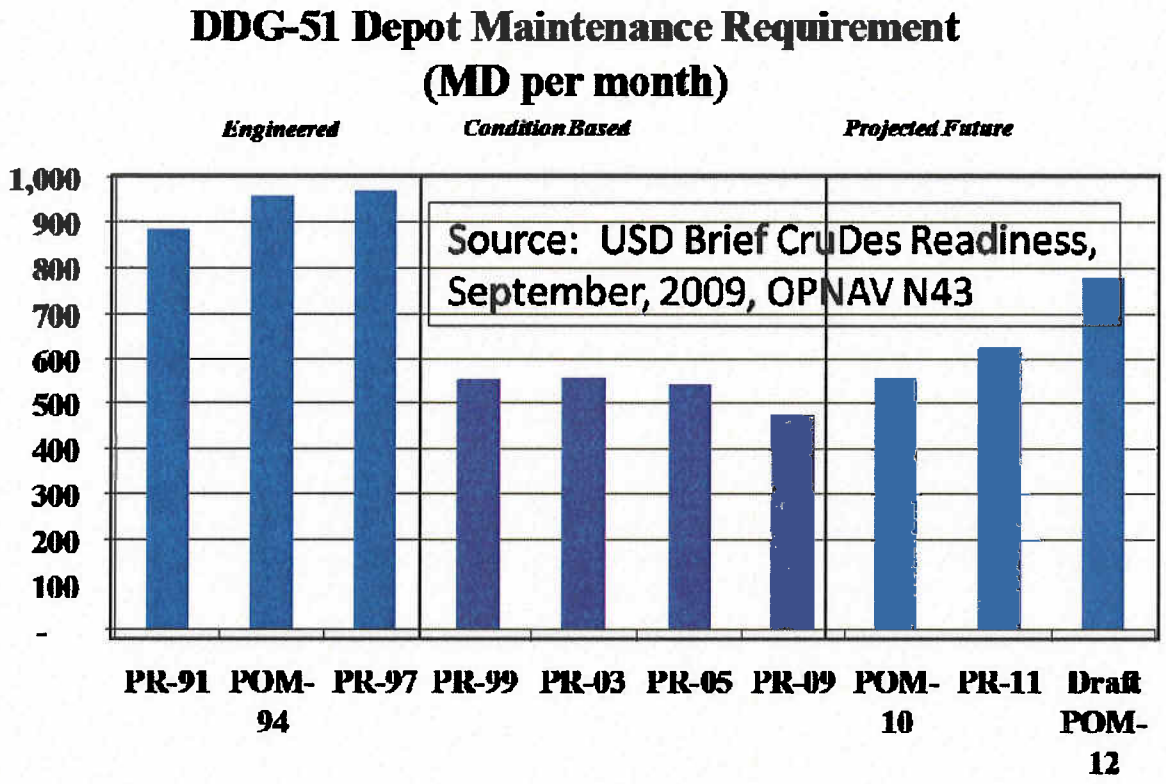

Figure 3.9-1

While the difference was intended to be compensated by an increase in funding and opportunities for continuous maintenance availabilities throughout the year, that never translated into reality. A clear indicator of the fallout of the lack of funding is the steady increase in TA-4 (ship force capable) level work. See Figure 3.9-2.

It may legitimately be said that insufficient funding applied over recent years has not been the result of an unwillingness to fund to the requirement as much as the result of not having a properly identified requirement.

For example, as programmed, it may appear that overall ship maintenance is funded at 95-99%. In reality, since we don't know the true maintenance requirement for conventional surface ships (the "denominator"), it is reasonable to assume that our surface ships receive a lower percentage for maintenance funding when compared to a true requirement. Currently as maintenance dollars are allocated by the Fleets, public shipyards (where the majority of CVN and submarine work is performed) are funded at levels between 97-100 %. That leaves the balance of the maintenance funding left to be allocated to conventional surface ship maintenance. Currently one of only two items in the CNO's Unfunded Requirement list to Congress is $200M for ship maintenance.

The end result is the surface navy is funded below their identified requirement at the start of the year with the goal of making up the balance as money becomes available during execution year. This unstable funding environment almost exclusively impacts the private shipyards, where most of the non-nuclear ship maintenance is performed, and results in higher work rates as jobs get

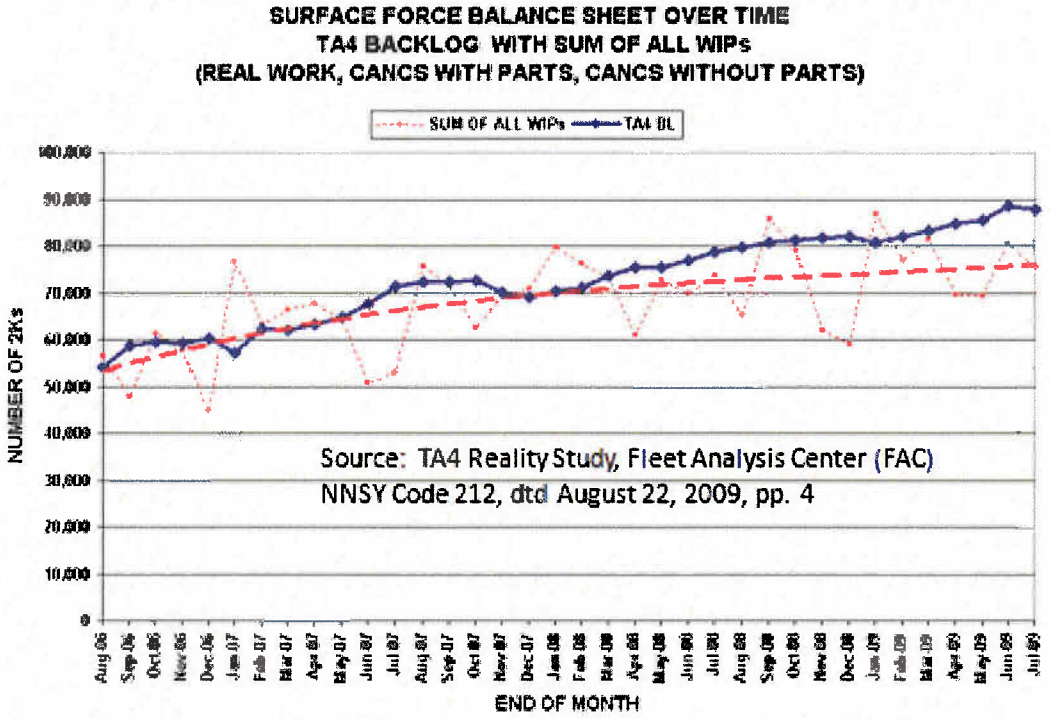

Figure 3.9-2

screened into the availability package later due to uncertainty of funding commitments. The end result is an understated requirement that has been underfunded in the budgeting process that is frequently going to cost more in actual execution because of an unpredictable funding stream, in other words, a low return for maintenance dollar invested. To further impact material readiness, the surface Type Commander frequently has to make irrevocable mitigation decisions earlier in the fiscal year due to projected uncertain (or unfavorable) levels of funding. If a CNO availability is subsequently canceled, or de-scoped prior to midyear money being available, that maintenance most likely will not be made up later in the year. Alternatively, cash flowing throughout the year on the hope that more money will be available later is a tenuous business plan that can leave availabilities scheduled for the end of the fiscal year exposed and unfunded.

In addition to the foregoing the yet to be defined requirement for deep maintenance in distributed systems, structure, and corrosion must be accurately determined as a matter of some

urgency in order to go forward with accurate requirements in the budget process. While some has been captured in deferred maintenance backlog, much is still not identified. Initiatives ongoing by NAVSEA-21 in the SSLCM process should eventually capture the deep life cycle maintenance requirement that has been lost in the transition to condition based maintenance and provide justification for an increase in maintenance funding. But, progress will be slow. Ships do not possess the skills to audit these areas and third party assessment will be required. As discussed in Section 3.3, third party assessments should be undertaken on a recurring, disciplined basis over the FRP to develop the deep maintenance requirement. See Figure 3.3-5. Further, the current NAVSEA sponsored American Bureau of Shipping (ABS) surveys of ship structure are viewed as a significant leap forward in structural assessment technology. They should be accelerated to the maximum extent possible.

3.9.2 Recommendations.

3.9.2(a) Initiate a review to determine means of reducing Type Commander fluctuating execution year maintenance funding for surface ships. The inquiry should include the related costs associated with late planning or late cancellation of maintenance. In year fluctuations of maintenance dollars will otherwise remain inefficient and yield no return in deep maintenance.

3.9.2(b) Fund Corrosion Control Audits and ABS surveys to the fullest extent possible in order to accelerate identification of the deep maintenance requirement. Combined with the increased third party assessment schedules, it is the best and fastest way to establish a valid deep maintenance requirement by which additional funding may be approved.

3.9.2(c) Increase CMAV planning window to decrease premium time costs and improve maintenance accomplishment.

3.9.2(d) Define and fully fund continuous maintenance and depot maintenance requirements.

3.10 Listing of all Systemic Recommendations

The recommendations addressed throughout Section 3 and listed in subsections 3.10.1 and 3.10.2 below all relate to the Circle of Readiness. Those listed in 3.10.1 are considered "Must Do" Priority 1 actions required to establish a minimum, essential, lasting interoperable material readiness infrastructure. Those listed in 3.10.2 directly support this infrastructure and are highly recommended to reach a greater potential of the infrastructure.

3.10.1 Those listed in 3.10.1 are considered "Must Do" Priority 1 actions required to establish a minimum, essential, lasting interoperable material readiness infrastructure.

3.3.2(a) Implement a recurring, notional third party assessment, audit and certification process integrated into the FRTP cycle as presented in Figure 3.3-5. See Section 5.2 of this report for a detailed explanation of a near term assessment process to quickly improve INSURV performance.

3.3.2(b) Increase ATG manning to support their portion of recommended third party assessments. ATG manning in general is addressed separately in this report in Section 3.4 Manpower and Manning.

3.3.2(f) Extend CNO Availability lengths as recommended by CNSF ltr, August 25, 2009.

3.4.2(a) Increase manpower of Optimum Manned Ships and ATG immediately to 110% of current BA to compensate for the 8.4% perpetual loss of personnel. This in effect restores manning levels to the BA target intended when Optimum manning was instituted.

