Nationwide House Energy Rating Scheme

User Interface Protocol for Existing Homes

First Generation

(version 20250708)

Please note:

This document sets out a new model for accreditation. This document is subject to revisions and clarifications based on user feedback and testing.

The information contained herein may not be the most current version. Always refer to the latest published version for the most accurate information at nathers.gov.au.

Change log

Version	Amendments / actions
20250708	Stage 1 launch version – incorporates learnings from the UIP working group and other stakeholder consultation. Subject to updates based on future consultation.

Disclaimer

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Enquiries about this Protocol and the accreditation process can be directed to:

NatHERS Administrator

Email: admin@nathers.gov.au

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Terminology and abbreviations

Term	Definition
Accreditation modules	A section focusing on a particular area (e.g. CSIRO Application Programming Interface (API)s and rating accuracies) that a User Interface (UI) tool must comply with.
AccuRate Enterprise (existing homes mode)	AE (existing homes). CSIRO's home energy rating tool for existing homes.
AccuRate Enterprise (new homes mode)	AE (new homes). CSIRO's home energy rating tool for new homes. AccuRate Enterprise (new homes mode) determines the settings of AccuRate Enterprise (existing homes mode), unless alternatively specified in Whole of Home Calculation Method or the Thermal Standardisation document.
AE (existing homes)	See AccuRate Enterprise (existing home mode).
AE (new homes)	See AccuRate Enterprise (new home mode).
API	An Application Programming Interface (API), is a set of rules or protocols that enables software applications to communicate with each other to exchange data, features and functionality.
Approved settings	The only and default operational configuration, mode or functionality which is permitted to be used for NatHERS for existing home assessments using the User Interface Tool.
Assessment file	A software file containing all data that an assessor enters into the User Interface Tool that generates results and the production of a Home Energy Rating Certificate. The file includes client and assessor details, tick box acknowledgements, dwelling details and evidence data as specified in the Technical Note for existing homes.
Assessor accreditation service provider (AASP)s	Includes any entity appointed by the NatHERS Administrator to accredit Assessors.
Benchmark tool	The benchmark tool used for UI modelling is AE (existing home).
Certificate	For the purpose of this document, the Home Energy Rating Certificate and must be generated by an accredited assessor.
Chenath Engine	The calculation engine developed by CSIRO that predicts annual totals of hourly heating and cooling energy requirements for residential buildings.
Compliance check	Checking and testing the UI to ensure all requirements identified in the accreditation modules, are satisfied.
Data collection tools	A data collection tool is used by assessors on site to collect data for an assessment, this may include Light Detection and Ranging (LiDAR) (e.g. MagicPlan), laser measures and rules, image recognition software etc.

Term	Definition
Data user	Entities which use or interrogate the assessment and rating data e.g. auditors, clients, owner/buyer, disclosure, government program.
Disclosure	The practice of providing a property's energy rating to potential buyers or renters when it is advertised for sale or lease, allowing them to compare the energy performance of different homes before making a decision.
Energy performance	Energy performance includes: • energy efficiency – using less energy to do the same thing. • demand flexibility – varying when and how energy is used. • electrification or fuel switching – swapping to electricity powered technologies or other cleaner sources of energy.
Evidence data	Evidence data is required for audit and verification purposes and can include images and documents. Evidence requirements are listed in the Technical Note for existing homes.
Fourth party	Fourth-party software is code or scripts that are used by the UI but are not directly provided by the UI's software provider. Fourth parties can introduce security risks, because the UI site's owner may not have direct control over them.
General update	Any software or user interface tool update which triggers a new version but not a reaccreditation.
Home energy rating	A NatHERS energy performance rating from 0 to 150, based on the expected energy use, costs and emissions of a home taking into account the shell of a building, together with the fixed appliances in the building, such as heating and cooling, hot water systems, lighting, pool/spa equipment, cooking and plug-in appliances, and on-site energy generation and storage. The maximum Home Energy Rating that is shown on a Home Energy Rating Certificate is 150 out of 100.

Term	Definition
Home Energy Rating Certificate	The certificate generated by a User Interface Tool, in conjunction with AccuRate Enterprise, upon completion of a NatHERS for existing home assessment.
	A Home Energy Rating Certificate, in such form as determined by the NatHERS Administrator, may include:
	- the Home Energy Rating
	- the thermal Star Rating and energy loads
	- the key thermal performance features of the building fabric
	- the building's appliances and on-site energy generation and storage
	- the building's emissions
	- details of the Assessor who carried out the NatHERS for exiting homes assessment and their accreditation
	- the building's address
	- relevant information regarding the building's energy efficiency requirements.
	An Assessor must use the Approved Settings to generate a Home Energy Rating Certificate.
HStar portal	The online certification and service portal managed by CSIRO that receives data from AccuRate to generate a Home Energy Rating Certificate.
Minor update	Regular and administrative changes in the software, including software enhancements and bug fixes.
NatHERS	The Nationwide House Energy Rating Scheme.
NatHERS Administrator	NatHERS is administered by the Australian Government on behalf of all states and territories. The role of NatHERS Administrator sits with the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW), or any subsequent Australian Government department that assumes responsibility for residential energy efficiency. The NatHERS Administrator reports to the NatHERS Steering Committee.
NatHERS Steering Committee (NSC)	The NatHERS Steering Committee oversees the development and administration of NatHERS. It includes representatives of the Commonwealth and state and territory governments reporting to the Energy and Climate Change Ministerial Council (ECMC).
Optimisation	Software optimisation is a modification coded in the UI that make data entry simpler, improve efficiency, and enhance user experience without affecting accuracy outside acceptable tolerances.

Term	Definition
Personal information	Has the meaning given to "personal information" in section 6(1) of the *Privacy Act 1988* (Cth).
Personally identifiable information	For the purpose of this document, this information includes some photographic evidence, e.g. the homeowner's contact details.
PII	Personally identifiable information.
Rating file	Data in AccuRate that is used to generate ratings and certificates.
Rating summary	A file/document generated by the UI using rating results from AE (existing homes). This cannot be used for regulatory purposes. It is intended for checking the rating before a certificate is generated.
Reaccreditation	A major update which cannot be addressed as a general update.
Reaccreditation event	An event that triggers the need for reaccreditation, as determined by the NatHERS Administrator. Examples of potential reaccreditation events are provided in section 1.1.2.
Schema	The schema defines the structure, types, and constraints of the data exchanged via an API between CSIRO and a UI or consumer.
Spatial data	Spatial data is the geometry of the dwelling. This data can be obtained from a plan or a 3D scan of the rooms of the home. See also evidence data.
TAC	The NatHERS Technical Advisory Committee (TAC) provides expert advice to the NatHERS Steering Committee via the NatHERS Administrator about NatHERS software and modelling issues.
Technical Note	The document that sets out the NatHERS requirements for undertaking existing home assessments. It ensures that ratings are conducted consistently.
Thermal shell	Includes floors, walls, roof, windows and doors.
Third party	This has the same meaning as user interface tool provider.
Tool	See user interface tool.
UI benchmark dwelling	One of 5 standard dwellings with varying building features used to test the accuracy of a UI.
UI benchmark record	A record of the benchmark dwelling created in AE (existing homes). It is used to compare against ratings generated from data originating from a UI.
UI provider	See user interface tool provider.

Term	Definition
UI Protocol (UIP)	The NatHERS for existing homes User Interface Protocol (UIP), being this document (as updated or created from time to time) that outlines the technical requirements of NatHERS User Interface Tools and processes for the Accreditation of User Interface Tools and new or amended versions of previously accredited NatHERS User Interface Tools.
Upgrade guidance	Information provided to empower households to take actions to reduce their home's energy use, bills and emissions, improve their home's comfort and health, and increase their home's resiliency to temperature extremes.
User interface tool (UI)	The user interface tool is the point of human-computer interaction and communication in a device. It is a front-end tool used to input data and evidence collected by a User that is conveyed into the back-end tool, AccuRate Enterprise. Accurate Enterprise will generate a rating and produce a Home Energy Rating Certificate, with this information digitally sent back to the User Interface Tool for a User to view. The User Interface Tool is accredited with the functionality of the Approved Settings by the NatHERS Administrator in accordance with the User Interface Protocol, with the designated name and version number detailed in the accreditation notice.
User interface tool provider (UI provider)	The entity specified in the accreditation notice that owns or has the right to sell or license the use of the user interface tool.

Term	Definition
Version numbering protocol	AccuRate Enterprise versions are expressed as follows: | AccuRate Enterprise			Chenath Engine
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X	**Y**	**Z**	**3.nn**[a]
Major version	Minor version	Patch version		 Where: **Major version**: major updates, including in line with National Construction Code cycle, that result in potential backward compatibility issues and/or have major rating impacts **Minor version**: new features or enhancements that are backward compatible with old version and may or may not/or have minor rating impacts. **Patch version**: minor improvements and/or bug fixes identified by the day of the year (YYDOY[b]) and may or may not have minor rating impacts.

[a] Number

[b] Day of year

1. Introduction

The Nationwide House Energy Rating Scheme (NatHERS) provides a standardised approach to rating the energy performance of homes throughout Australia and is expanding to include energy performance ratings for existing homes. The establishment of NatHERS for existing homes provides the opportunity for simple and comparable ratings for all homes in Australia and assists in providing the key foundations for state and territory home energy rating disclosure schemes.

NatHERS for existing homes will deliver energy ratings using a single calculation engine, CSIRO's cloud-based engine AccuRate Enterprise (existing homes mode) (AE (existing homes)). It will calculate ratings and generate home energy rating certificates.

In scope

This protocol details the requirements for third-party UI tools using AE (existing homes) as a backend calculation engine and for accredited certificate generation. The UI must be the only tool which assessors' access to input and retrieve data.

Out of scope

This document does not apply to UI tools which rely on assessors accessing AE (existing homes) UI to manually complete or modify a rating file or to generate an accredited certificate from within AE (existing homes).

Existing homes model overview

The existing homes model is based on a network of binding and non-binding arrangements between the user interface tool providers (UI providers), fourth party software for data collection and storage tools/platforms, NatHERS, CSIRO and assessors, as outlined in Figure 1.

