**🧭 Overall Purpose (Final Definition)**

The **Simfocus Autogen Helipads Manager** is an **interactive PowerShell utility** for MSFS 2020/2024 that manages the activation state of **Simfocus autogen helipad scenery files**.

It allows users to:

* Maintain a *list* of helipads to disable.
* Safely apply or revert those disable states through reversible renaming (.bgl ↔ .OFF).
* Keep consistent configuration and audit logs across simulator versions.

Its design goal is **safety, transparency, and minimal user error** — all operations are interactive, reversible, and logged.

**⚙️ Operational Workflow**

**Step 1 – Initialization**

* On first run:
  + Prompts user to select the **MSFS version** (2020 or 2024).
  + Asks for the **Community folder path** and saves it in the JSON config.
* On subsequent runs:
  + Loads configuration and verifies that directories exist.
  + Creates missing helper files (config.json, managed-list.txt, log.txt).

💡 *Planned enhancement:* Automatically detect the Community folder for each MSFS version by checking known default paths (e.g., Microsoft Store, Steam, or custom installs).

**Step 2 – Scanning Target Directory**

* Scans **only** within:
* [Community]\simfocus-autogen-helipads\
* Finds all helipad .bgl or .OFF files.
* Each helipad follows Simfocus’ pseudo-ICAO naming, e.g. FR\_5XZ53.bgl.

⚠️ This ensures that **only autogen helipads** are affected — not user scenery or payware addons.

**Step 3 – Managed List Maintenance**

* The managed list is a plain text file containing filenames (one per line).
* The script provides user options to:
  + **Search** for helipads.
  + **Add/remove** them from the managed list.
  + **Batch edit** several helipads at once (small-scale batch intended).

🔁 Changes to the list do **not immediately modify** the actual files — the user must explicitly “apply” the changes later.

**Step 4 – Applying State Changes**

When “Apply” is chosen:

| **Condition** | **Action** | **Purpose** |
| --- | --- | --- |
| File listed in managed list & ends with .bgl | Rename to .OFF | Disable helipad |
| File **not** listed but ends with .OFF | Rename to .bgl | Re-enable helipad |
| File already in correct state | No action | Avoid redundant writes |

All actions are logged in color-coded console output and written to log file with timestamps.

**Step 5 – Logging & Feedback**

* **Write-Log** records every step with levels: INFO, WARN, ERROR, SUCCESS.
* Output color codes make console feedback easy to interpret.
* The log file provides a complete, persistent history of state changes.

**Step 6 – Error Handling (Expected)**

While the current script doesn’t implement explicit error trapping around file renames:

* If a helipad .bgl file is **locked**, PowerShell’s rename command likely throws an exception.
* Depending on the context, the script might **pause or abort**.
* You could later enhance this using Try/Catch with a non-fatal Write-Log -Level 'ERROR'.

Example enhancement:

try {

Rename-Item -Path $file -NewName $newName -ErrorAction Stop

Write-Log "Renamed $file to $newName" -Level "SUCCESS"

}

catch {

Write-Log "Failed to rename $file: $\_" -Level "ERROR"

}

**🧩 Design Intent Summary**

| **Category** | **Characteristic** |
| --- | --- |
| **Interface** | Interactive, text-driven PowerShell |
| **Operation Scope** | Only within simfocus-autogen-helipads folder |
| **Persistence** | JSON config and managed list text file |
| **Actions** | Safe reversible rename (no deletes) |
| **Simulator Versions** | MSFS 2020 & 2024 (different Community paths) |
| **Batch Use** | Small manual groups of helipads |
| **Error Tolerance** | Currently limited (could hang or exit) |

**🚀 Suggested Enhancements (Future-Proofing Ideas)**

| **Area** | **Enhancement** | **Benefit** |
| --- | --- | --- |
| **Auto-detection** | Detect MSFS Community folder path automatically via registry or known paths. | Simplifies first-run setup. |
| **Error handling** | Implement try/catch around rename operations. | Prevent hangs, clearer error logging. |
| **Progress feedback** | Add progress bar or summary statistics (e.g., “12 helipads disabled, 8 enabled”). | Improves clarity during batch ops. |
| **Backup / restore** | Optional backup of managed-list and logs before applying. | Recovery safety. |
| **File lock check** | Skip locked files with warning instead of halting. | Increases robustness. |
| **Non-interactive mode (optional)** | Allow a -Silent flag for advanced users or startup tasks. | Convenience for automation (optional). |

**🧱 Design Philosophy (As Evident from Implementation)**

* **Transparency:** Logs and console output are always visible.
* **Safety:** No destructive operations; everything reversible.
* **User control:** No automated changes — deliberate user actions required.
* **Extensibility:** Modular functions (logging, file creation, scanning) make it easy to enhance later.