3.4.2(b) Initiate a study immediately to determine actual shipboard manning requirements based on "maintaining" the ship, in addition to watch standing and operational requirements. The Panel firmly believes, but cannot confirm within the time limits of this review, that it takes more people (numbers and qualifications) to "maintain" the ship than are needed to "operate" the ship, regardless of ship class. See more details and rough estimates in paragraph 3.4.1 above.

3.4.2(c) Establish a coordinated Sea-Shore rotation strategy which provides targeted, career enhancing shore duty opportunities where craftsman skills can be grown and developed. Leverage shore maintenance organizations, assessment teams, and advanced skills training staffs to size and shape technical skills capabilities across the Navy.

3.4.2(d) Approve and provide 85% DNEC Fit requirement.

3.5.2(a) Expand skills level training in the A-Schools, or create an augmenting training capability and capacity on the waterfront to improve A-School graduate repair expertise. Either approach must enhance Sailor initial skills set to allow apprentice level Sailors to participate sooner in activities supporting material readiness.

3.5.2(e) Incorporate into all surface warfare officer training curricula a foundation and understanding of the material readiness standards of the surface force as developed in response to Section 3.8.

3.6.2(a) Move RMCs to the waterfront to improve intermediate level maintenance responsiveness and increase potential Sailor technical training opportunities.

3.6.2(b) Interrupt the current downsizing of RMC Sailors now until the optimum mix of Sea-Shore (S/S) rotation and ship repair needs can be determined. RMC manning estimates in Section 3.4 of this report consider maintenance needs only and not those of Sea-Shore (S/S) rotation.

3.6.2(d) Shift control of RMCs to the surface Type Commanders.

3.6.2(e) Establish common focus among RMCs to reinforce material readiness goals and training of Sailors, creating a culture of proactive maintenance and development of force-wide technical expertise.

3.6.2(f) Expand SSLCMA to a SURFMEPP organization mirroring SUBMEPP in responsibilities, resources and authority. The accelerated plan proffered by SEA 21 in Appendix 012 is considered a great start, but not considered comprehensive enough or fast enough.

3.7.2(a) Create from current waterfront manning resources a Readiness ISIC. Figure 3.7-1 is a diagram of the recommended ADCON and OPCON command relationships for the surface force. This recommendation is consistent with ADCON principles and is consistent with the joint message authored by U.S. Fleet Forces and Commander, U.S. Pacific Fleet in September 2004 detailing Carrier Strike Group (CSG) naming and organizational alignment.

3.7.2(b) Retain the SWE as a collaborative body, but only so long as it does not encroach upon ADCON lines of authority.

3.8.2(a) Promulgate a clear message on standards promoting the importance of ownership and self-sufficiency.

3.8.2(c) Insert on the waterfront, a commander and staff (nominally a Readiness ISIC), responsible for communicating, inspecting, and maintaining material standards on the assigned ships. This staff should be accountable, responsible and have the authority to fully complete these tasks. The Panel believes that with some restructurings within surface warfare

assets, this staff could be formed without addition of either "flagpoles" or people. See recommendations for R-ISIC in Section 3.7.2.

3.8.2(d) Adjust the curricula of all A-Schools, C-Schools, and officer schools to include a clear and unequivocal message on standards, ownership and self-sufficiency.

3.8.2(e) Use the proposed two FRTP cycle assessment proposal recommended in Section 3.3 to reinforce deserved standards at all levels of every ship assessed.

3.8.2(g) Include in assessments, inspections, audits and certifications by third party teams a formal review of ship compliance with established standards. The R-ISIC should be the Chief Assessor for each activity and oversee this review.

3.9.2(a) Initiate a review to determine means of reducing Type Commander fluctuating execution year maintenance funding for surface ships. The inquiry should include the related costs associated with late planning or late cancellation of maintenance. In year fluctuations of maintenance dollars will otherwise remain inefficient and yield no return in deep maintenance.

3.9.2(b) Fund Corrosion Control Audits and American Bureau of Shipping (ABS) surveys to the fullest extent possible in order to accelerate identification of the deep maintenance requirement. Combined with the increased third party assessment schedules, it is the best and fastest way to establish a valid deep maintenance requirement by which additional funding may be approved.

3.9.2(c) Increase the CMAV planning window to decrease premium time costs and improve maintenance accomplishment.

3.9.2(d) Define and fully fund continuous maintenance and depot maintenance requirements.

3.10.2 These recommendations directly support this infrastructure and are highly recommended to reach a greater potential of the infrastructure.

3.3.2(c) Use in-service engineering agent (ISEA) and multi-ship multi-option (MSMO) contractor assets to augment assessment teams. Use of MSMO in assessments including pre-INSURV assessments is also included in Section 5.2.

3.3.2(d) Increase CMAV funding to optimize work loading during these critical, dedicated maintenance periods.

3.3.2(e) Require certification of work completion for all availabilities: SURFMEPP for CNO availabilities, and TYCOM/R-ISIC for CMAVs. Use availability completion certifications in concert with an expanded version of CNSF "redline" initiative.

3.4.2(e) Review Top Six Roll-Down criteria, with surface technical ratings as first priority, to determine NEC attainment barriers, (e.g., unrealistic rate requirement for attendance), and for each barrier, provide plan to mitigate. Include within the review the particular role and needs of ATG.

3.5.2(b) Conduct a comprehensive review of occupational standards for surface technical ratings to support improvement of apprentice level training.

3.5.2(c) Relocate more C-Schools to Fleet concentration areas to provide additional opportunities for advanced skills development. This approach may require traditional lengthy C-Schools to be modularized for accomplishment in yearly increments and for delivery in Fleet concentration areas.

3.5.2(d) Develop formal afloat technical training program. See also Section 5.3.

3.5.2(f) Concur with the restart of the SOSMRC course of instruction for prospective executive officer and prospective commanding officers. See also Section 5.4.1.

3.6.2(c) Establish core capabilities for each RMC similar to those in San Diego. These do not have to be identical and, in fact, some differences will provide Sailors even more technical opportunities and experience on shore duty.

3.8.2(b) Near term: Rebalance ships' daily work routine to permit attacking the TA4 backlog (Appendix 007), and improve damage control closure readiness to "Satisfactory" (Appendix 010). The recognized initiatives to improve readiness will require more effort and more time on the part of our crews. The incongruence between the oft-stated need for resources and requirements at the shipboard level, and the physical observations of ships' current workday suggests consideration should be given to daily work routine changes for accomplishing more ships maintenance.

3.8.2(f) Expand the current CNSF Redlines initiative to quantify and qualify the new message on standards where compliance is critical to safety, life, and operations. Consider

completion redlines and formal certification for CMAVs (TYCOM), CNO availabilities (SURFMEPP) and readiness for sea (TYCOM).

Section 4 – Singular Findings and Recommendations

4.1 Regional Maintenance Center (RMC)
4.2 Afloat Training Group (ATG)
4.3 Training - General
4.4 Material Readiness - General
4.5 Manpower and Manning - General
4.6 Culture

Priority indications appearing throughout this section represent the Panel's opinion of the relative importance of the recommendation when compared with all other singular recommendations in this section. Priority A is considered the highest and Priority C the lowest. All recommendations in the section are of lesser priority than the recommendations in Section 3 of this report.

4.1 RMC

4.1.1 RMC/Material Readiness. Degraded intermediate level maintenance capability, capacity and responsiveness to the Fleet: Intermediate level maintenance is less responsive than ten years ago, and the lack of intermediate level maintenance capability, capacity, and responsiveness is specifically acute in Norfolk, VA where Navy has the single greatest concentration of ships. RMCs are requiring 15-30 days to complete initial job screening simply to determine if the RMC has the capability and capacity to perform the work action. If work order is beyond RMC capability and capacity it is then sent to a multi-ship, multi-option (MSMO) contractor or other private repair activity for consideration. As a result, emergent work and many continuous maintenance availabilities (CMAV) jobs are not accomplished within a CMAV or within a reasonable amount of time due to delays in screening work, even at times when adequate funding may be available. (Appendix 007, 017, 026, 028) Recommendation(s):

4.1.1(a) (PRIORITY A) Improve intermediate level maintenance job screening processes and improve repair responsiveness for emergent and CMAV work requests.

4.1.2 RMC/Material Readiness. Work volume during Continuous Maintenance Availabilities (CMAVs): The level of RMC work being performed during CMAVs is relatively small across ship classes at CONUS RMCs (Figure 4.1-1). This is primarily due to a variety of factors, most notably the recent merger of intermediate and depot level maintenance organizations and related BRAC mandated efficiency reductions. The effects of these actions have been: 1) Maintenance response has slowed. 2) Shore billets for Sailors to gain and hone

maintenance skills and technical expertise before they return to the force have been reduced; billets have declined from nearly 8,000 to just over 2,500. 3) Total work accomplished during maintenance periods has declined (Figure 4.1-1). 4) The surface force has established a 21 days per quarter entitlement for continuous maintenance. 55% of DDG CMAVs in the past two years were shortened from this 21 day requirement. 23 DDGs did not have CMAVs scheduled in Q4FY09. Waterfront intermediate level maintenance planning and responsiveness must improve to ensure these critical maintenance periods are productively executed. (Appendix 007, 017, 018, 026) Recommendations:

4.1.2(a) (PRIORITY A) Improve the process for submitting, planning and executing intermediate level maintenance for all CMAVs.

4.1.2(b) (PRIORITY B) Sufficiently align RMC billets to enable effective planning, estimating and production functions of a greatly increased workload during CMAVs.

4.1.2(c) (PRIORITY A) Schedule and preserve CMAV entitlement of 21 days per quarter.

RMC	TA-2 Recs	TA-2 MH	AVG Jobs per ship per CMAV	AVG MH per ship per CMAV
Bahrain	22	4	4.4	0.8
JRMC	1	0	0.2	0.0
MARMC	63	1239	12.6	247.8
NWRMC	114	2288	22.8	457.6
PHRMC	259	2550	51.8	510.0
SERMC	72	2085	14.4	417.0
SWRMC	87	1364	17.4	272.8

Source: CNSF N43 Data E-mail TA2 data by RMC 090929

Figure 4.1-1

4.1.3 RMC/Material Readiness. Port Engineers: Port Engineers work for NAVSEA. The Panel and Port Engineers interviewed by the Panel believe Port Engineers should be aligned and work for surface Type Commanders. This more appropriately aligns the Port Engineer to the customer (Ship and Type Commander) vice the supplier (NAVSEA). This alignment would enable representation of Type Commander material readiness and budget interests. Of note, in the aviation community, CVN Port Engineers work for the Type Commander. (Appendix 009) Recommendations:

4.1.3(a) (PRIORITY B) Panel concurs with realigning surface ship Port Engineers to the surface Type Commanders.

