

推動海軍安全文化與風險管理 (Promoting Safety Culture and Risk Management in the Navy)

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提 要：

一、根據研究發現一個成功的組織要能永續發展，端視環境的安全、具有安全觀念的人員及安全可靠的裝備等方面，而「風險管理」則是針對前項要素，採取至當的安全標準作業程序，使組織運作時有相當高度的安全性。

1、According to research, a successful organization that can sustain its development would require a secure environment, staff that are familiar with safety concepts, and tools that are safe and reliable. Risk management is a standard operating procedure that considers the above requirements, in order to maintain high level of safety while the organization operates.

二、如果一個單位或組織沒有風險概念，這個單位或組織便可能存在著極大的風險。海軍的安全文化由來已久，大家也都具有相當的概念，與風險管理更有著密不可分的关系。

2、If a unit or organization lacks the concept of risk, this unit or organization could bear great amount of risk. The safety culture in the navy has a long history, and everyone has a good grasp on the concept. It is related greatly to risk management.

三、就長期看來，如何善用風險管理，來灌輸大家的安全觀念，且能把它做的更好的團隊，其單位績效必能快速成長，也自然更多一分安全保障。

3、In the long run, the organization that can utilize risk management and safety concept would benefit from it and have more rapid growth, additionally with more security.

關鍵詞：海軍、安全文化、風險管理

Keywords : Navy, safety culture, risk management

壹、前言

A. Preface

近年來海軍肇生各項的意外事件，在媒體的大肆報導渲染下，屢屢造成外界不小的震撼，一時之間國人好像都拿著放大鏡般來看待海軍的任何事物。海軍長久以來雖然一直不斷的教育與灌輸官兵有關安全的觀念，惟仍因所肇生之各種危害事件，致無法被外界所接受與諒解，並認為海軍始終漠視安全工作的重要性。有鑒於社會型態轉變，讓我們瞭解到各項事務的危害及危險性均相對增多，我

們不得不對這些威脅提出必要的防備。所謂安全，廣泛的說是指可以接受的風險；一般常見的定義為：「不會引起工作災害 造成人員生理或心理傷害 設備損害或破壞周圍環境等的現象」，其最終目的是為了防止任何危安事件的發生。所以，為了防範危安事件對我們所造成的威脅，唯有善用風險管理機制，做好海軍的安全工作，使官兵執行各項任務時，均有高度的安全，乃最高之目標。

Over the past few years, navy had occurred several incidents that made the front page news, and created a fuss in the public opinions. All of a sudden, it seemed that everyone was examining the navy closely. Even though Navy has been educating their sailors about the concept of safety, the re-occurring incidents were still unacceptable to the public. Those incidents led the public to question the navy's attitude toward working security and safeness. Since our society on its course of changing, we have come to understand that every job has its threats and the degree of danger has increased. We have to provide necessary precaution against these threats. Speaking of safeness, in a broad sense, it means the acceptable risks. A normal definition is, "not causing work accidents, not causing personnel to injure mentally or physically, not causing damage to equipments or surrounding environment." Its ultimate purpose is to prevent any dangerous incidents to happen. Thus, in order to prevent the threat that these dangers posed on us, we need to utilize risk management mechanism and prepare the safe working for navy, keeping all personnel safe while they are doing their jobs.

貳、海軍安全文化

B. Navy safety culture

海軍的安全文化，顧名思義是指海軍逐步形成的，或有意識塑造為全體官兵接受 遵循的，具有海軍特色的安全思想和意識、安全作風和態度、安全管理機制及行為規範；亦即安全的價值觀、安全的審美觀、安全的心理因素和海軍的安全風貌等種種有關海軍安全物質因素和安全精神因素之總和。

The navy safety culture, figuratively speaking, means the safety culture and awareness that navy try to build for its personnel to follow. It refers to the sum of safety value, safety aesthetics, safety mentality, and safety atmosphere, etc, such kind of navy safety material and spiritual elements.