Figure 1: Existing homes model overview – arrangements between parties
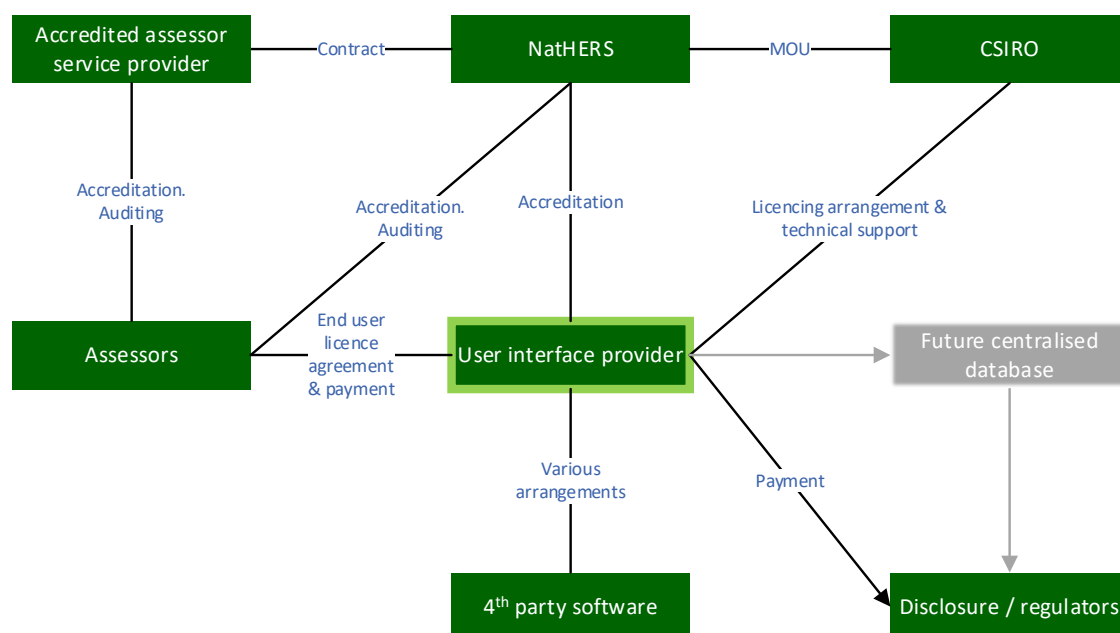
1.1. Using this document

This document is for UI providers seeking user interface (UI) accreditation, reaccreditation or implementing updates under the NatHERS existing homes stream.

Figure 2: Accreditation and update overview
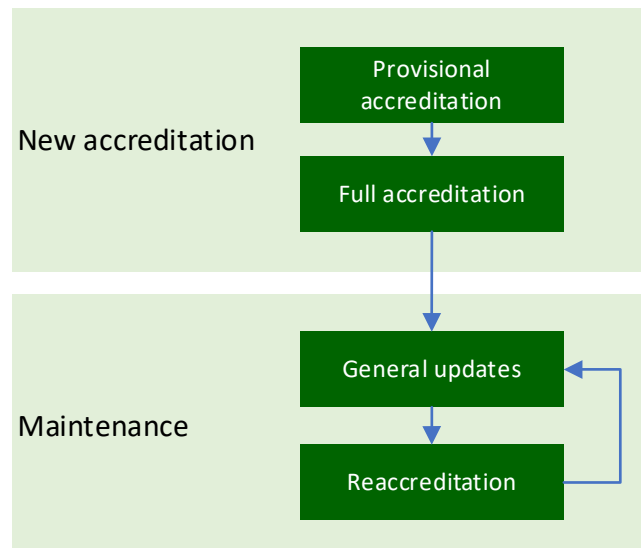
1.1.1. New accreditation

New accreditation is a two-step process: provisional accreditation and full accreditation.

Provisional accreditation

Provisional accreditation is for the period where the first 100 certificates are generated. The NatHERS Administrator (NatHERS Administrator) will work closely with the UI provider to ensure all requirements of the UIP are implemented correctly. Any bug fixes and enhancements must be implemented prior to full accreditation.

Full accreditation

The NatHERS Administrator will offer full accreditation after the UI provider can demonstrate that issues identified during the provisional accreditation, have been resolved. The period of accreditation is 5 years (which may be extended with the agreement of both parties) or until re-accreditation is required (section 1.1.2). Accreditation may be renewed as part of a general update unless reaccreditation is otherwise required.

The Approved Settings

All requirements described in this protocol relate specifically to existing homes and the reporting criteria. NatHERS accredited UIs must process NatHERS ratings using the Approved Settings. Demonstrating compliance through the incorporation of the Approved Settings when undertaking a NatHERS for existing homes assessment may include the requirement to address the data specifics outlined in the Disclosure Framework V2 and is inclusive of the star rating, home energy rating and certificate data.

NatHERS accredited UI tools may also have non-accredited modes of operation for the purpose of providing additional information and functionality for users. An example of a non-accredited mode for existing homes is a 'modify mode' or 'research mode', in which the occupancy and thermostat settings could be tailored to the specific characteristics of a dwelling's occupants. These non-accredited modes of operation are not covered by this Protocol and are not to be supported by UI providers for the purpose of complying with disclosure requirements or for generating a Home Energy Rating Certificate.

1.1.2. Maintenance

Reaccreditation

With regard to any accreditation validity period specified in an accreditation notice, upon the determination of the NatHERS Administrator, the following events (Reaccreditation Events) may trigger the need for reaccreditation of a UI tool:

- changes to the AE (existing homes) resulting in rating misalignment with the UI tool
- material changes made to the UI accreditation terms and conditions
- a UI provider's inaction or inability to demonstrate compliance with the expectations and requirements laid out in the UI accreditation terms and conditions and or the UIP; or address and rectify matters of concern that have been raised by the NatHERS Administrator or assessor accreditation provider within a reasonable timeframe
- material changes made to the UIP outside of a general update
- the reaccreditation of AE (new homes) where features of AE are modified, added or stringency is impacted resulting in the requirement of changes to UI tools.
- changes to assessment methods that require changes to be made to UI tools
- requested general or critical updates that have not been implemented within the specified or agreed timeframes.

The NatHERS Administrator will provide the UI provider with a minimum of 3 months' notice before reaccreditation is required. The steps for reaccreditation are provided in 3.2.

General updates

Accredited tools will need to implement updates, fixes and patches from time to time to facilitate innovation and amend minor errors. Updates must be implemented within the timeframe stipulated by the NatHERS Administrator or as otherwise agreed in writing. UI updates must maintain alignment with AE (existing homes) within tolerances (see Table 2 and Table 3). The NatHERS Administrator or the UI provider will typically initiate updates, though this may occur in response to issues identified by other parties. Triggers may include, but are not limited to:

- fixes and patches
- updates to AE (existing homes) third party technology changes
- optimisations / simplifications
- data management plan reviews
- changes requested by the NatHERS Administrator
- changes in government policy.

1.2.   Technical requirements

The NatHERS Administrator requires the UI to show that they adhere to the design principles provided in 2.2 and implement a set of criteria that have been categorised into the following accreditation modules:

- CSIRO application programming interfaces (APIs) (section 4)
- rating tolerances and optimisations (section 5)
- data collection technology (section 6)
- data storage and privacy (section 7)
- interface and output requirements (section 8)
- terms and conditions (section 9).

1.3.   NatHERS controlled documents

This document is the header document of the User Interface Protocol (UIP). The UIP is a series of documents setting out accreditation requirements for NatHERS energy ratings tools for existing homes, including:

- NatHERS Whole of Home method
    - refer particularly to the terminology list
- existing homes thermal standardisation document
- accreditation terms and conditions
- technical note for existing homes
- NatHERS trademark guidelines.

2. User interface (UI) model

2.1. Overview

Under the UI model, the centralised calculation engine will avoid the need for UIs to duplicate calculations into their tools, while still providing the opportunity to incorporate innovative data collection approaches. The chief purpose of the UI from the NatHERS perspective will be to facilitate and optimise data collection, which may be done manually and/or via third party technologies.

This model is designed to provide reliable, consistent and comparable ratings for existing homes, while reducing administrative complexity and managing risk.

2.2. Design principles of a UI

To be accredited, UIs must align with the design principles below. Where there is a conflict between these principles, designing for mandatory disclosure programs takes precedence.

Assessments and tools are fit for purpose, simple to use and cost effective, and will:

1. limit tool data inputs – the number of required data inputs should be limited to the fewest possible to ensure a reliable and accurate rating, and useful upgrade advice and streamlined re-rating following upgrades

2. ensure the security and privacy measures are incorporated in all stages of the software

3. avoid unintended outcomes and avoid settings that would allow for manipulation or conflict with the program objectives, e.g. avoiding overly generous defaults or incentivising inefficient upgrades

4. simplify on-site data collection – minimise on-site time and requirements for assessors

5. incentivise energy performance upgrades through mandatory home energy rating disclosure schemes[c]

6. help Australian households better understand their home's energy performance

7. share data to enable financial products, incentives, subsidies and grants for energy performance upgrades as well as to support other standards such as minimum rental standards

8. support equity, accessibility and scalability, demonstrating the potential to be deployed at scale, including delivery to regional and remote areas and accessibility to diverse communities (including culturally and linguistically diverse (CALD) people, people with disabilities and other groups).

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[c] Home Energy Ratings Disclosure Framework – Version 2

2.3. UI model components

The components and linkages in the UI model are illustrated in Figure 3.

