Sea Walking

Introduction

Modern commercial sea walking, often called helmet diving was popularized as an eco-friendly tourist adventure by Solar Sea Walk in Mauritius in 1988. This activity allows people to walk on the seafloor 7–10 meters down while wearing a helmet supplied with air from the surface, making it accessible to non-swimmers.

Key details about the origin and popularity:

•**1988:** Solar Sea Walk in Mauritius introduced the modern, solar-powered helmet diving experience.

•**Mechanism:** It involves a specialized helmet that allows for breathing normally, keeping the head dry, while walking on the sea floor.

•**Growth:** The activity is now a major tourist attraction in tropical areas like Southeast Asia and the Caribbean.

•**Safety:** While generally safe for non-swimmers, it is regulated for safety in areas like Pattaya, Thailand.

PATTAYA Was first in Thailand to introduce “SEA WALKER” operations in October 2025.
The same year a seriously accident happen, during sea walking in Pattaya. An Indian tourist was found unconsscious on the seabed when he had participated a Sea Walk. According to the news, it was not known what have happened, but the tourist was bringed to a hospital and was in coma.
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Let me introduce my self

My name is Per Svensson. I am from Sweden but moved to Thailand several years ago. Now living in Jomtien.

I am now retired, but I have the following CV applicable to diving;

- I start diving 1976.

- I became an international dive instructor 1978.

- In 1990:s I was the head of the Swediah Sport Diving Federations Safety and instructional committee.

- Also in the 1990:s I was accepted to the Swedish Navys courses in diving with light diving (certificate A, Scuba diving extra +, the Navys regulation) and the Swedish Navys course in Heavy diving, course B, (commersial and military diving). I got top marks in both.

From 1990 – 2003 I had my own diving company, working with commersial diving, dive equipment service, a dive shop, and a scuba diving school.

Also in the 90th, I was working as dive instructor at Tjustskolan, a school for rescue personnel.
I was giving theoretical lessons about diving, diving accidents and medical risks for the Swedish Navvys diving instructors and the Swedish coast guards divers.

Further in the 1990:s I became a diving instructor for disabled people, and also a diving instructor for mixed gas diving and Nitrox diving.

I have also worked as a researcher and teacher in IT and Human Forces at Linköpings University in Sweden and Politecnico di Milano, Italy. At least my knowledge in Human Forces has some bearing in this case.

