# Site readiness checklist

SafeGas

## Getting ready to upgrade SafeGas

### Infrastructure

- ☐ Suitable PLC
- ☐ Suitable modbus/switches/analyser
- ☐ VM provisioned with correct OS and database server
- ☐ Remote access organised
- ☐ Correct networking – server can see all TB and/or RT equipment

### People

- ☐ Network engineer
- ☐ PCS engineer
- ☐ Ventilation officer

### Configurations

- ☐ CAD drawing of mine map (dxf)
- ☐ Alarm definitions
- ☐ TARPs
- ☐ List of users

### Administrative

- ☐ Contract signed
- ☐ Change request documents completed
- ☐ Training completed by key personnel
- ☐ Site induction

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## Infrastructure

### Suitable PLC

- The new SafeGas requires more powerful PLC processors than earlier versions. Simtars advises an L83 PLC as a minimum.
- The PLC needs to be installed and accessible from the SafeGas server.
- SLC is not supported.

### Suitable Modbus/switches/analyser

- We recommend communication cards and switches that support TCP/IP.
- SafeGas can support different analysers, the most common being the SICK715 and the Emerson Xstream.
- These are supported out-of-the-box. For other types of analysers, Simtars will need to advise and prepare a quote accordingly.

### VM provisioned with correct OS and database server

- A virtual machine (VM) running Windows Server 2019+ is required to host SafeGas. This is the responsibility of each site.
- The minimum specifications for this server are:

| | Minimum requirements | Mid-range[1] | High-range[2] |
|---|---|---|---|
| CPU | 1× 8 cores high clock (≥2.7 GHz turbo). | 1× 16 cores high clock (≥3.4 GHz turbo). | 1× 16–24 cores high clock (≥3.4 GHz turbo). |
| Memory | 16 GB RAM | 64 GB RAM | 64-128 GB RAM. |
| Storage | At least 200 G storage | At least 500 G storage and partitioned into C Drive(100 G +) and D Drive(400 G +) | 1 TB storage and partitioned into C Drive(200 G +) and D Drive(500 G +) |

[1] small-mid system - single TB/RT PROD
[2] one server hosting multiple TB/RT systems

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Each site is also responsible for supplying an instance of SQL Server 2019 (standard) or newer.

### Remote access organised

- It is essential that Simtars can remotely access the newly provisioned VM.
- There will be at least four individual logins required to provide ongoing out of hours support.
- These users must have elevated privileges sufficient to start and stop processes, install applications and run PowerShell scripts. Administrator access is recommended.
- A lot of the installation and configuration can be done remotely. For this reason, access to the server is required early in the installation process.

### Correct networking – server can see all TB and/or RT equipment

- The SafeGas server needs to interface with the PLC that controls the tube bundle and/or real-time monitoring network. To achieve this, the standard approach is for the server and the PLC to be on the same network.
- Having the interface between the server and the PLC finalised early in the installation project allows Simtars to complete a lot of the configuration and testing remotely.

## People

### Network engineer

A network engineer is required to commission the SafeGas server. This includes:

- Creating the VM
- Installing the OS
- Configuring SQL Server
- Adding the server to the same network as the tube bundle's PLC and analyser
- Enabling remote access and configuring user accounts
- Firewall configuration for SafeGas specific ports

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Further support from a network engineer is needed to allow personnel onsite to use their laptops and devices to access to the SafeGas website, hosted by the SafeGas server (IIS).

### PCS engineer

- A process controls system (PCS) engineer is required to assist with all PLC interfacing.
- The new SafeGas system simplifies the process significantly when compared to previous versions. However, some support or approvals will still be required by an onsite PCS engineer.

### Ventilation officer

- As the primary user of SafeGas, a representative ventilation officer (VO) is needed for the installation. Their role is to advise on and approve configurations and oversee the acceptance testing.
- The VO needs to be satisfied SafeGas meets their operational requirements

## Configurations

### CAD drawings of mine map, multiple layers

- A map of the mine site is displayed prominently in SafeGas. This is provided during the installation by the site and can be updated at any time through the SafeGas interface.
- The mine map needs to be supplied as 4 individual DXF files, to allow text and colouring.

### Alarm definitions

- SafeGas is designed to make alarm management easy. With an improved user interface and the flexibility to create targeted alarms, authorised users can add edit and delete alarms without involving Simtars.
- However, as part of an upgrade, relevant alarms will be migrated across from previous versions of SafeGas.
- These alarms need to be identified by the site (most likely by the VO) ahead of time, so the migration is as efficient as possible.

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### TARPs

- The new SafeGas system introduces an enhanced way to present TARP information. The applicable TARPs can be configured as part of the initial upgrade project, provided they are made available to Simtars at least two weeks prior to the new system going live.

### List of users

- Part of the initial installation of SafeGas is to create user accounts for authorised users.
- The site representative (usually the VO) will provide Simtars with a list of usernames and email addresses. These will be used to create the initial set of user accounts, although more can be created by admin users at any time.
- Information required is:
    - First name
    - Last name
    - Email address

## Administrative

### New contract signed

- The new SafeGas pricing will be introduced to each site when the new SafeGas is installed.
- This change in pricing will require a new contract to be agreed and signed before the upgrade can begin.

### Change request documents completed

- Although not mandatory for all, Simtars will support any site that requires change approval.
- We have documents that can be issued pro forma to detail the changes necessary, the risks and their mitigations, run sheets, rollback plans, RACI etc.
- We require two weeks' notice if the upgrade is subject to change acceptance requiring documentation.

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## Training completed by key people

- Training is now online and required for all end users of SafeGas.
- We encourage all users to complete their training and familiarise themselves with their site-specific simulation before the new SafeGas goes live.

## Site inductions as necessary

- Installing or upgrading SafeGas often requires our team to visit site and test the system interfaces with the tube bundle correctly.
- If our team needs to complete inductions before coming to site, this is a pre-requisite that needs to be factored into the project plan.
- Our preference is to be granted visitor access to the site, allowing us to do computer work in the tube bundle hut.