安全文化既包括保護官兵在從事訓練操演中的身心安全與健康，即無損、無害、不傷、不亡的物質條件和作業環境，也包括官兵對安全的意識、信念、價值觀、訓練思想、道德規範激勵精緻安全的精神因素。

Safety culture includes protecting personnel from being harmed by

training, which means to provide an operating environment that has the material conditions that would not do any harm to the personnel. It also includes the personnel's awareness of safety, their faith, values, training visions, and ethics, etc, such mentality that can inspire proper safety.

一般認為，海軍安全文化是一個多種複合體，由安全生產物質文化、安全制度文化和安全行為文化組成。當今的海軍安全文化是以人為中心的，以官兵安全文化素質為基礎所形成的群體的安全價值觀，表現在官兵的激勵安全和敬業精神，以建立起「安全第一、預防為主」，「尊重人、關心人、愛護人」及「保護官兵在訓練操演中的身心安全與健康」的安全文化氛圍，此為海軍安全文化的出發點，也是最終的歸宿。海軍是國際性的軍種，對安全文化更應重視，雖然我們都希望藉由實現共同的安全價值觀，來形成具有特色的海軍安全文化，惟仍因每個時期或階段的改變，其安全文化也必須隨之有所轉變，否則危安事件依然層出不窮。這個時候可能就必須運用「風險管理」機制，完成各項安全事務之標準作業程序，來建立更完善、周延的安全文化，灌輸教育全體官兵，使海軍各項運作能更多一份安全和保障。

Generally speaking, navy safety culture is a compound constituted by safe producing material culture, safe system culture and safe behavior culture. The current navy safety culture is human-based, counted on the quality of personnel safety culture which formed the collective safety values and shown on the personnel's spirit to be safe. This way, a safety culture atmosphere that emphasizes on "Safety First, Precaution Rules", "Respect, Care, and protect people", and "Protect the mental and physical health of personnel in training exercises" is the basic principle of navy safety culture and is its ultimate goal. Navy is an international force. They should put more emphasis on safety culture. Although we hope to form a navy safety culture with different qualities by practicing common safety values, depending on each different periods or phases, safety culture would have to correspond to them. Otherwise, unfortunate incidents would still keep happening. Hence, risk management might be deployed to complete every task's standard operating procedures and to construct a more thought, detailed safety culture, and to educate all the personnel so that the operations within navy will be more safe and secure.

參、何謂風險管理

C.What is risk management?

風險管理與所有的管理機能（Management Functions）一樣，其所欲達成之目

的，旨在降低風險；風險管理可滿足人類安全之需求，並降低風險存在之成本。但進一步觀察，風險管理可以對所發生的風險進行評估，有助於人員處理這些風險或突發事件，做好充分的準備與應變方式。

Risk management is like all the management functions, its goal is to avoid risk. Risk management can satisfy the human's needs of security and lower the cost of existing risk. Yet, observing more closely, risk management can assess the upcoming risk and help people deal with these risks or incidents with full preparation and adjustments. 風險管理發源於美國，其主要背景乃導因於1930年代經濟不景氣，此後歷經多年之探索、研究，以現代之科學管理方法來處理風險之觀念乃逐漸形成，風險管理運動遂開始在企業界間醞釀，並在經過連番重大的經濟事件後，更加速了風險管理在企業界之發展，於是「風險管理」Risk Management一詞，乃於1950年代中期正式出現。

Risk management was originated from United States. Its main background is resulted in 1930s economy depression. After years of research and studies, the concepts of using modern technology methods to manage risks began to emerge, and risk management became popular throughout the industry. And after a series of important economic events, risk management had picked up its pace in rooting in business companies. Thus, the term "risk management" officially appeared in 1950s.

風險(Risk)之意義，綜合國內外學者的看法，儘管在解釋文意上略有不同，但共同的意涵大多與損失的不確定性有關。此與國人常云：「天有不測風雲，人有旦夕禍福」相近；更見證了佛曰—人生無常。因此損失(Loss)與不確定性(Uncertainty)乃為風險之構成要素。

The meaning of risk, in spite of slightly difference according to domestic and foreign scholars' interpretation, shares the same concept of the uncertainty of loss. This is like our saying, "Accidents will happen", or what Buddhism refers to as the "uncertainty of life". Thus, loss and uncertainty are the main elements that constitute risk.

