

Operational Risk Assessment
NROTC MWTC

KEY TERMS:

Hazard Severity Categories:

I - May cause death, loss of facility/asset or result in grave damage to national interest.

II - May cause severe injury, illness, property damage, damage to national or service interests or degradation to efficient use of assets.

III - May cause minor injury, illness, property damage, damage to national, service or command interests or degradation to efficient use of assets.

IV - Presents minimal threat to personnel safety or health, property, national, service or command interests or degradation to efficient use of assets.

Mishap probability Categories:

A - Likely to occur immediately or within a short period of time. Expected to occur frequently to an individual item or person or continuously to a fleet, inventory or group.

B - Probably will occur in time. Expected to occur several times to an individual item or person or frequently to a fleet, inventory or a group.

C - May occur in time. Can reasonably be expected to occur some time to an individual item or person or several times to a fleet, inventory or a group.

D - Unlikely to occur.

Risk Assessment Codes:

- 1** - Critical
- 2** - Serious
- 3** - Moderate
- 4** - Minor

5 - Negligible

Risk Assessment Matrix

Mishap	A	B	C	D
Hazard				
I	1	1	2	3
II	1	2	3	4
III	2	3	4	5
IV	3	4	5	5

The Process

1. Step 1 - Identify Hazards and Probable Causes

(a) River Crossing

High Ropes Course/Rappelling
 PFT (Physical Readiness Test/Physical Fitness Test)/Battalion PT (Physical Training)/
 USMC PT (MECEPs, Marine Options, volunteers)

(b) Preliminary Hazard Analysis: For each step of the operational analysis, hazards which might result in personnel injury/death, property damage or mission degradation, are listed.

<u>HAZARDS</u>	<u>CAUSES</u>
Drowning	-Poor swimming skills -Fear of Water -Inattention to safety
Personnel slip/fall during river crossing	-Wet rocks -Running -Inattention to safety
Personnel fall from Obstacle/High Ropes/Rappelling	-Fatigue -Lack of upper body strength -Obstacle intimidation -Over confidence -Loss of balance or coordination -Wearing of inappropriate boots -Incorrect wearing of safety harness -Unsafe obstacle (disrepair)
Personnel trip/fall on cables/ropes	-Failure to observe tripping hazards

Personnel become entangled in ropes/obstacles	-Failure to remove inappropriate items (i.e. watches, loose clothing etc.
Heat/Physical Exhaustion (PFT, BnPT, USMC PT, Confidence Course, High Ropes Course Incl.)	-Improper preparation for PRT/PFT -Poor Hydration -Poor Nutrition -Unsuitable environmental conditions -Over exertion in high altitude -Malaise -Peer pressure -Intimidation

2. Step 2 - Assess Hazards. Each hazard identified is assessed in terms of severity and probability of loss/injury.

River Crossing

(a) Possible consequences of hazards (Hazard Severity) Category **I, II, III or IV:**

- (1) Death, individual drowns while attempting to meet qualification requirements during river crossing. **(I)**
- (2) Severe injury, individual aspirates water, or near drowning. **(II)**
- (3) Minor-Severe, Breaks bones or is knocked unconscious or concussion slipping/falling on rocks. **(II or III)**

(b) Probability of Loss (Mishap Probability) Sub Category **A, B, C or D:**

- (1) **D**, Unlikely to Occur, due to the multiple control measures in place i.e. All evolutions require at least 1 Navy Corpsman, MWTC instructors, a Safety Officer (staff member), and safety/training time-out briefings prior to each evolution.

- (2) **C**, May occur, at some time in the future, due to inattention to safety or anxiety in water. When is inestimable.
 - (3) **C**, May occur in time, due to inattention to safety, horseplay etc.
- (c) Risk Assessment Code (RAC: **1, 2, 3, 4, or 5**)
- (1) I/D = **3**
 - (2) II/C = **3**
 - (3) II or III/C = **3 or 4**

Obstacles/Rappelling Course

- (a) Possible consequences of hazards (Hazard Severity) Category **I, II, III or IV:**
- (1) Death, Individual falls, uncontrolled, from an obstacle breaking bones, neck, or head. **(I)**
 - (2) Severe injury, Individual falls, uncontrolled, from an obstacle breaking bones, neck, or head. **(II)**
 - (3) Minor, individual trips/falls between obstacles, minor cuts or sprains. **(III)**
 - (4) Minimal, Part of an obstacle is broken. **(IV)**
- (b) Probability of Loss (Mishap Probability) Sub Category **A, B, C or D:**
- (1) **D**, Unlikely to occur. Currently all participants receive a safety briefing prior to commencing the course, stressing safety and the training time out policy. It is strongly emphasized that the course is run voluntarily and that it is not a required event. In addition, if anyone feels they are unable to negotiate a specific obstacle, they are to bypass it. If anyone feels tired or fatigued, they are to take a break, and may continue only at the discretion of the supervisor/safety observer. Any obstacle that is questionable or in a state of disrepair is closed. A corpsman is present as a non-participant. A site safety survey is performed on each obstacle at least

one day prior to the evolution, by a staff member. Each obstacle is monitored by a non-participant.

- (2) **C**, May Occur in time due to over confidence on the part of the individual, and lack of upper body strength, but because of the same safety measures implemented in (1), occurrence becomes marginal.
- (3) **A**, Likely to occur immediately. Occurs from time to time among some of the physically weaker, trainees, or those individuals that are not in an appropriate physical condition.
- (4) **A**, Likely to occur immediately, or has occurred. Confidence course is exposed to weather and the elements, periodically wood breaks, metal rusts etc, resulting in a DETECTABLE (i.e. prior) state of disrepair, resulting in that obstacle being closed.