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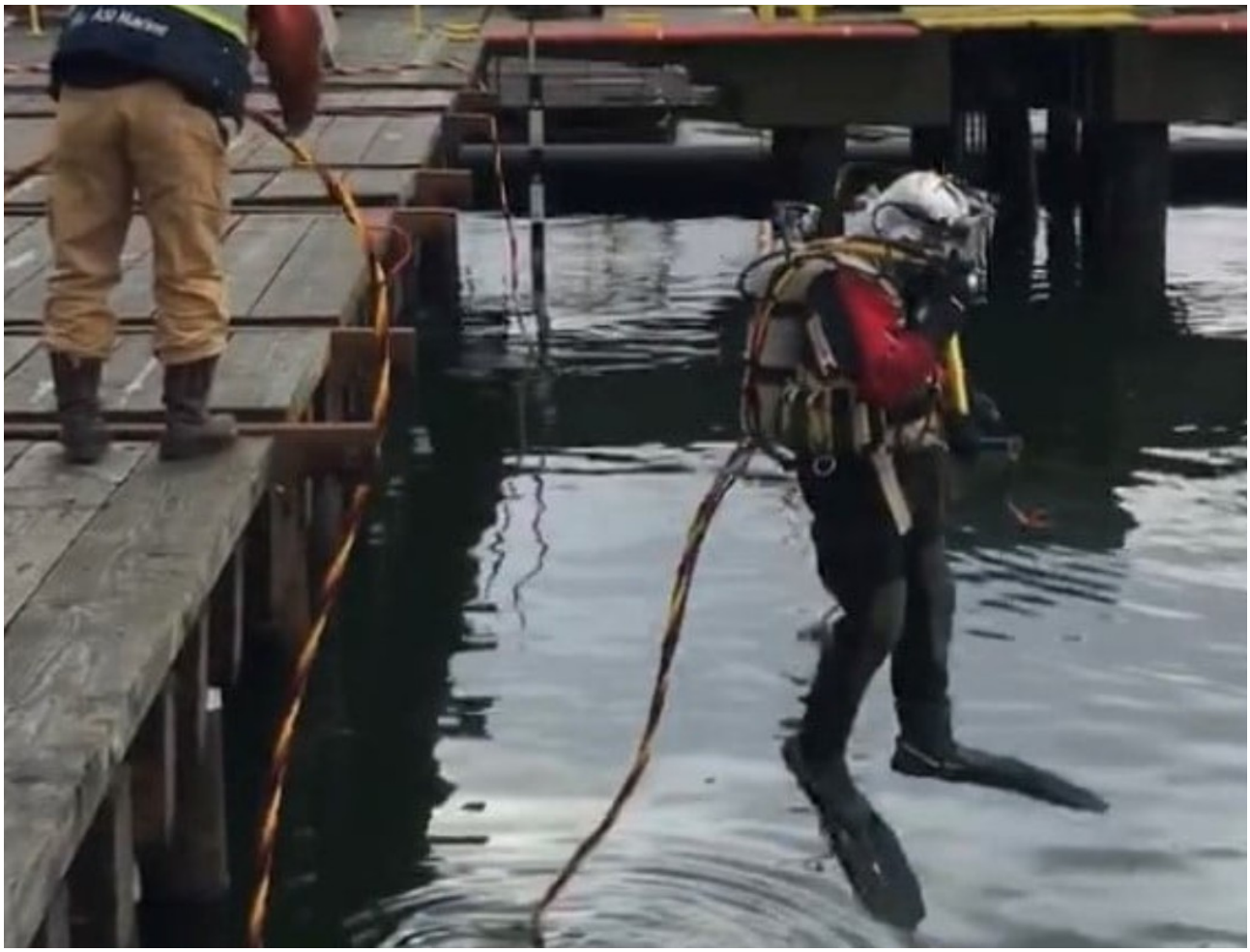
If you are in doubt of any of the medical and technical problems I mention in this document I suggest that you let a medical doctor, preferably a doctor that is expert in diving medicine and for the tecnical subject one of Thailands Navys diving experts to read through this document and give their opinion.

Now over to Sea Walking and explanation

First picture, a commersial diver



Please notice that he have air supply from a hose, but that he also is wearing a diving tank. The purpose with the diving tank is to be his safety. If, of any reason, the airsupply from the surface stop, he manually can shift to air from the diving tank and safely get up to the surface. The helmet he is wearing have a so called closed air system with a demand valve. This means that he get air when he breath in and the air he breath out goes to the water. In this way the used air with higher carbon dioxide level will not go in to the helmet.

Second picture, octopus rigg



In this picture you can see an octopus rigg and a manometer connected to the first stage. This have been a standard in scuba diving for about 50 years. The yellow hose and mouthpiece is the octopus rigg. With this you could give air supply to your diving partner if he became out of air.

Third picture, ponnybottle



This picture shows an alternative to the octopus rigg. Here you put your mouthpiece hose on the big diving tank and the second on the smaller tank. With this solution you can supply both your self and your diving partner with air if anyone of you run out of air. However not at the same time if one of your diving tanks are empty.

First movie SEA WALKIN outside Kho Larn

This movie is from You Tube and it is told that is is taken on a ”Sea Walk” experience outside the cost of Kho Larn. It also tell that the ”Sea Walk” is done in the depth of five meters.

