

Telescope Time Allocation Tools

Internal Review of the Proposal Panel Review Process



guide prepared for software version 0.2

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1 | Purpose of This Document

This document is intended to describe the functionality of the Proposal Panel Review (PPR) process in the Telescope Time Allocation (TTA) tools from the perspective of the Science Review Panel (SRP) Member and the SRP Chair. As this is an early release of the tools, care is given in this guide to note the expected behavior and the limits of the application. The *Telescope Time Allocation: System Description* and *Telescope Time Allocation: Algorithms* documents are the authority on definitions and implementation details of the tools.

This document is applicable for the version 0.2 release and the internal review by the NRAO and GBO staff. Note, this document does not detail the TTA Group Member or Feasibility (e.g., Technical) Reviewer role in the PPR process. A previously prepared guide details the Proposal Creation process.

The proposals in this guide are synthetically generated: proposal data¹ is generated with no relation to actual proposals submitted to the NRAO. Proposal titles are randomly drawn from publicly available proposal metadata or randomly generated. Any similarity to proposals submitted to the NRAO is by coincidence; the review material in this document is for demonstration purposes only and should not be interpreted as a real review of a proposal.

¹See the NRAO's data policy at <https://science.nrao.edu/observing/policies/docs/manuals/users-policy/>.

2 | Overview of Review Process

A detailed overview of the *Proposal Panel Review* (PPR) process is available on-line at <https://science.nrao.edu/observing/proposal-types/proposal-review-system>. Note, the TTA tools' implementation of the PPR process follows dual anonymous peer review guidelines; information that can identify the authors has been redacted (e.g., name, institution).

The PPR process consists of different phases and sub-phases, and this guide discusses the *Review Process* phase, which encompasses the *Individual Science Reviews* sub-phase and the *Consensus Reviews* sub-phase. Section 3 provides a brief guide for Science Review Panel (SRP) Members during the *Individual Science Review* sub-phase, while Section 4 details the *Consensus Review* sub-phase. A SRP Chair assumes all responsibilities and capabilities as a SRP Member, with a few additional ones outlined in Section 5. Figure 2.1 depicts the key sub-phase transitions and responsibilities for the SRP Chair and SRP Member.

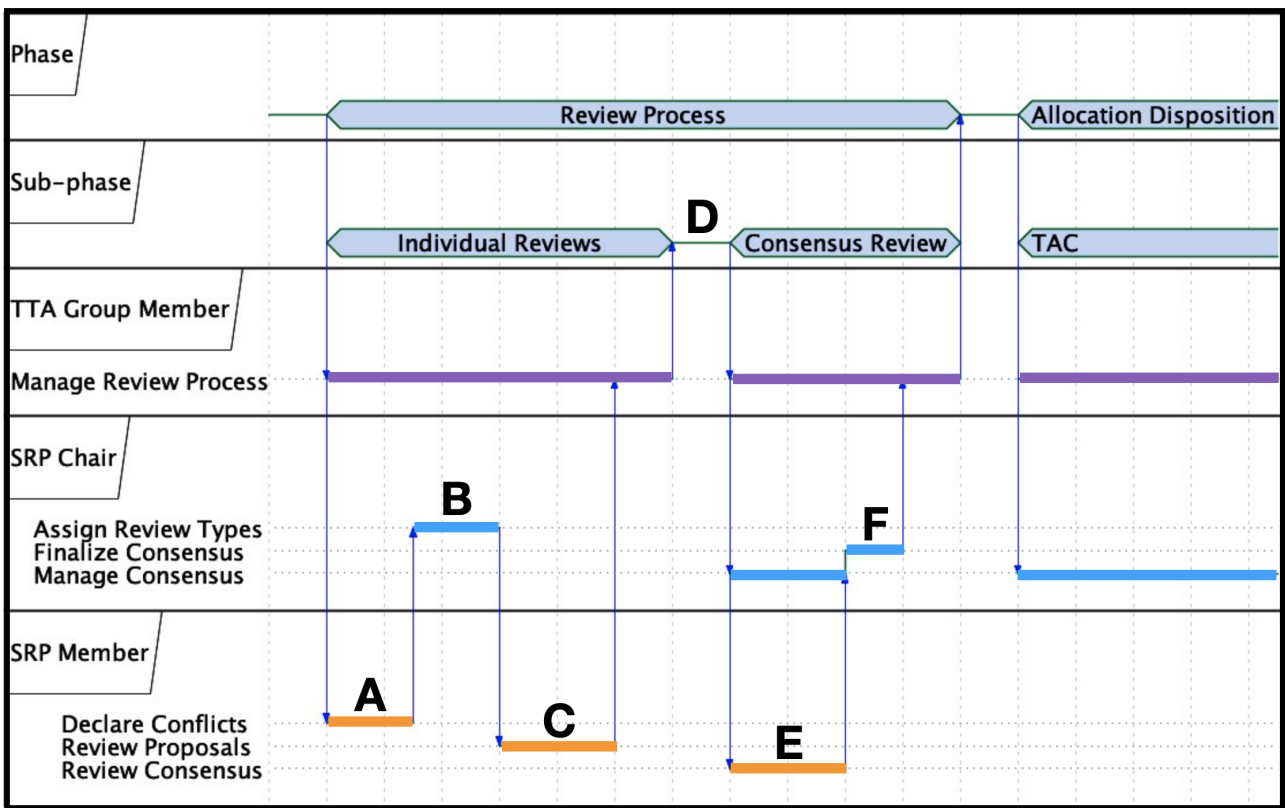


Figure 2.1: Overview of important sub-phase transitions and responsibilities for the SRP Members and SRP Chair within the *Review Process* phase. The bold letters indicate the actions a TTA member, SRP member, or SRP Chair must take to advance the system.

- A — SRP member can certify their conflicts (§ 3.1 – 3.3);
- B — SRP Chair can assign REVIEW TYPES to reviewers (§ 5.1);
- C — SRP members can enter and finalize their *Individual Science Reviews* (§ 3.4 – 3.6);
- D — TTA member can initiate the Consensus sub-phase on a per-panel basis;
- E — SRP member can complete the Consensus Reviews (§ 4.1 – 4.4);
- F — SRP Chair can finalize the Consensus Reviews (§ 5.4).