4.2 ATG

4.2.1 ATG/Training and Manning. Assessments: If the enhanced readiness assessment model offered in section three (the two FRTP Assessment Cycle) is implemented, ATGs will comprise a large portion of the assessment teams. ATGs are not sufficiently manned to execute these assessment responsibilities. Similarly, under existing tasking by CNSF (Figure 4.2-1), ATGs cannot properly execute their normal assessment responsibilities when overloaded with the additional duties they are presently assigned. Recommendations:

4.2.1(a) (PRIORITY A) Hold in abeyance the proposed additional 20% manpower reduction for the ATGs and increase BA as noted in recommendation 3.4.2(a).

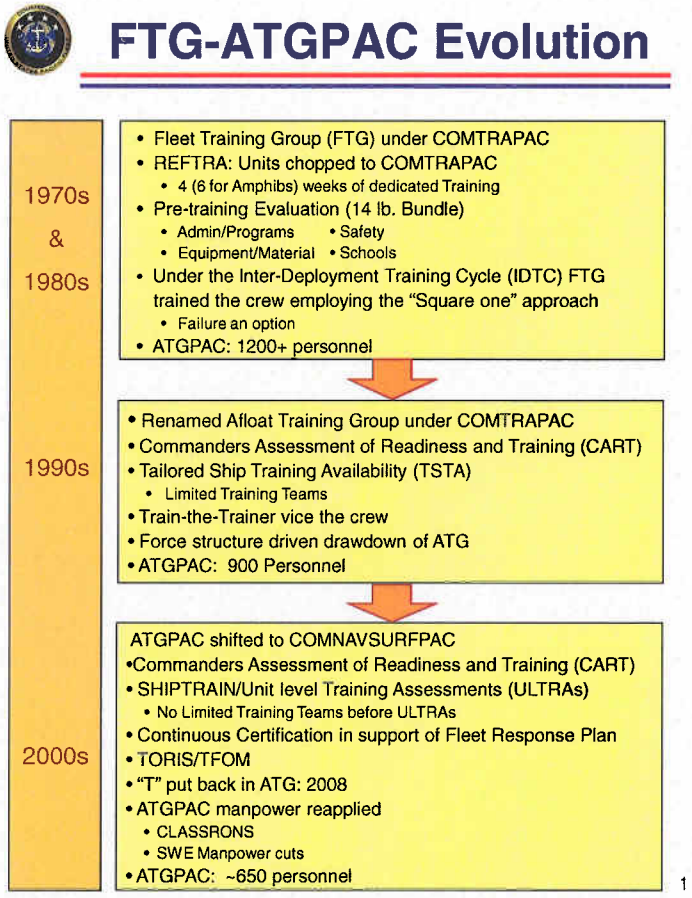

Fig 4.2.1

4.3 Training – General.

4.3.1 Training - General. Technical Assistance: Over recent months sixty-seven percent of force CASREPs requested technical assistance. This highlights the impact of shipboard NEC shortfalls. NEC Fit in the surface force is at 60-65%. Ships are paying to send their Sailors to C-Schools in Great Lakes; approximately 24% of C-School throughput has been funded by ships instead of NPC funded enroute billet funding. Of 346 NECs in the surface force, only 11 are awarded through OJT. Thus, there are a total of 30,884 NEC billet requirements in the surface force requiring C-School. The best way to improve NEC FILL is to increase C-School throughput, where nearly 35% of available seats presently go unfilled. Ship operations and reduced manning (increased commanding officer demand to keep the Sailors aboard ship) limit the windows for C-School attendance, and those windows are even further constrained by fewer convening dates caused by instructor cuts at the schoolhouse. The reliance on Distance Support is growing. At the same time, the Panel is aware of deep, permanent cuts to the Distance Support Program that may reduce the system capacity and capability. Further, as material readiness continues to decrease, and the Navy builds ships that are minimally manned, we may reasonably expect the requests for technical assistance to increase. In this event, and even with full Distance Support program funding, we may reach the practical limits of Distance Support capacity markedly impacting critical services to ships. (Appendix 008, 015) Recommendations:

4.3.1(a) (PRIORITY A) Move C-Schools to Fleet concentration areas and improve utilization rates at or close to full capacity.

4.3.1(b) (PRIORITY A) Define and resource coherent Distance Support program requirements that will assure timely full support for LCS, DDG 1000, and other surface ships.

4.3.2 Training - General. Personnel Qualifications Standards (PQS): A recent Fleet Review Board (FRB) Phase II program review of PQS included a listing of all PQS entries made by each ship. The data is most revealing and points to a culture of inattention to deck-plate training. Chancellorsville, Port Royal, Stout, and Fort McHenry all appear below average on total PQS entries perhaps foretelling the readiness issues with each of those ships. More revealing is the wide variations in entries by individual ships. The oldest ships of the class do not necessarily have the highest number of entries. Ship visits revealed a surprising number of newly reported Sailors, less than 14 months out of A-School, were not completing PQS qualifications at an acceptable rate for either the divisional watch standing requirements or Apprentice 301 Basic Engineering Common Core (BECC) follow-on shipboard training requirements. (Appendix 006) Recommendations:

4.3.2(a) (PRIORITY A) Re-emphasize PQS and include an annual PQS assessment by the TYCOM/R-ISIC during the two FRTP Cycle schedule proposed in Sections 3.3 and 5, with appropriate visible consequences for inadequate program performance.

4.3.3 Training - General. Maintenance University: Maintenance University fills a void in waterfront awareness of maintenance management. Currently it is a ship requested evolution. Recommendation(s):

4.3.3(a) (PRIORITY C) The Panel understands that there is an imminent policy change to require ship attendance at Maintenance University, and supports such action as a near term forcing function to improve waterfront maintenance and material management.

4.3.4 Training - General. Enlisted Training: With the impact of optimum manning, ships require new arrivals to bear apprentice level skills that exceed current required occupational standards. This training would be needed to supplement the journeyman work force with Knowledge, Skills and Abilities (KSA) for assistance in maintenance and repairs. (Appendix 015, 026) Recommendations:

4.3.4(a) (PRIORITY C) Create additional training to supplement A-School preparation which could be delivered in Fleet concentration areas and is responsive to needed KSAs for specific ship classes.

4.3.5 Training - General. Officer tours and promotions: In the near future surface warfare officers will generally have more sea duty than yesteryear prior to reporting as CO, XO or Department Head. Years of prior sea duty for CO, XO and Department Heads are currently programmed to increase over the next five years. However, under the new commander command XO to CO Fleet-Up program, officers will spend an inordinate amount of time between their department head tour and XO/CO tour. Currently it is projected that the gap between department head and XO/CO tours will be at least four and one-half years. Further, the surplus of junior officers aboard ships (DDGs now have 32 officers vice 21 officers ten years ago) combined with the downward trend of operating time in post-deployment sustainment phase means that the officers may actually be less proficient at SWO skills (e.g. shiphandling even though they've had more sea duty). Abbreviated SWOS Basic instruction and fewer intermediate PCS schools result in lower deck-plate knowledge when a new ensign reports aboard for his first sea tour. Additionally, with officer manning at 150%, commanding officers have stated that they are challenged in giving the newest ensigns meaningful responsibilities and adequate conning time. There are fewer Chief Petty Officers assigned to ships to provide their historic deck-plate training and leadership lessons to an increased number of young officers. The de-emphasis of critical readiness programs in the surface warfare training pipeline of the past 5-6 years have built a cadre of young officers who lack full appreciation for proper

standards and the ability to accurately self assess. For example, 3M de-emphasis since 2000, while recently restored, will nonetheless continue to affect "culture" for years to come as these officers promote through the ranks. Today's Chiefs and LPOs were young Sailors when 3M was de-emphasized and do not now have the knowledge to teach their younger charges even with the renewed emphasis. (Appendix 005, 008, 021, 027) Recommendations:

4.3.5(a) (PRIORITY C) Inspect 3M, DC and PQS programs during third party assessments. Inspections should be conducted to convey the correct standards and new "culture" to the officers and enlisted personnel throughout the surface force.

4.3.5(b) (PRIORITY A) Establish a PCS length Junior Officer training course in Newport, Rhode Island to emphasize engineering acumen and material readiness principles. Leverage existing SWOS instructors and training equipment and SOSMRC staff and curriculum. Re-establishing training in Newport would allow ATG instructors currently teaching the SWOS indoctrination course to return to their normal shipboard training responsibilities and reduces wardroom overloading at sea.

4.3.5(c) (PRIORITY C) Continue to strengthen the technical/engineering training for officers at CO/XO, SOSMRC, Department Head, and DIVO, with new and robust emphasis on "culture" and higher standards.

4.3.5(d) (PRIORITY C) Reduce the time lag between Department Head completion and XO/CO Fleet Up tour. Consider increasing enroute refresher schools with curriculum promoting desired "culture" and higher readiness standards.

4.4 Material Readiness - General

4.4.1 Material Readiness - General. SPY Radar degraded: Overall SPY Radar readiness reflects declining material readiness of Aegis ships. The SPY radar has historically been the best supported system in the surface Navy, and coincidentally supports one of the most critical Navy Missions today: ballistic missile defense (BMD). Yet SPY manpower, parts, training, and performance are in decline. CASREPs are up 41%, half of which require onsite technical assistance, due to ships inability to troubleshoot and repair. 39 of 58 DDGs have an FC2 or junior manning the SPY FC1 Billet. 7 of 22 CGs do not meet Billets Authorized requirement. Voltage regulators have historically been a top SPY cost driver, thus replacements have been deferred and the readiness of the force has been masked. Loss of one voltage regulator would not typically warrant C3/C4 CASREP severity. However, BMD operational requirements drove up frequency of reporting in the recent year. Distance Support and onsite tech assist has doubled in two years. CMP and OARS data bases indicate CO's are risking their ships readiness in redundant parts and SPY parts due to shortfalls in spare parts funding coupled with the high cost

of SPY parts. In 2009, the ship operations account was programmed and budgeted to 20% less than requirement, further reducing funding for spare parts. If the SPY radar is one of the most important systems in the Navy and central to our BMD mission for the foreseeable future, then it is assumed that less important systems could well be in worse material condition. (Appendix 023) Recommendations:

4.4.1(a) (PRIORITY C) NAVSEA, OPNAV, and NAVSUP initiate a SPY Readiness Program to improve SPY Radar readiness and reliability. Restore all aspects of SPY performance as a matter of priority to include manning, training, equipping and maintenance.