You not have to look at the whole movie (it is rather boring), but I want you to look in the beginning and especially on the scuba divers who guide the group, and also should be the SEA WALKERS safety support. None of those divers have an octopus (extra mouthpiece). That means that noone could in a safe way support one who run out of air. I also want you to look at the SEA WALKERS. Then you can see that they have to hold the helmet down. This is because the helmet is a so called free flowing helmet and if they not secure the helmet it will float up to the surface, leaving the SEAWALKER without air and eye protection. Why those helmet not have a strap similar those that are on motorbike helmets?

At least one of the divers are not wearing fins. This will slow down his movement and for instance if an accident happens it will take him longer time to get to the spot.

Then you could go to the last minutes of the video where the SEAWALKERS stand in a que to enter the ladder to the surface. Suddenly one of the scubadivers disconnect one SEAWALKERS air hose from his helmet when he still is standing on the bottom!!! The risk the diver put the SEAWALKER in is the following. The helmet is a so called open air system. This means that the air the SEAWALKER breath out are going to ber mixed with the air he breath in and the air he breath in would by that have a little bit higher carbon dioxide level. When the air supply is cut of, like in this case, the helmet do not get any fresh air, and after a while, depending on the volume of the air in the helmet, the air in the helmet will contain to much carbon dioxide and to liitle oxygen and the SEAWALKER will be unconscious. And fall to the bottom. What happens when a SEAWALKER fall I explain below. The Movie you can see at SEA WALKING Kho Larn

Second movie SEA WALKER helmet dummy

This movie I have take home in my kitchen to show you what happen if a SEAWALKER fall. I have filled the sink with colored water (so it will be easier for you to see what happen). As a dummy for the SEA WALKER helmet I use an empty glass and turn it upside down before I put it in the water. Of course I have no airhose connected to my glass, but even if I had the result would be the same. First I use a symetric glass and then a cupped glass. As you can see in the first case, the symetric glass, there will be no or very little air left inside. With the cupped glass there will be a bigger air pocket, but where it would be depends on how the SEAWALKER falls. If he falls so he have his head up, the air pocket will be in the top of the helmet. If he still have air supply he would be able to breath. If he fall on his back and still have air supply, he Maybe could breath. If he fall on his side or with his back up he would probably not be able to breath because the air pocket would be at the upper level of the helmet. If he not has air supply and fall with his head up or laying on his back he probably would be able to breath for a short time until the carbon dioxide level in the air

pocket get to high. Two other factors that also are involved in this is how deep he fall and if the bottom is flat or inclined. The movie you find at Experiment

Explanation: Water is heavier, have a higher density then air. This will make the air pressed out through the open part until the pressure of the water and the air is equal, leaving a small bubble of air at the highest point inside the glass (” SEA WALKER helmet”).

Some other explanations

Free ascent. Our lungs are made up of small, thin-walled bubbles, alveoli. For better understanding we could talk about the area the lungs of an adult person have. It is about 80 – 100 squarmeters or about half of a tennis court. It is in the alveoli the exchange of air (oxygen) and carbon dioxide happens.

At sealevel the air pressure is 1 ATM (bar). When we dive or SEAWALK the air we breath have the same pressure as the water have (at a depth of 10 meters 2 ATM, 20 meters, 3 ATM …)

In practice this means that if we take a full breath at 10 meters deep, hold our breath and swim up to the surface the air in our lungs will expand to the double volume. This give a very high risk that the thin alveoli in our lungs will burst and we got gas bubbels in our blood vessels, bubbles that will block the blood from to be delivered to our body parts, mainly the heart and the brain as those are our most oxygen consuming parts. A few minutes without oxygen to those parts and we will die.

Navy divers all over the world are trained in doing a free ascent from at least 30 meters deep. Never the less, I have the knowledge of at least three accidents where trained navy divers has died during a free ascent from 75 centimeters. This because undetected weakenings in their alveoli and/or improperly performed free ascent.