3 | Individual Science Reviews

3.1 | Logging in and accessing the Review Process

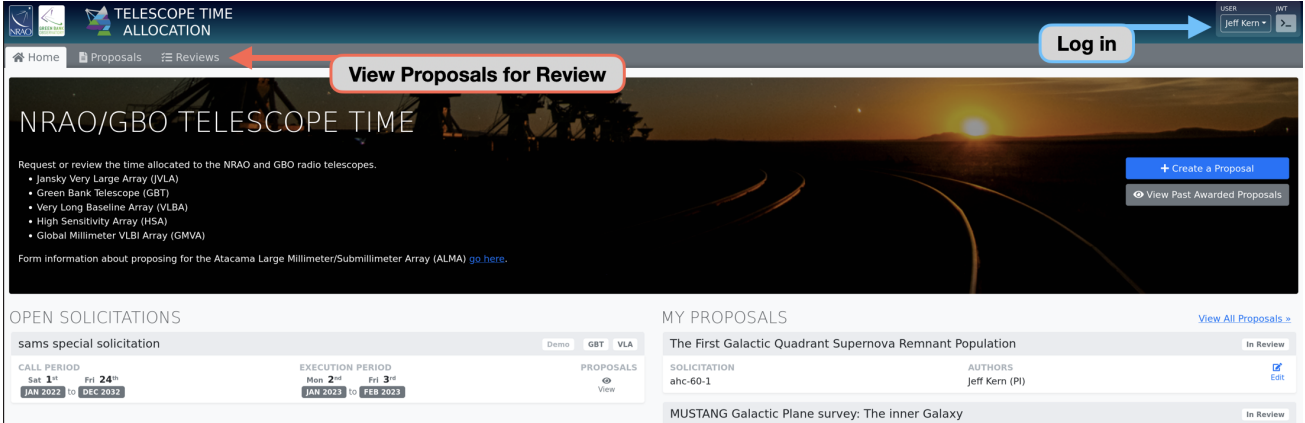


Figure 3.1: Select your user account from the drop-down menu. For this review, select an account without the 'TTA' label. Once logged in, select the Reviews tab.

3.2 | Accessing the Science Review Panel

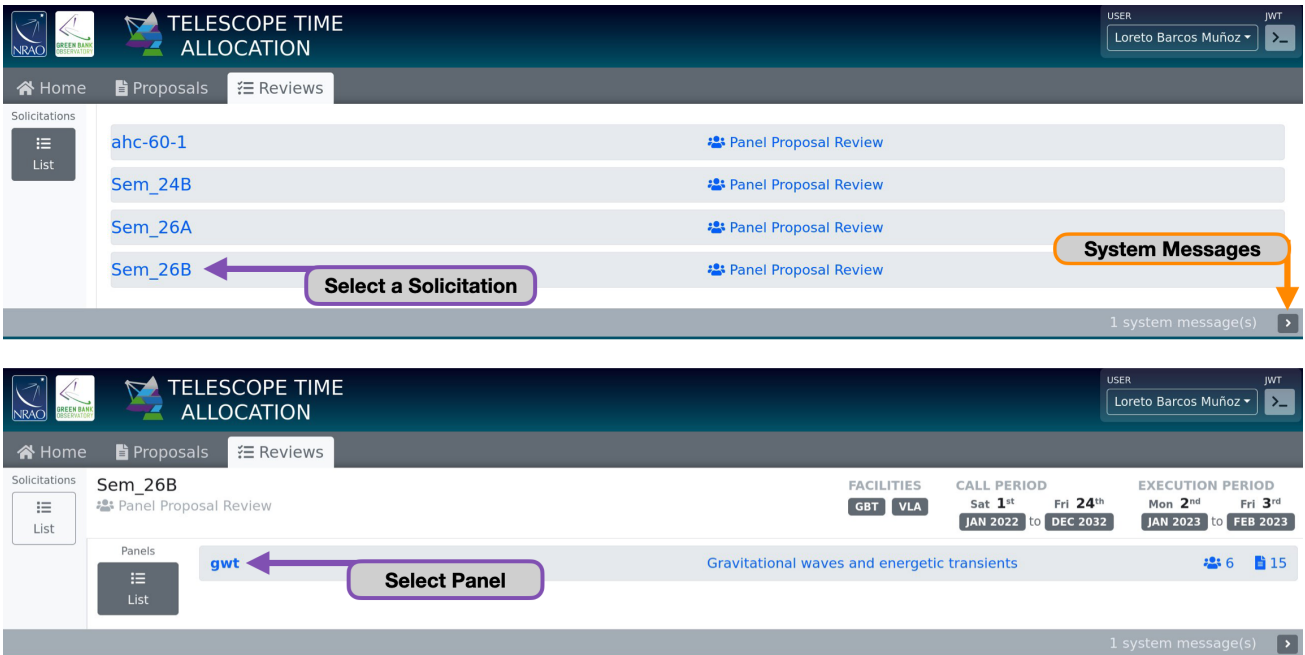


Figure 3.2: Only Solicitations for which a SRP Member has an active role in the Review Process are displayed. Selecting a row will expand the row to show the Science Review Panel. Note, there may be only one Solicitation in the list.

Note.

For this review, select the Solicitation specified in the instructions.

3.3 | Declaring Conflicts

The screenshot shows the 'Conflict Declarations' section for user JEFF KERN. At the top, it displays 'GWT SOLICITATION Sem_26B' and 'SCIENCE CATEGORIES Gravitational waves and energetic transients'. A 'Certify to continue' button is highlighted with a blue callout. Below the header, a table lists proposals with their status and conflict status. Proposal 'sem26B-002' is highlighted with a green callout 'Expand to view proposal' pointing to its expand icon. A purple callout 'Set availability from dropdown menu' points to the conflict status dropdown for 'sem26B-003'. A red callout 'System identified conflicts' points to the 'Automatically Conflicted' status for 'sem26B-006'. A 'REASON *REQUIRED' field is visible for 'sem26B-002'. A 'Certify Conflict Declarations' button is also present.

Proposal ID	Title	Status	Conflict Status
sem26B-001	GBT confirmation of Interstellar CH2D+	Available	Available
sem26B-002	Radiative and mechanical feedback in regions of massive star formation	Conflicted	Conflicted
sem26B-003	Mapping the Milky Way: A Outreach Project for Highschool Students	Unknown	Unknown
sem26B-004	on GBT: Thermal Conditions for Star Formation in the Central Molecular Zone	Unknown	Unknown
sem26B-005	tic Fields in Heavenly Bridges.	Unknown	Unknown
sem26B-006	A New H2CO Flare in IRAS 18566+0408	Automatically Conflicted	Automatically Conflicted

Figure 3.3: SRP Members must declare any and all conflicts they may have before proceeding with the science review. They are required to select either **Available** or **Conflicted** for each proposal, and if the latter, they must provide a reason. If the SRP Member is an author of a proposal, it is marked as **Automatically Conflicted** and cannot be modified. Once all conflicts have been declared, the SRP Member can certify the conflicts to continue with the review.

