



# Safety, Health and Behavior Rules at the MAGIC Site

Version 2.2

September 17, 2024

**Safety and Operations Coordinator: Daniela Dorner**

comments to: [magic\\_soc@mpp.mpg.de](mailto:magic_soc@mpp.mpg.de)

## Contributions by:

Ana Babic  
Oscar Blanch  
Irene Burelli  
Juan Cortina  
Daniela Dorner  
Michele Doro  
Javier Herrera  
Elisa Prandini  
Martin Will

## Abstract

This document describes the safety rules for visitors who plan to stay during the operation at the MAGIC telescopes site. You must read and understand it completely, receive a guided safety tour by an expert, sign a printed copy of the checklist found at the end of this document, and give the signed checklist to the expert at the start of your visit. Rules are written in bold and numbered. Failure to comply with them may result in a safety penalty for your host person. If you find any omission or wrong or outdated information in this document, or you simply want to comment or make suggestions, please write to the Safety Committee.

The latest version of the safety documents is available at:

<http://www.magic.iac.es/site/safety/>

# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	Safety Status of Visitors . . . . .	3
1.1.1	GLIMOS . . . . .	3
1.1.2	Visitor Profile . . . . .	3
1.2	Preparation of the Visit . . . . .	4
<b>2</b>	<b>General Safety Rules</b>	<b>4</b>
2.1	Driving to and from ORM . . . . .	4
2.2	The MAGIC Site . . . . .	4
2.3	Restricted Areas . . . . .	5
<b>3</b>	<b>Emergencies</b>	<b>6</b>

## **EMERGENCY PHONE NUMBERS**

Public Emergency Telephone Number: (0) 112

Residencia Reception (daytime): (0) +34 922 405 500 (internal: 2500)

Residencia Night Porter (night time): (0) +34 609 554 576

## **IMPORTANT NOTES**

The emergency line operators speak Spanish, English, French and German.

The people working at the Residencia speak Spanish and English.

To reach phone numbers outside the IAC phone network you have to dial a 0 first.

Additional contacts details of MAGIC experts and coordinators are available at:

<http://www.magic.iac.es/contacts/>

## **USAGE OF THIS MANUAL**

Rules (R): You are obliged to follow it to avoid putting yourself, other persons at the site, or the telescopes at risk. You will incur a safety penalty if you do not follow a rule.

## **LIST OF ABBREVIATIONS**

GLIMOS: Group Leader In Matters Of Safety

ORM: Observatorio del Roque de los Muchachos

# 1 Introduction

If you are asked to read this document and sign it, you are coming to the MAGIC site as a visitor. Visitors are individuals who belong neither to the MAGIC collaboration, nor to a group of the MAGIC Collaboration.

If this is not the case, you must read instead the full SHR document accessible to MAGIC members at the following link: <http://www.magic.iac.es/site/safety/>

## 1.1 Safety Status of Visitors

### 1.1.1 GLIMOS

The reference person in matters of security at the MAGIC site is the Group Leader In Matters Of Safety (GLIMOS), who is responsible for the safety and operations at the site at any given time.

The GLIMOS is the most important person for the safety at the site and has complete authority over personnel and equipment in all matters that concern safety. The GLIMOS is a role that is assigned dynamically to a single person depending on who is effectively working at the site.

During observations, this role is typically assigned to the Shift Leader or to the deputy Shift Leader. In case of doubts, ask any MAGIC member who is the current GLIMOS during your stay at the MAGIC site.

**R1. You are not allowed to work at the MAGIC site without a GLIMOS.**

If during the visit, you have any concerns or doubts about safety rules and their enforcement, contact the GLIMOS immediately.

### 1.1.2 Visitor Profile

When visiting the MAGIC site, you are automatically assigned the Visitor profile, i.e. individuals who do not belong to the MAGIC Collaboration or to a group of the MAGIC Collaboration and who are not an external collaboration that has an agreement with MAGIC. Visitors are allowed at the site only in company of a MAGIC member or supporting technician. A GLIMOS must be around at the site during the visit, and should look after the guests. In case no GLIMOS is around, the accompanying MAGIC member will be designated as GLIMOS. A visitor that spends part of the night at the MAGIC site must read and understand this document completely.

**R2. Visitors who participate to a part or to the full night of the data taking must receive a guided safety tour by an expert during daylight and before the first night.**

**R3. Visitors must not interfere during MAGIC data taking or technical operations.**

**R4. If a visitor breaks a safety rule, the host person will receive the corresponding penalty.**

**R5. Any sensible or proprietary information acquired during the stay of the visitors must be kept confidential by the visitor and must not be distributed unless agreed with the MAGIC collaboration.**

## 1.2 Preparation of the Visit

If you plan to visit the MAGIC site for a visit, please inform the MAGIC Travel Committee through the mailing list [magic\\_travel@mpp.mpg.de](mailto:magic_travel@mpp.mpg.de) or ask your contact person to send the email on your behalf. Do this well in advance. This mailing list includes the MAGIC Safety Coordinator, the Site Manager and the Postdocs at La Palma. Include the following information (bold items are mandatory):

- (a) Purpose of your travel
- (b) Travel dates and details
- (c) Mobile phone number and contact at home for emergencies.