4.4.2 Material Readiness - General. Ship Maintenance Team (SMT): In the DDG class alone, ships are averaging an integrated class maintenance plan backlog of approximately 684 deep maintenance corrosion items. The SMTs are making decisions favoring current readiness and deferring those deep maintenance assessments or repairs that enable long-term readiness. If this behavior persists over the course of several Commanding Officers, the net result is deteriorating long-term maintenance and material readiness. When this condition exists, self-recovery will be near impossible, no matter how good the Commanding Officer, due to the competing demands on fewer, less trained crew and repair funding. (Appendix 011, 012, 017, 026) Recommendations:

4.4.2(a) (PRIORITY A) Require ship Commanding Officers to obtain a waiver or DFS from SEA 21, endorsed by the Type Commander, for any deep maintenance item they wish to defer or cancel (pending establishment of SURFMEPP).

4.4.2(b) (PRIORITY A) Conduct third party assessments to detect this deepening condition and apply resources to arrest the decline.

4.4.2(c) (PRIORITY A) The R-ISIC should be given the responsibility to review and approve all CMAV work packages and the authority to approve Availability Work Packages (AWP) developed by the Ship Maintenance Team (SMT).

4.4.3 Material Readiness - General. Watertight enclosures: INSURV EOC performance on watertight closures for the surface force is graded marginal, lagging aircraft carrier and submarine performance. Though there has been modest improvement since 2004, this improvement has been largely driven by the installation of the newer, lower maintenance doors. Despite TMA/TMI focus for seven years and recent focus by the Surface Warfare Enterprise, surface force watertight integrity is still being judged as marginal. The SWE Science and Technology Plan should be modified under STO-17 to include this item as one of its top priorities. Watertight door maintenance training courses in nearly all homeports are 100% utilized in throughput. (Appendix 010, 040) Recommendations:

4.4.3(a) (PRIORITY C) Accelerate the procurement and installation of the newer, low maintenance closures to reduce this man-hour burden on the surface force. This has been an unfunded issue for some years.

4.4.3(b) (PRIORITY C) Increase the school capacity where required to meet need and consider exporting the course to the piers.

4.4.4 Material Readiness - General. Fleet Response Plan Redlines: Consideration should be given to establishing Fleet Response Plan redlines. Example Redlines/ Policy could include: 1) CFFC/CPF should approve any deviation from Basic Phase or Maintenance Phase entitlements; 2) Any surge that cancels a scheduled CMAV automatically requires fencing the time and money for a CMAV upon return from surge; 3) Any ship scheduled for INSURV down range, and being surged, must be returned to home port three months or greater before the INSURV date. (Appendix 007, 019, 026, 038) Recommendations:

4.4.4(a) (PRIORITY A) Through use of the redlines concept, apply policy and discipline to the Fleet Response Plan to ensure windows/funding actions critical to material readiness are preserved.

4.4.5 Material Readiness - General. DDG main drainage capability degraded: DDG degraded main drainage capability was highlighted during the Panel's review as a readiness area of particular concern. Fleet Analysis Center testing with eight DDGs shows that the main drainage valves are becoming a "maintenance burden" as evidenced by higher numbers of depot job requests, CASREP numbers, and Mission Impacting Failure Down Time (MIFDT) statistics. This is typically an undocumented maintenance requirement. Also, there is a smaller shipboard work force available on optimal manned DDG ships to work on these valves and few ship's force personnel qualified to perform the work. Fleet studies reveal inadequate parts support, insufficient PMS/technical data to support repairs, and lack of personnel training/skills to effect repairs on drainage and operator systems. This finding is based on self-reporting and may not reflect the magnitude of the challenge. (Appendix 026, 037) Recommendations:

4.4.5(a) (PRIORITY C) SEA 21 (SSLCMA) document main drain maintenance requirements for DDG Class.

4.4.5(b) (PRIORITY C) SEA 21 (SSLCMA) determine the extent of the main drain problem on the other ship classes, especially those optimally manned.

4.4.5(c) (PRIORITY C) As substantiated, add this requirement to the deep maintenance requirements of the ICMP, BAWP and AWP being developed by SSLCMA.

4.5 Manpower and Manning - General

4.5.1 Manpower and Manning - General. Top Six Roll-Down: The Top Six Roll-Down Program has had second and third order effects when combined with other manning reductions that could not reasonably have been predicted. The combined effect of manning reduction initiatives has compounded the decline in material readiness. (Appendix 035) Recommendations:

4.5.1(a) (PRIORITY A) Convene a CNSF/NPC Review to identify priority readiness related billets to be exempt from the Top Six Roll-Down Program, restoring critical seniority personnel where appropriate.

4.5.2 Manpower and Manning - General. Geographic manning imbalance: There is a stark difference between the appearance, housekeeping maintenance, and preservation of the ships in Norfolk versus those in San Diego. Panel believes this is due in no small measure to an imbalance of manning between the two ports caused at least in part by the Sailor's Choice Program. (Appendix 008, 026) Recommendations:

4.5.2(a) (PRIORITY B) Panel fully agrees with the recent NPC decision to end the Sailor's Choice Program and direct detail to the needs of the force.

4.5.2(b) (PRIORITY B) CUSFFC/CPF implement a temporary directed manning initiative to prioritize personnel assignments to Norfolk ships until better balance is achieved.

4.5.3 Manpower and Manning - General. Perform to Serve Program: While the Perform to Serve Program may have laudable contributions at the "corporate" Navy levels, its impact aboard ships is viewed as negative. Sailors in the program who have been training in one rating at considerable expense (some from ships' TADTAR), are refused service in the rating in which trained, and offered a different rating in which they have neither desire to serve nor are well-suited. This action creates short-notice and unexpected turnover of shipboard personnel further impacting manning readiness on optimum manned ships. These findings are based upon limited Panel observations and should be evaluated fully. Recommendations:

4.5.3(a) (PRIORITY C) If findings are validated, this program should be cancelled.

4.5.3(b) (PRIORITY C) Alternately, consider a "CAP" – like program, authorizing CO's unilateral decision to retain in rate a certain number of Perform to Serve Sailors.

4.5.4 Manpower and Manning - General. Manpower Distribution: Current processes only allow for two NECs to be detailed by assignment personnel, however optimal manned ships

must hold additional NECs beyond the two currently used. It is not unrealistic that each journeyman and master craftsman might need upwards of ten NECs as our crew sizes continue to decline. (Appendix 008, 020) Recommendations:

4.5.4(a) (PRIORITY C) Consider revising manpower assignment processes for optimum manned ships to employ billet-based distribution (assignment of personnel to specific work/billets), or shifting to a competency-based manpower and training system.

4.5.5 Manpower and Manning - General. Critical NECs: A comprehensive list of surface ship critical NECs has not been determined. It is critical that actions be initiated to resolve this long debated issue. Identifying those NECs that will allow more focused assignment processes to be brought to bear to improve Fit. (Appendix 008, 020) Recommendations:

4.5.5(a) (PRIORITY C) Identify and codify surface ship critical NECs.

4.6 Culture

4.6.1 Culture. The Surface Warfare Enterprise has been developing readiness thresholds (redlines) that define the minimum amount of equipment that must be operational for a surface ship to get underway. The surface force should formally codify and implement their redlines initiative across the force. This initiative will help to allay the tendency for Commanding Officers to "get underway at all costs" in order to meet mission requirements. It should be implemented, managed, and enforced as a top priority. (Appendix 017, 038) Recommendations:

4.6.1(a) (PRIORITY B) Establish and enforce SWE redlines. Ensure redlines are visible, recognized and used for the purpose for which they are intended. The use of redlines is a key step in changing the culture of "getting underway at all costs".

4.6.1(b) (PRIORITY B) Consider using SWE redline metrics to replace or augment SORTS reports criteria.

Section 5 – Specific Tasks

5.1 Surface Warfare Enterprise
5.2 INSURV Material Inspections
5.3 Ship's Force Underway Routine
5.4 Manning and Level of Knowledge of Shore Organizations
5.5 Surface Warfare Officer Career Management
5.6 Lead Type Commander Construct

The findings and recommendations in this Section address the Panel's response to the specific tasks included in the tasking letter, or verbally tasked during In Process Reviews provided to USFFC and CPF.

5.1 Surface Warfare Enterprise (SWE). Task: "Provide observations regarding the effectiveness and viability of the Surface Warfare Enterprise (SWE) effort."

5.1.1 The Fleet Review Panel supports the Navy Enterprise behavior model. The enterprise model enables transparency of information, collaboration, and coordination among Type Commanders (TYCOM), System Commanders, and other providers and stakeholders. Even though the enterprise model holds no ADCON or OPCON line of authority, it nonetheless, as a collaborative body, has positively impacted the surface force and force readiness. However, the Panel has observed confusion at the waterfront concerning enterprise roles and responsibilities and established command and control authority, responsibility, and accountability. During the course of ship visits and interviews with ships and staffs, the Panel felt that enterprise endeavors are potentially diverting the focus of key staff personnel away from the ships and towards enterprise projects. This has caused a perceived loss of attention and time for addressing surface force readiness issues. Collaborative enterprise activity should continue, but there should be a concerted effort to define surface warfare enterprise activity and deconflict it from established ADCON and OPCON lines of authority. (Appendix 016)

5.1.2 Many of the metrics created and used by the SWE are a better gauge of surface force readiness than those in SORTS. Some, however, need their mathematical basis reviewed for accuracy. For example, one of the PRT metrics, crew "FILL", is displayed in green (connoting satisfactory). As ship manning levels have been reduced, both the numerator (current on board) and the denominator (BA) have changed, such that M-1 (green) today was M-3 (Red) five years ago (Appendix 008). Redlines similarly need to be validated to ensure selected criteria

and triggered actions will be recognized, accepted, and enforced by the chain of command. Recommendation(s):

5.1.2(a) Promulgate to the surface force clarification on the role of the SWE as a collaboration body, clearly defining the line of demarcation between collaboration and appropriate command and control.