Figure 3: UI model – data collection, processing, transfer, storage and use
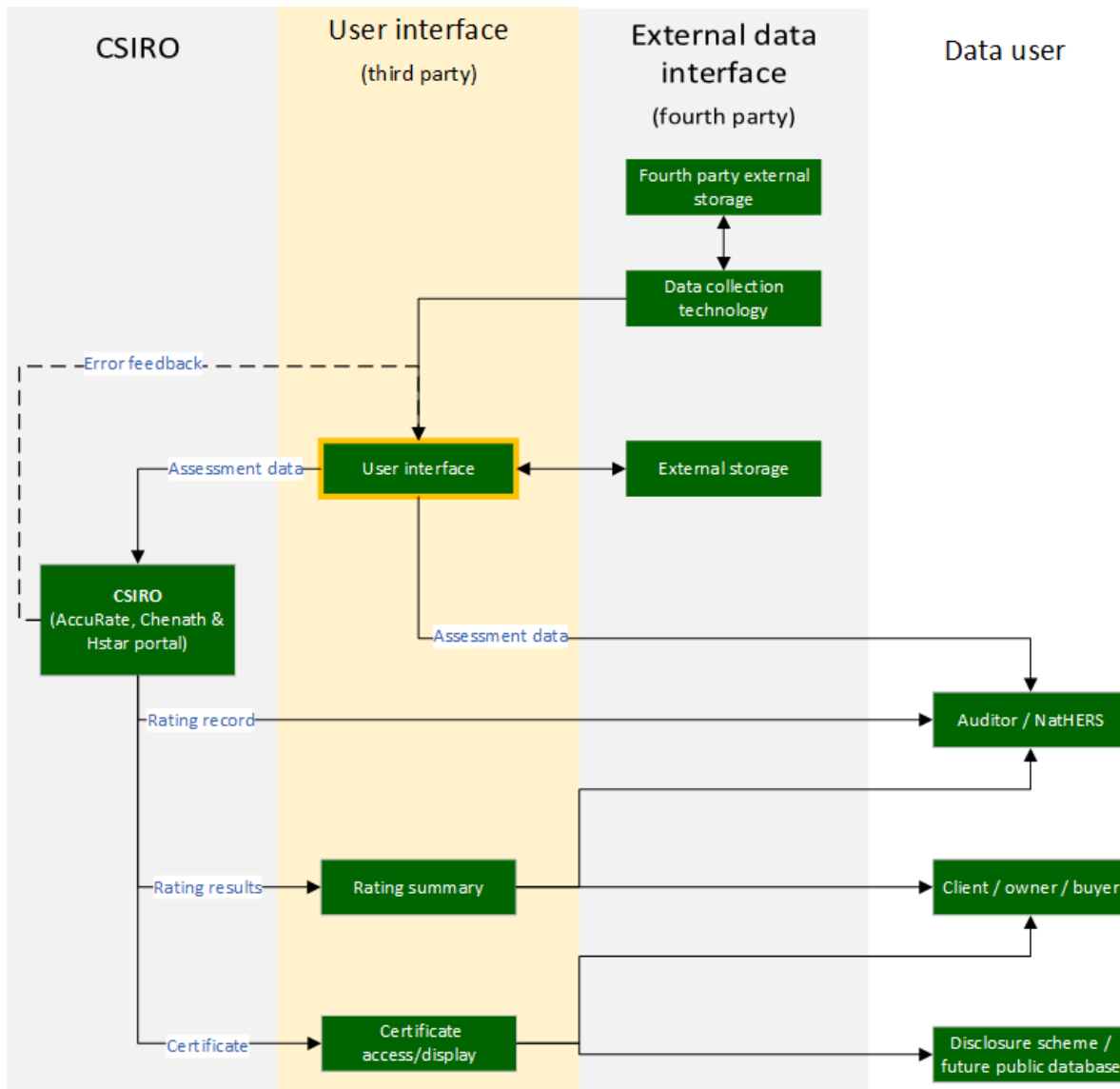
CSIRO

CSIRO comprises AccuRate Enterprise (existing homes), Chenath Engine and the HStar portal. Under the NatHERS UIP, these components constitute the backend of a third-party UI. CSIRO generates a rating using the assessment data sent via an API from the UI. The assessment data excludes all evidence data, plans, photos and some personal data.

There is no assessor access to AE (existing homes) to modify the rating file unless the assessor is accredited in AE (existing homes). All changes should be made in the UI and resubmitted to AE (existing homes). Where an adjustment is made in AE (existing homes), the assessor must substantiate the need to do so in the case of auditing.

CSIRO retains the rating file required to generate a rating which may be reviewed by an assessor in the UI or requested by auditors for quality assurance (QA). A link to AE (existing homes) is made available to auditors to access the rating file and login to AE (existing homes) to be able to review the rating file.

CSIRO outputs both rating results and certificates. The rating results include thermal shell and home energy rating simulation results generated by AE (existing homes) in csv format. The HStar service portal receives data from AE (existing homes) to generate a certificate. AE (existing homes) will embed upgrade advice in the certificate. The HStar portal stores all certificates.

User interface (the third party for the purposes of this document)

The user interface (third party for the purposes of this document) is where an assessor inputs and updates assessment data and required evidence specified in the Technical Note. The UI may not be a standalone software tool, it may link to fourth party technology for gathering information (e.g. LiDAR, OCR, image recognition software, digitalised floor plans, new home energy rating files). The UI may store all assessment data locally, or in a remote data centre. The UI provider must retain this data for 7 years. The UI developer will be responsible for processing any payments or transactions required to support its business model.

The UI may store data directly on the user's device or within a local network that does not connect to the internet. The local storage option may be easier to keep private and secure than the external storage options. However, the UI may also store data in a remote data centre or in cloud-based infrastructure. This option may allow centralised access for data users as needed and allow automated back-up, scalability, and integration with other platforms. Data protection precautions must be in place as specified in section 7.

The UI will be able to receive a rating summary which includes heating and cooling loads, star rating, and home energy rating data, from CSIRO. This will allow parties with permissions to access results, review the assessment and adjust before generating a certificate. These results cannot be used for regulatory purposes. Only data shown on the certificate may be used for regulatory purposes.

The UI must also be able to retrieve a certificate from CSIRO, subject to user authentication and payment confirmation.

External data interface (the fourth party for the purposes of this document)

The UI may integrate or be connected to technologies used to gather and enter and/or store data for an existing home assessment. Accuracy and data protection requirements are specified in sections 6 and 7.

Data users

There are several data user categories including auditors, clients and the disclosure scheme. An overview of access to data is provided in Table 5, and is subject to the Privacy Act 1988 (Cth) and state and territory legislation.

3. Accreditation, reaccreditation and general updates

This section details the processes to obtain accreditation for the first time, obtain reaccreditation due to major changes that need to be made, or implement minor updates. The UI tool accreditation and reaccreditation process is shown in Figure 4 and described in sections 3.1.1 to 3.1.7.

3.1. New accreditation

Figure 4: Obtaining new accreditation
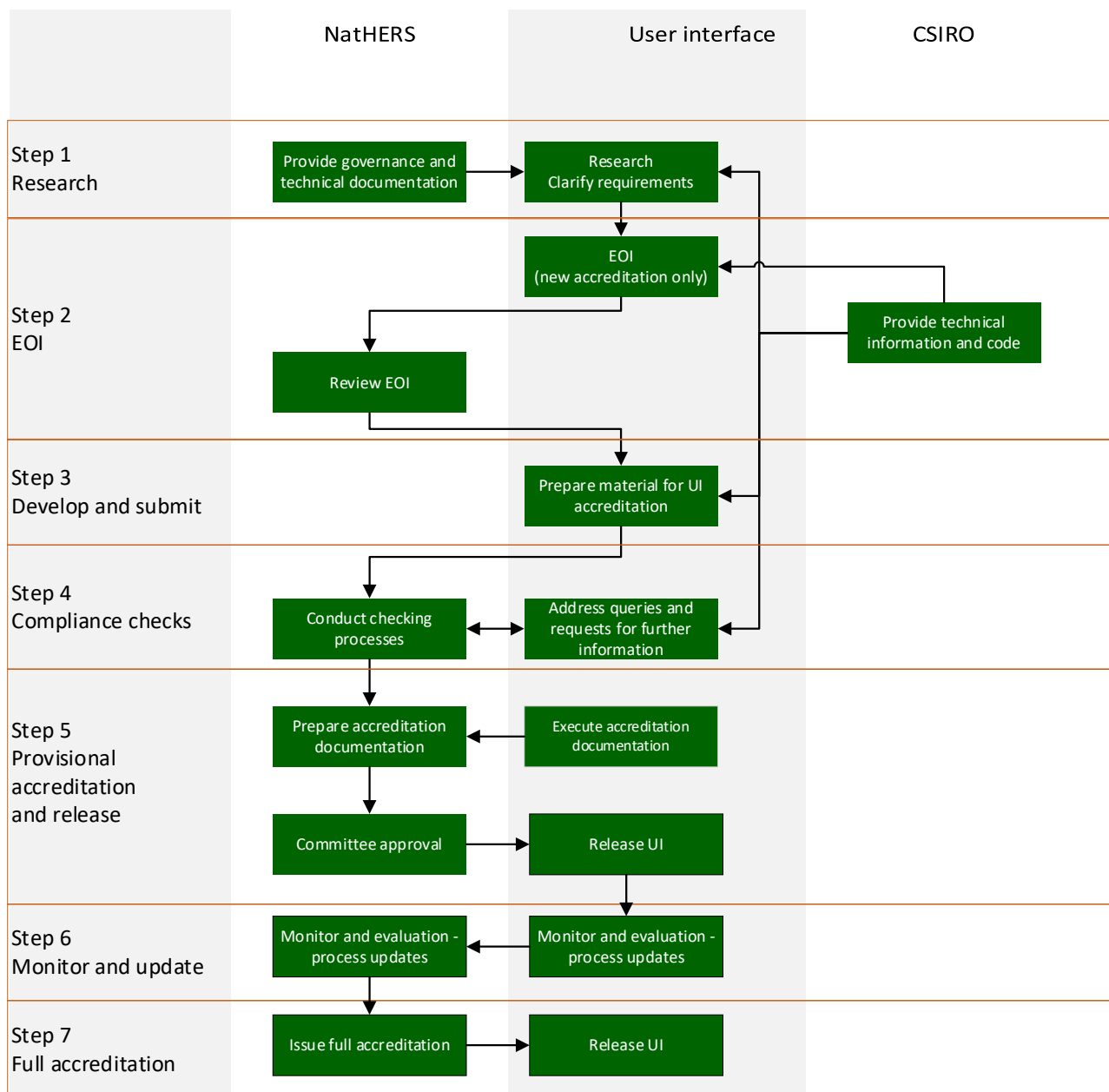
3.1.1.   New accreditation step 1: Research / preliminary steps

A UI provider must become familiar with NatHERS, the accreditation requirements and processes to decide whether to proceed with accreditation. Preparation includes reviewing this UIP and all documents referred to within. The NatHERS Administrator may stipulate or recommend additional material.

The UI provider will contact the CSIRO to obtain access to code and technical specifications. Mandatory integrations/links to CSIRO will be subject to agreements between CSIRO and the UI provider.

Further information is available at admin@nathers.gov.au and Zendesk.

3.1.2.   New accreditation step 2: Expression of interest (EOI)

This step applies only to UI providers seeking accreditation for the first time. It provides an early opportunity for the NatHERS Administrator and the UI provider to work together to clarify and address any issues that may arise throughout the software accreditation process.

The UI provider must submit an EOI for accreditation. (The EOI form is available on the NatHERS website or via admin@nathers.gov.au). The NatHERS Administrator will review the EOI and:

- check that the requested information is included
- seek clarifications or additional information
- confirm whether the UI provider can proceed
- outline the checking requirements
- confirm whether independent testing is required to access broader expertise
- provide documentation and files to prepare the submission.