依據美軍「風險管理政策與教令(Risk Management Policy and Doctrine)」一書的統計數據顯示，美軍長久以來意外事件肇生因素發現：人為因素佔80%、環境因素佔15%、物資與裝備因素佔5%。而在「風險管理」思維提倡近五年後，意外事故的發生率，整體上有顯著的下降，經評估所做的結論之一是「風險管理開始發酵的結果」。

According to the statistics of U.S. Army's Risk Management Policy and Doctrine, over the years that the incidents happened in the army were

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used 80% by artificial factors, 15% by environmental factors and 5% by equipment and material factors. After 5 years of promoting risk management thinking, the occurrence of incidents has significantly dropped, and the analysis concluded that it as a result of the maturity of risk management.

肆、風險管理的程序

D.The procedure of risk management

風險管理的程序，曾郁仁（民 90）認為可分為：確認風險（Risk Identification）、評估風險（Risk Measure）、選擇並執行風險管理之策略（Selection of Risk Management Strategy）等三個步驟；譚地洲（民 93）主張危機風險管理的程序為：風險識別、風險預測、風險評估、風險控制、管理評價；行政院人事行政局（民 95）所策訂之步驟為風險辨識、風險評估與分析、風險監測與處理方式之擬定、風險監測、風險通報、風險處理、風險檢討。

The procedure of risk management, according to Tseng Yu-zen, can be divided into risk identification, risk measure, selection of risk management strategy. Ten Di-chou claims that the procedure of risk management is risk identification, risk prediction, risk measure, risk control, and control evaluation. The procedure that Central Personnel Administration formulated is risk identification, risk measure and analysis, the setup for risk surveillance and control methods, risk surveillance, risk announcement, risk containment, risk review. Based on the theoretical and practical findings, I will elaborate more as the following:

綜其理論與實務說明如下：風險管理有五個通則，分別是「辨識風險」、「評估風險」、「制定風險決心」、「執行管制」及「監督」等，形成一個循環，稱之為「風險管理循環」(Risk Management Cycle) 個人認為，「辨識風險」乃風險管理程序中最重要之階段，因為要能把風險先辨識出來，否則它就不可能被有效管理，然此程序多半是組織中較弱的一環，因牽涉到人員對工作或任務內涵瞭解的程度。

Risk management has five general principles: risk identification, risk measure, decide risk determination, executing control, and supervision, etc. It forms a cycle known as Risk Management Cycle. Personally, I think risk identification is the most important phase in the procedure. One must first identify the risk, otherwise, it would be impossible to manage. However, this part is usually the weakest part in the organization since it involves the understanding of the staff to their jobs or tasks.

就軍隊而言，身為一位領導者或管理者，對部隊中所發生的危安事件，應建立

廣泛的經驗與教訓傳承，俾能在做風險管理時，能給予「風險因子」合理的管控手段，需知所有平常時刻，認為不可能發生的意外，都有可能發生。風險管理能夠增加單位運作的穩定性、提升人員的安全意識、提高工作及任務的品質與成功率、減少與降低意外的機率，因此風險管理方法的運用與其所蘊含之安全管理機制並非僅理論，而是實證後的可行步驟，也是提供控制或改善安全措施的建議基礎。

As for military, being a leader or manager, one should establish a wide range of experience and lessons to the incidents happening within the community. By doing so, they can provide reasonable management to handle risk causes while applying risk management. We need to understand that those incidents we don't think would happen would very likely take place in any time. Risk management can increase the unit's stability, promote the personnel's safe awareness, improve the job and task's quality and success rates, and decrease the chance of having incidents. Thus, utilizing risk management and its safety management mechanism is not only a theory, but also a proper procedure that has been certified. It is also the basis of providing control or improve safety precautions.

伍、海軍安全文化與風險管理之關係

E. Navy safety culture and risk management's relationship

為貫徹「零危安」的治軍理念，國防部訂頒「風險管理綱要計畫」，海軍依據國防部實施計畫，並秉持「事前防範、事中監控、事後處理」的原則，建立全軍整合性風險管理機制，協力完善海軍建軍整備。

In order to accomplish the ideal of "zero incidents", the Department of Defense has announced the "main plan of risk management". The navy followed the plan and took the principle of "prevent, monitor and manage the incidents" and established the integrated risk management mechanism and helped perfect the navy.