5.1.2(b) Re-validate the SWE metrics used to determine the posture of force-wide and individual ship material readiness, including chain of command actions triggered when redlines are broached.

5.2 INSURV Material Inspections. Task: "Provide recommendations to improve "near term" surface force INSURV performance."

5.2.1 The INSURV failure rate trend is illustrated below (Fig 5.2-1). (Appendix 030) INSURV today is scheduled on a calendar basis with a periodicity goal of three years, but not to exceed five years for each ship. This scheduling window may be challenging given the readiness generation required by the Fleet Response Plan. Additionally, and in part as result of reduced manning at sea, inordinate actions have been required to prepare ships for this inspection. This preparation also potentially causes an unprogrammed spike in resources in the months preceding the inspection. With the cancellation of Pre-INSURV Grooms (PIGs) used on the west coast until three years ago and pending surface-wide commencement of the Surface Warfare Enterprise Assessment Program (SWEAP) currently in pilot on the east coast, there is presently no formal, pre-INSURV preparation consistently available to ships. (Appendix 019) Accordingly, ship Commanding Officers are relying on the use of ad hoc off-hull personnel to help prepare for a successful inspection. (Appendix 030)

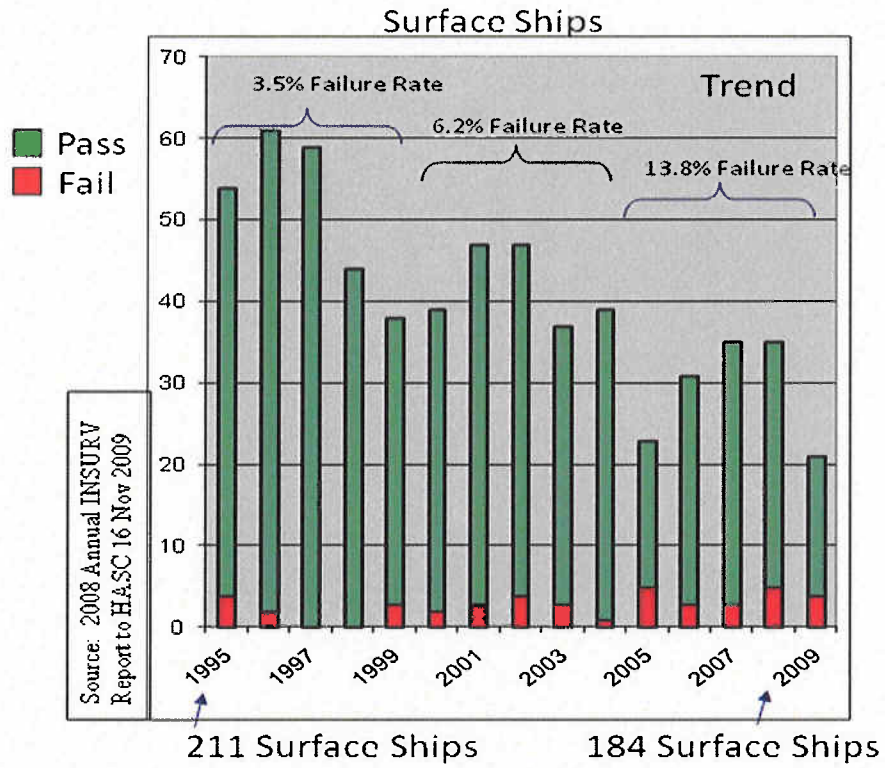

Fig 5.2-1

5.2.2 The Panel believes that the long term solution for reversing the downward trend in INSURV performance is to implement the balanced set of material readiness initiatives addressed in Section 3.3 of this report. Full implementation of these initiatives may well take 12-18 months or longer, and a near term plan of action is needed to ensure acceptable readiness levels are achieved for pending INSURV inspections. Recommendation(s):

5.2.2(a) Commence a formal pre-INSURV assessment. Figure 5.2-4 presents a notional action plan to support near term inspections. The cornerstone component is a comprehensive pre-INSURV assessment conducted early enough in the ship's schedule to permit development and vetting of a resultant work package to be executed in at least one, but preferably two, CMAVs prior to the INSURV. The assessment should be led by the CLASSRON Commander (pending reorganization of the Type Commander/ Readiness ISIC) serving as the Chief Assessor. Team composition should include MSMO contractor, RMC, ATG and TYCOM/R-ISIC/CLASSRON representatives. Appendix 029 provides detailed INSURV team composition by ship class. It should also include ISEA personnel to conduct appropriate combat systems assessments and grooms. Use of MSMO personnel during the assessment and, if possible, the practice demonstration is considered critical to improve assessment quality and to

help the crew prepare and train for the INSURV. The Panel estimates this Assessment can be executed on DDG/CG class ships for a cost of approximately $250K.

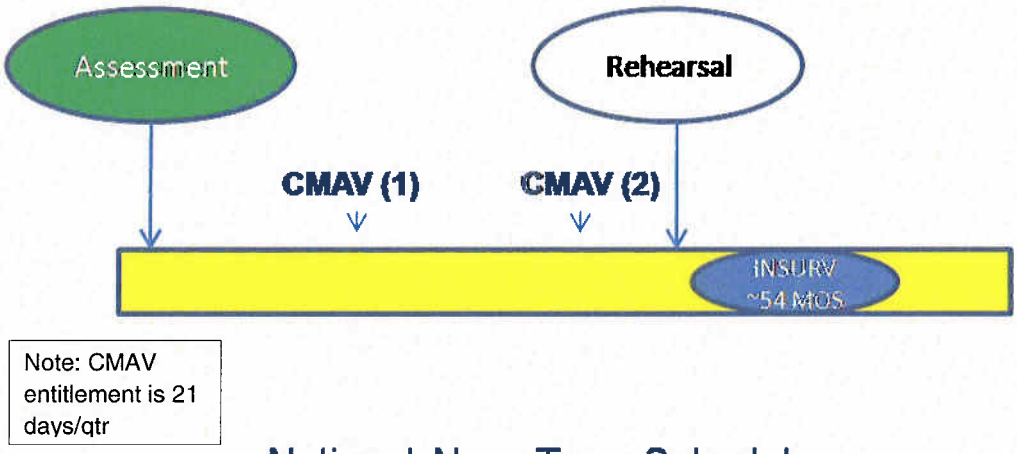

Figure 5.2-4

5.2.2(b) Require a complete INSURV rehearsal, evaluated by the Chief Assessor at least 1-2 weeks before the inspection with the objective that the ship's force knows the current status of their equipment and are prepared to present it within the timelines of the inspection. When the ship's schedule will not support this timing, the rehearsal should be included in the pre-INSURV Assessment.

5.2.2(c) Implement a consistent, systematic pre-INSURV notional plan of action, leveraging the timely employment of a third party led robust assessment team to support the ship in its preparation for a successfully executed inspection.

5. 3 **Ships Force Underway Routine**. "What is the role of ship's force while U/W beyond PMS, e.g., drills, training, etc.?"

5.3.1 Technical training is accomplished, to varying degrees, throughout a ship's operational cycle. It is generally correct to categorize technical training at the "equipment level" as predominantly schoolhouse and in port activities, and technical training at the "systems level" as predominantly an at sea activity.

5.3.2 Surface force training regimes underway are reasonably well defined with specific scope and procedures dependent upon individual command requirements. Much of this training occurs in the form of engineering, combat systems and damage control drills conducted individually or in conjunction with ship-wide operational evolutions such as exercising at

General Quarters. Given the reduced number of days underway and the criticality of casualty control exercises to the operational readiness of the ship, it is incumbent on ships to optimize and utilize every opportunity at sea to execute these systems level evolutions.

5.3.3 The two seminal documents governing surface force training, the Engineering Department Organization and Regulation Manual (EDORM) and the Surface Force Training Manual (SFTM), focus on evolutions and drills underway, while providing limited clarity on the required technical knowledge of ships force personnel during underway training.

5.3.4 The hallmark for systems level training at sea is the Navy's nuclear program which emphasizes watchstander proficiency, properly performed and graded engineering evolutions, and casualty control drills with standardized simulations and grading criteria. This program includes significant emphasis on equipment level technical knowledge as well, and can serve as a model for fine tuning conventional focused technical training efforts. Appendix 039 provides a comparison of conventional to nuclear technical training.

5.3.5 While it may, at some point, be desirable to increase emphasis on equipment level technical training for surface force ships at sea, such emphasis does not seem realistic until ship manning and underway days are commensurately increased. Recommendation(s):

5.3.5(a) Review the nuclear technical training approach to identify and apply technical proficiency criteria wherever appropriate to enhance conventional training efforts.

5.4 Manning and Level of Knowledge of Shore Organizations. "What is the Panel's assessment of oversight organizations' level of knowledge, e.g. ATG, CLASSRON, TYCOM, ISIC, and SOSMRC? Are they educated, trained and staffed properly?"

5.4.1 ATG. Afloat Training Group (ATG) is neither manned nor staffed to perform assigned missions, functions and tasks. They appear to be sufficiently experienced and staffed to perform training certifications; however they lack personnel and experience to perform the shipboard hands-on, over-the-shoulder training required in the Fleet. If additional tasks such as assessments are assigned, then ATG staffs will require a significant increase in manpower. Top Six Roll-Down should not be applied to ATG FILLs. ATG is critical to the assessment recommendation in the ***"Circle of Readiness"***. The Center for Surface Combat Systems (CSCS) detachments East Coast (Norfolk), West Coast (San Diego) and Hawaii were formed from ATRC and ATG training experts. These detachments are made up of Sailors and civilians with expertise in operating and repairing combat, navigation and communications systems. The reductions in manning have limited their responsiveness to the Fleet. (Appendix 027) Recommendation(s):

5.4.1(a) Accordingly, like ships, man the ATG's to current BA plus 10% to compensate for losses to churn.

5.4.1(b) Do not apply Top Six Roll-Down criteria to ATG technical ratings.

5.4.2 CLASSRON. The Panel is confident that if the CLASSRONs were manned to BA (Figure 5.4-1) and the experience level of those assigned was equal to the experience level of current staff members, then CLASSRON staffs would be sufficient to perform the missions, functions and tasks they were originally chartered to perform (Appendix 013). The CLASSRON staffs are not, however, manned to BA and they are more and more being tasked to perform a wide range of additional tasks outside their organizational structure. If the CLASSRONs are expected to continue additional functions and tasks, then they will require an increase in manning. Further, CLASSRONs are not sufficiently credentialed to do their work. CLASSRONs are chartered inside the enterprise behavior model, therefore they do not possess legitimate authority under OPCON and ADCON lines of authority. Until CLASSRONs or their successor are correctly credentialed and staffed, their work will be sub-optimized.