3.1.3.   New accreditation step 3: Submit for checking

UI checking by the NatHERS Administrator ensures the tool meets the requirements of the accreditation modules (sections 4 to 9). Appendix 1 lists the standard submission items.
This may be varied depending on the elements of the UI and as identified during the EOI phase.

If the UI provider does not satisfy the accreditation module requirements, the NatHERS Administrator (on behalf of the NatHERS Steering Committee) may withhold accreditation of the tool.

The UI provider must submit the relevant material to the NatHERS Administrator (admin@nathers.gov.au) and/or provide a link for the NatHERS Administrator to download material for testing.

3.1.4.   New accreditation step 4: Compliance checking and feedback

The NatHERS Administrator (or their agent) will undertake relevant compliance checks for each of the accreditation modules (sections 4 to 9). The standard operating procedure for accreditation due diligence sets out key checks. This is a living document, meaning that the NatHERS Administrator will update it regularly to reflect new information or circumstances. This document is available on request from 1 July 2025.

UI checking is an iterative process whereby the NatHERS Administrator seeks clarification or review and the UI provider re/submits relevant items.

The NatHERS Administrator may initiate additional testing or an independent verification process to be resourced by the applicant to resolve any further concerns.

3.1.5. New accreditation step 5: Provisional accreditation and release

Should the UI tool satisfy the NatHERS minimum requirements for provisional accreditation (sections 4 to 9), the NatHERS Administrator will prepare the provisional accreditation documentation (accreditation notice and terms and conditions). Where the NatHERS Administrator stipulates special conditions, the accreditation notice, and terms and conditions may require approval by the NatHERS Steering Committee. The UI provider must accept and sign these documents for accreditation.

When both parties have signed provisional accreditation documentation and the NatHERS Steering Committee has been notified, the UI provider and NatHERS Administrator will agree on communications and release of the (new) version of the UI tool including notifications to UI tool users.

The NatHERS Administrator will work with the UI provider to determine the timing and communications of the release of the NatHERS accredited UI tool, including updating the NatHERS website.

3.1.6. New accreditation step 6: Provisional tool monitoring and evaluation

A provisional accreditation period (a minimum of 100 ratings with certificates of which at least 30 are Class 2, 30 are Class 1 dwellings) allows for intensive quality assurance of actual assessments. If the NatHERS Administrator identifies any issues additional testing and updating may be necessary before full accreditation. If the issues are significant, the NatHERS Administrator may withdraw accreditation until the UI provider addresses these issues.

Certificates are acceptable for regulatory purposes; however, assessors must be made aware by the UI provider that there may be frequent software updates impacting ratings.

3.1.7. New accreditation step 7: Full accreditation

The NatHERS Administrator will consider the offer of full accreditation only in circumstances where the UI provider has resolved all issues identified in Step 6. The NatHERS Administrator will prepare the full accreditation documentation (accreditation notice and terms and conditions). Where the NatHERS Administrator stipulates special conditions, the accreditation notice, and terms and conditions may require approval by the NatHERS Steering Committee. The UI provider must accept and sign these documents for accreditation.

3.2. Reaccreditation

Figure 5: Reaccreditation process flowchart

	NatHERS	User interface	CSIRO
Step 1 Investigate, develop & submit	Provide governance and technical documentation	Investigate and clarify requirements → Prepare material for UI reaccreditation	Provide technical information and code
Step 2 Compliance checks	Conduct checking processes	Address queries and requests for further information	
Step 3 Reaccredit and release	Prepare reaccreditation documentation → Committee notification/ approval	Execute reaccreditation documentation	
		Release UI	

3.2.1. Reaccreditation step 1: Investigate, develop and submit

The UI provider must work with the NatHERS Administrator to familiarise themselves with required software updates, as well as any other revised UIP requirements, conditions, and processes of reaccreditation.

In brief, the NatHERS Administrator will:

- outline the testing requirements (dwellings designs and climate zones)
- confirm whether or not independent testing is required
- provide the test pack documentation and files.

The UI provider will prepare the material for submission and will submit the relevant material (Accreditation and reaccreditation submission checklists) to (admin@nathers.gov.au. (Note, not all items need to be submitted simultaneously.)

3.2.2.   Reaccreditation step 2: Compliance checks

The NatHERS Administrator (or their agent) will undertake due diligence on the submitted documentation and software files. This may include:

- spot checking rating results provided in the testing results spreadsheet

- modifying corresponding features in the applicant's and benchmark rating files to compare results to determine rating congruence – the NatHERS Administrator will work with the UI provider to resolve any concerns

- ensuring the certificate and stamp fields are designed and populated correctly

- reviewing fixed data inputs.

The NatHERS Administrator will outline outstanding issues requiring resolution from the UI provider.

The UI provider will address any outstanding issues identified by the NatHERS Administrator. Where disagreement exists and concerns are unable to be resolved, the NatHERS Administrator may initiate an independent verification process.

3.2.3.   Reaccreditation step 3: Reaccredit and release

Once the software tool satisfies the minimum NatHERS accreditation requirements the NatHERS Administrator will notify the NatHERS Steering Committee (NSC). Where special conditions are stipulated, NSC approval may be required, which may influence the final decision.
The Administrator (on behalf of the NSC) will then offer NatHERS software re/accreditation to the UI provider. The accreditation notice (letter of offer) must be countersigned and the terms and conditions agreed to by the UI provider in order for accreditation or reaccreditation to take effect.

Unsuccessful applicants can make modifications to their software tool and reapply by submitting new simulation results. Any revisions, updates or new versions of NatHERS accredited software tools must be identified by a new version number.

The NatHERS Administrator will work with the UI provider to determine the timing and communications of the release of a new version of the NatHERS accredited software tool, including updating the NatHERS website.

Where critical issues arise, meaning the impacts on NatHERS are critical or major, the cause must be addressed immediately or within a period specified by the NatHERS Administrator. Examples of critical or major impacts include but are not limited to circumstances where:

- the tool consistently overstates the star rating
- there is evidence of fraudulent practices
- no workaround exists for critical functionality or critical data and/or
- there is misleading or incorrect information is displayed on the certificate
- there are issues of a cosmetic or typographical nature.

Transition rules

Software transition rules, which must be implemented by the UI provider, will be specified by the Administrator. These include:

- Class 1 thermal performance rating can only be started in the latest version of the software
- Class 2 thermal performance rating, if it is the first in the development, can only be started in the latest version of the software.

Exemptions may apply where the assessor has a written request from a regulator to use a retired version or where the Administrator has been advised of blanket exemptions agreed with jurisdiction regulators[d].

3.3.   General updates

Accredited tools will need to implement updates, fixes and patches from time to time to facilitate innovation and amend minor errors. The rating impact of any updates must be limited so as not to substantially alter existing regulatory arrangements. UI updates must maintain alignment with AE (existing homes) within tolerances (see Table 2 and Table 3). The NatHERS Administrator or the UI provider will typically initiate updates, though this may occur in response to issues identified by other parties.

The NatHERS Administrator and UI provider will liaise to:

- confirm the appropriate testing or other evidence to demonstrate compliance with rating divergence requirements
- discuss the timeline for release, including any special requirements, with the NatHERS Administrator.

An update submission checklist is provided at Attachment 2.

Once the NatHERS Administrator has reviewed the submission, applications may be forwarded to any other relevant regulatory body for noting (within 10 business days). Subsequently, unless the NatHERS Administrator or others identify further issues, the NatHERS Administrator will advise the UI provider that they may proceed with releasing the new version of the software. The NatHERS Administrator may stipulate special conditions, including communications, release time frame and transition timeframes. This will occur on a case-by-case basis, depending on the urgency of the update.

The UI provider must identify any revisions, updates or new versions of the NatHERS UI tool with a new UI version number and updates to the UI's change log.

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[d] Both major and minor versions, when they are superseded by a new major or minor version become "retired". Retired versions can only be used for new ratings if the assessor has a written request from a regulator and should not be used for ratings not yet finalised wherever possible. Retired versions will be itemised in the new Accreditation Notice to ensure their long-term legitimacy.

3.4.   Superseded versions and versioning

The UI version number must incorporate the AccuRate Enterprise version number. For example:

UI			AccuRate Enterprise			Chenath Engine
X	**Y**	**Z**	**A**	**B**	**C**	**n.nn**
Major version	Minor version	Patch version	Major version	Minor version	Patch version	

Superseded versions of all tools must be disabled after 3 months. However, these must be made available based on request in writing when ratings generated by previous versions are queried by the NatHERS Administrator, or by the client or subsequent dwelling owners/occupants.

Assessment data must be retained for a period of 7 years. This includes software versions, available upon request, to access, read and process this data.

3.5.   Costs

The NatHERS Administrator does not currently impose a fee to process an accreditation application or maintain software accreditation. However:

- all stages of accreditation of UI tools must be prepared and lodged at the expense of the UI provider, including any costs from engaging an independent NatHERS assessor(s)
- if the NatHERS Administrator requires further information to clarify or validate information in the application, this must be provided at the UI provider's expense.

The NatHERS Administrator reserves the right to change these cost arrangements in future.

4. Accreditation module: CSIRO APIs

4.1. Overview / aims

Several CSIRO APIs operate in the UI model where the UI or data users (e.g. auditors, clients, homeowners) interact with AE (existing homes) or the HStar portal including:

- assessment data API, UI → AE (existing homes)
- error/incomplete data message, AE (existing homes) → UI
- rating results data, AE (existing homes) → UI/data users
- rating file access, AE (existing homes) ←→ auditors
- certificate access, Hstar portal → UI/data users.

The schema of each API defines the structure, data field types, metrics (e.g. all lengths are in mm and areas are in square metres) and constraints of the data exchanges.

The UI provider must obtain all schema listed above, and other technical guidance from CSIRO.

CSIRO cannot tailor the API schema to individual UIs.

The compliance checks, in summary, are:

- machine matching all APIs
- manual spot checks.

5. Accreditation module: accuracy requirements and optimisations

5.1. Overview / aims

The consistency and accuracy of energy performance ratings is fundamental to the objectives of NatHERS. Accuracies are tested during new accreditation, reaccreditation and general updates.

Benchmark dwellings and scenarios

When testing benchmark dwellings (Figure 6) and benchmark test scenarios (Table 1) it is expected that the UI tool will enter the exact parameters. Star ratings, heating and cooling loads, and home energy ratings generated using the UI inputs of the test dwellings and scenarios, should be a 100% match when compared to the AE (existing homes) rating results.

