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## Document Change Control Record

<b>Date</b>	<b>Version</b>	<b>Author</b>	<b>Description</b>
2017 March 14	1.0	Lisa Storrie-Lombardi, Nancy Silbermann & the SSC Community Affairs Team	Text added to specifically state that previously rejected GO proposals should not be resubmitted as DDT proposals.
2016 October 13	1.0	Lisa Storrie-Lombardi, Nancy Silbermann & the SSC Community Affairs Team	Initial version issued

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# 1 Overview

Spitzer has entered the “Beyond” phase of the mission – the final 2.5 years. The Cycle-13 call for proposals was the final comprehensive proposal call for Spitzer. Up to 7000 hours of science can be executed in a year and over 14,000 hours was selected for Cycle-13. The Beyond phase of the mission is funded through the commissioning of JWST in March 2019.

To support emerging science opportunities that were not proposed for in Cycle-13 we have updated the Director’s Discretionary Time (DDT) proposal handling process as follows:

1. DDT proposals may be submitted at any time. Investigators should not utilize DDT to resubmit all or part of a proposal that was rejected by the normal peer review process.
2. The review of time-critical proposals will continue to be done immediately.
3. Proposals that are not time critical will be reviewed on a structured schedule. The DDT review deadlines are:

~~February 28, 2017 noon, PDT~~ Done!  
**September 12, 2017 noon, PDT**  
**April 10, 2018 noon, PDT**

4. Proposals of any size may be submitted. It is expected that ~500 hours will be awarded in each of the 2017 reviews, and 1000 – 2000 hours in the 2018 review. A very compelling larger program can be considered in 2017.
5. The default proprietary period for all DDT programs is zero days but a maximum 90-day proprietary period can be proposed.
6. DDT requests must include:
  - a. A justification for why the proposal was not submitted in Cycle-13
  - b. A designation of time criticality, i.e. does the proposal need immediate review or can it wait until the next scheduled DDT review.
  - c. A strong scientific justification
  - d. A description of the long-term legacy value of the program.
  - e. Completed Astronomical Observation Requests (AORs). No generic targets or undefined target of opportunity observations should be proposed.
7. As in Cycle-13, priority will be given to programs that are innovative, support Astro2010 science themes, observe targets in our Solar System, and/or develop the scientific landscape that JWST will explore or will help maximize the JWST scientific return.
8. The proposal must be submitted using the new DDT proposal template and follow the page limits and other instructions provided in these guidelines.

## 2 Quick Proposal Submission Guide

All DDT proposals must be submitted through the online application webpage at (<https://cat.ipac.caltech.edu/DDT/application.html>). *Spot* is required for creating your AORs but no longer supports proposal submission.

1. Go to the Proposal Kit webpage (<http://ssc.spitzer.caltech.edu/warmmission/propkit/>). All of relevant information is available there.
2. Install the *Spot* software package.
3. Create your AORs in *Spot* and save the AOR file.
4. Download the proposal template. Use this to write the proposal and then save as a PDF file.
5. Go the DDT application webpage (<https://cat.ipac.caltech.edu/DDT/application.html>).
  - a. Enter the coversheet information into the web form.
  - b. Attach the proposal PDF file.
  - c. Attach the AOR file.
6. Hit the submit button. Proposals cannot be updated through the web form. If you need to resubmit a proposal, just submit it again and notify the Helpdesk that the earlier version should be ignored.

The Spitzer Observing Rules (<http://ssc.spitzer.caltech.edu/warmmission/propkit/sor/>) and the Cycle-13 Call for Proposals (<http://ssc.spitzer.caltech.edu/warmmission/propkit/cp/>) provide detailed information about proposal planning, supporting documentation and policies.

## 3 Operational Observing & Data Volume Constraints

Proposals can include observations that are constrained, with the caveat that the more constrained the program, the harder it is to schedule. Though the project has implemented enhanced data compression strategies, data volume is a limiting factor due to the downlink rate, as Spitzer is more than 1.5AU from the Earth. Very high data volume proposals are not prohibited but will be executed only in extraordinary circumstances. Table 1 summarizes the observing modes, frame times and a rating of the expected data volume. If your observations require a ‘very high’ data volume mode, please consult with the SSC before you submit your proposal to determine the feasibility of your proposed observation.