## 2 General Safety Rules

This chapter describes the most important safety rules to be followed when working at the site, **read this section carefully!**

### 2.1 Driving to and from ORM

There are two roads to the Roque de Los Muchachos: one from Santa Cruz (close to the airport) and one from Garafía. Both roads wind up through hundreds of bends, many of them hairpin turns, with a difference in altitude of more than 2000 m. They are to be considered as dangerous roads. You are encouraged to drive carefully and to avoid driving during nighttime or under adverse weather conditions.

### 2.2 The MAGIC Site

The MAGIC site is shown in Figure 1. Referring to the figure, on the top there are the two roads that go down (right to Santa Cruz and the airport, left to Garafía). Also the entrance to the ORM is shown. At this point, you find a gate that is closed during night. It marks the entrance of the ORM-protected area. Special driving rules apply in this area. The Residencia and the apartments are located in the top left. On the bottom right, the MAGIC site starts from the main road and encompasses the areas of the two telescopes, MAGIC-I and MAGIC-II. Highlighted in red, you find a helipad and the walking path from there to the Counting House (CH).

**R6. Within the observatory, drive using only the dipped headlights.**

**R7. Never drive your car to the MAGIC site at night during data taking. In case you are going to the telescopes, advance slowly to the helipad. Park your car at the helipad and walk to the Counting House on the walking path.**

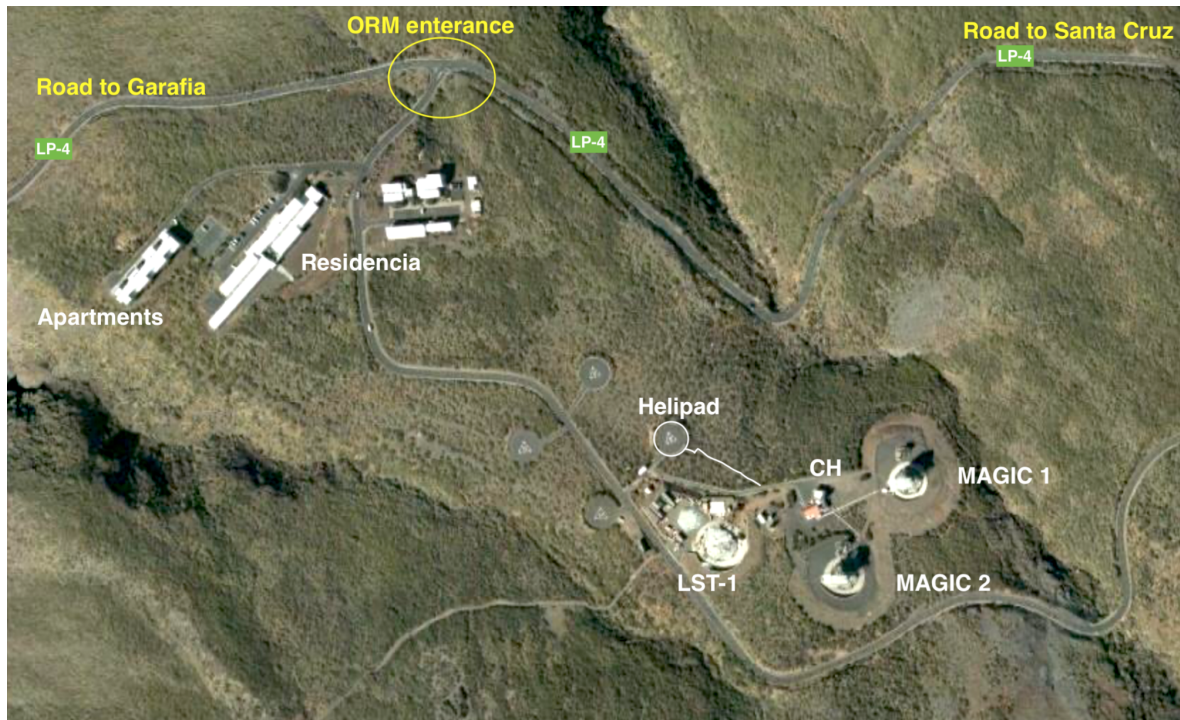


Figure 1: Map of the MAGIC site at the ORM.

## 2.3 Restricted Areas

**R8.** The telescope fenced areas, the LIDAR tower, the garages, the computing room, the readout room and the electronics workshop are restricted areas for visitors. They can only access them in company of their host and/or the GLIMOS. No individual access is allowed at any time. Try to keep visual contact all the time.