陳前部長於重要幹部座談時，提出「風險管理，確保安全」的理念，就是要求各級幹部藉落實風險管理機制，降低危安因素，並要求全體官兵也須有此體認，務必建立共識共行，才能以「零意外、零風險」的安全要求，達成提升部隊戰力的目標。

The former Minister of MND had pointed out the important ideal of "risk management, safety assurance" in a meeting. It is to request every manager and staff to proper practice the risk management mechanism, lower the chance of incidents, and ask all the personnel to have such recognition. By doing so, it is possible to fulfill the needs of zero incidents, zero risks, and achieve the goal of

enhancing troop capabilities.

海軍平時在訓練安全及保養紀律上，均已形成一套完整的制度，這個制度長久以來支撐訓練、確保工作實施及任務的執行，在意外事故的防範上應是完備的。惟在遂行各項任務時，常因對風險管理認識不足，或無一致性的安全檢視機制，致使單位幹部無法藉由一致的風險思考原則，提出有效的防範措施。整體而言，意外事故無法根本改善的原因，綜合歸納以下幾點：

Navy has established a thorough system of training safety and maintenance discipline. This system has been supporting training, and assuring the preparation and execution of tasks go smoothly. It should be well-established in preventing accidents. However, while performing each task, the fail of knowing the risk management, or the lack of coherence in safe inspection mechanism often made the manager unable to provide effective precautions. Overall, the essential reasons that accidents could not be thoroughly prevented can be summarized to following points:

一、錯誤的觀念及根深蒂固的經驗累積：以往師傅帶徒弟的方式，使得官兵累積根深蒂固的錯誤觀念與經驗，致無法接受時間的考驗。

一、Incorrect concepts and rooted experience: the master-apprentice re-

lationship has led the personnel gathered a lot of incorrect concepts and experience. Thus, they cannot improve.

二、人員缺少經驗、幹部缺乏熱忱：幹部未能以身作則，致各項操演保養，無人帶頭力行實作。

二、The lack of senior staff, and leaders without passion: leaders in the unit failed to provide examples to their staff. Thus, there are no one leading the men in each mission and training.

三、組合操作能力低：訓練邏輯錯誤，訓練場景多不符實際需求。

三、Coordinating operating capabilities are low: the training logic is incorrect and the training sites are often inadequate.

四、未依標準作業程序及教(技)令執行操作(演、練)，致使裝備故障、操演失序。

四、Did not follow the SOP to perform training and led to malfunction of equipments and exercises.

五、領導者意識主觀，致未整合及參考所屬人員具有建設性的意見。

五、The leaders are too single-minded: this led to not taking proper advices made by the staff.

六、對危險因子的辨識及評估手段錯誤，「風險管理」當然無法保證使事故發生機率降至零，然確是預防意外事故的重要方法之一，因其透過合理的程序來思考「危險」在哪裡，因此絕不能將其視為行政工作處理。只有當所有官兵都具備對

「安全」生活，工作及執行任務都具有高標準的自我要求，「風險管理」才能成為組織中運作的必要與充分條件。

六、The measures of identifying and assessing danger are wrong: risk management cannot guarantee that there will be no accidents, yet, it is still an effective way to prevent accidents. It uses reasonable procedure to consider where is the 1 "Danger". Thus, it is improper to view it as ordinary administrative work. Only when all personnel acquire high standards of self-requirements of safer living and working, risk management can become the fundamental condition to the organization's operations.