Note.

SRP Members should declare and certify their conflicts promptly. The SRP Chair cannot assign REVIEW TYPES to a reviewer until their conflicts have been certified.

Important!

Once conflicts are certified, a SRP Member cannot further modify their conflicts.

3.4 | Accessing Independent Science Reviews

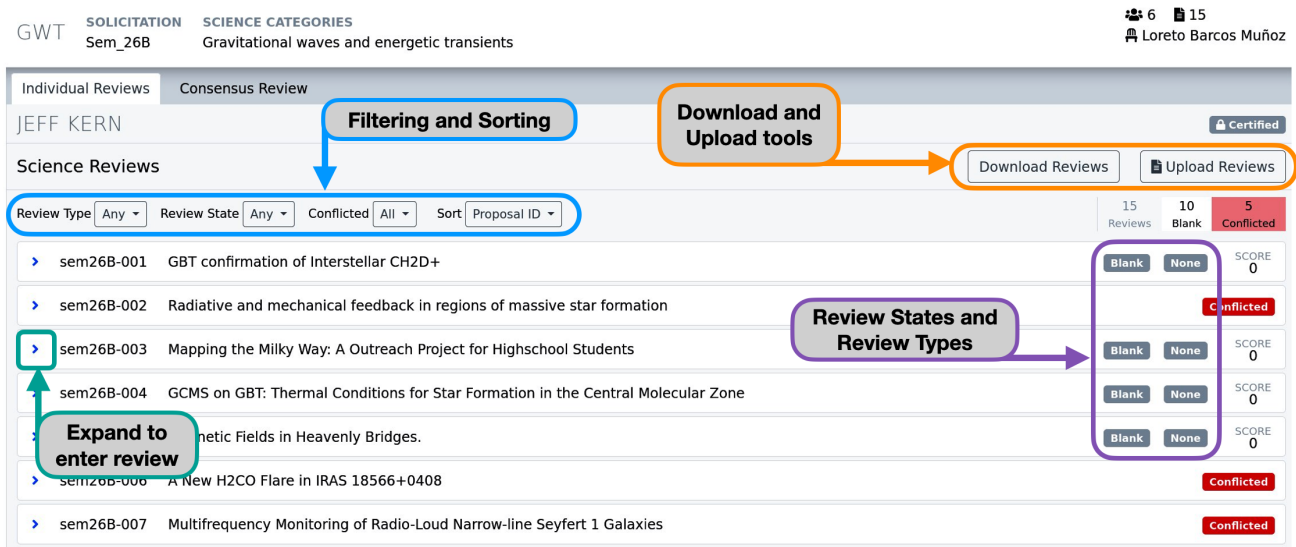


Figure 3.4: In the list of proposals, each row displays the Proposal ID, Proposal Title, the REVIEW STATE (initially Blank), the REVIEW TYPE (initially None), and the INDEPENDENT SCORE (displayed as Score and initially 0). If the SRP Member is conflicted on a proposal, it is marked as conflicted. Clicking the blue chevron will expand the row to display the proposal and reveal the review editor. Reviews can be entered manually per proposal, and the download and upload tools offer options for bulk editing. Refer to Section A.2 for detailed explanations of these features.

Note.

SRP Chairs will assign REVIEW TYPES to reviewers. SRP Members are responsible for reviewing the proposals that they have been assigned a REVIEW TYPE of Primary, Secondary, or Tertiary.

It is not required to enter reviews with a REVIEW TYPE of None. SRP Members are welcome to read any non-conflicted proposal and may provide comments/scores. For proposals with a REVIEW TYPE of None, the comments and scores are for note-taking purposes only and will **not** be included in the Consensus Review.

Important!

If a proposal is specified in the uploaded file, the Comments and Scores will be **overwritten** even if the reviews were previously saved or completed.

3.5 | Entering Independent Science Reviews

The screenshot displays the GWT review interface. At the top, it shows 'GWT SOLICITATION Sem_26B' and 'SCIENCE CATEGORIES Gravitational waves and energetic transients'. A user profile for 'Loreto Barcos Muñoz' is visible. The main area is titled 'Science Reviews' and features a list of proposals. A summary table at the top right shows counts for 'Reviews' (15), 'Blank' (8), 'Conflicted' (5), and 'Saved/Completed' (2). The expanded view for proposal 'sem26B-004' shows a 'REVIEW' section with 'COMMENTS' (containing 'This request is justified...') and 'SCORE' (4.7). The 'PROPOSAL' section includes 'SCIENCE CATEGORY' (GWT: Gravitational waves and energetic transients), 'SCIENTIFIC JUSTIFICATION' (Unspecified), 'FEASIBILITY JUSTIFICATION' (Unspecified (FPO) For Placement Only), and 'ABSTRACT' (bibendum, dui eget sodales scelerisque, arcu nulla cursus purus, nec varius elit arcu vitae ipsum. Nullam justo urna. dapibus sed ante nec, pretium tincidunt sapien. Orci). Annotations with arrows highlight key features: 'Updated Review State, Review Type, and Individual Score' points to the summary table; 'View of Proposal' points to the proposal title; 'Open Proposal in new tab' points to a link icon; 'Comments to SRP' points to the comments text area; and 'Individual Score' points to the score input field.

Figure 3.5: The expanded view displays the proposal along with two text fields: one for the COMMENTS TO SRP (displayed as **Comments**) and another for the INDEPENDENT SCORE (displayed as **Score**). A valid comment consists of at least one character and a valid score ranges between 0.1 and 9.9, with a lower number indicating a better-ranked proposal. Both are required to **Save** or **Complete** a review. The **Complete** button saves changes and serves as a bookkeeping tool for the reviewer; it is not necessary to save a review before completing it.

Important!

Only a limited view of the proposal is implemented in this version. Future versions will offer an expanded view of the proposal, encompassing the *Allocation Request(s)*, *Feasibility Justification(s)*, and *Science Justification*. The capability to download the proposals as PDFs will also be available.