Optimisations
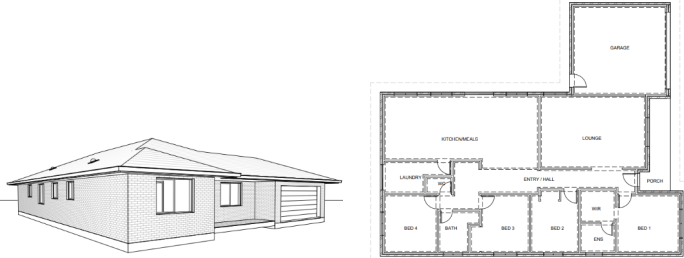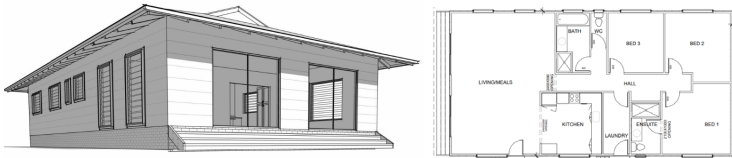
When testing optimisations (including multivariate testing of multiple optimisations in a single rating) the NatHERS Administrator will compare the UI tools' ratings against AE (existing homes) ratings. Accuracy requirements (tolerances) are provided in Table 2 and Table 3.

5.2. Benchmark dwellings and scenarios - accuracy requirements

NatHERS provides AE (existing homes) rating files for 5 dwellings (Figure 6). The appliance and system scenarios to be applied to dwellings 401 and 501 are provided in Table 1. Drawings and AE (existing homes) rating files are available from the NatHERS Administrator. If a specification appears ambiguous, refer to the rating files, which may clarify the specifications of an item. Please contact the NatHERS Administrator if the NatHERS existing home benchmark file does not provide clarification.

The UI provider must provide assessment files for each dwelling. NatHERS will use these to run simulations in various climate zones and modify features to confirm that the assessment data is transferred correctly to AE (existing homes).

Figure 6: NatHERS existing home test dwelling designs

101 4-bedroom single level brick veneer construction	
401 3-bedroom weatherboard	

501	
4-bedroom double-storey	
611	
1-bedroom ground floor apartment	
630	
2-bedroom top floor apartment	

Table 1: Testing scenarios for appliance and system settings

Appliance		1	2	3	4	5	6	7	8	9	10	11	12	
Heaters														
Day zones: kitchen/living, living and daytime														
Night zones: bedroom, night-time														
Electric resistance inbuilt	n.a.	Night zones												
Electric resistance plug-in	n.a.		Night zones											
Gas ducted LNG	Industry star rating			Night zones 4.5							Night zones 2 star			
Gas ducted LPG	Industry star rating				Night zones 1 star									
Gas non-ducted LNG	Industry star rating					Night zones 2 star						Night zones 4.5 star		
Gas non-ducted LPG	Industry star rating						Night zones 3 star							
Gas portable LNG	Industry star rating							Night zones 4 star						
Gas portable LPG	Industry star rating								Night zones 5.8					
Reverse cycle — ducted	2019 ZERL	Day zones 3 star												
Reverse cycle — non-ducted	2019 ZERL		Day zones 4 star									Day zones 5 star		
Reverse cycle fixed — ducted	2013			Day zones 3 star										
Reverse cycle fixed — non-ducted	2013				Day zones 4 star									
Reverse cycle variable — ducted	2013					Day zones 2.5 star								
Reverse cycle variable — non-ducted	2013						Day zones 2 star							
Reverse cycle — ducted	Old							Day zones 1.5 star						
Reverse cycle — non-ducted	Old								Day zones 2 star			Night zones 1 star		
Wood heater - open fireplace	??									Day zones 3 star				
Wood heater - slow combustion	Industry star rating										Day zones			
Hydronic												Day zones		
Coolers														
Day zones: kitchen/living, living and daytime														
Night zones: bedroom, night-time														
Reverse cycle — ducted	2019 ZERL	Night zones 1 star						Day zones 3 star						
Reverse cycle — non-ducted	2019 ZERL		Night zones 2 star						Day zones 3.5 star					
Reverse cycle fixed — ducted	2013			Night zones 2 star						Day zones 1.5 star				
Reverse cycle fixed — non-ducted	2013				Night zones 3 star						Day zones 3 star			
Reverse cycle variable — ducted	2013					Night zones 2.5 star						Day zones 2.5 star		
Reverse cycle variable — non-ducted	2013						Night zones 4 star						Day zones 4 star	
Reverse cycle — non-ducted	Old	Day zones 3 star							Night zones 3 star					
Reverse cycle — ducted	Old		Day zones 2 star							Night zones 2 star				
Cooler (refrigerant only) - fixed				Day zones							Night zones			
Cooler (refrigerant only) - plug in (default)					Day zones							Night zones		
Evaporative cooler - plug in						Day zones							Night zones	
Evaporative cooler - room inbuilt							Day zones							
Evaporative cooler — ducted								Day zones						
Hot water														
Solid fuel		x												
Electric storage small (continuous)			x											
Electric storage large (off peak)				x										
Electric instantaneous					x									
Gas storage						3 star						5 star		
Gas instantaneous							x							
PVD	Type 1							x						
Solar-electric									20 STC					
Solar-gas										25 STC				
Heat-pump											15 STC		30 STC	
Pools and spas														
Single speed	1 star	25 000L												
Single speed	2 star		50 000L											
Dual speed	3 star			70 000L										
Dual speed	4 star				90 000L									
Variable speed	5 star					79 999L								
Variable speed	7 star						39 999L							
Cooking														
Cooktop	lectric, induction, gas	Electric	Induction	Gas LNG	Gas LPG	Electric	Induction	Gas LNG	Gas LPG	Electric	Induction	Gas LNG	Gas LPG	
Oven	Electric, gas	Electric	Gas LNG	Gas LPG	Electric	Gas LNG	Gas LPG	Electric	Gas LNG	Gas LPG	Electric	Gas LNG	Gas LPG	
Solar PV														
No. of arrays		1	1	2	3	1	1	2	3					
Azimuth		N	NE	NW W	N E NE	E	W	W NE	W NW N					
Slope		Flat	Flat	Moderate	Moderate	Steep	Steep	Moderate	Flat					
Capacity		5	8	3, 5	3, 3, 4	6	10	2, 8	3, 4, 5					
Inverter		4	6	6	8	5	8	8	10					
Battery														
Lead		8 kWh				10 kWh								
default			10 kWh				15 kWh							
Lithium				12 kWh				16 kWh						
Zinc					14 kWh				20 kWh					
Lighting														

Legend: Day zones include kitchen/living, living and daytime zones. These are also referred to as primary zones in NatHERS.

Night zones include bedrooms and nighttime zones. These are also referred to as secondary zones.

5.3.   Software optimisations and accuracy requirements

5.3.1.   Overview / aims

Software optimisations are modifications coded in the UI or third-party technology interfaces that make data entry simpler, improve efficiency, and enhance user experience without affecting accuracy outside acceptable tolerances. AE (existing homes) already includes some simplifications and defaults:

- thermal shell/envelope features are defined in the Thermal Standardisation document for existing homes
- appliances and systems are defined in the Whole of Home calculation method.

A UI provider may propose to develop or incorporate additional software optimisations. The optimisations must meet the accuracy tolerance requirements set out in Table 2 and Table 3.

Accreditation compliance checks will be determined based on the nature of each individual optimisation or combined optimisations.

The UI provider must discuss the optimisation proposal with the NatHERS Administrator to determine appropriate software testing steps.

5.3.2.   Limitations on software optimisations

As part of their application for accreditation, the UI provider must:

- identify any optimisations (that is, any data exports to AccuRate that the UI calculates and are not directly input by the assessor) as part of their accreditation application
- provide details of the method the UI uses to calculate those optimisations
- provide the testing that has been undertaken to satisfy the UI provider that their optimisations are accurate to within tolerances specified in Table 2 and Table 3.

At a minimum, the UI must:

- be able to export all required data fields to AE (existing homes)
- receive user inputs (and not optimisations) for all data specified in the Technical Note as needing to be collected by the assessor.

5.3.3.   Rating accuracy requirements for optimisations

Where a tool applies optimisations, the UI thermal ratings must meet conditions 1, 2 and 4, and either condition 3a or 3b from Table 2. For home energy ratings, the UI must meet conditions 1 and 2 from Table 3.

The UI must meet these accuracy requirements for any simulations in all NatHERS climate zones. These tolerance levels represent initial parameters and will be reviewed and adjusted as the tool evolves and more data becomes available to support benchmark settings. Currently they are set at a point that will allow for some flexibility in UI optimisations.

Table 2: Thermal shell accuracy requirements for optimisations

	Condition	Parameter	Specification
	Condition 1	≤ ±3 %	Conditioned floor area tolerance. (The reported floor area is measured up to the inside edge of the dimensioned wall).
AND	Condition 2	100%	Heating load difference: ≤ ±10 % or ≤ ±10 MJ/m^2 p.a. AND Cooling load difference: ≤ ±10 % or ≤ ±10 MJ/m^2 p.a.
AND	Condition 3a	95%	Heating load difference: ≤ ±5 % or ≤ ±5 MJ/m^2 p.a. AND Cooling load difference: ≤ ±5 % or ≤ ±5 MJ/m^2 p.a.
	OR Condition 3b	≥ 95%	≤ ±0.2 stars
AND	Condition 4	≤ 75%	Limited simulation bias - less than 75% of star ratings shall be greater than the AE (existing homes) results

Table 3: Home energy rating accuracy requirements for optimisations

Appliance or system module[e]	Maximum tolerance	
	Condition 1 100% of all simulations	Condition 2 95% of all simulations
Heating electric	10% or 20 kWh	5% or 10 kWh
Heating gas	10% or 20 kWh	5% or 10 kWh
Heating wood	10% or 20 kWh	5% or 10 kWh
Cooling	10% or 20 kWh	5% or 10 kWh
Hot water gas	10% or 20 kWh	5% or 10 kWh
Hot water electric	10% or 20 kWh	5% or 10 kWh
Lighting	10% or 20 kWh	5% or 10 kWh
Pool	10% or 20 kWh	5% or 10 kWh
Cooking gas	10% or 20 kWh	5% or 10 kWh
Cooking electric	10% or 20 kWh	5% or 10 kWh
Plug load	10% or 20 kWh	5% or 10 kWh
Solar PV generation	10% or 20 kWh	5% or 10 kWh
Total electric	10% or 20 kWh	5% or 10 kWh

[e] Where a value is not displayed in the software tool, it may be inferred by applying alternative metrics

Appliance or system module[e]	Maximum tolerance	
	Condition 1 100% of all simulations	Condition 2 95% of all simulations
Total gas	10% or 20 kWh	5% or 10 kWh
Total wood	10% or 20 kWh	5% or 10 kWh
Import electric	10% or 20 kWh	5% or 10 kWh
Export electric	10% or 20 kWh	5% or 10 kWh
Net electric	10% or 20 kWh	5% or 10 kWh
Energy value	10% or 20 dollars	5% or 10 dollars
Home energy rating	5 points	2 points

6. Accreditation module: data collection technology

6.1. Overview / aims

Data collection technologies applied by the UI tool offer efficiencies for the assessor and may include, but are not limited to, LiDAR (e.g. MagicPlan), image recognition software (e.g. Google Lens) and document scanning (e.g. architectural drawings).