軍中不像一般民間單位，發現問題可以暫停運作謀求改善，後續再將損失的支出回收；軍事單位必須時時保持運作，從運作中尋求改善，人員將是在具多重危險的環境中工作。因此，反覆的執行「風險評估→研提改善對策→確認改善對策→改善效果評鑑」是有其必要的。鑒於海軍的安全文化與風險管理有其相當之關聯性，其關係是密不可分的，如何使兩者相輔相成，彼此達到加分效果，個人認為應做到下列幾點：

The army is not like regular civil organizations that can stop running in order to seek improvements and recycle the loss afterward. Military units must always keep running and seek improvements while doing so. Their personnel would be working under constant and multiple danger environment. Therefore, it is necessary to take the procedure of "risk assessment, provide improve methods, confirm improve methods and review improvements effects". It has crucial connection to navy's safe culture and risk management. In order to put these two key elements together and make them work, I believe the following instructions would be useful:

一、遵循制度法規，建立優質文化

一、Follow the rules and laws, and establish quality culture

風險管理首重遵循制度法規執行，因為這些都是預防意外之根基。各級幹部負有落實執行之責，樹立遵守準則之習慣，人人確遵技令教範執行，逐步建立優質部隊安全管理制度，即可消弭人為可能因素。

Risk management relies heavily on the execution of laws and system because these are the foundation preventing accidents. All the managers have the responsibilities to the execution and the habits of making examples to follow. If everyone can follow the orders to perform their tasks, and gradually establish the system of safe management, it would help eliminate the artificial elements of causing accidents.

二、推動風險管理，慎評危安因素

二、Promote risk management, and carefully assess danger

部隊在執行任務前，各級管理者應先實施「危安因素評估」，經綜合評估後，審慎規劃任務執行程序與注意事項，確使人員編組、執行計畫在周密考量下，均能合於安全規定與要求，免除人員及裝備遭受不必要的風險，降低人爲因素所造成的疏失，並在安全條件下遂行各項任務。

Before the troop start performing their tasks, the leaders should first apply the danger assessment, and after series of careful examinations, they can lay down the detailed procedures and instructions. Then, they can properly team up the personnel and perform the task. With thorough contemplation and under the restriction of safety requirements, it can prevent personnel and equipments taking unnecessary risks and lower the chances of mistakes made by men. This way, they can complete every mission under safe conditions.

三、加強人員教育，建立有效管理系統

三、Enhance personnel education, set up effective manage system

「風險管理」教育是一項絕對必要的投資，目的是希望協助部隊在達成任務目標時，降低意外發生的風險，或意外不幸發生時，能減輕或控制損失程度。因此積極充實人員對於安全的認知，進而影響團體中所有人員的行爲和表現，是提升單位績效的不二法門。目前已有一套以風險管理爲基礎的安全管理系統，該系統強調對環境潛在危害必須加以辨識，並評估所有可能的風險，若有缺失，能夠經由不間斷的持續改善，建立無事故的環境。而當各項安全規定均已完備時，重點就在於落實執行，透過雙重的檢查機制，才能有效防範人爲疏失。

Risk management education is an absolutely necessary investment, its purpose is to help the troop to accomplish their goals while lowering the risk of having accidents, or control the damage when accidents do happen. Therefore, improving personnel's understanding of safety and hence affect all the people in the group to have proper conduct and performance, is the most important way to improve an organization's effectiveness. Currently, there is a safety management based on risk management. The system emphasizes on identifying the hidden danger in the environment and assessing all possible risks. If there are any failure, it can keep improving itself, and establish a harmless environment. When every safety restrictions are well-planned, it is counted on the practical aspect. Through double-checking system, it is possible to prevent artificial mistakes.

四、落實檢查機制，妥採防範作為

四、Establish checking mechanism, take proper precaution methods
嚴謹的檢查制度是安全管理重點之一，有賴人員依據檢查表循序漸進的檢查與執行；即使是每天例行的工作，人員依然會有所疏忽，幹部必須擔負風險管理的查察工作。檢查的目的在找出安全上的可能缺失與危因，「風險管理者」必須面對危安因子是無所不在的事實。當能接受風險的正面態度建立後，方能進而採取降低風險的新作為；反之，管理者若無法接受風險無所不在的事實，並採嚴厲的處分作為，「危安潛因」將繼續存在而難以消除。另風險管理者若有「粉飾太平」的管理心態或「閉門造車」的執行方式，最終必將面臨嚴重的惡果。