3.6 Finalizing Independent Science Reviews

The screenshot shows the 'Science Reviews' section for user JEFF KERN. At the top right, there are icons for 6 people and 15 documents, and the name 'Loreto Barcos Muñoz'. Below the user name, there are buttons for 'Download Reviews', 'Upload Reviews', and 'Finalize Reviews' (highlighted with a red circle). The main content area shows a list of proposals with their titles and scores. The top-ranked proposal is 'sem26B-013 VLA survey of low-z H-ATLAS/GAMA galaxies' with a score of 0.2. The bottom-ranked proposal is 'sem26B-004 GCMS on GBT: Thermal Conditions for Star Formation in the Central Molecular Zone' with a score of 7.9. A confirmation prompt asks the user to 'Accept' or 'Confirm to Finalize reviews'. Below the prompt, there are filters for 'Review Type' (Any), 'Review State' (Any), 'Conflicted' (All), and 'Sort' (Proposal ID). A summary bar shows 15 Reviews, 5 Conflicted, and 10 Saved/Completed. The list of proposals includes: 'sem26B-001 GBT confirmation of Interstellar CH2D+' (Saved, Tertiary, Score 4.3), 'sem26B-002 Radiative and mechanical feedback in regions of massive star formation' (Conflicted), and 'sem26B-003 Mapping the Milky Way: A Outreach Project for Highschool Students' (Saved, Secondary, Score 5).

Figure 3.6: For reviews associated with a REVIEW TYPE of Primary, Secondary, or Tertiary have a REVIEW STATE of either Saved or Completed, the *Individual Science Reviews* can be finalized. A prompt will request confirmation of the top (i.e., the one with the lowest score) and bottom (i.e., the one with the highest score) ranked proposals in the set. If confirmed, any further modifications to comments and scores related to these finalized proposals will not be possible.

Note.

SRP Members must finalize their reviews before the *Consensus Review* can begin.

■ End of Individual Science Review phase

- Upon finalization, the set of SRP Member’s INDIVIDUAL SCORES is normalized with an average value of 5 and a standard deviation of 2. These normalized scores will be available to other panelist in the *Consensus Review* and are formally referred to as the FINALIZED NORMALIZED INDIVIDUAL SCORES or FNISs.
- Once all the SRP Members on a panel have finalized their *Individual Science Reviews*, the TTA Group member can initiate the *Consensus Review* phase for the panel. At that time, the Consensus Review tab will become available.

4 | Consensus Reviews

4.1 | Accessing Consensus Reviews

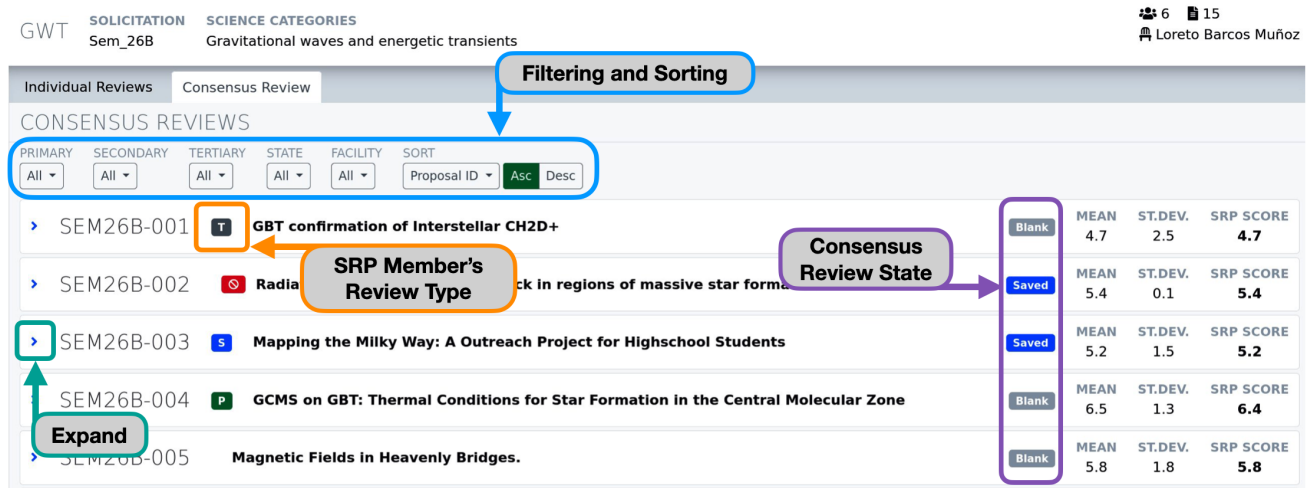


Figure 4.1: The Consensus Review tab presents the list of proposals within the panel. Each row displays the Proposal ID, the Proposal Title, the REVIEW STATE (initially blank), the mean of the FNISs (displayed as Mean), the standard deviation of the FNISs (displayed as ST.DEV.), and the SRP Score. Refer to Section B for definitions of these quantities.

The SRP Member's REVIEW TYPE is denoted by a green, blue, or gray square icon, marked with either a 'P', 'S', or 'T'. Note, there is not an icon for a REVIEW TYPE of None, and a red square icon with a white slashed circle denotes a conflict. For further examples, see Section C.

Note

The filtering options for Primary, Secondary, and Tertiary are restricted to only show an SRP Member's role. SRP Chairs have an expanded set of filters for organizing the Consensus discussion.

4.2 | Inspecting and Entering the Consensus Reviews

The screenshot displays the 'Consensus Reviews' interface. At the top, it shows 'GWT Sem_26B' and 'SCIENCE CATEGORIES: Gravitational waves and energetic transients'. A table lists three reviews:

PROPOSAL ID	STATUS	PROPOSAL TITLE	MEAN	ST.DEV.	SRP SCORE
SEM26B-001	Not implemented	GBT confirmation of Interstellar CH2D+	4.7	2.5	4.7
SEM26B-002	Saved	ack in regions of mass	5.4	0.1	5.4
SEM26B-003	Saved	Mapping the Milky Way: A Outreach Project for Highschool Students	5.2	1.5	5.2

The selected review (SEM26B-003) is expanded to show a 'Comments for PI' field with pre-filled prompts: 'Summary: This proposal requests 40 hours to...', 'Proposal Strengths:', 'Proposal Weaknesses:', 'Recommended time: The SRP does not recommend a change to the proposed time request.', and 'Technical issues affecting ranking or recommended time: None.' Callouts highlight 'Additional, optional comments for the TAC', 'Not implemented', 'Individual Reviews materials', 'Open Proposal in new tab', and 'Prefilled prompts'.

Figure 4.2: Expanding a row provides further navigational sub-tabs and the Consensus Review editor, which contains two text fields: the **Comments for PI** and the **Internal Comments**. The **Comments for PI** has pre-fill prompts to guide the content of the review.

Note.

Only a **Primary** or **Secondary** reviewer can enter or modify the comment fields and **Save** or **Complete** the review. A review must be saved before being completed.