(c) Risk Assessment Code (RAC: **1, 2, 3, 4, or 5**)

- (1) I/D = **3**
- (2) II/C = **3**
- (3) III/A = **2**
- (4) IV/A = **3**

High Ropes Course

(a) Possible consequences of hazards (Hazard Severity) Category **I, II, III or IV**:

- (1) Death, Individual falls, uncontrolled, from an obstacle breaking bones, neck, or head. **(I)**
- (2) Severe injury, Individual falls, uncontrolled, from an obstacle breaking bones, neck, or head. **(II)**
- (3) Minor, individual trips/falls while on/around course, minor scraps, cuts or sprains. **(III)**
- (4) Minor, sprained and pulled muscles. **(III)**

(b) Probability of Loss (Mishap Probability) Sub Category **A, B, C or D**:

(1) **D**, Unlikely to occur. Currently all participants receive a thorough safety briefing prior to commencing the course by a highly trained staff stressing safety and the training time out policy. It is strongly emphasized that the course is run voluntarily and that it is not a required event. In addition, if anyone feels they are unable to negotiate a specific task, they are to bypass it. If anyone feels tired or fatigued, they are to take a break, and may continue only at the discretion of the supervisor/safety observer. All participants will have their safety harnesses checked by the course staff prior to beginning any task. Only the course staff will be authorized to unclip carabineers and approve the removal of helmets and harnesses after task completions.

(2) **C**, May occur in time due to over confidence on the part of the individual, and lack of familiarity with this type of activity, but because of the same safety measures implemented in (1), occurrence becomes marginal.

(3) **C**, May occur in time. Occurs from time to time if coordination/balance is lost and the person falls while on the course itself or may occur if the person is not attentive to tripping hazards when walking in the vicinity of the course.

(4) **C**, May occur in time. Participants attempting to regain balance may pull/strain muscles due to quick/abrupt movements or over extending the body's natural range of motion.

(c) Risk Assessment Code (RAC: **1, 2, 3, 4, or 5**)

- (1) I/D = **3**
- (2) II/C = **3**
- (3) III/C = **4**
- (4) III/C = **4**

PFT/BnPT/USMC PT

(a) Possible consequences of hazards (Hazard Severity) Category **I, II, III or IV**:

- (1) Death, individual suffers heat stroke/heart attack during PT session. **(I)**
 - (2) Severe Injury, individual suffers heat exhaustion, or breaks a bone during PT session. **(II)**
 - (3) Severe Injury, individual suffers any malaise, heat injury or fracture during off site training (i.e. USMC La Luz trail run is a significant distance from a hospital/clinic). **(II)**
 - (4) Minor/minimal, individual fatigued, sick. Sprained and pulled muscles. **(III or IV)**
- (b) Probability of Loss (Mishap Probability) Sub Category **A, B, C or D:**
- (1) **D**, Unlikely to Occur, again, due to the multiple safety measures in Place. 1 non participating Corpsman is always on hand. 1 safety vehicle is always used. All trainees are medically screened and must qualify, prior to participating in any unit PT event or session. Safety briefings and training time-out policies are briefed regularly. As well as proper nutrition and hydration on a CONSTANT basis.
 - (2) **D**, Unlikely to occur, again, due to the multiple safety measures mentioned in (1).
 - (3) **C**, May occur in time, this unit, specifically the USMC morning PT sessions, engage in off site training (i.e. driving to a training area, not in the vicinity/local area of either the unit or a hospital).
 - (4) **A**, likely to occur. In a student training environment, with a regular/daily fitness regimen, shin-splints, sprains, and pulled muscles are a regular occurrence. Most probably due to improper warm up/cool downs.
- (c) Risk Assessment Code (RAC: **1, 2, 3, 4, or 5**)
- (1) I/D = **3**

- (2) II/D = **4**
- (3) II/C = **3**
- (4) III or IV/A = **2 or 3**

3. Step 3 - Make Risk Decisions

(a) *Obstacles/Rappelling Course item (3)*, RAC of 2.
Recommendation: Reemphasize, proper conditioning, that the event is voluntary. Tighter restrictions by the monitors (i.e., monitors making individuals who look fatigued or weak, bypass and obstacle, or take a break.)

(b) *PT item (4)*, RAC of 2 or 3.
Recommendation: Reemphasize, appropriate warm up and cool down techniques. Explain that not only is there no requirement to PT when you are sick, doing so can be detrimental.

(c) *Swim Items (1), (2) & (3), Obstacle/Rappelling Course Items (1), (2) & (4), High Ropes Course Items (1) & (2), PT Items (1) & (3)*, all have a RAC of 3.
Recommendation: While a RAC of 3 represents a moderate risk the primary corrective course of action in addition to those measures already described, would be reemphasis on *safety*, and the sincerity and importance with which *Training Time-Outs* are received.

(d) *High Ropes Course Items (3) & (4)*, RAC of 4.
Recommendation: An RAC of 4 represents a minor risk. Safety should still be the first priority. Reiterate the possible ground tripping hazards and the importance of appropriate techniques/behavior while on the ropes in order to prevent loss of balance/coordination. Proper stretching prior to beginning the course can minimize damage due to over extension, if encountered.

4. Steps 4 & 5 - Implementation of Controls and Supervision.

- (a) Control measures and supervisory capacity on high risk events were described in step 2.
- (b) In addition, we have recently set new policy on the requirement for a Corpsman's presence and a safety vehicle with water at all offsite/remote unit sanctioned PT events, as well as all Local PRT's/PFT's.

(c) All unit personnel are CPR qualified.