	CG	DDG	FFG	LHD	LSD	MCM	LCS	PC
BA	15	16	21	19	18	14	21	31
Perm Assigned	15	16	21	17	15	7	20	40
Vacant (churn)	0	2	0	2	0	7	1	1
Total	15	14	21	15	15	7	19	39
% Manned	100	83	100	79	83	50	91	126

As of 3 September 2009 – CLASSRON structure brief

Figure 5.4-1

The CLASSRON and ISIC manning (discussed below) are part of the larger, systemic recommendations of the Panel for the creation of a Readiness ISIC (R-ISIC) in Sections 3.3 and 3.7. Recommendation(s): None, for information purposes only.

5.4.3 TYCOM. Based on waterfront interviews and review of staff experience levels and staff positions, the Panel assesses the level of knowledge and experience of those assigned to TYCOM staffs to be sufficient for the billets they are filling. The TYCOM appears to be manned sufficiently for assigned missions, functions and tasks if they are supported by proper waterfront organizations under their control: RMC, R-ISIC (See Sections 3.3 and 3.7), and Port Engineers. (Appendix 034) If supporting waterfront organizations are not established then the TYCOM staff would require significant modification and expansion, to include re-creation of a full Type Desk capability. Recommendation(s): None, for information purposes only.

5.4.4 ISIC. ISIC staffs are not manned nor experienced enough to adequately address the material readiness decline of the force (Appendix 034). With 10-12 officers and 12-14 enlisted, ISIC staff experience is heavily weighted to operations and tactics. Generally, one or two officers, and one or two enlisted focus on material readiness. ISICs are neither prepared for nor capable of overseeing the recovery of surface force readiness, nor capable of providing daily observation and tracking of ship class trends. Like the CLASSRON, the assigned ISIC is not staffed to perform the broad array of man, equip and train duties, and while they may be homeported with their ships, they often deploy out of area, thereby losing the daily waterfront connection to their ships (Sections 3.3 and 3.7). Recommendation(s): None, for information purposes only.

5.4.5 SOSMRC. Instructor manpower and experience at Surface Warfare Officer School in Newport, Rhode Island is adequate to restart the Senior Officer Ship's Material Readiness Course (SOSMRC) (Appendix 021). The course's lead instructor is an O-6 post major commander with extensive material readiness experience. The other staff members who will serve as primary instructors include one O-6, three O-5's, and one O-4 who bring a diverse background of command and material readiness experience. Additionally, the SWOS Commanding Officer and current Executive Director (a retired O-6 nuclear trained Surface Warfare Officer and prior SOSMRC instructor) will instruct and remain fully engaged in refining the SOSMRC curriculum and course execution. Recommendation(s): None, for information purposes only.

5.5 Surface Warfare Officer Career Management. "In surface force officer career management, do our officers value engineering assignments? What are the engineering prerequisites to command?"

5.5.1 Review of officer promotion and distribution data (Appendix 005) revealed that this is not a problem within the surface community per the follow examples:

- Officers who have had a chief engineer tour are far more likely to command select. 65% of Norfolk COs have had a Chief Engineer tour. 85% have had engineering division officer tours.

- DFC's on CHENGs are lower than Fleet average for past 5 years.

- Over the past 3 years CHENGs have promoted to O-5 on par with their peers

- Over the past 3 years CHENGs have promoted to O-4 at a slightly higher rate than their peers.

5.5.2 Recommendation: None, for information purposes only.

5.6 Lead Type Commander (TYCOM) Construct. "Review the functionality and effectiveness of the Lead TYCOM for the surface force."

5.6.1 Lead Type Commanders were designated in August 2001 (NAVOP 009/01) to assume duties as Fleet TYCOMs to lead their communities and advise on vital issues to include modernization needs, training initiatives, operational concept development and community personnel development. As the SWE provides for collaboration among the surface force community, the Lead TYCOM provides critical guidance and policies necessary for the common, coordinated, efficient operation of the surface force. (Appendix 016 and 034)

5.6.2 It is the Title 10 duties of the TYCOMs, COMNAVSURFPAC and COMNAVSURFLANT, to execute this policy, reporting to COMPACFLT and COMUSFFC, respectively. Recommendations:

5.6.2 (a) Lead TYCOM concept should be retained to facilitate a common approach, administratively and operationally, throughout the surface force.

5.6.2 (b) Recommend the well-defined lines of responsibility portrayed in Figure 5.6-1 be clarified and emphasized throughout the surface force and carefully adhered to.

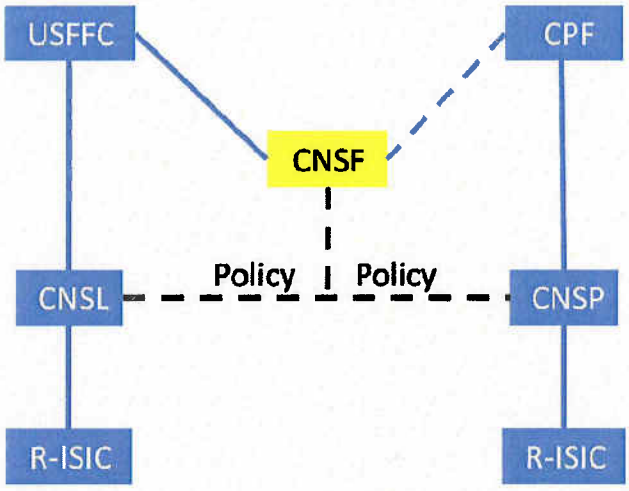

Figure 5.6-1

Section 6 – Recommendations Mapped to Organizations or Key Issues

6.1 Introduction. Each of the Systemic recommendations provided in Section 3 are provided below mapped to organizations or key issues of interest. This depiction is intended to show the multiple interests involved in completing the full effect of the recommendations.

6.2 Recommendation versus Organizations/Key Issues.

		Organization								
Rec Nr	Recommendation	SHIPS	RMC	ATG	SURF MEPP	R-ISIC	Ofcr Trng	Enl Trng	Assess	SEA 21
3.3.2(a)	Implement a recurring, notional third party assessment, audit and certification process integrated into the FRTP cycle as presented in Figure 3.3-5. See Section 5.2 of this report for a detailed explanation of a near term assessment process to quickly improve INSURV performance.		X	X	X	X			X	
3.3.2(b)	Increase ATG manning to support their portion of recommended third party assessments. ATG manning in general is addressed separately in this report in Section 3.4 Manpower and Manning.			X		X	X	X	X	
3.3.2(c)	Use in-service engineering agent (ISEA) and multi-ship multi-option (MSMO) contractor assets to augment assessment teams. Use of MSMO in assessments including pre-INSURV assessments is also included in Section 5.2.		X	X		X			X	X
3.3.2(d)	Increase CMAV funding to optimize work loading during these critical, dedicated maintenance periods.	X	X		X	X				
3.3.2(e)	Require certification of work completion for all availabilities: SURFMEPP for CNO availabilities, and TYCOM/R-ISIC for CMAVs. Use availability completion certifications in concert with an expanded version of CNSF "redline" initiative.				X	X				
3.3.2(f)	Extend CNO Availability lengths as recommended by CNSF ltr, August 25, 2009.		X		X	X				X
3.4.2(a)	Increase manpower of optimum manned ships and ATG immediately to 110% of current BA to compensate for the 8.4% perpetual loss of personnel. This in effect restores manning levels to the BA target intended when optimum manning was instituted.	X		X						
3.4.2(b)	Initiate a study immediately to determine actual shipboard manning requirements based on "maintaining" the ship, in addition to watch standing and operational requirements. The Panel firmly believes, but cannot confirm within the time limits of this review, that it takes more people (numbers and qualifications) to "maintain" the ship than are needed to "operate" the ship, regardless of ship class. See more details and rough estimates in paragraph 3.4.1 above.	X				X				

Rec Nr	Recommendation	Organization								
		SHIPS	RMC	ATG	SURF MEPP	R-ISIC	Ofcr Trng	Enl Trng	Assess	SEA 21
3.4.2(c)	Establish a coordinated Sea/Shore (S/S) rotation strategy which provides targeted, career enhancing shore duty opportunities where craftsman skills can be grown and developed. Leverage shore maintenance organizations, assessment teams, and advanced skills training staffs to size and shape technical skills capabilities across the Navy.	X	X	X		X			X	
3.4.2(d)	Approve and provide 85% DNEC Fit requirement	X				X		X		
3.4.2(e)	Review Top Six Roll-Down criteria, with surface technical ratings as first priority, to determine NEC attainment barriers, (e.g., unrealistic rate requirement for attendance), and for each barrier, provide plan to mitigate. Include within the review the particular role and needs of ATG.					X		X		
3.5.2(a)	Expand skills level training in the A Schools, or create an augmenting training capability and capacity on the waterfront to improve A School graduate repair expertise. Either approach must enhance Sailor initial skills set to allow apprentice level Sailors to participate sooner in activities supporting material readiness.	X	X			X		X		
3.5.2(b)	Conduct a comprehensive review of occupational standards for surface technical ratings to support improvement of apprentice level training.	X				X		X		
3.5.2(c)	Relocate more C Schools to fleet concentration areas to provide additional opportunities for advanced skills development. This approach may require traditional lengthy C Schools to be modularized for accomplishment in yearly increments and for delivery in fleet concentration areas.	X				X		X		
3.5.2(d)	Develop formal afloat technical training program. See also Section 5.3	X	X	X		X		X		
3.5.2(e)	Incorporate into all surface warfare officer training curricula a foundation and understanding of the material readiness standards of the surface force as developed in response to Section 3.8.					X	X			
3.5.2(f)	Concur with the restart of the SOSMRC course of instruction for prospective executive officer and prospective commanding officers. See also Section 5.4.1.					X	X			
3.6.2(a)	Move RMCs to the waterfront to improve intermediate level maintenance responsiveness and increase potential Sailor technical training opportunities.		X	X	X	X		X		
3.6.2(b)	Interrupt the current downsizing of RMC Sailors now until the optimum mix of Sea-Shore rotation and ship repair needs can be determined. RMC manning estimates in Section 3.4 of this report consider maintenance needs only and not those of Sea-Shore rotation.		X			X			X	X