Important!

Completing a *Consensus Review* will prevent further modification of the comments by other SRP Members. This functionality is different than the completing an *Individual Science Review*.

4.3 | Viewing Co-panelists' Individual Reviews

GWT SOLICITATION Sem_26B SCIENCE CATEGORIES Gravitational waves and energetic transients 6 15 Loreto Barcos Muñoz

Individual Reviews Consensus Review

CONSENSUS REVIEWS

PRIMARY All SECONDARY All TERTIARY All STATE All FACILITY All SORT Proposal ID Asc Desc

PROPOSAL ID	STATUS	MEAN	ST.DEV.	SRP SCORE
SEM26B-001	Blank	4.7	2.5	4.7
SEM26B-002	Saved	5.4	0.1	5.4
SEM26B-003	Saved	5.2	1.5	5.2

Finalized Normalized Individual Scores (FNISs)

Mean of the FNISs

SRP Score

Standard Deviation of the FNISs

Comments from Individual Reviews

Unsaved Changes Pending

Summary: This proposal requests 40 hours to...
 Proposal Strengths:
 Proposal Weaknesses:
 Recommended time: The SRP does not recommend change to the proposed time request.
 Technical issues affecting ranking or recommended time: None.

SCORE: 5.7

COMMENTS: Comments for the SRP: Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras bibendum, dui eget sodales scelerisque, arcu nulla cursus purus, nec varius elit arcu vitae ipsum. Nullam justo urna, dapibus sed ante nec, pretium tincidunt sapien. Orci varius natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Duis iaculis pellentesque lectus, a pulvinar elit molestie quis. Pellentesque commodo faucibus enim. Sed elementum eu nunc ut vulputate. Sed venenatis aliquam tincidunt. Nullam consequat sem libero, at hendrerit quam posuere nec. Aenean diam ipsum, sodales sit amet interdum eu, mattis at elit. Aliquam maximus eu arcu ut congue. Sed ex eros, elementum eget ligula eu, pellentesque molestie lectus. Etiam sagittis nulla leo, quis commodo nulla laoreet vel. Nam sed aliquet velit. Aenean risus est, sagittis

Save Mark Completed

Figure 4.3: The Proposal sub-tab shows the same view of the proposal as that available in the Individual Reviews tab. The Feasibility sub-tab is not yet implemented but would show Technical and Data Management Reviews if available. The Reviews sub-tab shows the Scores (FNISs) and Comments associated with the proposal from the applicable *Individual Science Reviews*.

Important!

The TTA tools offer a ‘re-vote’ feature, allowing an SRP Member to adjust their score during the Consensus meeting. The SRP Chair or TTA Group Member is able to modify the FNIS, which will update the mean, ST.DEV., and SRP Score.

4.4 | After the Consensus Meeting

- By the end of the Consensus meeting, the panel should reach agreement on the order of the proposals. The ranking is determined by the SRP Score, where a low number indicates a better ranked proposal. The position of a proposal on the list dictates the calculation of the Normalized Linear Rank (NRL) (see Section B).
- The Primary and Secondary reviewers are responsible for composing the Comments for PI and Internal Comments, the latter of which allows the SRP to make confidential comments about the proposal to Observatory Staff and the TAC. SRP Members should communicate via external methods (e.g., e-mail) to refine the comments. Once finished, the review should be marked as completed.
- After all reviews have been completed, the *Consensus Review* phase is concluded for SRP Members.

5 | SRP Chair

A SRP Chair has all of the responsibilities and capabilities as a SRP Member plus additional ones, which are detailed here. As such, it is assumed that the SRP Chair is familiar with the functionality of the SRP Member role.

5.1 | Assigning Review Types to SRP Members

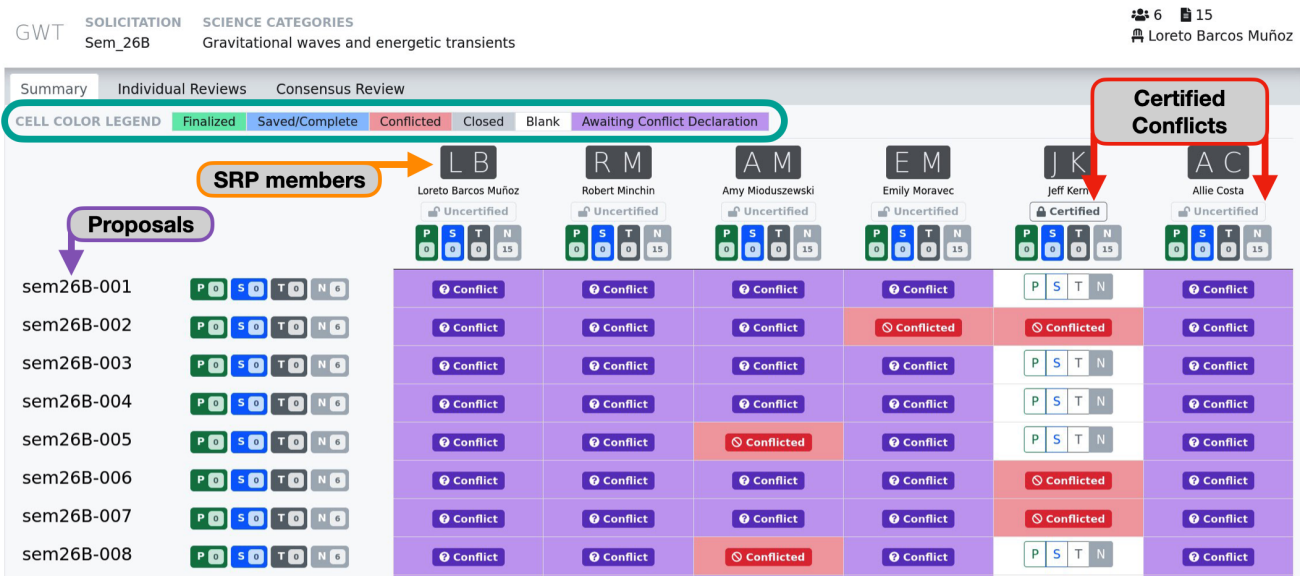


Figure 5.1: The Summary tab displays a grid of the SRP Members and proposals. The color of the cell indicates the conflict state (Unknown, Available, Conflicted) or the REVIEW STATE, which reflects the reviewer’s progress. A legend is available at the top of the page. As SRP Members certify conflicts, complete, and finalize their *Individual Science Reviews*, the cell color will update to reflect their progress.