Strict examining system is one of the key elements of safety management, and it depends on the personnel to do thorough inspections and executions based on checking sheets. Even the tasks are daily, people would still likely make mistakes. The managers need to be responsible for examining risk management. The purpose of the examination is to find out the possible flaws or dangers. The risk management supervisor must face the fact that danger and risk are everywhere; then, they will be able to face the risks with positive attitude, and take proper actions to lower the risk. On the other hand, if the supervisor cannot accept the fact that risk is everywhere, and take actions of punishing harshly on the personnel. The danger hidden in the environment will be hard to eliminate. If supervisor has the attitude of hiding the fact or closed mind-set in executing risk management, he will ultimately face the worst outcome. 「危險無所不在，狀況隨時在變」，任何一件意外都可能造成傷害，但防止意外事件的發生，通常並不需要高深的學問，僅需運用一般常識。最佳的方式，就是在平時即積極加強安全意識，排除潛在危險，強化安全措施，發現危險之時，先隔絕管制危險因子，避免傷害擴大，再尋求迅速有效的方法來處理。過去「風險管理」被獨立於組織管理之外，看法上亦多屬於「向後看」之性質，而現在風險管理者必須具備前瞻性眼界，才能看見未來，所以愈來愈多的人體認到「風險管理」是組織核心能力與策略優勢所在，尤其在海軍安全文化方面更是如此。

"Danger is everywhere and circumstance is always changing." any accident can cause damage. Yet, to prevent accident from happening often doesn't require deep knowledge, more with common sense. The best way is to enhance safety awareness at regular basis, eliminate hidden danger, reinforce safety measures. When discover danger, first isolate the danger causes to avoid further damage, then, seek fast and effective ways to deal with. In the past, risk management was often isolated from organization management, and its approach was

often passive. Nowadays, risk management supervisor must look further into the future. Therefore, more people begin to realize that risk management is the key ability to an organization and an edge to an organization's advantage. It is even more so in the navy safe culture.

陸、結語

F.Conclusion

在重大災害發生之前，都會先有不明顯的意外事件或不安全行為的徵兆顯現，因此，在看得見的大事故發生前，能否預先除去其肇端，成了預防大意外事件的重點。風險管理思維的養成不是一朝一夕可以達成的，只要各級管理者隨時要求及提醒人員注意安全，逐步糾正及改善不安全的行為及狀況，假以時日，必能營造出一個更加安全的環境。

Before major crisis happens, there would always be minor incidents or behaviors shown first. Thus, before the major crisis hits, if one can first handle and deal with minor symptoms, it will become key solution to prevent major crisis from happening. The thinking of risk management cannot be achieve shortly. If each manager can remind their staff to take full precaution at all time, and gradually correct and improve unsafe behavior and situations, for a matter of time, they can establish a more secure environment.

安全上有一句話，源自海軍的錨鍊精神：「一條錨鍊的強度，等於其中最弱的一個環節。」所以，任何一個環節都不應偏廢。特別是鞏固國家安全與維護國家利益的部隊，因為目標顯著，也因為環境、任務的特性，風險威脅自然比一般的民營企業來的多。

There is a saying about safety that comes from the anchor and chain spirit of navy, "the strength of an anchor chain is its weakest part." Thus, any detail or part should not be neglected, especially the troop that secure the nation's safety and interests. Since the target is obvious, and the nature of its tasks, it bears more risk than regular civil corporations.

未來從事各項戰備訓練，應在既有的穩固基礎上，秉持謹慎態度，依循標準作業程序，嚴格恪遵各項規定。而負責單位安全之相關人員，更應瞭解其中的奧妙，運用普世接受的手段和方法，突破各種不同層面、文化的心理障礙，於各層級內部建立一個共通安全標準。唯有在「安全」前提下，戮力戰訓本務工作，方能保持現有優勢，奠定戰力強化基礎，確保國家安全。

In the future, when performing in different training, we should be careful and follow the standard operating procedure, strictly obey all the restrictions. The personnel that are responsible for safety

should know its importance more. By using common methods and measures, and break through different cultural and mental barriers, establish a common safety standards that apply to all levels. Only in the premise of safety, can we stay sharp in our combat and training missions, and enhance our foundation and secure our country.

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