Are SEA WALKING safe

According to me and after viewing the video from a SEA WALKING outside Kho Larn, absolutely not. But judge by yourself by answer the following questions.

(your answer on each question could be yes, no or?)

1. Is there a diving flag up during the SEAWALK and can it be seen from the water surronding (at least 75 meters, 360 degrees).

2. Is there a boat beside the diving platform the entire time SEAWALKING is in progress?

3 Is there, on surface, any backup system for to support the SEAWALKER,s with air?

4. Is anyone given the responsibility for the air support and is there a second person given the responibility if the first one of, any reason, not could fulfill his duty?

5. Has the surface staff been trained in first aid and cardiopulmonary resuscitation (CPR)

6. Have the surface staff the right equipment to lift an unconscious person from the water and have they had at least yearly training in how to use it?

7. Is ther a clear order to any in the staff that the responsibility for how to act if an accident occur and how to contact emergency center?

8. Have all of the diving staff a diving licence?

9. Have all the diving staff equipment so they could give another diver air supply?

10. Have all the diving staff equipment so they could give a SEAWALKER air supply?

12. Have the diving staff been trained in free ascent?

13. Have the diving staff been trained in how to, in the safest way lift an unconscious or panicked person to the surface and get him to the assistance of the surface staff?

14. Are their clear orders on how the staff should act if an accident occure?

If you not have answer yes to all of those questions the SEAWALK operation is not safe.

According to my knowledge and what I have seen on the video from outside Koh Larn I strongly recommend you to stop all SEAWALKING operations until safety regulations have been stipulated, safety equipment have been developed and SEAWALK operators including theire surface and diving staff have been joining safety courses regarding SEA WALKING arranged by you, the department.

Could SEA WALKING be safe

Not guaranted totally safe, but up to 90 – 95 % with the right rules and the right equipment. The rest 5 – 10 % is depending on how the people involved react. You have to undertand that a person who unintentionally get the face under water will react instinctively with holding his breath and close his eyes (the salt water will give a pain in the eyes). After less than 2 minutes he will react with panic. Also the people who see this and not are trained in the situation, other SEA WALKER:s, untrained staff, could get into panic and try to escape from the place, because they get scared that the same could happen them or because they not know how to handle the situation.

You also have to understand that you, the department that gives the licens to SEA WALKING operators also has a responsibility. Without giving clear safety rules you are giving accept to that seriously accidents would happen.

Here I also want to say that according to the article I read in Pattaya news you have compare and set the fees for those SEAWALKER operators who not are following the rules to the same as those that are for the sun lounger rentals on the beach. Let me ask you a question. How many lifes do a sun lounger rental risk per day? A SEAWALK operator set between 10 -20 lifes in a risk per day and have them to pay 2000 Baht each. That means that a fee of 5000 Baht is peanuts. According to me the fee should be at least 200 000 Baht.

My very strong opinion is that all forms of SEA WALKING should be suspended until safe regulations have been put in place and operators and their staff have been trained and approved to conduct SEA WALKING.

What can I do for you

- I can help you set up safety rules for SEAWALK operators

- I can assist you in your inspections of SEAWALK operators. If you want me to also give a report from what happens underwater, I can do that, but for that you have to rent me a complete scuba diving equipment and an underwater videocamera.

- I could develop and create a system that enables divers to quickly and easily supply SEA WALKERS with air . Please note that each diver can only assist one SEA WALKER at a time.

- I will give you, the department, the exclusive right to sell the concept for safe SEAWALKING and safety equipment. But please note that the concept and safety equipment are developed by me. So I demand my share if you resell the concept.

- I can hold safety courses,in English (I could bring a translator English - Thai) for the operators, their surface staff and there diving staff learning them how to make SEA WALKING as safe as possible.

All of this of course have a cost, but on the other hand you decide the rules and also the cost for the SEAWALKER operators to get cerificated.

Sincerely Per Svensson