Important!

A SRP Chair cannot assign a REVIEW TYPE to a SRP Member until they have declared and certified their conflicts. It is not required to wait for all SRP Members to certify. The REVIEW TYPE may be modified until the start of Consensus, as long as the REVIEW STATE is not Finalized or Closed.

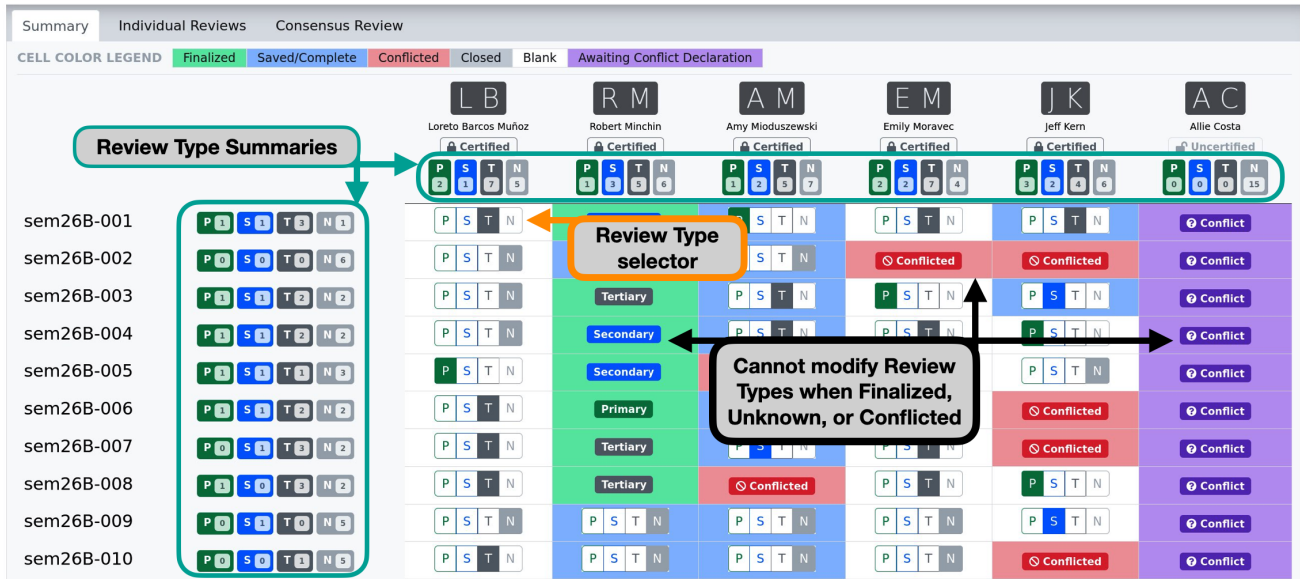


Figure 5.2: A REVIEW TYPE cannot be assigned to an SRP Member until they have certified their conflicts. Once a reviewer has been certified, a set of buttons appears for each cell, facilitating the assignment of a REVIEW TYPE for each proposal. These buttons are labeled as ‘P’, ‘S’, ‘T’, and ‘N’, representing Primary, Secondary, Tertiary, and None respectively. The system prevents the assignment of more than one Primary or one Secondary reviewer to a single proposal. However, any number of Tertiary or None assignments is permissible.

5.2 | Organizing the Consensus Meeting

The screenshot displays the 'Consensus Review' tab in a software interface. At the top, there are tabs for 'Summary', 'Individual Reviews', and 'Consensus Review'. Below this is a header for 'CONSENSUS REVIEWS' with filtering options for 'PRIMARY', 'SECONDARY', and 'TERTIARY' (all set to 'All'), and 'STATE' and 'FACILITY' (both set to 'All'). A 'SORT' dropdown is set to 'Proposal ID' with 'Asc' and 'Desc' options.

A list of proposals is shown:

- SEM26B-001: **GBT confirmation of Interstellar CH2D+** (Reviewers: Amy Mioduszewski, Robert Minchin, Loreto Barcos Muñoz, Emily Moravec, Jeff Kern). MEAN: 4.7, ST.DEV.: 2.5, SRP SCORE: 4.7. An annotation 'Direct modification of SRP Score' points to the SRP SCORE field.
- SEM26B-002: **Radiative and mechanical feedback in regions of massive star formation** (Reviewers: Allie Costa, Amy Mioduszewski). MEAN: 5.4, ST.DEV.: 0.1, SRP SCORE: 5.4.
- SEM26B-003: **Project for Highschool** (Reviewers: ...). MEAN: 5.2, ST.DEV.: 1.5, SRP SCORE: 5.20. An annotation 'Unmodified FNIS displayed for reference' points to the SRP SCORE field.

The detailed view for SEM26B-003 shows a 'Proposals' tab with a 'SCORE' section. It displays a 'Normalized Score: 6.0' and a '6.1' score with a 'Save' button. An annotation 'Re-vote feature: Modify FNIS to update Mean, ST.DEV. and SRP Score**' points to this score field. The 'COMMENTS' section contains placeholder text for the SRP.

Figure 5.3: In the Consensus Reviews tab, the filtering options for Primary, Secondary, and Tertiary now include all SRP Members. In the list of proposals, the names of the Primary, Secondary, and all Tertiary reviewers are displayed for the SRP Chair.

5.3 | Updating Scores in the Consensus Meeting

The screenshot shows the 'Consensus Review' tab of a web application. At the top, there are navigation tabs: 'Summary', 'Individual Reviews', and 'Consensus Review'. Below these are filters for 'PRIMARY', 'SECONDARY', 'TERTIARY', 'STATE', and 'FACILITY', each with a dropdown menu set to 'All'. A 'SORT' dropdown is set to 'Proposal ID', with 'Asc' and 'Desc' buttons. A callout box labeled 'Expanded Filtering and Sorting options' points to these controls. The main area displays a list of proposals with columns for 'MEAN', 'ST.DEV.', and 'SRP SCORE'. The third proposal, 'Mapping the Milky Way: A Outreach Project for Highschool Students', is highlighted with an orange box around its reviewer list. A callout box labeled 'All Reviewers (Chair only view)' points to this reviewer list. The sixth proposal, 'A New H2CO Flare in IRAS 18566+0408', has a 'T' icon in a box, with a callout box labeled 'Chair's Review Type' pointing to it. A 'Back to Panel' button is in the top right corner.