Mode	Frame Time (secs)	Data Volume
<b>Full-array</b>	0.4, 2	Very High
<b>Full-array &amp; HDR</b>	6, 12	Moderate
<b>Full-array &amp; HDR</b>	30, 100	Low
<b>Sub-array</b>	0.02	Very High
<b>Sub-array</b>	0.1	Moderate
<b>Sub-array</b>	0.4, 2	Low

**Table 1: The Data Volume Ratings for the available observing modes and frame times. These ratings apply to data taken with “data collection” turned on for one or both arrays.**

The SSC IRAC Instrument Support Team recommends that single target staring observations that would require 6-12 second full-array observations be done with 2 second sub-array observations (<http://irachpp.spitzer.caltech.edu/page/exptime>).

Starting in late 2015 a new operational observing constraint was implemented to maintain the minimum recommended battery charge level. All observations for two hours after a downlink must be at a pitch angle < 10 degrees. The time required at low pitch angle may increase in 2017-19.

## 4 Proposal Page Limits

The page limits for DDT proposals are summarized in Table 2. The descriptions of what should be included in each section are provided in the Cycle-13 Call for Proposals (<http://ssc.spitzer.caltech.edu/warmmission/propkit/cp/>).

DDT Proposal Size	Hours ≤ 10	Hours > 10
<b>Justification for why not submitted in C13</b>	No page limit	
<b>Science Plan Sections</b>		
Science Justification, including legacy value	1	2
Technical Justification	1	1
Figures, Tables, Refs	1	2
<b>Total for Science Plan</b>	<b>3</b>	<b>5</b>
Additional Sections with no page limits		
<b>Summary of Existing Programs</b>		
<b>Observations Summary Table</b>		
<b>Modification of Proprietary Period</b>		
<b>Summary of Duplicate Observations</b>		
<b>Summary of Scheduling Constraints</b>		

**Table 2: Page limits for DDT proposals.**

Figures and tables can be embedded in the narrative or segregated. *Do not include any additional material, e.g., letters of endorsement.* The DDT proposal template is available from the proposal kit webpage (<http://ssc.spitzer.caltech.edu/warmmission/propkit/>).

## 5 Special Telescope Overheads

Special overhead burdens are applied to observations that need to be executed less than 8 weeks after the AORs are available to schedule at the SSC. During the cryogenic mission these were designated as high- or medium-impact Targets of Opportunity. This special overhead is added to the normal overhead applied to each Astronomical Observation Request (AOR) computed by *Spot*, the software required for Spitzer observation planning. It accounts for the time required to prepare for the observation and to return the Telescope to its nominal schedule. As described in the *Spitzer Space Telescope Warm Mission Observing Rules*, the special overhead is intended to reflect the observing time lost in other programs as a result of executing the relevant observation(s).

If your DDT proposal includes requested execution of the AORs within 8 weeks of approval of the proposal you must include these overheads in the total requested observation time. The relevant special overheads are:

### **Execute in < 1 week • High-Impact Target of Opportunity: 6.5 hours**

This overhead will be applied to the first AOR in a *group, chain or sequence* of AORs to be executed consecutively during a single observing session on a single target. For observations that are constrained with a *follow-on* constraint, the overhead must be applied to every AOR individually. The *group, chain or sequence* constraints mean that observations can be scheduled contiguously and therefore have less impact on the schedule than those constrained with a *follow-on* constraint.

### **Execute in 1 – 8 weeks • Medium-Impact Target of Opportunity: 2.6 hours**

This overhead will be applied to the first AOR in a *group, chain or sequence* of AORs to be executed consecutively during a single observing session on a single target. For observations that are constrained with a *follow-on* constraint, the overhead must be applied to every AOR individually.

These overheads must be specified using *Spot* when the AORs for the proposal are created. From within the relevant AOR dialog click the **Special ...** button and select the overhead from the list. *Spot* will calculate the required time and add it to the Total Duration returned on the main *Spot* AOR page.