Key considerations include the accuracies achieved by applying these technologies.
The UI provider must provide evidence to demonstrate the accuracy of the data collection technology that is applied.

Data storage and privacy are addressed in section 7.

If the UI can automatically capture dwelling details (such as LiDAR, image recognition, etc.), the NatHERS Administrator will spot-check this technology[6].

These checks will include accuracy tests in comparison with physical measurements and repeatability tests and may ask for demonstrations of the technology by the UI provider.
The NatHERS Administrator will undertake specific tests of the various dwelling features listed in Attachment 3.

The UI provider must provide information in the EOI about the data collection technology.

The compliance checks will depend on the fourth party data collection technology applied in the UI.

6.2. Evidence requirements

Provide the:

- technology description (e.g. equipment type, manufacturer, model)
- testing (methodologies, inputs etc) undertaken to ensure the data collection technology is fit for purpose
- results/findings
- access to the fourth party technology (software and/or hardware) to the NatHERS Administrator to enable independent testing.

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[6] UI provider to undertake testing and provide evidence that they are accurate within the specified threshold. (100% of measurement within 0.1m 95% of measurement within 0.05m, for automatic recognition of categorical inputs something must best be 99% correct).

7. Accreditation module: privacy and security

7.1. Overview / aims

Privacy, consistency, and accuracy of existing home assessments are essential to NatHERS' objectives. UI providers must ensure their software maintains public trust in the scheme while safeguarding sensitive and personal information, keeping it secure and private.

7.2. Security and privacy requirements

This section outlines the basic privacy and security requirements that the NatHERS Administrator expects all UI providers to meet. See Table 4.

Privacy and cyber security requirements and features must be implemented for the user interface tool to protect information an assessor or user inputs into the user interface tool.

Information obtained by an assessor or user for input into the tool may be considered personal information. This requires that such information is treated with caution and care in terms of its handling.

Clauses within this UIP and accreditation terms and conditions, specify obligations and requirements with respect to cyber security and privacy matters. Best practice standards (e.g. ISO standards) may assist with the development of relevant systems, procedures, protocols, and processes when handling private information and ensuring that it remains secure.

The intent is for UIs to comply with the current Australian government requirements (to the extent they are applicable to the UI*'s* performance under this UIP), which may include:
- Protective Security Policy Framework (PSPF)
- Commonwealth Information Security Manual (ISM)
- Privacy Act 1988 (Cth) and
- Australian Signals Directorate Guidelines for system management including eight essential mitigation strategies from the [Strategies to mitigate cybersecurity incidents](#).

The responsibility and expectations held by NatHERS Administrator concerning privacy, cyber security and the handling of information that serve as data records for existing homes and certificate generation purposes also extends to external parties (fourth parties). These external parties include entities engaged by a UI provider; who may serve as a separate entity, partner, agent or joint venture, to assist with transferring, processing, recording and storing respective data digitally or otherwise.

Table 4: Data requirements and controls

Table 4 – data requirements and controls		
Description	**Control**	**Applicant's response statement - max 100 words** (provide evidence if appropriate in separate documentation)
1. Audit logging		
Audit logs are crucial in IT security as they provide a verifiable record of system activities, enabling investigations of security incidents, ensuring non-repudiation by proving actions were taken by specific users, and serving as evidence in civil or legal cases to demonstrate compliance and accountability. Audit logging functionality must be implemented in software products to enable traceability of key user events. These events include: All privileged access events and operations e.g. elevation of privileges, use of privileged access, etc. Authentication and logon events including non-successful authentication attempts. System changes including changes to security policies, changes to accounts, permissions, access controls, system start-up and shutdown events, system configuration changes, etc User driven events including all functions undertaken, data accessed or attempted to be accessed, data changes, etc. This is regardless of whether the user is interacting via an application, a system, a server, a script, an API, etc. Audit logs must be kept for a minimum 12 months. Audit logs must be made available to auditors and NatHERS for QA purposes, on request. Further information at Australian Signals Directorate - guidelines for system monitoring.	a. Your system logs all user and system security events such as login events, credential changes, data being accessed or attempted to be accessed, data changes, etc.	
	b. For each event logged, the date and time of the event, the relevant user or process, the relevant filename, the event description, and the information technology equipment involved are recorded.	
	c. All security logs are stored and monitored centrally i.e. via a security information and event management (SIEM) product.	

Table 4 – data requirements and controls		
Description	**Control**	**Applicant's response statement - max 100 words** (provide evidence if appropriate in separate documentation)
2. Authentication		
Authentication is the process of verifying an individual's identity and is done prior to granting them access to information and services. UI providers are required to use strong authentication credentials to authenticate all users. Examples of strong credentials could include: • passphrases that are at least 4 random words with a total minimum length of 14 characters • biometric credentials such as facial recognition or fingerprint authentication • passkeys. While not mandatory, multi-factor authentication (MFA) is encouraged if the UI application and device support it. Shared logins are not permitted. See section 7.7.1 for additional information	a. A strong single factor is used to authenticate users. E.g. passphrases, or biometric or passkeys. OR b. MFA is used to authenticate users.	
	c. Sessions are timed out after 30 minutes of screen inactivity e.g. no mouse or keyboard activity for 30 minutes.	
	d. No shared login accounts are used e.g. using another person's username and password.	
	e. All credentials are to be hashed and stored within a highly available (at least available 99.95% of the time) security directory.	
3. Authorisation		
Authorisation helps protect sensitive information or resources by granting or restricting access based upon a user's identity and their allocated permissions. UI providers use a role-based access model (or similar) to restrict access rights and permissions based on a user's role or group.	a. An authorisation model is applied to provide users with the least privileges required to undertake their role within the system.	
	b. Assessors can only access projects they created or they have been delegated access to.	
	c. Auditors can access all information.	

Table 4 – data requirements and controls		
Description	**Control**	**Applicant's response statement - max 100 words** (provide evidence if appropriate in separate documentation)
	d. Disclosure/regulators can access certificates	
4. Backup		
Maintain backup processes and procedures to help prevent data loss through incidents, hardware or software failure, or accidental deletion. All UI providers must have in place backup processes and procedures in place to preserve the integrity of data and other electronic assets. Further information at [Australian Signals Directorate Guidelines for system management](#).	a. Backup and restoration processes are in place.	
5. Data hosting		
Where feasible, data hosting must be on Australian shores. If UI providers have no option but to host Australian data and personal information overseas, they need to ensure that the local privacy legislation is compatible with Australian privacy laws. Otherwise, you may be in breach of Australian privacy laws and principles. Further information at [Office of the Australian Information Commissioner - sending personal information overseas](#).	a. Data is hosted in Australia. OR	
	b. A binding agreement is in place with any overseas hosting provider that ensures that the provider complies with all applicable Australian privacy legislation and obtains consent from all customers before saving their personal information. This requirement will be reviewed on a regular basis and may trigger a general update or reaccreditation.	

Table 4 – data requirements and controls		
Description	**Control**	**Applicant's response statement - max 100 words** (provide evidence if appropriate in separate documentation)
6. Data disposal		
Retaining sensitive data (including personal information) for only as long as legally required helps minimise any data exfiltration risks. Once data no longer needs to be maintained, this data needs to be securely deleted. UI providers shall only retain NatHERS data and personal data for seven years. After which this data must be securely wiped and if applicable, any physical storage devices securely destroyed.	a. All data is only kept for as long as legally required by my organisation. b. Data is deleted securely to ensure that it is not recoverable after deletion.	
7. Documentation		
Keeping accurate ICT documentation is not only best practice but also essential for supporting incident investigations, assessments, and system maintainability. UI providers must maintain appropriate documentation of their UI software. This includes any design, architecture documents and any related Standard Operating Procedures or User Guides.	The following is documented: a. Design	
	b. Architecture	
	c. As built	
	d. SOPs	

Table 4 – data requirements and controls		
Description	**Control**	**Applicant's response statement - max 100 words** (provide evidence if appropriate in separate documentation)
8. **Encryption key management**		
Encryption helps protect data from unauthorised access and ensure its confidentiality. Encryption key management and public key infrastructure (PKI) policy must include asymmetric or public key algorithms, hashing algorithms and symmetric algorithms as per Australian Government - Guidelines for using cryptography In particular using the following approved asymmetric cryptographic algorithms: • Diffie-Hellman (DH) for agreeing on encryption session keys • Elliptic Curve Diffie-Hellman (ECDH) for agreeing on encryption session keys • Elliptic Curve Digital Signature Algorithm (ECDSA) for digital signatures • Module-Lattice-Based Digital Signature Algorithm (ML-DSA) for digital signatures • Module-Lattice-Based Key Encapsulation Mechanism (ML-KEM) for encapsulating encryption session keys (and similar keys) • Rivest-Shamir-Adleman (RSA) for digital signatures and transporting encryption session keys (and similar keys) • The only approved hashing algorithm for general purpose use is Secure Hashing Algorithm 2 (SHA-2). However, Secure Hashing Algorithm 3 (SHA-3), including its extendable-output functions (XOFs), is approved exclusively for use within ML-DSA and ML-KEM • The only approved symmetric cryptographic algorithm is Advanced Encryption Standard (AES) • Where there is a range of key sizes for a cryptographic algorithm, some key sizes are not approved as they are insecure against current attacks or do not provide an adequate safety margin against possible future attacks. For example, advances in integer factorisation methods have rendered some RSA moduli sizes vulnerable and could render other RSA moduli vulnerable in the future • The minimum targets used for the effective security strength of cryptographic algorithms is 112 bits.	a. My system complies with the Australian Government guidelines for cryptography.	