PROPOSAL ID	STATUS	TITLE	REVIEWERS	MEAN	ST.DEV.	SRP SCORE
SEM26B-001	T	GBT confirmation of Interstellar CH2D+	Amy Mioduszewski, Robert Minchin, Loreto Barcos Muñoz, Emily Moravec, Jeff Kern	4.7	2.5	4.7
SEM26B-002	P	Radiative and mechanical feedback in regions of massive star formation	Allie Costa, Amy Mioduszewski	5.4	0.1	5.4
SEM26B-003	P	Mapping the Milky Way: A Outreach Project for Highschool Students	Emily Moravec, Jeff Kern, Robert Minchin, Amy Mioduszewski, Allie Costa	5.2	1.5	5.2
SEM26B-004	P	GCMS on GBT: Thermal Conditions for Star Formation in the Central Molecular Zone	Jeff Kern, Robert Minchin, Amy Mioduszewski, Emily Moravec	6.5	1.3	6.4
SEM26B-005	P	Magnetic Fields in Heavenly Bridges.	Loreto Barcos Muñoz, Robert Minchin, Emily Moravec, Allie Costa	5.8	1.8	5.8
SEM26B-006	T	A New H2CO Flare in IRAS 18566+0408	Loreto Barcos Muñoz, Emily Moravec	4.3	2.0	4.3

Figure 5.4: The ‘re-vote’ feature allows a SRP Chair to adjust the ranking of a proposal within the list, should the panel choose to reorder the proposals. A SRP Chair can do so via two methods. The first is to modify one or more FNIS, which will trigger a recalculation of the Mean of the FNISs, ST.DEV., and SRP Score for the associated proposal. The second method is to directly modify the SRP Score. If the latter, further changes to the FNIS associated with that proposal will not affect the SRP Score.

Important!

Once an SRP Score is directly modified, it can only be changed through a direct edit from that point on.

5.4 Finalizing Consensus Reviews

GWT SOLICITATION Sem_26A SCIENCE CATEGORIES Gravitational waves and energetic transients

5 10 Loreto Barcos Munoz

Summary Individual Reviews Consensus Review

Finalize Consensus → Finalize Consensus Reviews Back to Panel

CONSENSUS REVIEWS

PRIMARY All SECONDARY All TERTIARY All STATE All FACILITY All SORT Proposal ID Asc Desc

			MEAN	ST.DEV.	SRP SCORE
> SEM26A-001	Magnetic Fields in Heavenly Bridges.	Completed	4.8	0.9	4.8
	Jeff Kern Robert Minchin Emily Moravec				
> SEM26A-002	Morphology of Star Formation in Luminous, z ~ 2 - 4 Strongly Lensed Galaxies	Completed	6.1	1.2	6.1
	Robert Minchin Emily Moravec Amy Mioduszewski				
> SEM26A-003	Radiative and mechanical feedback in regions of massive star formation	Completed	5.1	1.9	5.0
	Robert Minchin Jeff Kern Loreto Barcos Munoz, Emily Moravec				
> SEM26A-004	Probing the Detailed Magnetic Fields in SNRs With Zeeman Splitting	Completed	3.6	1.7	3.6
	Emily Moravec Amy Mioduszewski Loreto Barcos Munoz, Robert Minchin, Jeff Kern				

Figure 5.5: SRP Chairs can edit, save, and complete any *Consensus Review* unless they are conflicted on the proposal in question. When the panel’s *Consensus Reviews* are complete, the SRP Chair can proceed to finalize the *Consensus Reviews*. This will lock the comment fields, preventing any further modification. With this final step, the *Consensus Review* phase concludes for the SRP Chair.

Important!

Completing a review will prevent further modification by SRP Members.

A | Auxiliary Features

A.1 | System Messages

There are different feedback mechanisms available to inform the user about the actions the application is taking.

- If an action (e.g., save) is unsuccessful, a system message is displayed with a red banner temporarily at the top of the screen with the error message. The history of the System Messages is maintained in an expandable list available on the bottom right of an editor; see Figure 3.2 for a reference.
- When a text field (e.g., **Comments**, **Internal Comments**) is modified, a yellow banner with the words “Unsaved Changes Pending” and a blue Save button will appear. The banner will persist until either a save is successful via the Save button or the form is returned to the last saved state (e.g., the modifications are undone by the user).
- In-line error messages may be displayed in red to help guide the user.
- Interactive prompts may pop-up that require the user to confirm an action.

A.2 | Individual Review File Download and Upload Tools

To externally edit *Individual Science Reviews* or edit in bulk, users can download a template using the **Download Reviews** widget, edit the reviews with an external editor, and use the **Upload Reviews** widget to upload the file.

A.3 | Download Tool

- The **Download Reviews** widget will download the proposals associated with a panel. The downloaded file functions as both a template for future upload (see below) and for exporting comments and scores in bulk. The downloaded file has headers of

```
username, proposal_id, comments_for_the_srp, individual_score
```

and is a csv format.

- The **Comments for SRP** and **Score** are blank and 0, respectively, if no modification to the fields has been saved in the TTA tools. Otherwise, the last saved entry will be downloaded.
- Proposals for which a user is conflicted are not included in the downloaded file.

A.4 | Upload Tool

- The uploaded file must have at least one row that contains the SRP Member’s username, a **Proposal ID**, a valid **Comment for SRP**, and a valid **Score** in a csv format. It must also include the following line as a header.

```
username, proposal_id, comments_for_the_srp, individual_score
```

- If the **Comments for SRP** includes commas, the entry should be framed by a set of double quotation marks to protect the entry. A different delimiter may also be used, which may

be a semicolon (;), pipe (|), or tab. The header should also use the modified delimiter, as the upload tool will attempt to automatically detect the delimiter using the header.

- The upload tool will fail if a **Proposal ID** is not associated with the panel or if the username does not match the log-in name.
- The uploaded file should not contain **Proposal IDs** that correspond to proposals for which the user is conflicted or that have **REVIEW STATES** of **Finalized** or **Closed**. If a proposal is included, an error message will be displayed and the file will not be uploaded.
- The upload tool will overwrite the existing **Comments for SRP** and **Score** on upload and automatically update the **REVIEW STATE** to **Saved**.