Rec Nr	Recommendation	Organization								
		SHIPS	RMC	ATG	SURF MEPP	R-ISIC	Ofcr Trng	Enl Trng	Assess	SEA 21
3.6.2(c)	Establish core capabilities for each RMC similar to those in San Diego. These do not have to be identical and, in fact, some differences will provide Sailors even more technical opportunities and experience on shore duty.		X		X	X				X
3.6.2(d)	Shift control of RMCs to the surface Type Commanders.		X		X	X				
3.6.2(e)	Establish common focus among RMCs to reinforce material readiness goals and training of Sailors, creating a culture of proactive maintenance and development of force-wide technical expertise.		X			X				
3.6.2(f)	Expand SSLCMA to a SURFMEPP organization mirroring SUBMEPP in responsibilities, resources and authority. The accelerated plan proffered by SEA 21 in Appendix 012 is considered a great start, but not considered comprehensive enough or fast enough.				X				X	X
3.7.2(a)	Create from current waterfront manning resources a Readiness ISIC. Figure 3.7-1 is a diagram of the recommended ADCON and OPCON command relationships for the surface force. This recommendation is consistent with ADCON principles and is consistent with the joint message authored by U.S. Fleet Forces and Commander, U.S. Pacific Fleet in September 2004 detailing Carrier Strike Group (CSG) naming and organizational alignment.					X				
3.7.2(b)	Retain the SWE as a collaborative body, but only so long as it does not encroach upon the Chain of Command					X				
3.8.2(a)	Promulgate a clear message on standards promoting the importance of ownership and self-sufficiency.	X	X			X	X	X		
3.8.2(b)	Near term: Rebalance ships' daily work routine to permit attacking the TA4 backlog (Appendix 007), and improve damage control closure readiness to "Satisfactory" (Appendix 010). The recognized initiatives to improve readiness will require more effort and more time on the part of our crews. The incongruence between the oft-stated need for resources and requirements at the shipboard level, and the physical observations of ships' current workday suggests consideration should be given to daily work routine changes for accomplishing more ships maintenance.	X	X			X				
3.8.2(c)	Insert on the waterfront, a commander and staff (nominally a Readiness ISIC), responsible for communicating, inspecting, and maintaining material standards on the assigned ships. This staff should be accountable, responsible and have the authority to fully complete these tasks. The Panel believes that with some restructurings within Surface Warfare assets, this staff could be formed without addition of either "flagpoles" or people. See recommendations for R-ISIC in Section 3.7.2.					X				
3.8.2(d)	Adjust the curricula of all A Schools, C Schools, and officer schools to include a clear and unequivocal message on standards, ownership and self-sufficiency.	X				X	X	X		

Rec Nr	Recommendation	Organization								
		SHIPS	RMC	ATG	SURF MEPP	R-ISIC	Ofcr Trng	Enl Trng	Assess	SEA 21
3.8.2(e)	Use the proposed 2 FRTP cycle assessment proposal recommended in Section 3.3 to reinforce the new standards at all levels of every ship assessed.	X				X			X	
3.8.2(f)	Expand the current CNSF Redlines initiative to quantify and qualify the new message on standards where compliance is critical to safety, life, and operations. Consider completion redlines and formal certification for CMAVs (TYCOM), CNO availabilities (SURFMEPP) and readiness for sea (TYCOM).				X	X			X	X
3.8.2(g)	Include in assessments, inspections, audits and certifications by third party teams a formal review of ship compliance with established new standards. The R-ISIC should be the Chief Assessor for each activity and oversee this review.					X			X	
3.9.2(a)	Initiate a review to determine means of reducing Type Commander fluctuating execution year maintenance funding for surface ships. The inquiry should include the related costs associated with late planning or late cancellation of maintenance. In year fluctuations of maintenance dollars will otherwise remain inefficient and yield no return in deep maintenance.		X		X	X				X
3.9.2(b)	Fund Corrosion Control Audits and ABS surveys to the fullest extent possible in order to accelerate identification of the deep maintenance requirement. Combined with the increased third party assessment schedules, it is the best and fastest way to establish a valid deep maintenance requirement by which additional funding may be approved.				X	X			X	X
3.9.2(c)	Increase CMAV planning window to decrease premium time costs and improve maintenance accomplishment.	X	X		X	X				
3.9.2(d)	Define and fully fund continuous maintenance and depot maintenance requirements.					X				X

Section 7 – Appendices

7.1 Appendices. Appendices referenced in this report are numbered, e.g. Appendix 001, 002....009, etc., and are attached in the electronic media accompanying this report. Each Appendix folder may contain numerous related files on the same subject. This has been done to reduce the size of the report while permitting the reviewer with the full reference detail should it be needed. These files are referenced in the body of this report as Appendix ###. The first column below shows the three digit number used to reference the file. The second column is the general title of the contents of the file. The third column is the exact file name on the electronic media accompanying this report.

App. Folder Nr.	General Folder Subject	Individual File Subject	Individual File Identifier on CD
001	Tasking Letter	Tasking Letter to the Fleet Review Panel	CPF%20USFFC%20Tasking%20Letter
002	Panel 5050s	General Visit and Briefing Schedules	Numerous files and General Info Briefs
003	TAF & CNA	CNSF Briefing on Surface Force Readiness	Take_a_Fix_CNO_Rev_17_100109
		CNA Study - Impact on Readiness of Training Innovations and Manpower Reductions	CNA Study Summary
004	Dec Final Brief	Final FRP Briefing	Final Brief ver 30 (23 December 2009)
005	SWO Community	SWO Promotions of Engineers vs Other	Eng Promo Stats
		Analysis of Norfolk CO career paths	Norfolk CO Analysis
		SWO CO/XO/DH At Sea Experience and Detachment for Cause History	Officer Career Stats
		SWO Community Briefing by PERS 41	SWO Community Brief - Final Version
006	PQS	Analysis of PQS entries by ship & ship class	PQS Averages
		Report on PQS to the Fleet Review Board	PQS Phase II Final Analysis
007	CMAV Loading	CMAV Milestones Article in CNSF Newsletter	(FINAL)
		RMC Workload Spreadsheet from CNSF	TA2 by RMC 090929
		PACFLT Ship Maint Workload Analysis FY05-09	PACMaintBacklog
		Backlog across the Surface Force	TA4 REVIEW SAT 22 AUG NEW BRIEF
008	Force Manning	Ship Manning by Class and Mod	Ship Manning by Class and Mod
		Same as above w/ added combat minimums	Ship Manning by Class and Mod01
		C3F Concerns and Issues with Manning	3rd Fleet FRP Brief 20 OCT
		SWE history of manning reductions	6 - SWE PRT_Manpower decreases FY02-FY09
		FLEET PERSONNEL READINESS ENTERPRISE FIT WORKING GROUP MINUTES	FIT WG 5 NOV 2009 minutes
		DDG 51 Reduced Manning Update Nov 2009	DDG 51 Reduced Manning Update Nov 2009
		DDG Reduced Manning Study Phase II	DDG Reduced Manning Study Phase II
		NEC Management Status and Forecast	Nec Management for FRP 14 Oct 09 (3)
		The 3 NAVMAC files should be read together. They address how NAVMAC arrives at manning numbers.	NAVMAC - Where we are how we got here - info paper - Jul08 rev 2

App. Folder Nr.	General Folder Subject	Individual File Subject	Individual File Identifier on CD
		See Above	NAVMACS and their numbers
		See Above	NAVMACS Manning Schema RDML Lotring Questions- Nov 09
		CNP Manning Briefing	CNP Manning Sea-Shore
		CNP Manning Initiatives	CNP Solutions Manning
		Operational Stress Control Focus Group Rpt	Top 10 Work Stressors
009	Port Engineers	PE briefing to the Panel 25 Sep	T-SWE 6. N43 Port Eng Meeting
		SEA 05D Observations on PE's	Surface Ship Design Group Recommendations
010	DC Closures	INSURV Historical WTD readiness trends	INSURV WTD data
		Explanation of INSURV grading and values	Surface Force Watertight Closure EOC Values
		CNE Status on Watertight Door Maintenance Course attendance and planning	WTD
011	Maint Backlog	NAVSEA 2010 estimate of high risk cost increases in scheduled CNO Availabilities	FY10 High Cost Risk Ships (090908)
		PACFLT Ship Maint Workload Analysis FY05-09	PACMaintBacklog
		Fleet Analysis Center Study of Maintenance Backlog across the Surface Force	TA4 REVIEW SAT 22 AUG NEW BRIEF
		OPA assessment of ship Material Condition	OPA - SWE Material Condition
		USD brief depicting PR99 deep cut in Maint $$	USD Brief on Surface Ship Readiness_draft_Rev6
		CNSF ltr recommending extensions of notional CNO availability durations	Notional SRA-DSRA Change
		FY 10 DDG Maint and Mod Business Plans	MMBP Brief_Council of Captains
		Detailed data and analysis of the growing maintenance backlog for DDG class	DDG CSMP Backlog and JCN Counts
		Same as above	DDGRON Analysis
		Same as above	DDG BL BY HULL AND TYPE AVAILABILITY
		Same as above	ddg class ta4 cancs
		Same as above	DDG CLASS TA4 OPENED TP BY COAST
		Same as above	DDG OPENED TP BY HULL
		Exec Summary of BIW Eng Report on DDG Service Life Extension	HME Engineering Report0002
012	SSLCMA & SURFMEPP	SEA 21 Initial Brief to Panel 24 Sep	H-SSLCM brief to Fleet Review Panel_24-25 Sept 09
		SSLCMA Instruction	SSLCM Inst 5450 142 signed
		SEA 21 SSLCMA Acceleration plans	SSLCM Product Acceleration(AUG09)
		This and the next three files all deal with SEA 21 response to Panel query on comparing SUBMEPP with SSLCMA and what gaps need to be addressed to achieve similar organizations	McManamon Surf-SUBMEPP Comparisons mcm -11NOV090-Comparison Surface Submarine