Table 4 – data requirements and controls		
Description	**Control**	**Applicant's response statement - max 100 words** (provide evidence if appropriate in separate documentation)
9. **Encryption at rest**		
All data should be encrypted at every stage until it is rendered to an authorised user, this includes encrypting at rest. UI providers must apply encryption at the disk, container, application or database level. Encryption at rest should follow Australian Government - Guidelines for using cryptography	a. AES with a 256-bit key length (AES-256) encrypts all data at rest.	
10. **Encryption in transit**		
All data should be encrypted at every stage until it is rendered to an authorised user, this includes encrypting in transit. Encryption in transit must use endorsed approved cryptographic protocol, for example, TLS 1.2 (minimum) or TLS 1.3 (preferred) as per Australian Government - Guidelines for using cryptography	a. TLS 1.2 or TLS 1.3 is used to secure all data in transit.	
11. **Export function**		
Being able to export copies of data is essential for supporting the core NatHERS audit process. All UI software must support an export function in the event that DCCEEW requires copies of some or all the records for either audit or corporate records purposes.	a. All data can be exported from the system in a common format such as CSV, XML, PDF or JSON.	

Table 4 – data requirements and controls		
Description	**Control**	**Applicant's response statement - max 100 words** (provide evidence if appropriate in separate documentation)
12. Input validation		
Input validation (including file uploads, file names and text inputs) helps ensure malicious code does not compromise either the user, the UI network or CSIRO. Client and server-side input validation should be implemented to help reduce the likelihood of malicious scripts being inputted into UI software. Consider one of these approaches for input OWASP cheat sheet series - input validation cheat sheet. Likewise, for file uploads, uploaded files should have the extension type is as expected and so on. Further information at OWASP cheat sheet series - file upload cheat sheet.	All UIs validate a. Filenames b. File types c. Text input	
13. Personnel security		
Trust in all individuals (especially those with privileged access) who have access to any part of the NatHERS network is key to maintaining integrity to the program. UI providers must have personnel security procedures in place that guide the hiring, managing and terminating employees including contractors. The hiring process must include HR background checks on new employees and a national police check. The termination process also includes automated deprovisioning of terminated staff access accounts.	a. Recruitment processes conduct HR background and national police checks. b. Termination process	
14. Security monitoring		
Security monitoring practices must be implemented at the network/infrastructure/ application/ transaction layers to enable UI providers to identify threats in a timely manner.	Security monitoring is conducted at various layers to assist in identifying cyber threats.	
15. Updates and patching		
Keeping software up to date and properly patched helps minimise the risk of compromise through known vulnerabilities. A vulnerability scanner is used at least weekly to identify missing patches or updates for any software used as part of the UI.	Non-critical updates can be applied within 2 weeks of release. Any patches or updates assessed as being critical MUST be applied within 48 hours. Alternative timeframes must be agreed by the NatHERS Administrator	

7.3.   Evidence requirements

UI providers must provide written evidence of how they meet the security requirements (and any other alternate controls) listed in Table 4. UI providers do not necessarily need to meet every security requirement as some UI providers may have technical or business impediments that may prevent full compliance. In this case, UI providers need to state what these impediments are so they can be considered as part of the accreditation process, and describe any other alternate controls or solutions they may have in place. The form of the evidence can include:

1. A brief written statement against each requirement in Table 4 that describes how the requirement is met within the UI providers ICT environment. The description may include diagrams where necessary.

2. Copies of existing ICT artefacts that may include design, architecture or as built, that documents how the requirement is met within the UI providers ICT environment.

3. Independent certification of your software's security posture including supporting organisational controls. Examples include an Infosec Registered Assessors Program (IRAP) assessment, Australian Government [Hosting Certification Framework](#), ISO / IEC 27001, ISO / IEC 27002 or a System and Organization Controls (SOC) 2 Type 2 attestation.

Evidence may also be a combination of the above and can be submitted as a pack along with the other accreditation modules.

7.4.   Privacy breaches and cyber incidents

All UI provider organisations need to have a cyber incident response plan in place to manage all detected or reported incidents. Any critical or high rated incidents must be reported to the NatHERS Administrator at admin@nathers.gov.au within 24 hours of detection. If personal information has been breached then you must work with the NatHERS team to notify the impacted individual(s) and also report the breach to the [OAIC](#). https://www.oaic.gov.au/privacy/notifiable-data-breacheshttps://www.oaic.gov.au/privacy/notifiable-data-breaches

Where a breach is identified the NatHERS Administrator may request penetration testing be conducted at the expense of the UI provider. Findings may impact accreditation status.

7.5.   Significant changes

Changes made to your system architecture, hosting environment, data architecture, or any ICT changes that may change your threat landscape (e.g. a new portal or a new API) may require you to be reaccredited against this module. Contact admin@nathers.gov.au to discuss your change.

7.6. Supply chain risk management

The UI provider is responsible for ensuring the secure supply of products and services from any vendors or subcontractors involved in your UI software development. Vendors must meet the same security requirements expected of you, and these expectations must be contractually defined. Further information is available at https://www.cyber.gov.au/resources-business-and-government/maintaining-devices-and-systems/outsourcing-and-procurement/cyber-supply-chains/cyber-supply-chain-risk-management.

7.7. Authorisation / access control mechanisms

The UI provider must demonstrate its protective security and privacy arrangements are effective and working as intended including effective risk management governance with an appropriate internal management structure and oversight arrangements for managing risk.

- Implement user authentication – see 7.7.1
- Implement robust monitoring and incident response mechanisms.
- Implement comprehensive logging and monitoring mechanisms to detect and respond to security incidents promptly.
- Regularly review and test your incident response plans to ensure their effectiveness and identify areas for improvement.

7.7.1. Software user authentication

The UI must have multiple levels of authentication appropriate to different stakeholders. User authentication must be performed for different parties which have different levels of access to data held in the UI as set out in Table 5.

Table 5: Data access matrix

	Data type/output	UI provider	Assessor	Assessor accreditation service provider	CSIRO	Auditor / NatHERS Administrator	Client / homeowner	Agent (real estate)	UI cloud storage	4th party tech if embedded /linked	Disclosure
UI	Assessment data record (complete data set associated with a dwelling incl. PII & graphics & evidence) created in the UI	All data - Specify levels of access	Project specific	All	--	Project specific (excl. PII)	--		All	Relevant data (needs to be defined based on the technology)	--
CSIRO	Rating file (data transferred to CSIRO, excludes PII and graphics)	--		All	All	Project specific - must have AE (existing homes) access to view	--		--	--	--
	Preview rating summary generated by AE (existing homes). May be accessed directly from AE (existing homes) (?) via link, or embedded in UI	All data	Project specific either viewed in AE (existing homes) or once embedded in UI	All	All	Project specific - must have AE (existing homes) access to view	Project specific	--	If embedded in UI	--	-- No
	Certificate incl. upgrade advice generated in Hstar. May be accessed directly from HStar via link or embedded in UI.	All data	Project specific	All	All	Project specific	Project specific	Project specific	If embedded in UI	--	Project specific

8. Accreditation module: interface and output requirements

8.1. Overview / aims

8.1.1. Mandatory fields not part of the API schema

The UI must include data input fields additional to those required for the assessment API schema. The mandatory fields are provided at Attachment 4: Mandatory input fields not part of the CSIRO API schema.

8.1.2. Rating summaries

The UI may design rating summaries which can be generated from the AE (existing homes) rating data before it is submitted to the HStar portal to generate certificates. Depending on the details in a rating summary this may allow assessors, designers, clients and auditors to review a rating and make corrections, before a certificate is generated. The rating summaries cannot be used for regulatory purposes and must not include false or misleading information. The NatHERS logo / trademark cannot be used on the rating summary.

8.1.3. Audit data[7]

Auditors will require information to conduct audits on assessments. The UI must keep all assessment data for auditing for a minimum of seven years.

This audit data includes:

- assessment file supplied by the UI - this includes **all** inputs the assessor entered into the UI as part of a rating as well as evidence
- rating /file from AE (existing homes)
- rating summary supplied by CSIRO
- certificate.

The UI must have an export function in an accessible format to enable assessors to provide access to the audit data to 3rd parties including the NatHERS Administrator. The accessible format must display the audit data in a format that enables an auditor to quickly and easily view it. Accessible formats include the following:

- Mandatory: Machine-readable report showing audit data. The content must include the assessment file including all the information in Attachment 4: Mandatory input fields not part of the CSIRO API schema and the rating summary.
- Highly desirable: a link to a browser showing the audit data.

Future capacity to automatically export the audit data to a secure central database. The requirements for this may be defined in a future UI Protocol.

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[7] At the time of preparing this UIP the Audit Trials for existing homes are underway. Findings may be incorporated into future updates of the UIP.

8.1.4.   Trademark / branding

The UI and associated documentation including help files and rating summaries must comply with NatHERS trademark/branding requirements.

8.1.5.   Accessibility

The UI must adhere to current accessibility standards promoting inclusivity and equal access. The UI design must consider items in Table 6.

Table 6: Accessibility considerations

Category	Comments
Input and output	Can the software be operated using alternative input methods (e.g., voice, keyboard) and providing clear output formats (e.g., screen reader compatibility)?
Interface design	Is the design a user-friendly interface with clear labels, headings, and navigation?
Colour contrast	Is there adequate colour contrast between text and background?
Documentation	Is there accessible documentation, such as user manuals, in alternative formats?
Testing	Has the software been tested with assistive technologies, such as screen readers, to determine if it meets accessibility requirements?

8.1.6.   Terminology

NatHERS' stakeholders rely on consistent terminology[8]. The software must apply these standard terms to avoid confusion within the industry.

8.1.7.   Dropdown lists

AE (existing homes) relies on standardised terminology and lists to conduct simulations. Standardised and complete lists for thermal features, appliances and systems must be incorporated into the UI. Where alternatives are proposed by the UI provider, these must be agreed by the NatHERS Administrator.

8.1.8.   Training material and help text

The UI provider must provide user training and support to all users. The training material and help text must not contradict the Technical Note for existing homes, NatHERS Handbook, NatHERS guidance notes, the NatHERS website or other official NatHERS documentation. The UI provider must keep training material and help text up to date to reflect approved changes and updates to the UI tool and NatHERS documentation.

Compliance checks, in summary, include:

- review rating summaries
- accessibility

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[8] A standard terminology list is in prep – based on the Whole of Home calculation method and thermal standardisation documents

- trademark/branding
- correct terminology
- comprehensive dropdown lists (if not covered in API)
- help files.

8.1.9. Payment portal

The UI will need to develop a payment portal for certificates. The UI developer is solely responsible for levying and managing payments by its end users.