You must use a **safety helmet** whenever you enter the telescope areas, inside the fences (as marked by the corresponding sign), and the LIDAR tower dome. Helmets protect you from objects falling from the structure or the camera access tower. They also protect your head from colliding with any structure. If you need a helmet, please ask the experts.

**R9.** Always wear a helmet inside the telescope fenced areas or when in the LIDAR tower dome, day and night.

**R10.** Only use helmets certified for working places and wear them properly according to the manufacturer's instructions

At the MAGIC site, you should always wear proper boots, i.e. safety boots or hiking boots. You must always wear proper boots when you enter the restricted areas or the fences surrounding the telescopes. A typical safety shoe is shown in 2.

**R11.** Always wear proper boots inside the telescope fence.



Figure 2: A possible type of safety shoe to be used at the MAGIC site. Hiking shoes are also accepted.

### 3 Emergencies

The **highest authority** in case of an emergency in the MAGIC site is the GLIMOS.

**R12. In case of emergency, always follow the instructions of the GLIMOS.**

The **emergency control** center of the MAGIC site is the Control Room in the Counting House. The room is equipped with two telephone lines and the VHF radio transmitter.

The **meeting point** of the MAGIC site is the area in front of the garages of the Counting House. It is marked with a sign. If this site is compromised, the secondary meeting point is the helipad closest to the MAGIC site.

All **emergency phone numbers** can be found in the Counting House, on the whiteboard close to the kitchen. In case you need external help, the current emergency protocols at ORM requires that:

- (a) The first number to call is the Residencia at ORM. It is the first call because they are the closest resource in case of an emergency. The day personel speak Spanish and English, and they are trained in first-aid and emergencies. You can call them with the regular phones, a cell phone or with the radio emitter.
- (b) The second number to call is the Public Emergency Telephone Number (112). They speak Spanish, English, French and German. It can be called from any cell phone practically everywhere, even if you don't have normal coverage. They will tell you what to do and will get in contact with the medical service, firemen, local authorities, or whoever is necessary. They will stay in contact with you until the emergency is finished.

The relevant phone numbers are:

- Public Emergency Telephone Number: (0) 112
- Residencia Reception (day time): (0) +34 922 405 500 (internal: 2500)
- Residencia Night Porter (night time): (0) +34 609 554 576

When calling any of those numbers for an emergency, remember to state: who you are, where you are, the nature of the emergency, the actions you have taken so far, and (if you have the knowledge) the specific help that you will need.

The reaction in case of any emergency is based on the Protect - Alert - Help methodology. Follow the actions required in this order:

1. **Keep calm.** You must react fast to an emergency, but you can not act without deep concentration. Rather spend some seconds considering the situation than rush to take action and perhaps make everything worse and even put your life in danger.

2. **Evaluate the Situation.** Make a first but not too exhaustive evaluation of the situation. Make sure that you are not yourself in danger! If you are, take the proper actions to make yourself and other rescuers safe. Try to gather the basic details about the emergency: why the emergency happened, where exactly it has happened and how many people are involved. This will be essential for the emergency teams to decide on what actions to take.
3. **Mark the Site.** If possible or necessary (e.g., for traffic accidents) mark the site properly to avoid further incidents and for the emergency teams to find it easily.
4. **Raise an Alarm.** Alert first the GLIMOS at the MAGIC site and let him/her know that there is an emergency and that there is danger in the area. He/She will contact further persons at the site. You may use any phone, the walkie talkies or the radio transmitter. In case you can not communicate by those means, walk to the control center or to anyone who can alert the rest. The GLIMOS shall call for external help and contact the ORM authorities. The GLIMOS also informs the Site Manager, the Postdocs at La Palma and the Safety Coordinator about the situation.
5. **Analyze the Situation.** Once you have alerted the GLIMOS, remain at the site until help arrives. While you wait, examine the emergency again in detail, the state of any victims and look for any dangers. If it takes time for help to arrive, you will need to act and you need to know if your own life may eventually be in danger and if your actions may endanger any victims.
6. **Provide Help.** If your life is not in danger and you know what to do, you may now act, for instance, to give first-aid or to use the fire extinguishers.

For a detailed description of possible internal and external emergencies, please read the chapter 3 of the full SHR document:

<http://www.magic.iac.es/site/safety/>

For a detailed description of general health considerations and contraindications, please read the chapter 4 of the full SHR document:

<http://www.magic.iac.es/site/safety/>



# Safety and Health Checklist

(Version 8.\*)

Fill this page, sign it, and hand it to the GLIMOS.

Date:

---

- ☐ I have read and understood this document, and will follow the safety rules and the instructions from the host person and the GLIMOS.
- ☐ I have received a guided tour of the MAGIC site and have been shown the areas which are restricted, and the safety measurements.
- ☐ I don't understand English but the host person and the GLIMOS have explained the contents of this document and made sure that I understand them.

Visitor Name:

---

Host Name:

---

Visitor Signature:

---

Received by:

---