

## Frequently asked questions / Obstacles to air navigation

### What is an obstacle to air navigation?

An obstacle to air navigation can be any object rising from the ground that may interfere with air traffic or air navigation facilities. The cases in which it is necessary to apply for a permission for an obstacle are specified in section 158 of the Aviation Act (864/2014). Instructions on how to apply for the permission can be found on [Traficom's](#) website (in English) and [ANS Finland's](#) website (in Finnish).

### When do I have to apply for an obstacle permission?

Sometimes it may be difficult to find out when it is necessary to apply for an obstacle permission without help from Traficom or ANS Finland, because the conditions related to the need for a permission are dependent on the distance to the closest aerodrome and the aerodrome's location in relation to the object.

The location of aerodromes can be roughly studied for example on the [Len-topaikat.fi](#) website (does not include heliports nor emergency landing sites).

An obstacle permission is needed when the object that is set up:

- 1) extends to a height of more than 10 metres above the surface of the earth or water and is located within a rectangular area around a runway of an aerodrome, light aviation aerodrome or emergency landing site, with the long sides of the rectangle at a distance of 500 metres from runway centreline and the short sides at a distance of 2,500 metres from runway thresholds;
- 2) extends to a height of more than 30 metres above the surface of the earth or water and is located outside the area referred to in paragraph 1, but no farther than 45 kilometres from the reference point of an airport (Finavia, Lappeenranta, Mikkeli, Seinäjoki);
- 3) extends to a height of more than 30 metres above the surface of the earth or water and is located outside the area referred to in paragraph 1, but no farther than 12 kilometres from the reference point of an emergency landing site or an aerodrome other than an airport (Finavia, Lappeenranta, Mikkeli, Seinäjoki);
- 4) extends to a height of more than 60 metres above the surface of the earth or water and is located outside the areas referred to in paragraphs 1–3.

Example 1.

Question: Is an obstacle permission needed for my new grain silo that is 20 metres high and that is built at a distance of 400 metres sideways from Lapinlahti aerodrome's runway centreline?

Reply: Yes. An obstacle permission is needed for all structures that are over 10 metres high if they are located at a distance of 500 metres sideways from runway centreline (parallel to the long side of the runway).

Example 2.

Question: Is an obstacle permission needed for my new amateur radio mast that is 50 metres high and that is built at a distance of 52 kilometres from the closest airport or other aerodrome?

Reply: No. The mast is under 60 metres high and it is located more than 45 kilometres away from the airport.

Example 3.

Question: Is an obstacle permission needed for a mobile crane that is 40 metres high and that lifts an element for house construction 20 kilometres away from Pori airport?

Reply: Yes. The crane is located less than 45 kilometres away from the airport and it is over 30 metres high.

### **How long does the processing of an obstacle permission and statement take?**

Obstacle permissions and statements are processed normally in the order of arrival with limited resources. The applicant is asked to be prepared for the processing by sending the applications sufficiently early.

ANS Finland's processing time of an obstacle statement is case-specific. The processing time of a single obstacle is normally approximately two weeks.

Traficom's processing time starts when the application is received at the Registry. The duration of the processing varies depending on the object and the work queue from a few days to several weeks if additional information or external statements are required for the processing.

### **Exemption from obstacle permission under Aviation Regulation AGA M3-14?**

It may be stated in an obstacle statement that the obstacle applied for has been exempted from permission under Aviation Act and Aviation Regulation AGA M3-14. In this case, it is not necessary to apply for an obstacle permission from Traficom and the obstacle statement is in itself a sufficient basis for setting up the obstacle.

This reduces the workload of the person or company setting up the obstacle caused by legislation in cases where it has been possible to state in the statement that the obstacle has no effect on flight safety.

### **Can the location of an obstacle that has already been permitted be changed without having to apply for a new permission?**

The location of the obstacle should be clearly determined before applying for the permission. In practice, there may be significant differences in the circumstances for setting up an obstacle even within a very small area. In this case, a change of the obstacle sideways within a 50-metre radius from the obstacle mentioned in the permission is allowed without having to apply for a new permission if the obstacle is not higher AND the obstacle is located far away from aerodromes, outside the area of influence of obstacle limitation surfaces. This change of under 50 metres does not need to be reported to Traficom, but, when the notice of completion is submitted, the final coordinates are reported to ANS Finland for the obstacle register.

### **Is the maximum height determined in the obstacle permission absolute or can it be exceeded and if it can, how much can it be exceeded without having to apply for a new obstacle permission?**

The height of the obstacle can be lowered from the height mentioned in the permission without having to apply for a new permission, and the final height is reported to ANS Finland in connection with the notice of completion.

Raising the height of the obstacle from the height mentioned in the permission is not allowed without a new process. If the height is raised, the applicant must obtain

an updated statement from ANS Finland and also apply for a new permission from Traficom.

**What is the meaning of section 158(3) of Aviation Act “No permission is required for facilities, buildings, structures or signs set up by the aerodrome operator or based on the aerodrome operator’s assignment”?**

The subsection in question makes it possible to lift things or to set up structures that are over 10 metres high in the airport area without an obstacle permission from Traficom. However, this requires that lifting is only done under the approval and supervision of the airport operator (Finavia, Lappeenranta, Seinäjoki, Mikkeli). Even then, the effects of the obstacle on air traffic must be examined first.