B | Definitions

- An *Allocation Request* contains the details of the requested observatory resources.
- A *Feasibility Justification* includes a Technical Justification and/or a Data Management Plan.
- A **REVIEW TYPE** is assigned by the SRP Chair per reviewer per proposal. The **REVIEW TYPE** are **Primary**, **Secondary**, **Tertiary**, or **None**. **REVIEW TYPES** can affect the information displayed in the UI and the level of access a reviewer may have to a proposal.
- A **REVIEW STATE** describes an *Individual Science Review* or a *Consensus Review* and is either **Blank**, **Saved**, **Completed**, **Finalized**, or **Closed**. The general behavior is described in Sections 3 and 4. Note, if a **REVIEW STATE** is **Closed** or **Finalized**, no further modifications can be made by SRP Chairs or SRP Members.
- A Science Review Panel (SRP) member can only belong to one SRP panel, though there may be multiple panels. They are expected to author an *Individual Science Review* for each proposal they are assigned a **REVIEW TYPE**. They participate in the Consensus meeting with other SRP members on their panel, which reviews all of the ISRs per proposal to form a consensus opinion.
- A SRP Chair has all the responsibilities and abilities of a SRP member and additional ones. They manage the panel reviews during the Review Process phase and are a member of the Telescope Time Allocation Committee.
- A Solicitation is an announcement from the observatory to the community to submit a request to use observatory resources (e.g., a Call for Proposals).
- The Telescope Time Allocation (TTA) Group Member is an authorized observatory staff who is responsible for administering the TTA process.
- Types of scores
 - **INDIVIDUAL SCORE** - a user input value per proposal per reviewer during the Individual Science Review phase.
 - **NORMALIZED INDIVIDUAL SCORE** - a calculated value per proposal per reviewer; it is the normalization of the **INDIVIDUAL SCORE** for all proposals per reviewer. The normalized distribution has a mean of 5 and a standard deviation of 2.
 - **FINALIZED NORMALIZED INDIVIDUAL SCORE (FNIS)** - initially a copy of the **NORMALIZED INDIVIDUAL SCORE** but can be modified during the Consensus meeting by the SRP Chair or TTA member (see Section 5.3).

- MEAN NORMALIZED SCORE - average of the reviewers' FINALIZED NORMALIZED INDIVIDUAL SCORES per proposal.
- STANDARD DEVIATION OF THE MEAN NORMALIZED SCORE - the standard deviation of the reviewers' FNISs per proposal.
- SRP SCORE - a copy of the MEAN NORMALIZED SCORE but can be modified by the SRP Chair or TTA Group Member or via an update to the MEAN NORMALIZED SCORE. If it is modified by the SRP Chair or TTA Group Member, it can only be modified directly from that point on.
- NORMALIZED LINEAR RANK (NLR) - calculated for proposals per panel once all Consensus Reviews have a REVIEW STATE of Finalized. The proposals are assembled into an ordered list by their SRP SCORE from 0.1 to 9.99. The index in the ordered list is denoted as R and the NLR for each proposal in the panel is then

$$\text{NLR} = \frac{R * 10}{N}, \quad (1)$$

where N is the number of proposals in the panel.

C | Common Icons in the UI

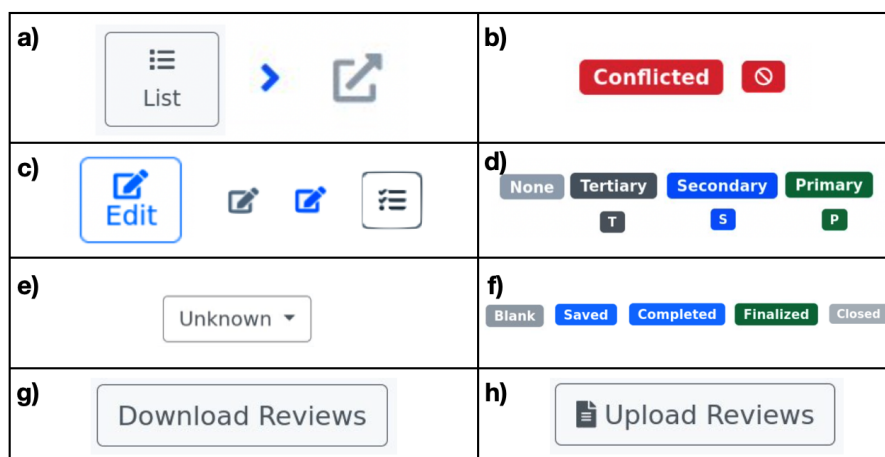


Figure C.1: Common buttons in the UI. See text for the descriptions.

Figure C.1 shows common buttons in the UI, which are described below.

- Expand UI element (e.g., Figures 3.4, 3.5).
- Conflicted badge: Reviewer is conflicted on a proposal (e.g., Figure 3.3).
- Edit an element e.g. SRP Score editor (e.g., Figure 5.4).
- Badges representing REVIEW TYPE (e.g., Figures 3.4, 4.1).
- Option selector (e.g., Figure 3.3).
- Badges representing REVIEW STATE (e.g., Figures 3.4, 4.1)
- Download *Independent Science Reviews* template for upload (Figure 3.4).
- Upload a file with comments and scores for *Independent Science Reviews* (Figure 3.4).

D | Help

■ *I don't see a Certify Conflicts button.*

- Check that each Proposal is either marked as Available or Conflicted. If Conflicted, a reason must be provided.

■ *Why can't I save an Individual Science Review comment?*

- To save **Comments** in an *Individual Review*, you must also provide a valid score.

■ *The file upload does not work.*

- Check that the username supplied in the uploaded file matches the user account identically.
- Check that all rows in the file have a valid comment and score.
- Check that the proposals in the file are not listed as **Conflicted**, **Finalized**, or **Closed**.

■ *I don't see a Finalize button for my Individual Reviews.*

- You may not have been assigned a role yet by the SRP Chair. You may enter comments and scores but will have to wait until the Chair has assigned **Primary**, **Secondary**, or **Tertiary**.
- If you have been assigned roles, the Finalize button only appears when all of the proposals for which you have been assigned the role of **Primary**, **Secondary**, or **Tertiary** have **REVIEW STATES** of Saved or Completed.

■ *Why can't I enter or edit a Consensus Review comment?*

- You may only enter or edit **Consensus Comments for the PI** or **Internal Comments** for proposals that you are the **Primary** or **Secondary** reviewer.

■ *I seem to have a lot more "power" than the guide describes.*

- Check that you are logged in as a regular user and not a TTA user.

■ *As a SRP Chair, my changes to the FNISs do not update the SRP Score.*

- If the SRP Score was previously modified by a direct edit, then updating the FNISs will not affect the SRP Score. See Section 5.3 for details.

■ *Can I poke around at the other parts of the application?*

- If you must.

■ *I made a mistake and can't undo it/ I broke something/ I'm stuck.*

- Try refreshing the page.
- Note the behavior in your feedback and contact Allie Costa (acosta@nrao.edu or Slack) for assistance.