9. Accreditation module: terms and conditions

9.1. Overview / aims

The Terms and Conditions form a part of the Agreement between the parties for the accreditation of the User Interface Tool.

The Terms and Conditions must be read in conjunction with the Accreditation Notice (once received upon satisfactorily meeting the accreditation requirements) and the UIP.

If there is an inconsistency between any of these documents, the documents take the following priority:

a. Accreditation Notice

b. User Interface Accreditation Terms and Conditions

c. User Interface Protocol (UIP).

The UI accreditation terms and conditions aim to protect the UI provider and the NatHERS Administrator, defining the scope of the agreement, outlining responsibilities and establishing clear guidelines for use of data and services, thereby minimising potential disputes and prevent incorrect or deceptive use of the software by users.

A UI provider is required to adhere to the terms and conditions that are subject but not limited to the following:

a. conditions or events which may end accreditation

b. conditions for variation of agreement

c. terms and conditions which a UI provider must impose on users of the software when the software is used in accredited mode and non-accredited mode

d. incorporating reasonable changes to the software tool

e. software tool version management

f. cyber security

g. software user support

h. restrictions on NatHERS certificate generation based on the accreditation status of the assessor

i. cooperating with AASP quality assurance activities

j. NatHERS Administrator's access to data and software

k. limitation of NatHERS Administrator's liability and indemnity

l. UI provider's minimum insurance

m. use of NatHERS trademarks / branding

n. records management

o. responsibility for costs

p. confidentiality and privacy

q. dispute resolution.

9.2.   Requirements imposed on licensed software users

The NatHERS Administrator needs to obtain relevant and adequate information from UI providers regarding an assessor's use of the software and the generation of certificates or rating summaries in order to prevent improper or dishonest use of the program.

The UI provider must impose conditions on a licensed user as provided in the UI accreditation terms and conditions. This enables the NatHERS Administrator or their representative to conduct quality assurance, audits and investigations, and to pass on the findings to appropriate parties (Disclosure scheme regulator, state and territory authorities and regulators, local councils, building certifiers/surveyors, builders and architects, homeowners).

9.3.   CSIRO agreements with UI providers

The UI will link with CSIRO software and will be subject to CSIRO terms and conditions. This will include assessor authorisation, simulation, and certificate payments.

9.4.   Fourth party software terms and conditions

If a UI provider seeks to collaborate with other vendors or technology suppliers to develop a UI tool, the UI provider (as the main party engaged to provide a UI tool) is required to ensure that such other vendors and technology suppliers comply with the requirements in the UIP and UI terms and conditions.

9.5.   Compliance checks

The compliance checks for various agreements, in summary, include:

- NatHERS terms and conditions
- requirements imposed on licensed software users
- CSIRO agreements
- fourth party software terms and conditions.

10. Information sources

UI providers must be familiar with and incorporate principles detailed in the documentation listed in this section to ensure correct functioning of the software.

The UI provider must ensure they understand and apply aspects of the information referred to in Table 7. Further information relating to NatHERS is available at www.NatHERS.gov.au.

Methodologies, algorithms and rules implemented in AE (existing homes) and the Chenath Engine are key elements of rating software. There is a collection of documentation for these. This list is subject to updates as new information emerges.

CSIRO is able to provide software and other technical information at Zendesk.

Table 7: NatHERS documentation and data

Document	Available from
NatHERS guidance notes	Nathers.gov.au
WERSlink default windows library	admin@nathers.gov.au
WERSlink custom windows library	admin@nathers.gov.au
Material properties used in NatHERS software tools	NatHERS accredited software: materials/product database | Nationwide House Energy Rating Scheme (NatHERS)
NatHERS Whole of Home Calculation Method	Nathers.gov.au
General update form (in development)	
NatHERS Compliance and Enforcement Policy	
NatHERS information collection, storage and dissemination policy	
Postcode to climate zone table look-up table (spreadsheet)	nathers.gov.au
Software standardisation for existing homes Thermal	admin@nathers.gov.au
Software testing dwelling designs for existing homes (detailed drawing sets of all dwellings)	admin@nathers.gov.au
Software test results spreadsheet – thermal	admin@nathers.gov.au
Software test results spreadsheet – Whole of Home results	admin@nathers.gov.au
Software test results spreadsheet – general update	admin@nathers.gov.au
Standard operating procedure – assessment of EOI	admin@nathers.gov.au
Standard operating procedure – general updates (in development)	admin@nathers.gov.au

Standard operating procedure – due diligence of new and reaccreditation (in development)	admin@nathers.gov.au
NatHERS for existing homes - Technical and Guidance Note	Nathers.gov.au
NatHERS Trademark guidelines	https://www.nathers.gov.au/publications/trade-mark-guidelines

Attachment 1: Accreditation and reaccreditation submission checklists

Item	New accreditation	Reaccreditation
Access to UI beta version	yes	yes
Access to fourth party data collection technologies	yes	yes
Assessment file dwelling 101	yes	TBD*
Assessment file dwelling 401 x 12 Whole of Home scenarios, including evidence	yes	yes
Assessment file dwelling 501 x 12 Whole of Home scenarios	yes	yes
Assessment file dwelling 611	yes	yes
Assessment file dwelling 630	yes	TBD*
Data management plan	yes	TBD*
Optimisation description and analysis of rating impacts	yes	TBD*
Rating summary (if different to CSIRO outputs)	yes	TBD*
In principle agreement to accreditation terms and conditions	yes	yes
CSIRO agreements/service level agreements	yes	TBD*
Fourth party software/hardware service level agreements	TBD*	TBD*
Any other material requested by the NatHERS Administrator	TBD*	TBD*
Accreditation module: privacy and security evidence		
Audit logging requirements	yes	Only if changed since last accreditation
Authentication requirements	yes	
Authorisation requirements	yes	
Backup requirements	yes	
Data hosting requirements	yes	
Data disposal requirements	yes	
Documentation requirements	yes	
Encryption key management requirements	yes	
Encryption at rest requirements	yes	
Encryption in transit requirements	yes	
Export function requirements	yes	
Input validation requirements	yes	
Personnel security requirements	yes	
Security monitoring requirements	yes	

*The item must be submitted if it has an impact on or is impacted by the update.
The NatHERS Administrator will determine items to be submitted.

Attachment 2: General update submission checklist

Item	General update
Update form	Yes
Access to UI beta version	Yes
Access to fourth party data collection technologies	Yes
Assessment file dwelling 401 x 12 Whole of Home scenarios	TBD*
Assessment file dwelling 611 x 12 Whole of Home scenarios	TBD*
Revised data management plan	TBD*
Optimisation description and analysis of rating impacts	TBD*
Rating summary (if different to CSIRO outputs)	TBD*
CSIRO agreements/service level agreements	TBD*
Fourth party software/hardware service level agreements	TBD*
Any other material requested by the NatHERS Administrator	TBD*

*The item must be submitted if it has an impact on or is impacted by the update. The NatHERS Administrator will determine items to be submitted.

Attachment 3: Enabled dwelling features

The following building features and specifications should be able to be modelled in the UI:

- Windows
- Roof windows/skylights
- Walls
- Floors
- Ceilings
- Roofs
- Thermal bridging
- Doors
- Stairs
- Double-height voids
- Roof space
- Subfloors
- Bulkheads
- Vertical shading
- Horizontal shading
- Ceiling fans
- Heating/cooling appliances
- Hot water
- Solar PV
- Battery
- Cooking
- Lighting
- Pools/spas.

The range of specifications for thermal features are available in Software standardisation for existing homes - thermal.

Attachment 4: Mandatory input fields not part of the CSIRO API schema

The following input fields are additional to those required by the API schema and must be available in the UI.

Type: private / PII data – free text fields

1. Name of client
2. Contact details of client
3. Assessor declaration – Privacy consent compliance
4. Assessor Declaration - Conflict of Interests – choose option from dropdown menu
    a. Details of conflict(s) of interest
5. Householder experience survey – applicant consent (and if applicable occupant consent)
6. Future research participation – applicant consent (and if applicable occupant consent)
7. Alternative postcode justification (if a postcode is not available in NatHERS software tools, the postcode of the nearest existing suburb with similar climatic properties must be used.
8. Alternative climate zone justification (if the primary climate zone is not considered representative of the climate on site (e.g. because of a change in altitude), the assessor may choose to use one of the alternative climate zones allocated to the postcode in the NatHERS software tool or available on the NatHERS website. The assessor must not use a climate zone other than those allocated to the postcode.)
9. National Australian Built Environment Rating System (NABERS) data input fields.

Type: evidence (ability to upload and store documents and images)

10. Areas not accessed/visually inspected due to health and safety requirements
11. Written consent from the householder
12. Year of construction
13. Zoning decisions justification (for situations where there may be more than one option)
14. Alternative climate zone justification: NatHERS Administrator or free text response
15. Detailed technical specifications or related data to find simplified specifications for:
16. Floorplan
17. Floors – thermal bridging mitigation measures
18. Floors – insulation
19. Floors – most predominant floor covering types
20. Floors – types
21. Walls – types
22. Walls – insulation
23. Walls – Adjacent walls
24. Walls – Thermal bridging mitigation measures
25. Window – types
26. Door types
27. Windows – internal coverings
28. Roof window / skylight
29. Window – covering characteristic
30. Windows – external coverings

31. Ceilings/roofs – dwelling above

32. Ceilings/roofs – colour

33. Ceilings/roofs – insulation

34. Ceiling/roofs – ceiling fans

35. Ceilings/roofs – recessed lights that are rated to be covered by insulation

36. Ceilings/roofs – thermal bridging mitigation measures

37. Air tightness/leakage

38. Heating and cooling systems

39. Hot water systems

40. PV system – capacity

41. PV system – orientations

42. PV system – inverter

43. PV system – battery

44. Cooktop

45. Oven

46. Lighting

47. Pool/spa

48. Pool/spa pump.

Type: simplifications
(these must be recorded on the certificate, hence identified in the assessment file as such)

49. Window openability.

Type: defaults check box
(these must be recorded on the certificate, hence identified in the assessment file as such)

50. Internal single doors

51. Internal double doors

52. Ceiling fan

53. Heater

54. Battery.

Type: workflow check boxes
(if these are not checked, a certificate cannot be generated however a rating can be simulated)

55. Confirm all requirements detailed in the Technical Note for existing homes have been met

56. Confirm consent forms are completed and signed by the applicant (and occupant if different from the applicant)

57. Record any conflicts of interest

58. Confirm the assessment aligns with the evidence obtained.