**In which form is the advance notice on setting up the obstacle or the notice of completion done to ANS Finland?**

The notice can be done using a form that can be found on ANS Finland’s website (in Finnish).

**Because of a delay related to the object, I cannot set up the obstacle before the permission expires. How can I apply for an extension of the permission?**

If a permanent obstacle cannot be set up by the date mentioned in the permission, it is necessary to apply for an extension of the obstacle permission from Traficom. The extension must be applied for before the existing permission expires. The processing of the extension at Traficom is free of charge when the old permission is still valid, but if the time for setting up the obstacle mentioned in the permission has expired, the application is treated as a new object and invoiced accordingly.

As for temporary obstacles, such as cranes etc., a change in operating time is always considered a new case and a new obstacle statement and permission is required.

**Does the painted obstacle marking of masts need to be extended to the surface of the earth?**

As for trussing that is located outside an airport area, the bottom 18 metres from the surface of the earth can be left unpainted.

**What are the RAL colour codes used in painted obstacle markings?**

White	RAL 9003 (in wind power plants, also 7035, 7038, 7047, 9016, 9018)
Red	RAL 3024, RAL 3026
Orange	RAL 2009
Yellow	RAL 1003 (in wind power plants in a sea area also 1023)

**When does the obstacle need to be equipped with obstruction lights?**

The required obstruction lights have been written down on the obstacle permission, in the part concerning the conditions of the permission.

Obstruction lights are required from structures that

- pierce obstacle limitation surfaces of an aerodrome or are very close to these surfaces
- are in the circling approach area and are higher than 45 metres from the surface of the earth (the circling approach area is an area within approximately a 10-kilometre radius around an airport)
- are elsewhere and are higher than 70 metres from the surface of the earth.

The regulations on this subject can be found in the decision [1/2000](#) of the series of Rules and Decisions (in Finnish).

**Can the obstruction lights of existing masts that are under 70 metres high be removed?**

The owner of the obstacle is responsible for the maintenance and functionality of the obstruction lights. It is not allowed to remove the obstruction lights without permission. The conditions for removing obstruction lights can be enquired from Traficom or ANS Finland.

**It is not possible to install a high-intensity obstruction light at the top of our mast in accordance with the Aviation Regulation AGA M3-6. What should we do?**

If a tower or antenna structure that is shown by a high-intensity obstruction light in the daytime includes an additional structure that is over 12 metres high, such as a pole or an antenna, at the top of which it is, in practice, not possible to install a high-intensity obstruction light, such a light must be installed as high as possible and efforts must be made to install a medium-intensity obstruction light of type A at the top.

**Is it enough if one obstruction lighting fixture is installed as the obstruction light on the roof of the engine room of a wind power plant?**

The obstruction light must be visible in all directions so, in practice, one light is not enough because of the shadow areas caused by the blades, and, depending on the structure, at least two obstruction lighting fixtures that are placed sufficiently far away from each other are needed.

In practice, at least four intermediate level lights must be installed in the tower so that they are placed round the tower. As to intermediate level lights, at least two lighting fixtures per level must be visible in approach directions.

**What is the light flash frequency of a high-intensity obstruction light?**

The light flash frequency of a high-intensity light is 40-60 times per minute.

**Are there any requirements for emergency power of obstruction lights?**

At present, there are no provisions concerning emergency power of obstruction lights located outside an airport area.

**Are temporary obstruction lights needed at the stage of setting up the obstacle before the obstruction lights required by the permission become operational?**

During set-up work, there must be temporary obstruction lights in the obstacle during the dark part of the day when the height of the obstacle exceeds 70 metres from the surface of the earth. In this case, there must be at least low-intensity obstruction lights showing a fixed red light at the top of the obstacle. When the height of the obstacle that is being set up exceeds 100 metres from the surface of the earth, also obstruction lights of the set-up phase are required at least at one intermediate level.

The set-up must be planned so that operations relying on temporary obstruction lights remain as short as possible.

**If one uses grouping in the obstruction lighting of wind power plants, i.e. bright obstruction lights in the outer circle and dimmer lights in the inner area, low-intensity continuous obstruction lights of red colour are, according to the instructions for daytime signalling of wind turbines, aircraft warning lights and the grouping of lights, needed in the inner area. According to AGA M3-6, the**

**low-intensity obstruction lights are of type A and type B. Which type is used in this case?**

In grouping, low-intensity obstruction lights of type B are used in power plants that remain in the inner area.

**How do I report the location of an obstacle when the obstacle is a tower crane moving on rails?**

As to the coordinate point, the coordinates of the centre of the crane at either end of the movement area must be given, and additional information must be given in the section concerning the length and direction of the trajectory, with, for ex., a layout drawing including a description of the operating area of the crane as an attachment. The radius of rotation of tower crane's jib (the length of the jib) must also be included in additional information.

**If a crane is in the immediate vicinity of an existing obstacle, when can it be exempted from permission?**

An obstacle permission is not required for a crane that is working in connection with a fixed obstacle if the height of the crane does not exceed the height of this fixed obstacle. A fixed obstacle may be a building, mast, wind power plant, etc.