PIANC WG 169
RecCom

FIRE SYSTEM DETECTION AND CONTROLS IN MARINAS

TERMS OF REFERENCE

1. Historical background - Definition of the problem

Yachting has grown exponentially in numbers, sizes and technical developments from the end of the Second World War onwards.

Even when most yachts were built in wood (few in steel) until then, the absence of electrical circuits and the use of food warming devices only when users were onboard helped a very low rate of fire accidents.

In most cases, fires at marinas start on a yacht, and such incident is the worst nightmare of the marina operator.

The layout of most marinas, especially those in tidal areas, makes difficult the arrival of fire engines close to the fire.

With the exception of the metal hulls, boats are built with high flammable materials and have also fuel and lubricants onboard, which increase the burning and explosion potential.

The wind and the usual very close proximity of the boats are the main factors for the fire expansion from a boat to another.

Until today, personnel training and periodic fire drills are not compulsory in marinas.

A very low frequency of fire accidents in marinas worldwide keep the subject of fire prevention and fire fighting training as a non-prioritary subject.

The complexity of electrical systems on a modern yacht increases the possibility of an electric fire, specially when the yacht is not used and connected to shore electricity (battery charger, ventilation, air conditioning).

Most marinas do not have a seriously designed fire fighting system, the appropriated elements to act in case of need, the trained personnel to use them, and a fire response plan.

2. Objectives

To learn the causes of marina fires, the way of detecting them, dealing with the fire, and establish marina planning and design criteria and procedures that would increase the possibility of safe and quick fire extinction and minimization of losses.

3. Earlier reports to be reviewed

Planning of fishing ports PTC2 report of WG 18 – 1998

Guidance on facility and management specification for marine yacht harbours and inland waterway marinas with respect to user requirements. Report of WG 05 of the commission for SPN - 1991

Dry berthing of pleasure boats either for maintenance or complementary to wet berthing - both the technical and financial aspects. Third international commission for sport and pleasure navigation – 1980

Standards for the construction, equipment and operation of yacht harbours and marinas, with special reference to the environment International commission for sport and pleasure navigation – 1979

Follow a list of references.

4. Scope

Matters that will be investigated are: causes of the fire, personal injuries, material losses, meteorological conditions that can affect fires, accessibility to the areas interested, local fire fighting logistics, external fire fighting logistics, actions by marina personnel, actions by external help (Fire brigade, auxiliary boats), coordination.

After that the method approach should be:

- Create a matrix of main variables on historical fires.
- Analyse matrix to detect repetition patterns.
- Study available literature on fire detection, prevention and control.
- Interview available operators with experience in marina fires.
- Interview fire brigade operators in harbors with marina facilities.
- Propose the final draft of a code of practice.

Some case-studies will be considered and between these:

- Por Vell, Barcelona, February 2008
- Marina Botafoch, Ibiza, December 2005
- Bellingham Marina, WA March 2013
- Edmonds Marina, Seattle WA, February 1990
- Autoprotection & Fire plan, Moll Vell, Mallorca 2011

5. Intended product

The Working Group will prepare a code of best practice for marina planning and design under the fire fighting point of view, implementation of installations, procedures and training regarding fire prevention, detection and control when operating a marina.

6. Working Group Membership

Fire-fighting experts in any role involved. Marina managers/directors. Marina designers. Boats designers and constructors. Emergency response training experts. Fire-fighting systems designers and operators. Safety technicians (procedures/assessment). Firemen.

7. Relevance to countries in transition

The code of practice can be very useful for the growing marina market in countries in transition with the aim of contrasting substandard and unsafe practices for the final users. The report should stipulate the basic issues and at the same time be simple enough to be easily adapted and give advice to the local legislations.

8. Climate Change

As result of the preliminary approach for preparing the TOR, it seems reasonable to consider that climate change does not affect this topic.

References

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