App. Folder Nr.	General Folder Subject	Individual File Subject	Individual File Identifier on CD
		Same as above	C- SSLCM Gap Analysis update for FRP 2 Oct 09
		Same as above	SUBMEPP-SSLCM comparison rev1b
		Same as above	Surface Submarine Comparison
013	CLASSRON	Formal Mission, Functions, Tasks Instructions	All nine CLASSRON 5450.X MFT Instructions
		CLASSRON Org and Reg Manual	CORM 6 August 07 - 070806RFinal
		CLASSRON Structure and Locations	L-1 CLASSRON Struct Resp Manning O-15 22Sep09 v4
		CLASSRON BA and Manning	L-2-August Classron Manning Report
		CLASSRON Organization Tables	M-August CR Org Tables
		CGRON Description of duties	8 - COMCGRON-FRP_v07 (4)
014	Submarine Maint	Sub Maint and Comparison to Surface	SEA 07 Brief Oct 09
		SUBMEPP Overview	SUBMEPP Overview for FRP Nov09
		Submarine 72 Month Operating Cycle	SUBMEPP Recommendations on Ind Ships 72 Mo Study REV G1
		Notional Sub Squadron Org Chart	K-Sub Squadron Organization
015	A & C Schools	Projected C school moves Fleet concentration areas by priority	C School Moves
		Navy IG report on CBT	CBT Report Final (2)
		Navy IG report summary on CBT	CBT Review
		CBT brief to CNO	CNO CBT BRIEFING 31 Jul v4
		Diesel simulators and hands on caps/lims	Diesel Schools
		Operational Stress Control Focus Group Rpt	Top 10 Work Stressors
		Weekly NETC Update	Weekly CeTARS Update - 23 October 2009
		CNE report on all engineering A/C schools	2- CNE FRP Response Brief 6 OCT09
		Navy Afloat Maint Strategy Prog. Perform.	NAMTS
		More NAMTS Performanc	NAMTS Feedback
		SEA 05D Observations on Training and Self Assessment	Surface Ship Design Group Recommendations
016	OPCON & ADCON	FFC JAG Analysis of current OPCON/ADCON	Command Relationships briefs (10-13-09)
017	Material Readiness	2009 Engineering Assessment results	2009 ULTRA Metrics
		Adequacy of DDG Maint Plan to extend service life to 35+ years	DDG Service Life N81
		OPNAV N43 report on Surface Ship Readiness	USD Brief on Surface Ship
		PACFLT Ship Maint Workload Analysis FY05-09	PACMaintBacklog
		C3F Concerns with Material Readiness	3rd Fleet FRP Brief 20 OCT
		SEA 05D Observation on Material Readiness and Maintenance Processes	Surface Ship Design Group Recommendations
		MSR BAE Assessment of Maint Challenges, Material Readiness and Service Life Extensions	110309 Working Groups_Outbriefs

App. Folder Nr.	General Folder Subject	Individual File Subject	Individual File Identifier on CD
018	Historical Chronology	20 year History of Critical Navy Decisions	FRP Historical Brief (6 November 2009 V1)
		Written summary of same above	FRP History paper FOR OFFICIAL USE ONLY 25 November 2009
019	Assessments & SWEAP	Assessment Increases/decreases over 15 yrs	R-1-SWE 3. N43 Material Readiness and Inspection
		SWE Assessment Process (SWEAP) Draft Inst	Draft SWEAP CNSF Instruction Rev 1 Jun09
		SWEAP Briefing	SWEAP SSMO (rev 2)
020	Sea Shore Rotation	CNP Brief with Sea Shore Issues	CNP Manning Sea-Shore
		CNP Sea Shore Initiatives	CNP Solutions Manning
		N1 Sea Shore Flow Background Paper	Sea Shore Flow Point Paper
		Panel Manpower Analysis	Surface Force Manpower Analysis.1
021	Officer Training	SOSMRC Instructor Experience/Background	Primary SOSMRC Instructors
		SOSMRC and CSCS Det Manning	SOSMRC Instructor Manning and CSCS DETS
		SWOS Material Readiness and Maint Courses	N-1-SWOS FRP Response-Input (21_Sep_09)
		CNSF N43 SWOS Initiatives on Maint	N-SWE 1. N43 SWO Training on MRM
		SWOS Command Brief	O-1-SWOS Command Brief (16 Sep 09)
		SOSMRC Yesterday/Today Comparison	O-SWOS FRP SOSMRC Brief (21_Sep)
		SEA 05D Observations on Officer Engineering and Maintenance Training	Surface Ship Design Group Recommendations
022	Finance	Fleet Analysis Center Study of Maintenance Backlog across the Surface Force	TA4 REVIEW SAT 22 AUG NEW BRIEF
		USD brief depicting PR99 deep cut in Maint $$	USD Brief on Surface Ship Readiness_draft_Rev6
		MSR BAE Assessment of Maint Challenges, Material Readiness and Service Life Extensions	110309 Working Groups_Outbriefs
023	SPY Radar	CGRON View of SPY Radar Health	SPY Health_26Aug09
		DDGRON View of SPY Radar Health	SPY TASK FORCE
		Agenda showing areas of concern	SPY TASK FORCE OCT 14-16AGENDA_Final
		CNSF Tasker directing review of SPY radar	SPY AWS TF Tasking Letter
024	Panel Manpower Analysis	ROM analysis of I level Manning increases needed to support repair	Surface Force Manpower Analysis.1
025	Shipmain Gram	Draft ShipMainGram of Sep 2005	SHIPMAIN GRAM 11 092105
026	Overall Surf Comb Readiness Assessment	DDG Readiness Assessment by DDGRON	4 - Draft_DDGRON FRP BRIEF 6 OCT09_v7
		Surf Combatant OAG Readiness Assessment	UNCL_Surface Combatant OAG 29OCT09 v3
027	Training	CSCS Command Brief on System, Rate and Warfare Training	CSCS Brief (03 Nov 2009)
		OPNAV N1 Training Cost Memo	N1 Training Cost Offsets
		Revolution in Training Strategy	RIT
		SEA 05D Observations on Training	Surface Ship Design Group Recommendations
		C3F Observations on Technical Talent of Sailors	3rd Fleet FRP Brief 20 OCT

App. Folder Nr.	General Folder Subject	Individual File Subject	Individual File Identifier on CD
		C3F Observations on Training	3rd Flett Combat Proficiency1
		ATGPAC Command Brief	4 - COMATGPAC Brief
		Operational Stress Control Focus Group Rpt	Top 10 Work Stressors
028	RMC/IMA/I-Level	Shore Maint Activities Overview	C - Shore maintenance activities brief orzalli
		CNSF Brief on Shore Maint Org Interface w/Fleet	U-SWE 4. N43 Maintenance Org interface
		RMC Command Brief	3 - SWRMC_FRP OCT 2009
		RMC Command Brief	3 - MARMC Brief - NSSA Command Brief
		NAVSEA brief on MARMC Realignment	Midlant Reg Maint Structure
		Same subject as above	SEA 04Y Brief to FFC
		Reconstituting I Level repair at the waterfront	Proposed New I-Level Manning
		XCEL spreadsheet companion to above brief	Proposed New I-Level Manning
		Ideal manning within optimum constraints	SWRMC Ideal IMA Manning
		SEA 04Y input on current RMC Manning	SEA 04 RMC Manning
029	Assessment Team Sizes	INSURV schema for building UMI teams	INSURVNOTICE 4730.3 ENCL TA Matrix
		General number/quals of team by ship class	TeamSizeByClass
		FFC Brief on MSMO Assessment capabilities	MSMO Assessment Capabilities
030	INSURV	INSURV Annual Plan	Annual Plan - INSURV
		INSURV Instruction	LatestFFC-Insurv inst
		2008 INSURV Annual Report	P- PDF copy of 2008 INSURV ANNUAL REPORT BRIEFING
		CNSF N43 Review of INSURV Problems 03-09	D-SWE 2. N43 List of INSURV Problem ships
		Report used to prepare above brief	D-2-INSURV FAILURE REVIEW_2 0
		November 2009 INSURV report to HASC	INSURV Fail Rate
		INSURV failure analysis of two ships	INSURV_Deep_Dive_-_FTM-CHV-08JULY09v6
		Folder containing individual ship INSURVs	Ship INSURV Reports
031	BIW Eng Report	BIW Engineering Assessment of DDG service life extension to 35+ years	HME Engineering Report0001
		Continuation of above	HME Engineering Report0002
		Continuation of above	HME Engineering Report0003
		Continuation of above	HME Engineering Report0004
		Continuation of above	HME Engineering Report0005
		Continuation of above	HME Engineering Report0006
		Continuation of above	HME Engineering Report0007
		Continuation of above	HME Engineering Report0008
		Continuation of above	HME Engineering Report0009
		Continuation of above	HME Engineering Report0010

App. Folder Nr.	General Folder Subject	Individual File Subject	Individual File Identifier on CD
032	October IPR	Panel's first In Process Review	IPR Revised PB 26 Oct[2]
033	November IPR	Panel's second In Process Review	NovIPRDraft005
034	Tycom Manning	CNSF Brief on Tycom Maint Staff Positions	M- FLEET REVIEW PANEL-STAFF POSITIONS-EXPERIENCE 9-21-09
		CNSF Manning of all direct reports	CNSF Staff Manning - 6 Nov 09 1600
		Typical Sub Squadron Org for surface ISIC comparisons	K-Sub Squadron Organization
035	Top Six Roll Down	Program Highlights	TOP SIX ALIGNMENT DECK PLATE EXPLANATION CNP PRIORITY
		Flag Update	Top Six Summary
036	LANT/PAC Org Charts	CNSF Atlantic Fleet Org Chart	CNSF Atlantic Fleet Org Chart
		CNSF Pacific Fleet Org Chart	CNSF Pacific Fleet Org Chart
037	Main Drain Valves	DDGRON Maintenance Review of Main Drain	DDDG MAIN DRAIN MRIP Quicklook CYCLE 09-4 (2)
		CNSF response to INSURV main drain failures	FMBOD INSURV Actions Tracker_CNSF.ver1
		DDGRON Issue paper	Main_Secondary Drainage
		DDGRON Maintenance Review of Sec Drain	DDG SEC DRAIN MRIP Quicklook CYCLE 09-4 (2)
038	CNSF Redlines	CNSF Redlines brief to Panel	RedLines brief to CNSF on 5 Oct_updtd_principles
039	UW Technical Training	Nuclear vs Conventional Underway Technical Training Comparison	Nuclear vs Conventional Underway Technical Training Comparison
040	SWE Tech Plan	SWE Technology Strategy	SWE S-T Strategic Plan May 2009 (Final - Distro A)